A Project to Improve the Learning Outcomes of Students with Disabilities in the Early, Middle and Post Compulsory Years of Schooling

Part 1: Research Objectives, Methodology, Analyses, Outcomes and Findings, and Implications for Classroom Practice

Final Research Report
This project was funded by the Australian Government Department of Education, Science & Training, Research Project 03176, awarded in 2003 to a University of Canberra-led Consortium – Project to Improve Learning Outcomes of Students with Disabilities in Mainstream Classes in the Early, Middle and Post Compulsory Years of Schooling. Members of the consortium were: University of Canberra (Professor Anthony Shaddock, Professor of Special Education and Project Manager); Disability Programs Directorate of the NSW Department of Education & Training (Mr Brian Smyth King Director); and Giorcelli Education Consultancy Services Pty Ltd (Dr Loretta Giorcelli).

Place: Canberra.


The views expressed herein do not necessarily represent the views of the Australian Government Department of Education, Science and Training.
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Project Details

Name of recipients: Consortia headed by the University of Canberra

Project title: Project to Improve Learning Outcomes of Students with Disabilities in Mainstream Classes in the Early, Middle and Post Compulsory Years of Schooling.

Project contact person: Professor Anthony Shaddock PhD
Executive Summary

The purpose of the Project was to identify ways to improve the learning outcomes of students with disabilities enrolled in mainstream classes in the early, middle and post-compulsory years of schooling. The focus was on the activities, interactions and materials that make classroom practice inclusive and that lead to improved outcomes for all students. Attention was also directed to the professional development needs of teachers so that they acquire the knowledge and skills to implement inclusive classroom practices.

Key tasks

- A critical review of Australian and international research literature related to inclusive classroom practices for students with disabilities.
- Investigation of inclusive classroom practices for students with disabilities including pedagogy, assessment, interventions, resources and the role of school organisation and leadership in promoting inclusive classroom practices for improving learning outcomes for these students.
- Identification of innovative ways through which schools and teachers can effectively support the literacy and numeracy development of students with disabilities.
- Investigation of issues relating to transition from early childhood to school, from primary to secondary and from secondary to post-secondary.
- Description of ways of supporting the professional development of teachers so that they are better equipped to meet the learning needs of the students with disabilities in mainstream settings.
- Development of a resource booklet for teachers and summary information in electronic format suitable for teachers and other interested parties to access on the Internet.

Review of the Literature

The Review of the Literature analysed over 400 references to published research and to practices that have been successful in Australian schools. An overarching conclusion was that the issue of ‘students with disabilities in the mainstream’ raises issues about diversity in general, i.e. the matter is not restricted to special education, special needs or disability because disability is only one of many possible sources and indicators of individual learning needs. Teachers need the skills to respond to the diversity in contemporary classrooms, irrespective of its source or presentation, and teachers will have maximum effect when their school proactively attends to student diversity. This growing emphasis on the individual needs of all students suggests that the pedagogical focus must shift from ‘adaptations for special needs or disability’ to ‘universal design pedagogy’.
In addition, the literature indicated that:

- Disability is not a uni-dimensional construct and it is incorrect and potentially misleading to generalise about ‘students with disabilities’.

- Many teachers worldwide say they do not have the time or resources to make adaptations for students with significant individual needs and these concerns have been expressed for many years.

- The teaching techniques and classroom adaptations and differentiations that are effective for students with disabilities tend to be effective for other students.

- Principals play a pivotal role in supporting inclusive practice. The achievement of satisfactory learning outcomes by students with disabilities is dependent on the cultures and policies of mainstream schools and school systems.

- Despite generally strong support among teachers, parents and students, there are concerns about the extensive use of teaching assistants (para-educators) in teaching students with disabilities in the mainstream.

- There is an urgent need for further research and policy development in relation to the way secondary schools can successfully include students with disabilities.

- The fact that many students with disabilities continue to attend school or college in their post-compulsory years raises many issues for the education sector, e.g. in relation to curriculum, assessment and inter-agency collaboration.

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**Empirical studies**

The empirical studies involved working closely with teachers from every Australian state and territory, sector and level of education.

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**How do successful teachers provide a relevant curriculum for all students?**

Twenty successful mainstream teachers were systematically studied over ten school weeks. These teachers tended to view all of their students as having individual needs - not just those with a disability - and they capitalised on the strengths and interests of each student. The study found that:

- In facilitating curriculum access for their students, these teachers adopted a wide range of strategies that involved whole-school, paired-class, within-class and individual student strategies, i.e. they routinely involved colleagues, parents and other students in assisting them to deliver a differentiated curriculum.

- These teachers preferred to assist students to participate in the work of the class rather than to work on individually tailored programs or modified curriculum.

- The teachers ‘experimented’, tested hunches about what might work and took a reflective and problem-solving approach to their teaching.
• The teachers planned thoroughly and extensively and most felt that they needed more time for essential consultation.

• School culture and policy were strong influences on the success and ease of curriculum differentiation.

What adaptations do teachers make for students with disabilities in their classroom?

This study examined the teaching adaptations for students with disabilities reported by 294 mainstream Australian teachers randomly and proportionally drawn from all states and territories, all sectors, and from primary, secondary and post-compulsory settings. The study found that mainstream teachers in Australian schools report being moderately supportive of including students with a disability in the mainstream but that they are more positive about the social benefits than about the academic benefits of inclusive education. The study concluded that:

• Mainstream teachers report making a moderate number of teaching adaptations and modifications for students with disabilities in their classes.

• The teachers report making accommodations that can be made for the whole class, that are efficient of teacher time and effort and that do not involve major changes to class organisation or substantial individualisation.

• Having Special Education qualifications is associated with a small to moderate increase in the overall extent of reported adaptation but the difference is not statistically significant.

• Teachers who have completed a Special Education subject report a slightly greater extent of adaptation than other teachers but the difference is not statistically significant.

• Mainstream primary school teachers report more positive attitudes, higher levels of adaptation and fewer barriers to including students with disabilities than do secondary teachers.

• Sixty percent of the variance in teachers’ perceived barriers to including students with disabilities is accounted for by: inadequate level of assistance from support personnel; insufficient knowledge, expertise and experience; unsupportive school policies and practices; the diversity of student needs; stresses related to student behaviour; and inadequate training.

• A very significant stress for most teachers is their perceived lack of time for preparing for and responding to the diverse needs of the students in their mainstream classes.

What are the critical factors in ensuring successful collaboration between teachers and teaching assistants?

This study used Actor Network Theory (ANT) to undertake a detailed study of five schools that had different models of teacher – teaching assistant collaboration. The study found that:

• School culture and ethos, particularly as mediated by the executive, influenced the success of the teacher - teaching assistant team.
The different operational models were unspecified, dynamic and reactive and they usually depended on the principal maintaining harmonious relationships between school personnel and also between school personnel and the home.

Stakeholders stressed the importance of: professional development; adequate resources; and the need for assistants and teachers to have adequate time to plan and collaborate.

The study concluded that schools will be successful in utilising teaching assistants if they:

- Treat assistants as an integral part of the team.
- Provide clear guidance about roles and responsibilities and if the teacher directs the teaching assistant on how to contribute to the class program.
- Involve the assistant in indirect support roles, e.g. monitoring of student achievement and recording of performance or in small group work.
- Build and maintain good relationships among school personnel and between home and school.
- Facilitate joint professional development for teachers and teaching assistants.
- Involve teachers in the selection of their teaching assistant.
- Arrange workloads so that teachers and teaching assistants have time to build their relationship, to plan and to reflect on their work.

What are the professional development needs of teachers who have a student with a disability in their class?

One hundred and three teachers from all states and territories and from primary, secondary and post-compulsory levels participated in a study that involved them in framing the questionnaire, responding individually and independently to it, and subsequently reflecting on and responding to the earlier-expressed views of the other participants. The study found that teachers generally want professional development that:

- Is classroom-based, strategy-oriented and practical.
- Is provided by experts and/or other teachers to directly support their current needs.
- Involves learning from others’ experience through networking, visiting and observing.

Low priorities for most teachers were:

- University courses about students with disabilities.
- Web-based delivery (although there was some interest in web-based interaction, discussion group, chat rooms and similar electronic networking about inclusive practice).

The teachers perceived the following to be their major barriers to professional development:

- Lack of time.
- Funding.
- Competing school and system priorities.
The study suggested that employing authorities might consider:

- Focusing professional development on content that is practical, classroom-based and targeted towards teachers’ current students and their learning needs.
- Providing professional development in a style that maximises teachers’ interactions, sharing and learning from each others’ experiences.
- Trialing web-based opportunities for promoting networking, collaboration, mentoring and mutual support around inclusive practice, e.g. chat rooms, discussion groups and/or bulletin boards.

### How the project could influence classroom practice and student outcomes

Evidence from multiple sources indicated that:

- There are many evidence-based approaches to classroom practice and they usually involve planning instruction around differentiations to (a) curriculum content; (b) classroom processes (including teaching techniques and student groupings); (c) learning products and outcomes; and (d) the learning environment.
- Teachers who are successful in including students with disabilities in mainstream classes:
  - Collaborate with colleagues, parents and other students in assisting them to deliver a differentiated curriculum, i.e. they do not try to be self-sufficient or do it alone.
  - Plan thoroughly and extensively.
  - ‘Experiment’, test hunches and take a reflective and problem-solving approach to teaching.
  - Capitalise on the strengths and interests of each student.
  - View all of their students as having individual needs - not just those with a disability.
- Successful secondary schools and post-compulsory settings are those that directly link with employers and focus on the skills and competencies that students need to get and keep a job.
- Schools that utilise teaching assistants effectively:
  - Provide clear guidance about roles and responsibilities and ensure that the teacher directs the teaching assistant.
  - Facilitate joint professional development for teachers and teaching assistants.
  - Arrange workloads so that teachers and teaching assistants have time to build their relationship, to plan, and to reflect on and evaluate their work.
- Student learning is enhanced by good communication between teachers, students, parents and the school community and by teachers having specific knowledge (often gained directly from parents and students) about how each student’s learning can be facilitated.
- Literacy and numeracy outcomes are enhanced by early identification, early intervention and the use of a variety of teaching methods. This research agrees with the conclusions of the National Inquiry into the Teaching of Literacy (2005) that students learn best when: teachers...
adopt an integrated approach to reading that explicitly teaches phonemic awareness, phonics, fluency, vocabulary knowledge and comprehension; teachers use techniques most suited to the learning needs and abilities of each student; and the school and home collaborate to support student learning.

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**Analysis of issues arising from the Project**

The project identified significant resource and funding issues including:

- The needs of some complex students fall outside current eligibility criteria and so attract no additional resources.
- The needs of some students cannot be adequately met with the level of resourcing provided.
- Some traditional funding arrangements, e.g. allocating classroom support on the basis of teacher assistant hours, “lock in” practices and discourage flexible and creative use of resources.
- Teachers’ participation in necessary professional development is hampered by lack of funds for participation, teacher relief, travel and support.

The project identified a number of national issues including:

- The interplay of different legislation, e.g. the Occupational Health and Safety legislation and the Disability Discrimination Act, particularly around challenging behaviour.
- The impact on classroom teachers of policies about academic standards and benchmarking on the one hand, and ‘equality of access’ for students with disabilities on the other.
- The need for nationally uniform ways of defining disability; the development of resource-allocation strategies that accurately respond to educational needs; ways of benchmarking student progress and the progress of schools in achieving equality of access for all students.

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**Implications for further research**

- How can principals and school executives facilitate better learning outcomes for students with disabilities?
- How can secondary schools successfully include students with disabilities given their current pressures, demands and expectations?
- How effective is the ‘mandatory Special Education unit’ at pre-service level in preparing teacher education students for inclusive practice? What improvements are necessary? Should alternative approaches to pre-service preparation be considered? What school-level factors moderate teachers’ implementation of recommended practices?
• As the achievement of good academic outcomes by students with disabilities is related to their overall sense of belonging, to peer acceptance and to the support they receive from peers and friends, how can schools best provide this support?

• How can researchers and teachers form productive partnerships so that research on inclusive practice is conducted with teachers rather than on teachers and schools become ‘research-engaged’? How can educational research more accurately reflect the needs and frameworks of teachers?

Issues outside the scope of the research

A number of important issues emerged during the research but were unable to be pursued. These included:

• Specification of the roles that principals and executives play in facilitating the learning outcomes of students with disabilities in the mainstream.

• Support for teachers to write-up and/or share more widely their practical knowledge of successful practices in including students with disabilities in the mainstream.

• The potential benefits of each school having a ‘Coordinator of Learning Support’ or similar position as a point of contact and support for teachers.

• Efficient and effective ways for mainstream teachers to collaborate with consultants such as visiting therapists, mental health teams and similar.
Organisation of the Final Product Report

The Report begins with an overview of the Project Objectives and key tasks by which they were achieved (See 1).

Sections 2 to 5 of the Report deal with issues arising from the whole Project, including: how the research project could influence classroom practice and impact on student outcomes (2); analysis of issues arising from the project (3); summary of the implications for further research (4); and summary of issues that were outside the scope of the research (5).

The Review of the Literature (6) and the reports on the four research studies (7-10) are then presented separately, i.e. they are presented as five complete and ‘stand alone’ reports, providing the option of separate dissemination if desirable.

Each of the five reports provides detailed descriptions of research, objectives & outcomes; detailed description of methodology; analysis; outcomes and findings; a reference list and appendices, where necessary.
Acknowledgements

We thank the Australian Government Department of Education, Science and Training for funding the research – Project to Improve Learning Outcomes of Students with Disabilities in Mainstream Classes in the Early, Middle and Post Compulsory Years of Schooling.

Many people contributed to the research. We thank the following individuals for their contribution to one or more of the studies: Alison Elliott, Sandy Bauerle, Amanda Cescato, Lena Hoffman-Raap, Claire Hoffman-Ruiz, Monica Kennedy, Chris Kilham, Thea Moyes, Joe Murik, James Neill, Thomas Nielsen, Michelle Pearce, Patrick Shaddock, Anthony Spinks, Tony Tenney, Steve Thornton, Gary Woolley, Helen Woolley and Catherine van Limbeek.

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1 Overview of the Research, the Objectives and the Outcomes

The purpose of the Project was to identify ways to improve the learning outcomes of students with disabilities enrolled in mainstream classes in the early, middle and post-compulsory years of schooling by:

- Focussing on the activities, interactions and materials that make the classroom practice inclusive and lead to improved outcomes for all students.
- Reporting in such a way that the findings are accessible and useful to teachers as a source of information about creating inclusive classrooms.
- Providing suggestions for education authorities with regard to the professional development of teachers in the area of inclusive classroom practices.

Table 1.1 summarises the key tasks of the Project and how they were accomplished.

**Table 1.1: Summary of key tasks of the project**

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<td>Provide a critical review of Australian and international research literature related to inclusive classroom practices for students with disabilities.</td>
<td>A comprehensive Review of the Literature containing 400 references, many of which were written by Australians or were published in Australian outlets. (See 6).</td>
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<td>Investigate inclusive classroom practices for students with disabilities including (but not exclusively) pedagogy, assessment, interventions, resources and the role of school organisation and leadership in promoting inclusive classroom practices for improving learning outcomes for these students.</td>
<td>Three empirical studies that examined practices and processes in classrooms in every state and territory. (See 7, 8, &amp; 9).</td>
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<tr>
<td>Identify innovative ways through which schools and teachers can effectively support the literacy and numeracy development of students with disabilities</td>
<td>The Review of the Literature had separate sections devoted to literacy and numeracy (See Section 6) and the three empirical studies examined practices and processes in classrooms in every state and territory. (See 7, 8, &amp; 9).</td>
</tr>
<tr>
<td>Investigate issues relating to transition from early childhood to school, from primary to secondary and from secondary to post-secondary.</td>
<td>The Review of the Literature (See 6).</td>
</tr>
<tr>
<td>Describe ways of supporting the professional development of teachers so that they are better equipped to meet the learning needs of the students with disabilities in mainstream settings.</td>
<td>The Review of the Literature (See 6) had a section on professional development and this analysis was complemented by an empirical study on professional development with teachers from every state and territory (See 10).</td>
</tr>
</tbody>
</table>
Develop summary information in electronic format (PDF Adobe) suitable for teachers and other interested parties to access on the internet.

We produced a booklet for teachers that describes the following in a user-friendly way: effective classroom practices; school organisation & leadership factors; a guide to meeting the learning needs of students with disabilities in mainstream classrooms; suggestions for professional development; & relevant websites.

Conduct small-scale trials and evaluations of innovative dissemination strategies.

We gained feedback from teachers, principals, administrators and parents throughout Australia on the draft reports and products arising from the research. These approaches were devised on the basis of the Review of the Literature, the empirical studies, feedback from participants and the discussions & suggestions of the Consortium members & the Advisory Group.
2 Summary of how the Research Project could influence Classroom Practice and Impact on Student Outcomes

The findings of this research could influence classroom practice directly and indirectly. In relation to direct classroom effects we found that:

- There are many evidence-based approaches to classroom practice that contribute to a successful mainstream learning experience for students with disabilities. These are detailed in the individual reports but a useful framework for planning instruction is one that focuses on the differentiation of (a) curriculum content; (b) classroom processes (including teaching techniques and student groupings); (c) learning products and outcomes; and (d) the learning environment.

- Teachers who are successful in including students with disabilities in mainstream classes:
  - Routinely collaborate with colleagues, parents and other students in assisting them to deliver a differentiated curriculum.
  - Plan thoroughly and extensively.
  - ‘Experiment’, test hunches and take a reflective and problem-solving approach to their teaching.
  - Capitalise on the strengths and interests of each student.
  - View all of their students as having individual needs - not just those with a disability.

- The teaching techniques and classroom adaptations and differentiations that are effective for students with disabilities tend to be effective for all students.

- Successful high schools and post-compulsory settings are those that directly link with employers and focus on the skills and competencies that students need to get and keep a job.

- Schools will be successful in utilising teaching assistants if they:
  - Treat assistants as an integral part of the team.
  - Provide clear guidance about roles and responsibilities and if the teacher directs the teaching assistant on how to contribute to the class program.
  - Involve the assistant in indirect support roles, e.g. monitoring of student achievement and recording of performance or in small group work.
  - Build and maintain good relationships among school personnel and between home and school.
  - Facilitate joint professional development for teachers and teaching assistants.
  - Involve teachers in the selection of their teaching assistant.
— Arrange workloads so that teachers and teaching assistants have time to build their relationship, to plan, and to reflect on and evaluate their work.

• Student learning is enhanced by good communication between teachers, students, parents and the school community and by teachers having specific knowledge (often gained from parents and students) about how each student’s learning can be facilitated.

• Literacy and numeracy outcomes are enhanced by early identification, early intervention and the use of a variety of teaching methods. This research agrees with the conclusions of the National Inquiry into the Teaching of Literacy (2005) that students learn best when: teachers adopt an integrated approach to reading that explicitly teaches phonemic awareness, phonics, fluency, vocabulary knowledge and comprehension; teachers use techniques most suited to the learning needs and abilities of each student; and the school and home collaborate to support student learning.

Alton-Lee (Australian Curriculum Studies Association, 2005, p.27) observes: “(i)t is not sufficient in this context to just be ‘evidence-based about what works in classrooms’. We must also be ‘evidence-based about the outcomes-linked conditions and supports (Italics added) that enable teacher professional learning to occur”. The current research identified many indirect factors that create and sustain the conditions that allow teachers to teach effectively and found that:

• Teachers’ capacity to implement effective differentiation strategies depends to some extent on school cultures, policies, resources and support.

• Although there is no single ‘best model’ for including students with disabilities in the mainstream, schools should use the available evidence-based strategies, adapting them for their unique contexts.

• Teachers continue to report that lack of time and resources are major barriers.

• The time and encouragement that teachers have for planning and for teacher learning contribute to student learning.

• While inclusive practice is facilitated by system or whole-school change, individual teachers and groups of teachers can have a positive impact on school practices.
3 Analysis of issues arising from the Project

The project raised many issues such as the level of support that teachers have for inclusion, their professional development needs, national issues and specific concerns such as the over-reliance on teaching assistants and the particular difficulties experienced by traditional high schools in including students with disabilities.

3.1 Teacher support for inclusion

This research found that teachers report that:

- They are moderately supportive of including students with a disability in the mainstream.
- They are more positive about the *social benefits* of mainstream enrolment than they are about the *academic benefits*.
- They make a moderate number of teaching adaptations/modifications for students with disabilities in their classes.
- They are more likely to make accommodations for the whole class and those that are efficient of their time and effort, i.e. those that do not involve major changes to class organisation or substantial individualisation. One interpretation of these findings may be that Australian teachers are becoming more positive about inclusion, perhaps reflecting the impact of significant resources being directed towards professional learning about inclusive practice in all states and territories.

3.2 Professional learning and development

A frequently mentioned issue was teachers’ professional learning and development. While one study with teachers selected because they were ‘successful’ found high levels of collaboration, team teaching, co-teaching, combining classes and similar initiatives, the classroom teachers from a random selection of Australian schools in another study reported far less use of such strategies. This finding suggests that many mainstream teachers may be attempting to be inclusive of students with disabilities without having at their disposal the full range of evidence-based strategies to be successful. If so, they need more opportunities to learn those strategies and to appreciate how feasible and successful they can be.

Teachers have clear preferences for the content and style of delivery of their professional learning about students with disabilities in the mainstream. Teachers value professional development that is practical and relevant and that allows them to interact, network and share information with other practitioners. As the research drew attention to the pivotal roles that principals play in creating the context in which teachers and students work, principals should be more strategically targeted for professional development on ways of improving the learning outcomes for students with disabilities in their schools and, more generally, assist teachers to engage with research.

ICT promises a great deal for students with disabilities but teachers need considerable support to develop the necessary skills. The research highlighted the need for the more thorough use
of ICTs in the classroom so that students with disabilities can benefit fully from technological enhancements to learning and communication now available to them.

The researchers noted that there is very little material produced by teachers for teachers about improving the learning outcomes of students with a disability in the mainstream.

### 3.3 Secondary schools and post-compulsory issues

This research found that:

- Primary school teachers report higher levels of adaptation and fewer barriers to inclusion than do secondary teachers.
- Primary teachers report more positive attitudes towards inclusion than do secondary teachers.

Teaching students with a disability in mainstream secondary schools is complicated by external and internal policies, structures and expectations that leave little room for flexibility around student need. Consequently, the issue of how best to restructure secondary schools to respond to the diversity that they now contain, while simultaneously focusing on academic excellence and standards, is a major policy and pedagogical challenge. The fact that many students with disabilities continue attending schools and colleges into their post-compulsory years raises many issues e.g. the relevance of curriculum, the appropriateness of assessment and the relationships between the education sector and the community and employment sectors.

### 3.4 Teaching assistants

Despite the current widespread reliance on teaching assistants to support students with disabilities in the mainstream, and the appreciation of their work by many teachers, students and parents, the efficacy, sustainability and acceptability of this model of support were queried. The research identified issues about the training, deployment and supervision of teaching assistants.

### 3.5 Resource and funding issues

Throughout the research the participants identified resource and funding issues. These included:

- The needs of some students fall outside current eligibility criteria and so attract no additional resources.
- The needs of some students cannot be adequately met with the level of resourcing provided.
- Some traditional funding arrangements ‘lock in’ practices and do not encourage flexible use of resources, e.g. allocating support on the basis of teacher assistant hours.
- Teachers’ participation in necessary professional development is hampered by lack of funds for participation, teacher relief, travel and support.
3.6 National issues

At national and/or state/territory levels, the inclusion of students with disabilities in mainstream classes raises issues about the interplay of different legislation, e.g. the Occupational Health and Safety legislation and the Disability Discrimination Act, particularly around challenging behaviour, which continues to be a major concern of teachers, whether associated with students with disabilities or not. Another ‘systems issue’ with ramifications for classroom teachers is that posed by policies about academic standards and benchmarking on the one hand, and ‘equality of access’ for students with disabilities on the other. Additional systemic issues are the need for (a) nationally uniform ways of defining disability; (b) the development of resource-allocation strategies that accurately respond to educational needs; (c) ways of benchmarking student progress and the progress of schools in achieving equality of access for all students.

3.7 Conclusion

An over-arching conclusion of the project is that the education of ‘students with disabilities in the mainstream’ is more about catering for diversity than it is about specific disability or “special needs” issues. Disability is only one of the many possible sources of individual learning needs in contemporary classrooms. Consequently, all teachers need the skills to respond to this diversity, irrespective of its source, and teachers’ skills will have maximum effect when schools reorganise to provide the context in which teachers can be proactive about that diversity.
4 Summary of the Implications for Further Research

This project aimed to investigate and report on ways of improving the learning outcomes of students with disabilities in mainstream classes. We approached the task by engaging with schools and teachers, examining issues from the point of view of mainstream teachers, involving them in all aspects of the research, and framing the conclusions and recommendations with attention to ‘take-up’ and feasibility. The project gave rise to the following implications for further research:

• There is a need for research that more fully explores the role and contribution of principals and school executives in improving the learning outcomes of students with disabilities.

• As our research found that secondary teachers reported less favourable attitudes towards inclusion and that they perceived more barriers, it suggests the need for a thorough exploration of the ways high schools can successfully include students with disabilities.

• As Special Education qualifications were associated with only small to moderate effect sizes in relation extent of adaptations, this finding suggests the need for further research about:
  – the efficacy of the ‘mandatory Special Education unit’ at pre-service level as a way of preparing teacher education students for inclusive practice;  
  – the possible need to examine alternative approaches to pre-service preparation; and  
  – the factors operating at school level that may be moderating teachers’ application of recommended practices.

• As our research found that (a) having studied a Special Education subject or (b) having Special Education qualifications were associated with only small or moderate levels of adaptations respectively, and that neither difference reached statistical significance, it suggests the need for further research about the ‘mandatory’ unit at pre-service level, the efficacy of, and need for, alternative approaches to pre-service preparation, and about the factors that may be operating at school level that may be moderating teachers’ application of recommended practices.

• Research is needed on the efficacy of the teacher-teaching assistant model, and comparative research on the alternatives recommended in the literature, e.g. by Giangreco and colleagues.

• The achievement of good academic outcomes by students with disabilities is related to their overall sense of belonging, to peer acceptance and to the support they receive from peers and friends. This aspect of “improving learning outcomes” needs more thorough investigation, preferably from a student perspective.

• In terms of method and style, research with teachers (rather than on teachers), and research that conceptualises issues in teachers’ terms, is recommended. However, the involvement of teachers in research is yet another impost on their extremely busy professional lives and is not actively encouraged in the way schools and school systems have been structured and are currently conceptualised.
5 Summary of Issues that were Outside the Scope of the Research

A number of issues surfaced during the project but were unable to be pursued in any detail. These included:

- The specific roles that principals play and how they can be supported to facilitate the inclusion of students with disabilities in the mainstream.
- How can teachers be supported to write-up and/or share more widely the knowledge they are gaining as they include students with disabilities in the mainstream?
- The role and efficacy of having a ‘Coordinator of Learning Support’ or similar position in each school as a point of contact and support for teachers.
- The ways in which classroom teachers can most effectively collaborate with consultants such as visiting therapists, mental health teams and similar.
Improving the Learning Outcomes of Students with Disabilities in Mainstream Classes: A Review of the Literature from a Practice Standpoint


Acknowledgement

The authors acknowledge with gratitude the support of members of the Disability Programs Directorate of the New South Wales Department of Education and Training, the State and Territory Officers who provided information on initiatives in their jurisdictions and to Sandy Bauerle, John Brigg, Thea Moyes, Patrick Shaddock, Tony Tenney and Helen Woolley. We are particularly indebted to our Advisory Committee members – Ann Czisowski-McKenna, Barry Griffin, Tyler Hand, Lesley Holliday, Michael Traynor and Kerry Usher – for their helpful comments on drafts of this review.

Summary

We reviewed the literature on students with disabilities in the mainstream with particular reference to recent Australian literature and the implications for practice in schools and classrooms. We focused on the early, middle and post-compulsory years of schooling.

We found that:

- Disability is not a uni-dimensional construct and so we cautioned about generalising about ‘students with disabilities’.
- Teachers worldwide have been expressing the same concerns about the inclusion of students with a disability in the mainstream for a generation.
- Teachers say they do not have the time or resources to undertake extensive adaptations for small numbers of students with significant individual needs.
- While inclusive practice is facilitated by ‘system or whole-school change’, individual teachers and groups of teachers can have a positive impact on school practices.
- Principals play a pivotal role in supporting inclusive practice.
- The teaching techniques and classroom adaptations and differentiations that are effective for students with disabilities tend to be effective for all students. We described these practices with respect to literacy, numeracy and technology.
• As important as teaching techniques are, the achievement of satisfactory learning outcomes by students with disabilities is also dependent on the cultures and policies of mainstream schools and school systems.

• Despite strong support at the school level, there are concerns about the extensive use of teaching assistants to support students with disabilities in the mainstream.

• Teachers value professional development that is practical and relevant and that allows them to interact, network and share information with other practitioners.

• There is very little material produced by teachers for teachers about improving the learning outcomes of students with a disability in the mainstream.

• There is an urgent need for further research and policy development in relation to the way high schools can successfully include students with disabilities.

An over-arching conclusion of this review is that ‘students with disabilities in the mainstream’ is more a diversity issue than a ‘special education’ issue. That is, disability is but one of the many manifestations of the individual learning needs of students in contemporary mainstream classrooms. Consequently, all teachers need the skills to respond to this diversity, irrespective of its source, and those skills will have maximum effect when schools reorganise so that they proactively attend to student diversity. This emphasis on the individual needs of all students suggests that the pedagogical focus will transfer from ‘adaptations for special needs’ to ‘universal design pedagogy’.

6.1. Introduction

In examining the literature on the education of students with disabilities in the mainstream, this review adopts a ‘practice and practitioner’ point of view. The review explores the inclusion of students with disabilities with reference to the forces shaping contemporary educational practice, their effects on Australian schools and the ways in which school communities are responding. The definition of ‘student with a disability’ is that adopted by the Australian Department of Education, Science and Training (DEST) and is provided in the Glossary (Appendix A).

We undertook this review by searching the following sources: recent Australian and international refereed literature; government, departmental and school system reports; and Australian websites devoted to the dissemination of education practice, including those of individual schools. Before including non-refereed material reporting practices to promote inclusion and/or improve students’ learning outcomes, we validated them against principles developed especially for this project (see Appendix E).

Many factors influence educational change, so in addition to school and classroom practices that improve the learning outcomes of students, the review takes into account the factors beyond the classroom that affect teacher behaviour and student outcomes. These factors include societal values and issues; legislation; departmental and system policies; funding; pedagogical theory; school cultures; school practices; teachers’ beliefs, attitudes and skills; and the particular issues faced by some students and their families, e.g. poverty (DeVol, 2005). Indeed, recent understandings of inclusive education increasingly extend the concept well beyond issues of disability to include promotion of inclusion in the mainstream irrespective of race, social class, ethnicity, religion, gender and/or capacity (Ainscow, 2003; UNESCO, 2001; & Vitello & Mithaug, 1998).
Although disability is usually one of the more obvious factors that may impact on learning, each student experiences disability in a unique way. Consequently, there is a limit to the validity and usefulness of generalisations about disability. A disability diagnosis may tell teachers something about a student in a general sense but it is an imprecise indicator of specific educational needs. Consequently, one of the ‘take-home messages’ of this review is that successful Australian teachers in today’s mainstream will be those who attend and respond to the wide range of individual needs in their class, and some of these individual needs may be related to disability.

The research project, of which this review is a part, focuses on the learning outcomes of students with disabilities in the mainstream. Forlin and Forlin (2002) explain how “in Australia, ‘learning outcomes’ is usually employed to describe what students know and what they can do” (p.2). These authors note that the outcomes for students with special educational needs “need to be broader and more encompassing than those purely with an academic focus” (p.3).

In the interests of brevity and the readability, the reader is referred to more detailed appendices on particular points.

6.2. Students with disabilities in the mainstream: why now?

This section overviews the many influences that have shaped international trends in the education of students with disabilities. Broad philosophical and political movements, specific legislation, new definitions and understandings of disability, economic considerations and the results of evaluations of the effectiveness of ‘special’ education have converged to raise questions about the practice of educating students with disabilities separately. The growing worldwide adoption of inclusion policy has significantly changed the professional lives of teachers.

6.2.1 The beginnings of inclusion

Including students with disabilities in the educational mainstream is neither an Australian nor a recent phenomenon. Inclusive practice has been a long time in coming and it reflects international developments and the interplay of a wide range of historical factors. For example, the civil rights movement of the fifties and sixties focused attention on race-related segregation, often within schools and educational institutions in United States (US Department of Justice, 2005). The civil rights movement gained momentum, linked with other movements such as the consumer movement (Bolier, n.d.), and exerted international influence. Simultaneously, many educators were questioning the ethics, effectiveness and cost efficiency of separate or segregated placements.

Binding and non-binding international conventions have confirmed the rights of students with disabilities to be educated in mainstream schools. For example, the Salamanca Statement (United Nations Scientific & Cultural Organisation [UNESCO] 1994) proclaimed that schools should accommodate all children including those with a disability. The Statement reaffirmed the UN Standard Rules on the Equalisation of Opportunities that the education of students with special needs should be an integral part of the education system. More recently, the Dakar Statement (2000) issued after a World Education Forum, restated international commitment to education for all children in inclusive, educational environments.
The right of students with disabilities to be educated in mainstream schools has been bolstered by specific legislation, particularly in western countries such as USA, Great Britain and Australia where national culture and values are disposed towards the recognition of diversity. Since the passing of USA’s Elementary and Secondary Education Act (ESEA) in 1965 [P.L. 89-10] (US Office of Special Education Programs, n.d.) that primarily focused on economic inequalities of students, important legislation has followed. ESEA was amended numerous times resulting in the Education for All Handicapped Children Act [P.L. 94-142] being passed in 1975. This Act ensured the Federal government would provide free appropriate public education for children between the ages of 3 and 21, facilitating equal opportunities for educating all children. The Education for All Handicapped Children Act was amended and reauthorised to the landmark Individuals with Disabilities Education Act (IDEA [P.L. 101-476]) in 1990. In 1997, IDEA was again reauthorised to IDEA 97 (Sands, Kozlesky, & French, 2000). In the past 25 years IDEA has made significant progress in the development and implementation of special education programs and services, albeit with a lingering attachment to an individualised orientation that sits somewhat uncomfortably with typical mainstream educational philosophies and policies.

In the UK, the Warnock Report (1978) reviewed England’s educational provision and outlined regulations that were later included in subsequent legislation. In 1988, the Education Reform Act legislated that every child should have access to the UK’s national curriculum. In 1995, the British Disabilities Discrimination Act (DDA) proclaimed that all schools should arrange for the admission of students with disabilities, prevent unfair treatment of students with disabilities, and provide facilities allowing students with disabilities to access the educational setting (Disability Discrimination Act, 1995). More recently, the Special Education Needs and Disability Act of 2001 (Her Majesty’s Stationery Office, 2001) legislated that children with special needs should be educated in mainstream schools.

The continuing use of terms such as special needs in the most recent US and British laws (which aim to foster inclusion) illustrates how ways of thinking about, and discussing, disability are always in transition and how they often reflect the lingering and sometimes competing influences of earlier paradigms and discourses. Skidmore (2004) has suggested that three main paradigms have shaped recent thinking and services for students with disabilities – psycho-medical, sociological and organisational. Skidmore explains how the psycho-medical approach, with its positivist assumptions and focus on the assessment and treatment of deficits in the individual, provided the rationale for special education.

The sociological approach, prominent in the UK, certainly draws attention to structural inequalities in education at the macro level. However Skidmore asserts that it has provided insufficient empirical support for its analyses. At a practical level, the sociological approach has had little to say about what schools and teachers are most interested in – what they should actually do.

Skidmore argues that the current trend towards inclusive practice is primarily an organisational response to students with disabilities, with a key assumption being that “learning difficulties arise from deficiencies in the way schools are currently organised” (p.10). The refreshing point about Skidmore’s analysis is that he does not support that with the organisational approach ‘we have finally got it right’ and he argues persuasively that any one-dimensional paradigm about students with disabilities, whether psycho-medical, sociological or organisational, is an oversimplification and that educational responses based on a paradigm that does not acknowledge complexity and interaction, will be inadequate.

In Australia, the Australian Government passed the Disability Discrimination Act (DDA) (Disability Discrimination Act, 1992) that gave specific attention to discrimination in education. The DDA led to indirect, nationwide adjustments to standards in education, in
particular, in the provision of educational services for students with a disability. Each State and Territory government has complementary anti-discrimination legislation that also relates to the education of students with disabilities. More recently the Australian Government has specified the requirements of the Disability Discrimination Act by legislating standards that are designed to correct issues, potential or existent, that prevent people with disabilities from accessing services and facilities (Commonwealth of Australia, 2005).

The Disability Discrimination Act (DDA, 1992) and the Standards for Education (Commonwealth of Australia, 2005) are exerting a major influence on education providers in Australia. The Disability Standards have very clearly drawn to the attention of the Australian education sector that the DDA can be used to counter discrimination and to promote inclusion. Because the Standards for Education specify how the Act should be interpreted in particular aspects of education (such as in enrolment, participation, access to the curriculum, use of support services and freedom from harassment) they have been powerful change agents, even before they were passed as subsidiary legislation (Shaddock, 2005a). Furthermore, in comparison with the USA and Great Britain legislative approaches, the Australian strategy does not convey a notion that students with disabilities are ‘special’, merely that they have the right to access education on the same basis as students without a disability and with reasonable adjustments. While these developments are encouraging, Keefe-Martin (2001) writes that there is no evidence that discrimination has decreased and that parents’ concerns have merely shifted from access and enrolment to more complex issues relating to the quality and outcomes of their children’s education.

The growing support for inclusive education policy has occurred at a time of increased questioning of the role of professionals in determining what services individuals could receive (Bridle, 2005; Kortman, 2001), particularly if these decisions have been to segregate students and possibly restrict their educational opportunity. When researchers showed that special class placement had no substantial, beneficial effects on the learning outcomes of students with some disabilities, (Dunn, 1998; Epps & Tindall, 1987, cited in Wang, Reynolds, & Walberg, 1987) serious questions were raised about all forms of segregated educational provision. Similarly, the educational rationale for a continuum of schools from segregated to mainstream has been criticised on logical and ethical grounds (Taylor, 1988).

In rural and remote areas of Australia, a form of inclusive practice may have always existed, mainly because of the unavailability of specialised facilities. Referring specifically to the inclusion of indigenous students with a disability in schools in remote, indigenous communities, one teacher from a remote area of Western Australia cautioned:

> My concern is that by talking about inclusive education and indigenous and remote issues are we putting a ‘difference’ model on an inclusive community? Are we imposing the very thing that the inclusive process, concepts etc are meant to be removing? In my opinion we don’t need to develop inclusive schools in the communities, but we may need to support inclusive teachers and inclusive teacher training to teach them to be ready to support the inclusive lifestyles and attitudes that already exist out there (A. Shinkfield, personal communication, 21 April, 2005).

### 6.2.2 The problems with ‘special’

In Australia, the inclusion of students with disabilities has been hastened by the reaction against the ‘special education empire’ that rapidly expanded in the era when the ‘normal-abnormal’ discourse and the psycho-medical approach were more dominant. For example, in a famous speech to the 1986 Annual General Meeting of the New South Wales Council for Intellectual Disability, New South Wales Education Minister Rodney Cavalier, after announcing the renaming of his ‘Guidance and Special Education Directorate’ to ‘Student
Support’, said, “In my unremitting war on the appearance of a warm inner glow, it has been obvious to me that there is nothing special about Special Education. All education is special” (p.3).

The Minister made two main criticisms of the special education approach. Firstly, additional support for students with special needs was usually justified on the basis of assessment and considerable resources were consumed by assessment services. Secondly, a large proportion of students were assessed as ‘special’, including those who experienced learning difficulties. In castigating the one-in-five estimate of special needs in New South Wales government schools Cavalier (1986) referred to it as “a wicked falsehood” and branded the advocates of this position as “latter day alchemists”. This growing realisation that too many students were eligible for ‘special’, resource-intensive services has led to a rejection of the special education approach on logical and financial grounds.

This questioning of special, often separate, educational provision for students with disabilities was occurring at the same time as theorists and researchers were deconstructing traditional notions of disability and the services based on them. These postmodernist critiques began to highlight the inherent biases, values, assumptions, discourses and power structures underlying special and separate education. For example, Mercer (1992) (in Rowitz, 1992) showed how society’s notions of ‘difference’ were based on normative assumptions about the nature of society that are hard to sustain in diverse, multifaceted and multicultural societies. Mousley, Rice and Tregenza (1993) in a study of integration in Victoria concluded that “ideas arising from the practices of ‘special’ education are being imposed on the integration process, limiting teachers’ visions of educational opportunity for all” (p.59). More recently, Moss (2003) in a post-structuralist interrogation of Tasmania’s 1994 inclusion policy for government schools, also concluded that the psycho-medical and charity-based discourses have tended to maintain the status quo by infiltrating and colonising initiatives such as inclusive practice.

6.2.3 Constructions of disability

In the late 20th Century a social model of disability that focused on the ways in which society contributed to the construction and maintenance of handicap challenged the traditional assumption that society merely responded to it (Graffam, 2005). More recently, this social model has been criticised for reinforcing an artificial disabled-non-disabled dichotomy, which suggests that one is either disabled or not disabled (Goggin & Newell, 2003). The increasingly influential, non-dichotomous view suggests that disability is a contested construct; that it is natural to the human condition; that the dichotomy between sickness and disability is an unnecessary fabrication; that most people will directly or indirectly experience some disability at some stage in their lives; and those who are lucky enough to live a long life may ultimately experience periods of disability that may become chronic. Australian researcher, Christopher Newell argues that there is “a continuum (from non-disability to disability) and that continuum is negotiated across time and in particular social settings” (C. Newell, personal communication, 18 August, 2005). The practical implication of this theoretical debate is that if disability comes to be seen as unexceptional then all mainstream services, including education, will ‘naturally’ be required to take responsibility for a more diverse clientele. This ‘reconstruction’ of disability is now evident in the policy documents of major education providers, one such example being the statement that “the task of educators working within this paradigm is to alter, adapt and improve educational organisations and environments to meet the needs of all students” (Archdiocese of Canberra and Goulburn Catholic Education Office, 2004, p.12).
As provocative as deconstructions of earlier assumptions and definitions may be, disability as an experienced phenomenon obviously exists and demands a response. One practical way out of the philosophical morass is to pay more attention to the everyday effects on a person’s life of disability and impairment. For example, the Australian Institute of Health and Welfare has recently been working with the World Health Organisation to develop a new classification system that focuses on the different levels at which impairment may be experienced. This new framework draws attention to what is happening, and what can be done, at the level of the body, the person and the society and emphasises the person’s access, or lack of it, to activity and participation (Madden, 2003). This framework has many practical implications for education and it supports the focus of the current research on the learning outcomes achieved by students with a disability in the mainstream.

Another factor that has hastened the inclusion of students with disabilities into the mainstream is that researchers and teachers are continuing to find ways of making these placements successful. In subsequent sections of this review, these successful approaches are detailed, with specific attention to Australian research and practice.

### 6.2.4 Beyond ‘special’

The everyday experience of Australian teachers tells them that although students with diagnosed disabilities may attract differential funding, they are not the only students for whom they need to adapt their teaching (Bartak & Fry, 2004). Teachers do not need to be told that many of their students have very specific, individual learning needs that are not related to a diagnosed disability. Typical Australian classrooms contain students with unique individual needs that may be reflect influences derived from culture, class, ethnicity, language of origin, behaviour and/or other factors, i.e. disability is only one of many possible sources of need that once would have been considered ‘special’. However, as this review illustrates, students with disabilities and their families are at the forefront of educational reforms that focus on changing mainstream educational structures and processes so that they accommodate the naturally occurring diversity within the school population. “Indeed the needs of students with disabilities may be a proxy for those of all other students who experience mainstream schools as unresponsive or even alienating” (M. Traynor, personal communication, 17 November, 2005). Similarly, Pearce and Forlin (2005, p.103) observe that, “The inclusion of students with disabilities will, undoubtedly, highlight inadequacies in education systems”.

While the importance and potential benefits of including children with disabilities in mainstream education are frequently asserted and are supported by a growing research base, the application of inclusive practice is challenging for many educators, particularly those who were trained some time ago or in pedagogies based on different discourses, e.g. those based on the notion of ‘special educational needs’. The average Australian teacher is approximately 49 years of age and was at Teachers’ College or University in the seventies (Bond, 2002). Trained in an era when students with disabilities were educated separately, many teachers are not prepared for inclusive practice, in terms of attitudes or skills. Some older teachers believe that it is not their responsibility to teach students with disabilities because they have not been taught the necessary skills for adapting the learning environment and teaching in ways that will produce positive learning outcomes for these students. Furthermore, although many younger teachers in some Australian states and territories have undertaken a ‘mandatory subject’ on students with disabilities as part of their undergraduate teaching qualification, there is evidence that they too find inclusive practice challenging (Loreman, 2002).

In conclusion, approaches to the education of students with disabilities in the past were based on normative assumptions that positioned these students as having ‘special’ educational needs,
in turn implying that their education was not the responsibility of mainstream education. However the heterogeneity of Australian society, the diversity of school enrolments, and the expense and limited evidence of the efficacy of separate services, make it difficult to argue that students with a disability should be educated separately. What has occurred in Australia has been a gradual shift from ‘assessment, classification and placement’ of students with disabilities into specialised facilities where it was presumed their needs would be better met, to an exploration of the ways in which mainstream education can reasonably adapt to meet the needs of student population that is becoming increasingly heterogeneous.

The many influences discussed above have produced an educational context in which educators require new ways of thinking about their roles and new skills to respond to the challenges of inclusive education. Although the research base supporting inclusive practice is expanding, there are many gaps. This review of the literature has been prepared to provide the foundation for research that attempts to fill some of those gaps by examining inclusive practice from the perspective of those who must implement it, i.e. Australian teachers, para-educators, consultants and administrators. More concretely, we aim to identify, develop and extend good practice in Australian schools in relation to curriculum adaptation, ways of teaching in a diverse classroom, ways of involving teaching assistants and approaches to professional development about inclusive practice. A useful way to begin that task is to explore more thoroughly, the attitudes, experiences and concerns of those closest to the classroom – school personnel, parents and students.

### 6.3. The View from the Mainstream Classroom

This section summarises research on inclusive practice and the views of mainstream teachers, parents and students. Research over several decades has explored the attitudes and concerns of regular teachers, special education teachers, principals, parents and non-disabled students in relation to mainstreaming, integration and inclusion and these and other terms are defined in the glossary in Appendix A. The range of concerns expressed by mainstream teachers about the inclusion of students with disabilities in mainstream schools is extensive and as these concerns can be a useful guide to resource allocation, professional development programs and refinements to departmental policy and school practices (McNally, Cole, & Waugh, 2001) we believe they deserve attention. Although much of this research draws attention to perceived inadequacies, this section also refers to examples of successful inclusive practice.

#### 6.3.1 Teachers’ concerns about inclusion

A common finding in the research on teachers’ attitudes and concerns is that many mainstream teachers in many countries feel unprepared to teach students with disabilities and therefore they express reluctance or diffidence about doing so (Harris & Stephenson, 2003; Jahnukainen & Korhonen, 2003; Wright & Sigafoos, 1998). Furthermore, teachers’ concerns have remained quite constant over the last 25 years (Cornoldi, Terreni, Scruggs, & Mastropieri 1998; de Bettencourt, 1999; Jahnukainen & Korman, 2003; Scruogs and Mastropieri, 1996). This ‘consistency of concern’ suggests that the factors and conditions that teachers express about the inclusion of students with disabilities have not been appropriately addressed and/or resourced. There appears to be a lack of alignment between legal mandates and policy on the one hand and the beliefs and skills of many teachers on the other.
Although teachers’ concerns are interrelated and overlapping, for ease of presentation they can be shown as relating to four main areas – (a) the ‘educational and societal’ context; (b) the school context; (c) the classroom context; and (d) the personal context (see Figure 6.1).

The societal and educational policy context

Today’s Australian teachers must deal with a variety of pressures that result from developments in public policy and educational reform. Having students with disabilities in the classroom can be just one of many pressures that include (a) major changes to the curriculum; (b) public scrutiny of student achievement (with state-wide testing and publication of results); (c) and the requirement to meet the needs of students from diverse cultural, linguistic and social backgrounds (NSW Public Education Inquiry, 2002).

Funding is widely seen as an important issue in inclusive practice and there have been wide variations among Australian states and education sectors in the amount of additional support provided for students with a disability. Furthermore the disability-based, eligibility criteria for funding have not always included students who are the most challenging for teachers, e.g. those who may not have a diagnosis but whose combination of learning and/or behavioural needs dominates teachers’ attention and energy (Bartak & Fry, 2004). States and territories are attempting to allocate resources more directly to ‘educational need’ and examples of their current funding policies are presented in Appendix D.

Foreman (2003), in a paper that explores Australian Government and New South Wales Government funding of students with disabilities in the mainstream, notes “the independent system has always been a significant provider of special education services” (p.5). While some believe that “state schools may be the place where the most difficult students will be enrolled” (P. Ross, personal communication, 26 July, 2005), Foreman (2003) reports (and queries) the claim that the independent sector is not funded appropriately for implementation of the DDA (p.10).

Tronc (2004), a former teacher educator and now barrister-at-law, in arguing that the concept of inclusion is “the greatest administrative failure in Australian education over the last four decades” (p.10), based his argument on serious resource issues and under-funding. Tronc listed a number of Australian court decisions that have found in favour of those appealing against the impact of inclusive practice and showed that despite the prominence of the DDA, legislation such as OH&S is producing a “pendulum swing against inclusiveness” (p.40). Tronc concluded that “in the current context of resource inadequacy, inclusiveness in its
current form represents an imbalance between rights, where the pendulum has swung too far, and where well-intentioned imbalance has occurred” (p.40). Certainly resource and funding issues have been a significant consideration, so much so that some states and territories initially opposed the acceptance of the Disability Standards for Education (Commonwealth of Australia, 2005).

The school context

Research consistently reports that teachers are concerned about the additional administration and paperwork involved, the lack of time for necessary consultation with colleagues, support staff and parents, and insufficient support for providing an appropriate curriculum, particularly in secondary school. The most frequently reported concern of teachers in the general school context is the perceived inadequacy of time and resources and/or the difficulties in obtaining the necessary resources to support students with disabilities in the mainstream (Jenkins, 2002; Westwood, 2003; Wright & Sigafoos, 1998).

The classroom context

In their classrooms, mainstream teachers have many concerns about students with disabilities including (a) the difficulties posed by their students’ behaviour and/or the nature of their disability; (b) lack of time to teach their students with disability or to engage in necessary consultation; (c) the impact on the learning of non-disabled students; and (d) the demands involved in coordinating and/or supervising the additional personnel who are frequently involved in the education of students with disabilities, particularly teaching assistants, aides or para-educators (Whiting & Young, 1996; Wright & Sigafoos, 1998). Some teachers believe that as they include students who have substantial disabilities, their workload will increase and concerns have been raised about more onerous duty of care (Brennan, 2002).

The personal context

Finally, there is a large body of recent research that shows that many mainstream teachers report that they do not have the training, experience and/or personal resources to feel confident or competent in meeting the needs of students with disabilities in their classrooms. For example, in a recent Queensland study with secondary teachers, Watson (2004) reported “teacher isolation, frustration and a sense of teachers being overburdened” (p.11), in trying to meet the needs of students with learning difficulties in the mainstream. Similarly, Sutherland (2000) in a Western Australian study reported that the high school teachers expressed feelings of “helplessness as they do not have the time or the expertise to deal with the immense problems that these students have” (p.13). Similarly, O’Donoghue and Chalmers (2000) found that some of their teachers had great difficulty in adapting to having a student with a severe or profound intellectual disability in their classroom and inclusion impacted on “the teachers’ in-school life, their professional work at home and their general life” (p.900). Loreman (2002) in a study with Victorian teachers found that “teachers believed they lack the skills to include a child with a disability into a regular class”(p.4) and Gardner and Williamson (2004), in a Tasmanian study, found that teachers were concerned about ‘practicalities’ such as their access to resources, professional development and the appropriate context in which they could apply their knowledge.

Teachers are the first and main point of contact between students with disabilities and the education system and it is worrying that many teachers have expressed that they feel ill-equipped and unsupported as they attempt to meet the needs of students with disabilities in
their classrooms. As Australian Government legislation can now be used to require schools to accept the enrolment of students with disabilities, it is essential that the concerns and issues of teachers be considered.

### 6.3.2 The views of parents and students

The views of other Australian stakeholders about students with disabilities in the mainstream have also been investigated. Wright and Sigafoos (1997, 1998) explored the views of Queensland parents and of students without disabilities, on the placement of students with special needs in regular classrooms. Findings across parents and students were similar, with particular mention of the demands on teachers’ time, the potential impact on the learning of other students, lack of support and resources and the disruption to the classroom.

The parents of students with disabilities enrolled in regular classrooms expressed concern about social issues such as a loss of self-esteem (Wright & Sigafoos, 1998) and their concerns may well be justified. In a New South Wales study, Tracey (2002) found that students with a mild intellectual disability may have lower academic self-concepts when they are included in a regular classroom. Similarly, students in South Australian mainstream schools reported experiencing harassment and bullying whereas those in special schools reported very little (South Australian Ministerial Advisory Committee, 2003) but these results are not consistent with research by Bunch and Valeo (2004) who found that students in a small sample of inclusive schools in Canada experienced fewer instances of abuse than students in special schools. While it seems to be the case that some students with a disability in the mainstream view themselves somewhat negatively, it is far from clear whether they experience more harassment and abuse in the mainstream. It seems that their acceptance/non-acceptance may be much more closely linked to the unique features of individual schools and classrooms.

Research on the views of non-disabled students with in-class experience of students with disabilities is quite limited. In Australia, Wright and Sigafoos (1998) reported on the views of non-disabled students in a Queensland school that included students with special needs in mainstream classes. The majority of the 109 students were supportive of the enrolment of students with special needs. Only 23% of students expressed concern about students with disabilities dominating teacher time and attention and 11% thought that students with special needs might be disruptive to the class.

In relation to students with milder disabilities McDougall, DeWit, King, Miller and Killip (2004) found that the majority of high school students tended to have positive attitudes to their peers with disabilities, although a sizeable proportion (21%) were negative. Positive attitudes were associated with fewer social comparisons and less competition between classmates.

Van Krayenoord, Elkins, Palmer, and Rickards (2000) report that “Students who do not have disabilities develop positive attitudes about students with disabilities” in the mainstream. However, McGregor and Forlin (2005), in research in a middle school in Western Australia, found that “the presence of students with disabilities alone is not always likely to produce a significant improvement in the attitudes of mainstream students” (p.11). These researchers found that mainstream peers became more accepting of students with disabilities when there was an active, structured inclusion program which included monitoring to ensure that mainstreaming is a positive experience. Nowicki and Sandieson (2002) in a meta-analysis of school–age children’s attitudes towards persons with physical or intellectual disabilities, concluded that children usually prefer typically developing peers.
### 6.3.3 System change and school reform

It is important to understand that those involved in the research reported above, and in Appendix E, expressed their concerns with reference to their particular circumstances and educational settings. Clearly, the cultures, policies and/or practices of many of these settings were not conducive to inclusive practice, i.e. many schools have attempted to engage in inclusive practice without the necessary preparation and supports. Under such conditions, the ‘consistency of concern’ of teachers and the issues raised by other stakeholders about inclusion are not unexpected.

Many theorists have proposed the necessary ingredients for successful educational reform and their models tend to have much in common (e.g. Konza, Gow, Hall, & Balla, 1987; Smith, 2005). Topping and Maloney (2005 p.9) cite the work of Knoster from the Enterprise Group Ltd that graphically illustrates the interdependence of vision, skills, incentives, resources and planning. The apprehension of many stakeholders, particularly teachers, towards the inclusion of students with disabilities in the mainstream could be attributed to the fact that either or all of the essential ‘educational reform’ conditions proposed by Knoster have been missing or inadequate. The implications for improving the practice of including students with disabilities in the mainstream are obvious.

A few final observations may help to put this section in context. Firstly, in order to ensure that our research is realistically grounded we summarised the refereed research on the ways mainstream teachers and other stakeholders report their experience of inclusive practice. We believe that if there are concerns about aspects of inclusive practice then these concerns should be heard. Secondly, the findings we reported are empirically derived and it would be hard to dismiss them as fabrications, overreactions or mere political/industrial argument from the teaching profession. In fact, prominent educators such as Kavale and Forness (2000) and Warnock (2005) express considerable misgivings about inclusive education. For example, Warnock, (2005) writes: “Inclusion should mean being involved in a common enterprise of learning, rather than being necessarily under the same roof” (p.36).

Thirdly, however, despite the recency of their publication, the findings are ‘lagging indicators’ in that they may not reflect recent, national improvements in policy, resource allocation and/or the impact of professional development. Fourthly, although much of the research focuses on difficulties being encountered in including students with disabilities in the mainstream, much of it also reports positive developments and/or benefits (Rice & Zigmond, 2000; Wright & Sigafoos, 1997; Westwood & Graham, 2003). Fifthly, as most teachers are too busy ‘doing inclusion’ to research or write about it, this review of the literature cannot convey an appreciation of the extent of actual inclusive practice in Australian schools. So, although their exposure and recognition are currently limited, there are many good examples of successful inclusion in every state and territory, e.g., Campbell (nd); “Cotton Tree State High School” (Carrington & Holm, 2005); Geebung State School’s team teaching/inclusion model (2005); middle school initiatives to support inclusive practice (Forlin & Bamford, 2005); and Warnbro Community High School’s Education Support Centre. It is difficult in a formal review of the literature to convey what we observed in undertaking this search for Australian literature, i.e. the strong commitment of many mainstream schools and teachers in all sectors to making inclusion work.
6.4. Inclusive practice and the nature of students’ disabilities

This section examines how issues relating to disability affect teachers’ roles in improving the learning outcomes of students with disabilities in the mainstream. Although some educational theorists and policy-makers and practitioners believe that it is inappropriate to focus on the nature, type and severity of students’ disabilities, many lay persons, parents and teachers form and express their views this way. Furthermore, there are sound legal, resource and pedagogical reasons for not ignoring needs and behaviours that typically are associated with particular disabilities. This section concludes with a discussion of more sophisticated, comprehensive and multidimensional ways of understanding and responding to diversity in today’s mainstream classrooms, ways that integrate and synthesise ‘disability’, ‘curriculum’ and ‘learning difficulties’ perspectives.

6.4.1 Lay discourse about disability

There is a long history in education of linking resources and placements to disability type and severity, so much so that attempts at allocating resources on the basis of educational need, rather than on the type and extent of disability, are a relatively recent development (see Appendix C). The previous section reviewed research that showed that many teachers see disability as a complicating variable in the classroom. For these reasons alone, the nature and extent of students’ disabilities cannot be ignored.

Although mainstream enrolment patterns of students with different diagnoses reflect historical factors, they also indicate how the mainstream differentially accepts enrolments according to disability (NSW Public Education Inquiry, 2002). In New South Wales in 2002, for example, there were only a small number of students (29) enrolled in mainstream classes who had high intellectual support needs due to severe intellectual disability. However, mild intellectual was the most prevalent category of disability, with 5956 students (with low support needs) enrolled in mainstream classes. In the hearing impaired category, there were only four students enrolled in mainstream classes who had high support needs, as opposed to 61 with low support needs (NSW Public Education Inquiry, 2002). Bell and Dempsey (2001) report a disproportionately high number of children with behavioural and emotional disorders being placed in segregated settings.

Many teachers believe that ‘type of disability’ is related to ‘difficulty in teaching’. For example, Westwood and Graham (2003) found that teachers in New South Wales and South Australia regarded the following students as most challenging: those with emotional/behaviour problems; language and literacy; general learning difficulties; autism; and intellectual disability. Research generally shows that teachers are positive about including students who do not require the teacher to demonstrate extra instructional or management skills (Avramidis, Bayliss, & Burden, 2000; Soodak, Podell, & Lehman, 1998).

6.4.2 Students with difficult behaviour

Students whose behaviour is hard for teachers to manage, whether the students have a disability or not, significantly affect the mainstream classroom environment. The New South Wales Public Education Inquiry (2002) acknowledges that a “major concern about full inclusion centres on students with disabilities whose behaviour may be disruptive to the learning of other students” (p.51).
Behaviour difficulties contribute significantly to poor academic outcomes of students with disabilities themselves (Roberts, Mazzuchelli, Taylor, & Reid, 2003; Tonge, 1999; Wanjura, 2000). According to Roberts and her associates, the behaviour problems “interfere with cognitive, social and emotional development, create additional family stress, often lead to exclusion from community services and result in additional financial costs to the community” (p.275). Bradshaw (1998), in a follow up study of a sample of New South Wales and Victorian students who had been integrated, also found a link between behavioural and academic problems and drew the sobering conclusion that “for many children with behaviour disorders placement in the regular class may not be the most appropriate educational placement” (p.122).

In a recent study in the Australian Capital Territory, Murik, Shaddock, Spinks, Zilber, and Curry (2005) examined the extent and type of aggressive and disruptive behaviour experienced by teachers of students with special needs in mainstream and special settings. The teachers reported a wide range of serious and sometimes dangerous situations with which they had to cope on a daily basis in both types of settings.

Similarly Wright and Sigafoos (1998) in a Queensland study showed how teachers’ efforts to provide an inclusive and high-quality education for their students are thwarted by the disruptive behaviour of some of their students with special needs. Such behaviour can cause teachers to experience serious occupational stress. Englebrecht and Oswald (2003) studied the stressors on 55 teachers in inclusive classrooms containing students with intellectual disabilities and found that among the issues that occasioned most stress to these teachers were the behaviour problems caused by the included students. Forlin’s (2001) study of 571 primary school teachers in Queensland found that the difficult behaviour of students with special needs was a significant stressor for teachers and that supervisors focused on teachers’ ability to deal with behaviour problems as an indicator of professional competence. Wisniewski and Gargiulo’s (1997) meta-analysis on occupational stress and burnout of special educators identified emotional and behaviour disorders of students with special needs as causing “significantly greater tension, anxiety, anger, hostility and feelings of depression and dejection” (p.337). Student behaviour and classroom discipline have been consistently identified as primary educational concerns of teachers in other studies about inclusion (e.g., Mastropieri, 2001; Perkins & Leadbetter, 2002; Richardson & Shupe, 2003).

### 6.4.3 Resource and legal issues

There can be considerable resource and organisational issues for schools supporting students with disabilities in the mainstream. For example, Jenkinson (2000) draws attention to “the very real health needs of many students with severe and multiple disabilities, and the provision of health and therapy services in the regular school setting” (p.11).

Shaddock (2005a) suggests there are compelling legal reasons for schools not to “de-emphasise or deny the existence of a student’s disability” (p.28). Discussing the implications of the Disability Standards for Education for students with autism, Shaddock cautions against underestimating the impact of disability on a student’s learning because schools could be subjected to legal action based on an argument that they made inadequate ‘reasonable adjustments’ for students’ disability-related, learning needs.

### 6.4.4 Pedagogical issues

While it is obvious that teachers teach students, not disabilities, it is also well known that there are known features of particular disabilities that teachers should know about, e.g. the
particular health issues experienced by many students with Down syndrome (Cuskelly, 2005). In addition to the medical and health-related issues that interact so closely with every student’s behaviour and learning, whether disabled or not, research continues to identify specific learning characteristics of particular syndromes and conditions that have implications for teachers. For example, Roberts, Schaaf, Skinner, Wheeler, Hooper, Hatton, and Bailey (2005) have shown how boys with Fragile X syndrome are relatively proficient in integrating experiential knowledge, an aptitude on which creative teachers could capitalise. Similarly, Opolski (2005), in empirically verifying the propensity of the vast majority of students with Down syndrome to engage in private speech, opens the possibility of teachers making more use of self-instruction and cognitive strategies for these students.

Again, while every student with autism is an individual, it is also well known that students on the autism spectrum are more likely to think and learn in particular ways (South Australian Ministerial Advisory Committee Students with Disabilities, 2000). Many mainstream teachers are successfully adapting their teaching to these learning styles, e.g., by using more visual supports in the classroom, an accommodation that benefits many students, not just those on the spectrum. Roberts, et al. (2005) reported other studies that show characteristic academic achievement patterns of students with Down syndrome, Autism, Turner syndrome, Prader-Willi syndrome and Fragile X syndrome and advocate further research on aetiology-specific profiles of academic achievement.

So from an educational perspective also, it is useful and prudent for teachers to be knowledgeable of issues associated with particular disabilities. While it is neither feasible nor necessary to teach every mainstream teacher about every disability, it is important that teachers gain an understanding of the particular disabilities that any of their students may have and the particular issues raised for them as teachers, e.g., how the child experiences disability, effects and side effects of medications, likelihood of co-morbid conditions including physical and mental health issues, and how the disability may more generally affect the student in the classroom. In many cases, there can be no better source of this student-specific information than the students themselves and their parents.

6.4.5 Complex solutions for complex problems

The discourse still used by many administrators, parents and teachers in the Australian community about disability is one which focuses attention on ‘departure from the norm’, and ‘nature and extent of deficit’. This discourse, which Brantlinger (1997, reported in Moss 2003) is based on “bureaucratic rationalism” with an ideology of professionalism or expertism and reflects assumptions that derive from solely from a psycho-medical model. Unless complemented by other perspectives, this discourse offers limited direction for teachers and is inimical to inclusive practice. However, it has also been shown that an understanding of disability is not irrelevant for mainstream educators, for legal, resource and pedagogical reasons. (Reasons for the pedagogical controversies surrounding ‘attention to disability characteristics’ are elaborated in Appendix C).

As Skidmore (2004) notes, it is simplistic to conceptualise learning difficulties “as the product of factors located within the individual, or society at large, or the school” (p.11). The implication for mainstream teachers is that their teaching should be guided by ways of thinking about their students that integrate multiple and sometimes competing perspectives so that they respond thoughtfully, comprehensively and defensibly to the diversity within their classrooms. One such model is the sophisticated and research-based model proposed by Walberg (1984) that takes into account ‘within person’, instructional and environmental influences on learning outcomes, a model that has been interpreted with specific reference to
students with a disability in the Australian mainstream (Shaddock, 2005a). This review now, more positively, explores models of support, access to the curriculum and teaching strategies that are associated with the achievement of sound educational outcomes for students with disabilities in the mainstream.

6.5. Support for inclusive practice

This section shows how inclusive practice at the classroom level is related to education system policies, school cultures and funding arrangements. The concept of ‘support’ is explored; ways in which schools can reorganise to support students with disabilities in the mainstream are examined; and the elements of successful support are listed. Particular reference is made to high school issues and to the role of the school executive in leading school reform. Strategies that classroom teachers can use to promote inclusive practice in their schools are discussed.

6.5.1 Inclusion is about diversity

Although the literature on inclusive schooling contains many nuances in the understanding and implications of inclusion, a pervasive theme is that inclusion involves a fundamental change to previous beliefs and practices about students. The primary shift is the abandonment of a normative framework that assumes that the needs of a majority of students are ‘normal’ whereas the needs of a minority are ‘extraordinary’, ‘exceptional’ or ‘special’. Inclusion is not just a trendy synonym for ‘integration’ or ‘mainstreaming’ but an approach to school education that reflects contemporary views of heterogeneity, difference and individual needs rather than homogeneity, deficit and group-oriented programs.

Forlin and Forlin (2002) refer to this approach as a ‘model of diversity’ – one that is based on equity and opportunity in education. Research by Chadwick and Kemp (2002) and Kemp (2003) reinforces the notion that the acceptance of the student with a disability into the school community is a key ingredient in the success of inclusion and Kavale (2002) outlines how school community acceptance is not simply a feature that is added on but one that involves a major overhaul of practice. Kavale cites the Baker and Zigmond (1990) research that characterised typical mainstream classrooms of the past as places “where undifferentiated, large-group instruction dominated, and teachers were more concerned with maintaining routine than with meeting individual differences” (p.206).

In a summary of research on educating students with disabilities in ‘general education’ classrooms, Moore (1998) defines inclusion as “providing specifically designed instruction and supports for students with special needs in the context of regular education settings. It means that all students in a school’s attendance area are full members of the school community and each student participates equitably in the opportunities and responsibilities of the general education environment” (p.2). So an inclusive school is one that caters for the needs of all learners where all learners are valued and respected. In the words of prominent Australian researchers, Carrington and Elkins (2002), inclusive schools “…should allow students with extraordinary gifts and talents to move at their natural learning rate; students who are average and slower than average to learn at the best of their ability, and students with specific learning needs to receive creative and effective supports to maximise their success” (p.3). As inclusion is therefore a classic paradigm shift, the fundamental change may be the one that first takes place in our heads, i.e. in the way we think about all students, and then that ‘conceptual reconstruction’ leads to extensive change in policy, funding and practice.
Salisbury and McGregor (2002) observe that inclusion is not just about the mere placement of students with special needs in non-segregated settings or regular schools. This view is supported by Slee (2000) who argues that “inclusion for disabled students is fundamentally an issue of cultural politics. It is not an exclusively technical issue to be fixed by a new ensemble of policy, professionals and resources. Clarification of principles must be the precursor to the development of policy. We must be clear about the politics of identity and difference before moving to the second order questions about the logistics of policy” (p.2). Slee’s argument is that the acceptance and implementation of inclusion are primarily systemic issues.

Dyson (2004) also highlights the concepts and values underpinning inclusion, implying that these elements must take priority over structural, organisational and classroom change. “Simply moving children with disabilities from special to regular school fails to achieve inclusion, not only because it overlooks all other groups of vulnerable children, but also because it neglects all the other aspects of the system that will impact on those children once they have their regular school place” (p.617).

This notion differs substantially from the language that one sometimes hears in staffrooms where many teachers still talk about ‘inclusion programs’, ‘inclusion students’ or the ‘integrated child’. Sometimes too, language changes but practice and thinking do not, as suggested by Nisbet (2004) when advocating the acceptance of “the concept of universality rather than exceptionality” (p.235). It appears that acceptance of inclusion is hampered by historical precedents in organisational arrangements, funding formulas, school structures, the relationships among teachers, students, parents and the school community, and the assumptions on which practices have been based. It must be stressed - inclusion involves a radical rethink of traditional values and concepts around teaching, leadership, school organisation and relationships; it is a different way of doing business.

Inclusive schooling is now talked about in same language as school reform and effective school leadership. In it simplest terms then, inclusion or inclusive schooling means:

- A school community for all students.
- A culture that supports membership and belonging for all students and ‘empowers’ school communities.
- School organisational structures, supports, structures, policies and practices that support participation (Booth, Ainscow & Vaughan, 2000; Barton, 1997).

Consequently, contemporary policies on student support tend to address a broad range of factors and do not focus solely on adjustments to teaching and assessment that can be made by the classroom teacher (e.g. Archdiocese of Canberra and Goulburn, 2004).

While legislation and departmental policies articulate a vision of an inclusive and diverse society an increasing body of educational literature is examining how schools can move beyond policy and guidelines to changing school and classroom practices so that they support inclusion. Booth, et al., (2000) propose a systematic, three-tiered approach for schools to overhaul their (a) cultures; (b) policies; and (c) practices to support inclusion. From a more personal perspective, students with (physical) disabilities in Pivak, McComas, and Laflamme (2002), draw attention to the following barriers to their inclusion: (a) Environmental – problems in physically accessing the school and classrooms, playground; (b) intentional attitudinal – instances of social isolation, physical or emotional bullying; (c) unintentional attitudinal – lack of knowledge, education, understanding or effort on the part of the education system or staff. A lack of understanding by teachers and support staff was the most frequently reported barrier in this area, and it “took the form of being given inappropriate
substitute work when too busy to adapt the curriculum, always being assigned as a teacher’s helper in physical education instead of adapting the playing field, excluding students with special needs from certain classes without reason, or not understanding their physical capabilities or limitations” (p.102). d) Limitations associated with having a physical disability, including the need for extra assistance in personal care, difficulties in moving within the schools and needing extra time to get to classes or complete school work.

What then are the elements of an inclusive school that will assist in minimising/eliminating these access (environmental, social and curricular), participation and attitudinal barriers? The literature identifies four significant elements to facilitate or enhance inclusive schools - school culture, organisational supports, social supports and curricular supports – and the first two of these are discussed in the sub-sections below, while social and curricular supports are explored in subsequent sections.

6.5.2 School culture

Ainscow (1995) makes the point that the culture of a school defines how teachers view their work and consequently their students. Effective leadership is often talked about as a critical, if not the most critical, requirement in establishing the beliefs upon which school cultures are founded (Ainscow, 1995) and the contribution of the principal to student learning has been demonstrated empirically, e.g. by Hattie (2005). This leadership includes:

- The role of the principal in articulating a clear vision underpinned by sound values.
- A reconceptualisation of the organisation of the school to minimise the barriers to inclusive education.
- Supporting the professional growth of all staff through training and development, opportunities for collaborative problem-solving (Ainscow, 1995; Alper, 1995; Bauer & Myree, 2001).

Specifically referring to secondary schools, Bauer and Brown (2001) contend that principals who wish to promote and create inclusive schools must promote a context that supports collaborative and professional dialogue about educational values, pedagogy and classroom practice and issues. Similarly, Villa, Thousand, Meyers, and Nevin (1996) argue that a critical role for school administrators “is to dispel the perceived competition among reforms by showing educators how the values and practices representing heterogeneous education closely link with and reinforce other school reform endeavours” (p.42). It is likely that most school principals, particularly of high schools where inclusive practice is particularly challenging (see section 7.5) would find such a positive ‘reframe’ difficult to achieve.

6.5.3 Organisational supports

Ainscow (1995) argues that the culture of a school is reflected by the beliefs and assumptions about the work of schools and teachers and the routines and organisational structures that support these beliefs.

Although the philosophy and values that are reflected in an inclusive school culture form strong foundations, it is the practical day-to-day, ‘nuts and bolts’ of the organisational supports, structures and systems that translate the beliefs into actions (Jorgenson, 1998). These factors include:

- How supports are organised and delivered in a school.
• Opportunities for staff to be engaged in collaborative planning and problem-solving.
• Professional development and support for staff.

The meaning of ‘support’

The concept of support for students with disabilities in the mainstream has often been narrowly interpreted in Australian schools and systems. ‘Support’ most often means that additional funding and personnel are provided, usually in the form of a para-educator (teacher’s aide, educational support officer, special education assistant, integration assistant or similar). In New South Wales for example, it was found that 95% of funding to schools to support students with disabilities in regular classes was spent on teacher aides (NSW Public Education Inquiry, 2002). While the author, Tony Vinson, asserts that additional support in the form of a teacher aide may be necessary for students with high support needs who need assistance with personal care, mobility, health care issues and technology, the assistant should not replace the role of the teacher.

The reliance on teacher aides as the predominant support for students with disabilities has been questioned in the education literature and in recent Australian reports (Australian Government, Senate Inquiry, Education of Students with Disabilities, 2002; Giangreco, Broer, Edelman, 1999; Giangreco, Broer & Edelman, 2001). It could be argued that one reason for the popularity of teaching assistants for supporting students with disabilities in the mainstream (their skill and dedication notwithstanding) is that their involvement leaves traditional teaching practices largely unchanged, i.e. when teachers are assisted by teaching assistants they do not need to introduce marked changes to the way they teach.

In contrast, Booth, Ainscow, Black-Hawkins, Vaughan, and Shaw (2000) offer a much broader interpretation of support to include “all activities which increase the capacity of a school to respond to student diversity” (p11). These authors argue that the provision of learning support is an integral part of all teaching and therefore all staff are involved in learning support activities, although the major responsibility for the coordination of the learning support may be responsibility of a limited number of people.

Learning supports may include:
• Adjustments to school organisation – flexible timetable, organisation of classes, time for planning, school team structures.
• Building modifications.
• Provision of specialist equipment and/or technology.
• Adjustments to curricular organisation, delivery and assessment.
• Whole school supports such as peer support, peer tutoring, specific targeted programs.
• Provision of specialist support.
• Provision of additional personnel.
• Individualised plans such as behaviour support plans, learning support plans, health care plans.

To be successful, support must be provided in ways that are consistent with the dynamic and unique features of the school. As outlined above, an essential foundation for support is school philosophy, culture and policies that accept the school’s responsibility to meet the needs of all learners in the school.
It is widely acknowledged that there is no one best model of support for students with disabilities in schools (e.g. Carrington & Elkins, 2002; Shaddock, 2005). However, traditional models of support for students with disabilities and additional learning needs in regular schools usually reflect the following: consultation, team teaching, individual in–class support and withdrawal of students from their regular classrooms (Milton & Forlin, 2003).

Another traditional model of support for students requiring additional assistance has been to use a withdrawal or ‘pull-out’ model where students are removed from class for additional support from special education teachers or assistants. Some schools have established separate classes for all or part of the student’s day or use para-educators to provide support to students for all or part of the day. Quite often, schools will a use combination of the above in strategies to provide appropriate support.

Carrington and Elkins (2002) identified some features of support models that reflect inclusive schools cultures in secondary schools. These include:

- Support from special education teachers working in the mainstream classroom.
- Co teaching/team teaching.
- Collaborative team planning between the support teacher and class teacher.
- Having a school structure that provides time for planning and reflects a collaborative ‘team planning’ approach.
- Adopting a whole school approach with strong leadership by school executive.
- Involving families, other professions and other agencies.
- Emphasising capacity building – building the skills of the class teacher as well as building the skills of the support teacher to work in a model that may be unfamiliar.

Support models in which the support teacher works alongside the class/subject teacher provide many benefits. The following benefits have been adapted from Hunt, Soto, Maier, & Doering, (2003) and Mainzer, Deshler, Coleman, Kozleski, & Rodriguez-Walling, (2003):

- More varied and interesting curriculum for student with special needs.
- Less stigmatisation and or labelling of students.
- More help available to a wide range of students in the class.
- Increased expectations of students with special needs.
- Better understanding by subject teachers of how they can cater for a range of needs.
- Better understanding by support teachers of the curriculum content of the subject.
- Improved communication, coordination and collaboration.
- Increase in student learning.
- More engagement in class activities.
- Increased interactions with peers.

### 6.5.4 Implementation issues

The research literature on inclusion highlights the pivotal role of the school executive in school reform. However, as not every principal has the knowledge or leadership skills to
manage the necessary changes, mainstream teachers may find themselves in need of strategies for 'providing support in unsupportive environments' and one way to do this is for teachers to learn how to 'manage up' (Shaddock, 2005b). Research by Bailey and du Plessis (1998) in Queensland “found two factors which seemed to influence school principals with regard to inclusion. The first was having a significant person in the school community who was committed to, and was a positive advocate for, inclusion, and the second was having a successful example of a student included” (p.24). The implications are obvious for those who want to promote inclusive practice whether they are principals or classroom teachers.

As noted above, resource allocation policies and processes often ‘lock in’ schools to particular forms of delivery. One way that principals may be able to promote inclusive practice is by encouraging or adopting more flexible uses of resources. Jenkins (2002) advocates just such a rethink of resource policies when arguing that “(w)hen schools adopt an inclusive approach underpinned with a re-conceptualisation of resource allocation to support the capacity of the school as a whole, then it is proposed that the inclusive education of students with disabilities is more likely to become sustainable” (p.69).

Individual teachers can affect change but they do not need to be solo or heroic advocates in implementing reforms in their school. Andrews and Lewis (2002) in a Queensland study, showed how a group of secondary teachers who formed a professional learning community brought about change to policy and to classroom practice – an example of school leadership ‘from below’. These authors noted however, that the sustainability of these changes depended on the ability of the teachers who were part of the learning community to promote school-wide acceptance of the changes they had initiated.

### 6.5.5 Moving on in support of inclusive education

Individual teachers and group of teachers can bring about significant changes in their schools and they need not wait until conditions are ideal and/or they have a supportive principal who will support them to be more inclusive. However, change in inclusion culture, policy and practice will be smoother if led by the executive and supported by the whole staff.

Finley Snyder (1999), observing that the “inclusion movement has primarily been a special education movement” (p.174), repeats Liberman’s wry observation that “the inclusion movement is like a wedding in which we, as special educators, have forgotten to invite the bride (regular educators)” (Liberman, 1985, p.513). While this observation may contain some truth, it suggests that inclusive education is about students with disabilities only, and not about diversity more generally. Inclusion implies that if participation becomes an issue for any student, whether arising from disability, gender, behaviour, poverty, culture, refugee status or any other reason, then the desirable approach is not to establish ‘special’ programs for the newly identified individual or group need, but to expand mainstream thinking, structures and practices so that all students are accommodated. Finally it should be emphasised that many individuals must be part of this reform and part of the model of support – students, parents, allied professionals and the local community. A key element in these processes is an inclusive curriculum, an issue that is now discussed.

### 6.6. Students with Disabilities and the Mainstream Curriculum

This section overviews practices aimed at giving students with disabilities access to curricula and learning experiences that meet their present and future needs. While individualised
planning approaches with their functional orientation may be necessary or useful in specialised settings, particularly for students with developmental disabilities, they are time-consuming and unwieldy in the mainstream and may have unintentional negative side effects, e.g. when they focus attention on student difference and problems in learning. Recent Australian developments in ensuring that mainstream curricula are relevant for all students are illustrated and curriculum adaptation strategies for mainstream teachers are described. Attention is drawn to the policy challenge of resolving what appears to be a tension between inclusive education and diversity of the enrolment on one hand and national standards and benchmarking on the other.

6.6.1 Individual planning and the mainstream curriculum

It should not be assumed that every student with a disability requires adjustments to the curriculum as many may require only teaching and/or environmental adaptations to access the general curriculum. Curriculum should be adapted only if necessary.

In the United States, an individualised planning and programming approach has been the preferred curriculum option for many students, particularly those with cognitive and developmental disabilities (Giangreco, Dennis, Edelman, & Cloninger, 1994). As the difficulties associated with providing an individualised curriculum within a group situation (such as mainstream classrooms) have become increasingly evident, recent attention has been directed towards programming within the general curriculum rather than towards providing stand-alone, individualised programs.

Traditional curriculum approaches for students with disabilities evolved out of an alternative or oppositional curriculum stance adopted by parents and practitioners who believed that students with developmental disabilities needed a functional, activities-based approach. The problem with the mainstream curriculum for these students was its perceived irrelevance to student needs. The individual needs of the student were at the centre of curriculum planning that attempted to be functional and oriented to equipping the students for present and future life contexts. Sometimes these curricula bore little, if any, resemblance to the content being taught in general or regular education classrooms for students of the same age. This approach was easier to implement in more segregated settings such as special schools or special classes in regular schools (Jenkins, 2002).

The individualised planning and programming approach is commonly implemented through some form of individual education plan (IEP) – an approach that had its origins in separate educational services for young children, students and adults with disabilities. In the USA, Federal legislation in the form of the Individuals with Disabilities Education Act (IDEA (1)) makes it mandatory for every child with a disability to have an IEP.

In Australia, although IEPs are not mentioned in the Disability Discrimination Act (1992), and its state equivalents, Australian education jurisdictions have often required the drawing up of a negotiated action plan for each student with special needs. Although most states and territories vary in their policy requirements around individual education plans, the development of an IEP or similar is common in the provision of services for students with disabilities despite the relatively small evidence base for efficacy or efficiency of IEPs (Shaddock, 2002) and despite the associated problems of implementing them in schools. The terminology may vary across states but the intent, purpose and process for developing IEPs are essentially the same. For example there are Learning Support Plans (New South Wales), Negotiated Education Plans (South Australia) and Individual Education Plans (Tasmania). In Western Australia, the term ‘Documented Plan’ is used as an umbrella term for IEPS, ITPs, IBPs and similar plans.
Teachers and teaching assistants have struggled to reconcile the notion that an alternate, functionally-based curriculum, with its separate framework and goals, can be delivered in the regular classroom without labelling the students with special needs, disrupting the learning of peers and often keeping the student in a dependent relationship with support staff.

The tension between using an individual planning approach which includes the identification of individual functionally-based learning goals and the regular mainstream curriculum has led to situations where students with disabilities who are included in the mainstream often work on their own separate program, usually under the supervision and direction of a teaching assistant. Such situations could hardly be considered ‘inclusive’ except in terms of the student’s physical location.

6.6.2 Is the mainstream curriculum appropriate for all students?

The concepts of ‘regular classroom’ and ‘regular curriculum’ require deconstruction as they are political, contestable and malleable. However, the continuing use of words like ‘regular’ and ‘special’ in relation to schools and schooling certainly illustrate lingering assumptions and discourses that are somewhat inconsistent with inclusive policy and practice. Consequently, there is still debate about the appropriateness of regular/mainstream curriculum for some students, e.g. see recommendations of the “What Works” initiative for indigenous students (Department of Education Science & Training, 2000) and issues raised by Conway (2005) about students with significant disabilities. Some parents and teachers believe that the focus for some students with a disability in mainstream classrooms should be social ‘exposure’ rather than achievement of educational outcomes. A study by Agran, Alper, and Wehmeyer (2002) in which teachers were asked for their perceptions about access to the general curriculum for students with disabilities, found that when asked if access to the curriculum would assist in increasing educational expectations for these students, 68% agreed or strongly agreed. However, when these teachers were asked whether these students should be held accountable to the same performance standards, 93% disagreed or strongly disagreed. This study also found that teachers felt that access to general education curriculum was more important for students with mild disabilities than those with more severe disabilities.

US studies have examined the quality of the learning goals for student with disabilities in mainstream and segregated settings. A study by Hunt and Farron- Davis (1992) analysed the IEP goals for students with severe disabilities in special classes and again when they moved to regular class placements. While the quality of these goals was considered higher in regular class settings (e.g. age appropriateness and functionality) the curriculum content did not differ greatly. This meant, in essence, that goals remained limited by a belief that students with these high support needs (severe intellectual disability) could not benefit from any of the learning and social exchanges that collaborative enterprise encourages in the regular classroom.

Unfortunately students with disabilities frequently have limited expectations placed upon them because of biases and stereotypes, with many educators still believing that efforts to ensure access to the ‘regular’ curriculum are not relevant to students with disabilities especially those students with more significant disabilities (Agran, et al., 2002). Addressing the issue from an ‘educational opportunity’ perspective, Westwood (2003) argues strongly against ‘alternative curricula’ for students with disabilities, particularly those who, with additional support, could access mainstream programs.
6.6.3 What do we mean by inclusive curriculum?

Giangreco, et al. (1998) and Wehmeyer, Lattin, and Agran (2001) contend that using the ‘general’ curriculum content has potential to provide a more stimulating curriculum, offering a curriculum breadth while also encouraging higher expectations of students. Jackson, Ryndak, & Billingsley (2000) found in a survey of recognised experts that they believed instructional goals for students with special needs should be based on the general education curriculum, with accommodations and adjustments made to enable students to achieve these goals and participate in class activities.

The successful inclusion of student with disabilities in mainstream classrooms implies that individual goals need to be aligned with general curriculum standards, outcomes and content. Teachers in regular/general education class setting as well as special education/support teachers can find this a challenging task (Agran, et al., 2002; Wehmeyer, Lattin, Lapp-Rincker, & Agran, 2004). As more students with disabilities are enrolled in regular classes it has become apparent that simply transposing a traditional i.e. individualised programming approach into a general education or regular class program does not work (Billingsley, Gallucci, Peck, Stewert, & Staub, 1996; Jenkins 2002). However, this does not imply that the individual planning approach and the mainstream curricular approach are mutually exclusive – they can be used in tandem.

In Australia, the concept of a shared curricular experience for all students has been emerging in significant curriculum documents since the late 90s as schools began to meet the needs of all students in the regular classroom and to move from individualised programming to more inclusive approaches. For example, this concept of an inclusive curricular approach can be seen in materials developed by the New South Wales Department of Education and Training in 1999 (‘Learning Together’). Students with and without disabilities share common education goals and their social and academic behaviours are part of a continuum shared by all. The aim of the shared curriculum is to accommodate the needs of all students and foster success for all (New South Wales Department of Education and Training, 1999). Although such approaches are being adopted in some jurisdictions, there is currently no national curriculum with statements and profiles, suggesting to Conway (2005) that the issue has exposed the concept of curriculum as “a major political issue, not simply an education issue” (p.104).

Palmer, Wehmeyer, Gipson, and Agran (2004) define the general/regular curriculum as the formal curriculum that education states and jurisdictions adopt. Since the late 1980s, education reforms have emphasised the setting of academic standards and this movement, often referred to as standards-based reform, entails clear, measurable standards in the core academic subjects for primary and secondary school students, rigorous coursework coupled with high expectations for students performance and alignment of curriculum, assessments, and professional development to the standards (Wehmeyer, Lattin & Agran, 2001; Wehmeyer, Lattin, Lapp-Rincker, & Agran, 2003). In the USA legislation and policy have sought to align access to regular class settings for students with disabilities with the national reform agenda so that “all students have access to a challenging curriculum to ensure that all students are held to high expectations, and to ensure that students with disabilities are not left out of the accountability system” (Wehmeyer, et al., 2001, p.331).

The principle of universal design, initially used in building design and planning to ensure physical access for people with disabilities, has proved valuable in the conceptualisation of an inclusive curricular approach. Universal design for learning has been described by Orkwis and McLane as “design of instructional materials and activities that allows the learning goals to be achievable by individuals with wide differences in their abilities” (as cited in Wehmeyer, et al., 2001, p.140).
The principle of universal design does not imply ‘a one size fits all’ approach, nor does it mean ‘watering down’ the curriculum whereby the curriculum activity must be narrowed to reach the broadest number of students (Scott, McGuire, & Shaw, 2003). The principle of universal design means finding ways for students to access and achieve within a common curriculum through adjustments to content, instruction and materials (Wehmeyer, et al., 2001). Universal design implies that flexibility and responsiveness are built into the content, instruction and materials in the planning stage, i.e. the approach to individual needs is proactive, not reactive.

From a pedagogical theory perspective, the idea of differentiating the curriculum is an excellent one, particularly if all teachers have the skills, support, time and latitude to differentiate for the benefit of all students. However, individualisation and differentiation of curriculum content does not sit comfortably with a standards orientation, system-based testing and publication of school results. As Skidmore (2004) comments when reflecting on similar developments in England, “In these circumstances it is scarcely surprising if the notion of shared responsibility for (mainstreaming) the education of students with difficulties in learning received a less than wholehearted welcome from subject teaching departments” (p.118).

However educators have begun to use the principle of universal design to guide curricular decision-making and planning. An example can be seen in the work of researchers such as Udari-Solnar (1996) and Wehmeyer, et al. (2001), who have developed curricular planning frameworks that use a series of planning questions to determine what supports, adjustments and approaches are required to facilitate access and participation. These approaches also focus on the individual needs / goals for the students as part of the planning.

Examples of planning questions include:

- Is the general/regular curriculum appropriate without any adjustments?
- Has assistive technology been considered?
- Are adjustments required to the way the material is delivered / presented?
- Are adjustments required to how the student presents their work?
- Are adjustments required to the assessment task?
- Are additional different goals or student specific outcomes needed within the content area? (Udari-Solnar, 1996; Wehmeyer, et al., 2001)

These planning questions also reflect early work by Giangreco and Putnam (1991) who outlined a curriculum planning framework which included multi-level instruction (the identification and provision of adjustments within the same content area) and curriculum overlapping (working on individualised ‘goals from a different curriculum area).

The concept of curriculum overlap has provided an important entry point for teachers who have students with significant disabilities in their classrooms, where the class content/unit of work proves the context for student to focus on different goals that are most relevant to their individual needs such as ones that focus on communication/social skills (Jorgenson, 1998).

In Australia, all states and territories have curriculum frameworks, which, although different in their organisation, content and assessment requirements, have at their core a standards-based framework. Terms such as ‘inclusive curriculum’ or ‘a curriculum for all students’ have found their way into the principles that underpin state and territory curriculum framework and are indicative of the awareness that curriculum framers have gained from the early intimations of change heralded by the Salamanca Statement and other significant charters referred to earlier in this review.
As an example, in New South Wales the curriculum framework released by the NSW Board of Studies is underpinned by a set of principles that reflect the notion of an inclusive curriculum to meets the needs of all learners. Features include:

- All students must be able to engage in, take responsibility for and continue their own learning.
- All students are entitled to a core of knowledge, skills, understanding and values.
- Explicit standards are established that allow recognition of student achievement and planning for further learning.
- Education must be inclusive of all students attending schools in New South Wales.
- Teachers, schools and school authorities will decide how to maximise students learning.

(NSW Board of Studies: K-10 Curriculum Framework, 2002)

Some states have moved away from the more subject-specific curriculum areas that are used to define what is expected to be taught to one that is more integrative of the knowledge skills, understandings and values that are essential for student ‘survival’. The Tasmanian curriculum framework is an example of this more integrated approach. Queensland’s curriculum framework for Education Queensland schools is about to be replaced by the Queensland Curriculum, Assessment and Reporting Framework (QCAR) (Queensland Government, 2005).

New South Wales is an example of a more traditional organisation of curriculum content into subject or Key Learning Areas (KLA’s). The new 7-10 syllabus framework is an example of more inclusive approach where each of the syllabus area has a continuum of outcomes designed to be accessible for the full range of learners. This curriculum framework reflects the principle of universal design by providing a continuum of outcomes within each of the subject areas. A curriculum planning process is embedded in the syllabus framework which allows for decisions to be made about adjustments to content, assessment and instruction, while also providing an option to identify learning outcomes within a Life Skills pathway for each subject. Most students with disabilities will participate fully in learning experiences and assessment activities provided by the regular syllabus outcomes and content, although they may require additional support, including adjustments to teaching and learning activities and / or assessment. However for a small percentage of these students, particularly those with an intellectual disability, the Life Skills outcomes and content in each syllabus can provide “a more relevant, accessible and meaningful curriculum option” (New South Wales Board of Studies - Life Skills Years 7-10: Advice on Planning, Programming and Assessment, 2004, p.6).

As indicated above, the need for students with disabilities, especially those with cognitive and developmental disabilities to develop skills that are functional and relevant has long been regarded as an important and critical planning and programming consideration. A curriculum decision-making model which provides access for students who require consideration of these important functional and life skills, can use the ‘general’ curriculum as an entry point as well as take into account often complex individual learning needs (Billingsey & Albertson, 1999).

A practical example of an inclusive curriculum planning process

A recent example of how an inclusive curriculum framework has been used to assist with curriculum planning for a student with high support needs (multiple disabilities) in a secondary school can be found in a New South Wales comprehensive high school.
This school has enrolled a student with multiple disabilities in year 7 and used the collaborative planning decision making process within the 7-10 syllabus framework (New South Wales Board of Studies) to assist with the identification of learning outcomes that are appropriate and relevant to the needs of the students within each of the syllabus areas.

This process involved identification of priority learning goals based upon knowledge of the student’s current skills and strengths, family priorities and input from other teachers and therapists. From this knowledge of the student and the knowledge of the content to be covered in each of the subjects each subject teacher was able to identify appropriate outcomes and content. For these particular students the outcomes selected in all subject areas were different from the ones for other student in the class – but the topic and content were the same.

This process brought together an individualised planning approach and a mainstream curriculum planning approach, with teachers using the knowledge of the student and the unit of work as the key determinants for the identification of the outcomes and content to be taught.

6.6.4 The inclusive curriculum challenge

Westwood (2003) argues that teachers should focus on how to teach the same material effectively to all students “Isn’t it more inclusive for students to be doing same work with differentiated amount of assistance?” (p.10).

However, some students with disabilities will require an adapted curriculum and the challenge for their mainstream teachers is to simultaneously provide them, and all of their students, with meaningful learning experiences within the mainstream curriculum. While it may be relatively easy to find some aspect of the curriculum that each student can learn, it is entirely different matter to ensure that the learning actually ‘counts’, a crucial issue for students with significant disabilities. It is essential therefore that the goals derived from the mainstream curriculum for students with disabilities are the most relevant goals for these students and are not simply a device for ‘occupying’ the students while their classmates get on with ‘real work’.

We have shown how traditional attitudes, expectations and curriculum alternatives can limit opportunities for students with disabilities. Now that the obligations of education providers have been stipulated by the Disability Discrimination Act, (1992) and the Education Standards (Commonwealth of Australia, 2005) there are compelling reasons for educational jurisdictions to more rigorously address the development of inclusive curriculum frameworks that can be accessed by all students. The situation in contemporary Australia is that we are moving away from asking questions such as “Can this student access/participate in the curriculum/learning programs?” to “How can this student access/participate in the curriculum and learning programs?” and “What adjustments need to be planned/provided to ensure access and meaningful participation?”

We have also raised issues about the way in which policies relating to standards, state-wide testing and benchmarking fit with legislation that affords “equality of access” to education for all students. Ainscow (2003) argues that narrow criteria for school success can work against inclusive practice, and in critiquing current US mandatory assessment legislation, Johnson (2005) concludes that to “expect all special education students to pass these high-stakes tests, including all but 1% to 3% of those who have mental retardation (sic), is just simply insane” (p.298). Clearly, achieving the balance between systemic accountability and the provision of curriculum and assessment approaches that are sufficiently differentiated to be relevant, rigorous, stimulating and fair for all students, including those with a disability, is an ongoing challenge for policy and pedagogy.
6.7. Inclusive Practices in the Classroom

Decisions about ‘what to teach’ must be complemented by decisions about ‘how to teach’ and the ways in which teachers teach is a key determinant of student outcomes, second only to the impact of students themselves (Hattie, 2005). Focusing on whole-school approaches to the teaching of literacy in particular, Hill and Crevola (1999) conclude that research supports the importance of three general factors that account for effective teaching: “high expectations of student achievement; engaged learning time; and focused teaching that maximises learning within each student’s ‘zone of proximal development’ (Vygotsky, 1978)” (p.2). This section now overviews strategies that mainstream teachers can use to ensure that every student in their class makes progress on the curriculum, with a focus on feasible teaching and organisational approaches that will benefit all students.

6.7.1 What does the research say about effective classroom practices?

As educational jurisdictions, internationally and nationally, move towards standards-based curriculum frameworks for all students, the adaptation of instruction that enables students with disabilities to access and participate in general education classrooms has become increasingly important. Hoover and Patton (2004) make the point that while the language or terminology may vary, e.g. adaptations, differentiation, modifications, adjustments and so on, the underlying premise is that the curriculum and instruction classroom must be responsive to the diverse range of learners, including those students with disabilities.

Many strategies for improving the learning outcomes of students with disabilities have been identified. However there is a question about the appropriateness of at least some of these strategies for mainstream classrooms. In a review of research to identify validated instructional strategies McDonnell (1998) made the point that the successful inclusion of students with disabilities in regular classes requires “a reconceptualization of traditional strategies” (p.200). McDonnell identified what he termed foundational and student-specific strategies that had a solid research base. Foundational strategies were those that were usually associated with the general classroom but were also compatible with the educational and social goals for inclusion. These foundational strategies were:

- Effective instruction e.g. targeted concepts – to ensure active engagement.
- Instruction geared to students’ success.
- Systematic introduction of new concepts.
- Linking new information to previously learned skills.
- Providing immediate feedback.
- Heterogenous/ flexible grouping arrangements.
- Cooperative learning.
- Peer tutoring.

The student-specific strategies for student with disabilities, especially those students with moderate to severe intellectual disability, were those that had a solid research base and that were conducive to a general education classroom. These strategies included:
• Using parallel instruction or curriculum overlap where students were working on the same content / in the same content area but were working on different goals.

• Using naturalistic teaching strategies to develop students' communication and language skills. This includes the use of mand-model and strategies such as time delay to create the need for communication. Much of the literature on the use of naturalistic teaching strategies focuses on preschool and the early years.

• Embedding instruction by using distributed practice and the general education content to teach specific, therapy-based goals/ skills. This means identifying meaningful opportunities across the day when any therapy priorities can be developed and practised. This approach is particularly relevant for developing communication and social skills.

• Providing opportunities to generalise these skills across subjects.

Jackson, Ryndak, and Billingsley (2000) surveyed recognised ‘experts’ in the field of inclusive practices to identify recommended instructional strategies. The main strategies identify were those that reflected:

• Systematic instruction and effective teaching principles.

• Naturalistic teaching strategies where existing routines and contexts were used to teach specific skills.

• Ways of facilitating membership and friendships such as cooperative learning and peer-mediated instruction.

In a survey of classroom strategies to identify the instructional strategies that were frequently used, Agran & Alper (2000) found that flexible classroom groupings and providing practice opportunities, were the most widely identified. The use of flexible groupings including small group, whole class and 1:1 instruction were also identified as effective strategies by Kemp & Carter (2000), Helmstetter, Curry, Brennan, & Sampson-Saul (1998) and Waldron and McLeskey, (2001).

6.7.2 Classroom strategies that facilitate social connections and class membership

An important element of inclusive practice is the support given to ensure that every student feels part of the class. Researchers have begun to explore some of the features of inclusive schooling from the concept of membership, belonging and social supports (Tennant, 2000; Williams & Downing (1998).

The perspectives of students without disabilities have provided valuable insights into what being a valued member of a class looks like, and importantly, what role teachers have in providing and facilitating these social supports. Class membership for students without disabilities means:

• Having a place in the class.

• Feeling welcomed, wanted and respected by classmates and teachers.

• Being familiar with the routines and expectations.

• Being familiar with their classmates.

• Being involved in class activities.  
(Williams & Downing, 1998; Tennant 2000).
For students with disabilities, participation was viewed as a significant indicator of class membership, especially having opportunities to participate in the same class activities, types of activities and projects. In essence there were no differences in how students perceived membership for themselves and for those students with disabilities on the basis of their participation and presence (Tennant, 2000; Williams & Downing, 1998).

Opportunities for social and communicative involvement are inextricably linked with student engagement and participation (Foreman, Arthur-Kelly, Pascoe & Smyth King, 2004; Tennant 2000; Williams & Downing, 1998). This finding has significant implications for involving peers as social and natural supports for students with disabilities and additional learning needs (Nisbet, 1992). The use of peers in meaningful teaching roles and peer mediation roles has been identified as having positive effects for participating students and peers as well as general class teachers (Gilberts, Agran, Hughes & Wehmeyer, 2001; Kohler & Strain, 1999; Udavars-Solner & Thousand, 1996).

Ohtake (2003) investigated the connections between curriculum adjustments strategy such as curriculum overlapping and the development of social connections within the classroom. He identified strategies such as giving dual focus during peer tutoring sessions and also providing opportunities for students with disabilities to have meaningful roles in whole class or cooperative situations by assigning roles that students value.

An extension of the peer tutoring strategies has seen strategies such as peer-delivered self-monitoring strategies being used to teach peer tutors to focus on teaching specific classroom survival skills using self monitoring strategies (Agran, Hughes & Wehmeyer, 2001).

Cooperative group strategies have also been recognised as an effective means of developing social connections between students and presenting a means of accessing the content in different ways (Hunt, Staub, Alwell & Goetz, 1994). Structured cooperative groups were also found to have significant benefits (for academic skills and on-task behaviour) for students with learning difficulties (Gillies & Ashman, 2000).

**Curriculum differentiation: a way of meeting the diverse learning needs of all students**

Curriculum issues in terms of ‘what to teach’ have been discussed in an earlier section but the interaction between ‘What to teach?’ and ‘How to teach?’ deserves further elaboration. Curriculum differentiation is widely regarded as a powerful conceptual framework that can facilitate the inclusion of students with disabilities in regular classrooms (UNESCO, 2004). Australian researcher, Peter Westwood (2001 describes differentiation as “… teaching things differently according to observed differences among learners” (p.5). In a more recent chapter on adaptation, Westwood (2003) provides mainstream teachers with practical guides for adapting teaching, content, assessment, organisation, groupings and student interactions, summarising the main forms of differentiation with the mnemonic, CARPET PATCH - Curriculum content, Activities, Resource materials, Products, Environment, Teaching strategies, Pace, Amount of assistance, Testing and grading, Classroom grouping and Homework assignments (p.204-205).

Tomlinson (2000b) refers to curriculum differentiation not so much as an instructional strategy, but as a way of thinking about the classroom. Curriculum differentiation focuses on how to organise and teach the content of the curriculum and cater for the diversity of learners in the classroom and once again reinforces the point that inclusive practice requires a mindset that accepts and expects diversity.
Curriculum differentiation or differentiation of instruction is based on the premise that the one unit of work or lesson can be taught to the whole class, regardless of the diversity of need. Within the unit of work/lesson teachers can “…modify, accelerate or change the expectations for individual students or groups of students, thus limiting the need for separate programs or for our learners to be doing non-meaningful activities or not participating in the lesson at all” (UNESCO, 2004, p.86). Gartin, Murdick, Imbeau, and Perner as cited in Hoover & Patton (2004) describe differentiated instruction as “using strategies that address strengths, interests, skills and readiness in flexible learning environments” (p.8). It should be emphasised that curriculum differentiation is not a practice that is relevant only to students with disabilities. Scott, Vitale, and Masten (1998) found that instructional strategies recommended by special educators were also perceived as effective by mainstream classroom teachers. Similarly, strategies shown to be effective for groups such as boys (Alloway, Freebody, Gilbert & Muspratt, 2002) and gifted students (Tomlinson, 2000b) tend to effective for other students. Conway (2005) has proposed a useful conceptual model to guide teaching and learning in an inclusive classroom. The model directs attention to teacher, student, curriculum and physical setting factors. Similarly, Tomlinson (2000a), Hoover and Patton (2004) and UNESCO (2004) identify four key elements of differentiation:

- **Content**
  - Adjusting the expectations of the content
  - Varying the goals
  - Adjusting the performance expectations to ensure success

- **Process**
  - Adjusting the expectations
  - Providing concrete materials,
  - Using peer tutors
  - Giving additional written or explicit oral or written instructions
  - Adjusting the pace of instruction
  - Using different materials- hand on materials
  - Using flexible grouping for different subject
  - Using both visual and auditory modes when presenting the materials
  - Using instructional materials such s calculators
  - Providing additional practice
  - Teaching specific strategies such as note taking
• Using computer assisted instruction
• Breaking down the tasks
• Using curriculum based assessment/ checking the learning

**Product**
• Reducing length of assignment
• Providing extra time
• Accepting computer generated products
• Having alternate formats for assessment tasks
• Spacing testing over several days
• Consideration of setting – e.g. provision of distraction free setting
• Use of adaptive / specialised equipment
• Simplifying the language of the directions
• Provider a writer / reader
• Providing Braille or large type
• Using audio taped questions

**Learning Environment**
• Establishing personal relationships with students
• Focusing on social skill development
• Creating an environment for success
• Considering environmental adjustments- such as physical access, location of desks / equipment etc.

### 6.7.3 Classroom strategies: What teachers say and do

While there are numerous studies and publications that identify those teaching strategies that *should* be used in classrooms to cater for the range of students it is important to consider the perspectives of teachers themselves. What do teachers say about these strategies and what strategies do they actually use in the classroom?

Giangreco, Dennis, Cloninger, Edelman and Scattman (1994) described the experiences of teachers who had a student with severe disabilities in their class. These teachers reported favouring instructional approaches that encouraged group learning, such as cooperative learning. These teachers were less inclined to use the more specialised types of adjustments that did not encourage participation.

McDonnell, Thorson, Disher, Mathot- Buckner, Mendel, and Ray (2003) identified a number of strategies that teachers used to support students with disabilities in general education classrooms. This included peer tutoring, embedded instruction, large and small group
instruction, individual instruction, co-operative learning and co-teaching with the special education teacher.

Westwood (2003) found that teachers were slightly better at process adjustments (i.e. groupings, interactions, giving varying amounts of assistance) and in varying interactions with students. Teachers found that these adjustments were more natural than adjustments to content, materials and instructional methods.

In a review of literature on instructional adaptations for students with disabilities in inclusive classrooms, Scott, et al. (1998) found that teachers rated adaptations that would benefit the whole class and require minimal preparation as most feasible and likely to be implemented. The adaptations/adjustments that required more individualised responses to students and that took extra time were rated less reasonable and less feasible.

Interestingly, research on actual implementation of any adaptive strategies suggests a gap between what teachers say they consider reasonable and feasible and what teachers do (Scott, et al. 1998). Zigmond and Baker (1994) cited in Scott, et al. (1998) suggest that teachers teach to the whole class, with instruction being undifferentiated and with few adaptations/adjustments used. It was also found that teachers tend to use adaptations/adjustments that address the social/emotional needs of students and benefit the whole class.

In an Australian study of teachers who had students with intellectual disability in their class, O’Donoghue and Chalmers (2000) identified what they termed the ‘theory of selective adaptation’ and found that teachers tend not to make radical changes to their classroom organisation, teaching methods or curriculum content. “All teachers tend to focus initially on and selectively adapt aspects of their classroom organisational practices in response to inclusion” (p.898).

An early study by Schumm and Vaughn (1991) identified adaptive instructional strategies that teachers found desirable and feasible to use in general education classrooms. The types of adaptations identified as being the most feasible included establishing routines, providing reinforcement and feedback, establishing expectations and involving the students in whole class activities. Least feasible included adapting materials, using alternative materials, using computers and providing individualised instruction.

In summary, these findings show that teachers believe that adjustments that require changes to their long term planning, the alteration of materials and content, and the individualising of instruction are unrealistic and so they are not common teaching practices in typical classrooms.

6.7.4 Feasible strategies

The discussion of take-up and feasibility of teaching adaptations suggests that many may not be as easy to implement as academics and researchers propose. For example, some of the reasons teachers give for not using individualised adjustments include:

- Time taken.
- Difficulty in using different procedures for some students while keeping others on task.
- Simplifying lessons and slowing the pace compromises the needs of other learners.
- Using different approaches and resources can highlight differences.
- Special support does not prepare students for real world.
- Lack of training and resources.
• Lack of awareness of what to do.
• Lack of training and lack of school support.
  (Adapted from Schumm & Vaughn, 1995; Scott, et al., 1998; Westwood and Graham 2000).

Many of the above reasons reflect assumptions that while most students are able to make progress on a ‘regular curriculum’ when teachers use “general methods” that some students will require specialised, individualised teaching. These assumptions are not the ones on which inclusive practice and differentiation are based and so the reluctance to change of teachers who hold these views is understandable, particularly if their school’s culture and policies do not provide a context that is conducive to inclusive practice and differentiation. Secondary schools face particular difficulties in providing this context.

6.7.5 Secondary schools

A strategic management analysis of the issues affecting secondary schools indicates that they experience pressures on inclusive practice from both the external and internal environments. Ainscow (2005) refers to external factors such as competition between schools and parental choice while Pearce and Forlin (2005) list internal impediments to inclusion that include the structure of some high schools, their organisational practices and the reliance of some teachers on traditional “stand and deliver” teaching and where the emphases seem to be more on subjects and departments than on students and pedagogy. Clearly, teaching students with a disability in mainstream secondary schools is complicated when the external and internal policy environments leave little room for flexibility around student need.

Forlin (2005) argues that the challenges for secondary schools are increasing because of student retention policies, the increasing diversity of schools that mirrors the diversity in the communities they serve, and the fact that students who have been successfully included in primary school will want to attend the same high schools as their peers and friends.

Deppeler, Loreman and Sharma (2005) suggest that one approach to improving the inclusivity of secondary schools is to rethink and reorganise the school’s approach to students who find learning difficult. Deppeler, et al. (pp.119, 120) suggest that the specialist approach that sits “outside the general school context, distancing parents and classroom teachers” should be replaced by supports that “avoid the creation of the barriers and ‘difficulties’ in the first instance.” This example from Deppeler, et al. illustrates how with appropriate leadership and professional learning, secondary schools can become more accessible to all students.

In conclusion, the expectations placed on all mainstream teachers to adjust their approach to curriculum planning and ways of delivering it must be realistic and feasible. While many teaching strategies have been identified as being effective for students with disabilities, and therefore desirable, mainstream teachers need to be shown how these strategies are usually appropriate for all student. In addition, there is a need to provide mainstream teachers with professional development opportunities and encouragement to reflect on, and adapt, their teaching practice. School organisation, timetabling and practical support are also necessary. As this advice can be no more important than in the areas of literacy, numeracy and technology, these important curriculum areas are now addressed with particular reference to the needs of students with disabilities in the mainstream.
6.8. Literacy and students with disabilities in mainstream classes

Competence in a range of literate practices is becoming increasingly important for all students, including those with a disability and this section examines particular issues for students with disabilities in the mainstream. Research on the impact of teachers’ expectations on the type and scope of literacy instruction is overviewed and issues of early identification, assessment and reporting are explored. The implications of research on the teaching of literacy are examined with attention to particular issues for students with disabilities in mainstream high schools. This section concludes with recommendations for areas of further research, teacher training and professional learning.

The announcement by the Federal Minister for Education, Brendan Nelson, to review the teaching of reading in Australia (Weekend Australian, 13 -14 November, 2004) has again raised the issue of what is the best way to teach literacy and in particular reading. The report of the Committee for the National Inquiry into the Teaching of Literacy (2005) maintained that effective literacy teaching should be grounded in evidence-based research. The committee concluded that direct systematic instruction in phonics during the early years of schooling is essential for teaching children to read. The review stressed that teachers should adopt an integrated approach to teaching reading so that phonics and other skills such as phonemic awareness, fluency, vocabulary knowledge and comprehension are taught in meaningful contexts. It further suggested that such a balanced approach should be complemented with informed support from the home.

There is certainly a growing understanding amongst practitioners and researchers that a balanced or eclectic approach to teaching literacy that incorporates a diverse range of teaching methods is the most effective approach especially when teaching students who are having difficulty acquiring literacy (Mather, 2003; Pressley 2002). However the ongoing literacy debate demonstrates that even though a combination of holistic and explicit systematic skills instruction appears the most effective approach to teaching literacy many teachers are uncertain as to how to adjust the curriculum, teaching and learning activities to engage students with special needs in successfully developing literacy skills, and this situation is evident at a time when more students with diverse needs are attending school. What is certain is that all teachers, both special educators and mainstream, need to have a thorough understanding of what is good practice in teaching literacy to students with special needs and have at their fingertips an extensive array of well thought out strategies and approaches that allow them to cater for the wide range of learning needs in today’s mainstream classrooms.

6.8.1 Socio/cultural expectations: What do we understand about literacy today?

Australia does not have a national curriculum, however, in 1996 Ministers for Education in States Territories and the Commonwealth agreed to develop and use national benchmarks to report minimum acceptable standards of literacy and numeracy achievement. In April 1999, State, Territory and Commonwealth Ministers of Education met as the Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA, 1999) in Adelaide. At that meeting, Ministers endorsed a new set of National Goals for Schooling. The new goals were released in April 1999 as The Adelaide Declaration on National Goals for Schooling in the Twenty-First Century. The States and Territory Governments agreed on a national goal that every child leaving primary school should be numerate and be able to read, write and spell at an appropriate level, while recognising that a very small percentage of students with severe
disabilities may be unable to achieve the minimum standards. The Ministers also endorsed a national literacy and numeracy plan that called for a coordinated approach by all states and territory governments to improve literacy and numeracy standards.

For educators teaching in the 21st Century there has been a move to expand our understanding of what literacy is. For example, in light of the increasing number of students with special needs engaging in the regular classroom curriculum teachers need to understand that all students need to be taught the full range of literacy skills. The nature of reading has changed to mean more than mastering print, in its broadest sense; it is an act of interpreting the full range of media, visual, print-based, electronic or spoken. In Focus on Literacy (1998), a position paper for the New South Wales Department of Education and Training’s State Literacy Strategy, good literacy teaching was seen as recognising the variety of ways in which literacy is relevant to the daily lives of students within diverse social and cultural contexts. Thus, to be literate in the contemporary world necessitates an understanding of literacy practices and the ability to apply the broad range of written and spoken forms that are essential for effective communication.

Literacy is defined by MCEETYA as “the ability to read and use written information and to write appropriately in a range of contexts. It also involves the integration of speaking, listening, viewing, and critical thinking with reading and writing and includes the cultural knowledge which enables a speaker, writer or reader to recognise and use language appropriate to different social situations.” The definition encompasses a range of theoretical approaches such as: a) literature-based learning; b) constructivist and experience-based learning; c) skills-based learning; d) genre-based learning; d) critical literacy and e) cultural-based literacy learning practices.

Some theoreticians view reading as part of changing literacies that are fluid and are shaped, in part, by changing social constructions such as new forms of work practices, social relations and technologies (Luke & Freebody, 1999). Furthermore, they believe that literacy education is not just about skill development and competence but also about the institutional shaping of social and cultural resources (Luke & Freebody, 1999; van Kraayenoord, 2004). Freebody & Luke (1990) developed a model for literacy learning that has had a wide appeal with practicing teachers. The model highlights four roles for the reader in post-modern society: a) code-breaker; b) text-participant; c) text-user; and d) text-analyst. The four roles model was never meant to be a static model but one that was intended to be continually critiqued and refined to include new literacies and practices (Luke, 2003).

The Productive Pedagogy and Quality Teaching movements in Australia are recent extensions of American research by Newmann and Wehlagate (1995) demonstrating that most students produce high quality work when they are provided with authentic pedagogy. Adoption of the Productive Pedagogies approach in Queensland and the Quality Teaching principles in New South Wales have shifted the emphasis from student work and teacher tasks to features of instruction (Braden, 2004). Braden supported the value of Productive Pedagogies for indigenous students and students from low socio-economic status but questioned its compatibility with more passive traditional styles of learning e.g. Chinese. It has been found that when preschool students with disabilities (including those with intellectual disabilities) were immersed in a structured and authentic literature enriched classroom environment they made substantial progress in literacy (Katims, 1994). Promising as these results are, if Australian schools are going to successfully include students with disabilities in Productive Pedagogies, they will need more research than has been currently available (Braden, 2004; Elkins, 2004).
6.8.2 Student factors

The National School English Literacy Survey (1997) provided, for the first time in Australia, a national map of literacy achievement in key aspects of literacy; namely, Reading, Writing (including Spelling), Speaking, Listening and Viewing. The results of the survey of over 8,000 year 3 and year 5 students showed that approximately 30% of all students in years 3 and 5 did not meet the identified performance standards in reading and writing. Girls met the standards more often than boys by about 11 percentage points. Students from English speaking backgrounds met the standards more than students from non-English backgrounds. Students from low socio-economic backgrounds performed lower than higher socio-economic backgrounds by about 20% points. The indigenous sample had a significantly lower number of students meeting the literacy standards overall. Interestingly, in view of discussion above about the exclusionary discourse that has dominated educational policy, students with disabilities were not identified in the survey results.

The National Plan, Literacy for All: the Challenge for Australian Schools (DEETYA, 1998), developed as a result of the report, indicated that it is not acceptable for a high proportion of students to fail to meet minimum standards. However, Australian surveys have identified about 10–16% of students in Australian schools had extended support needs in literacy, as perceived by their teachers. Hay, Elias, and Booker (2005) maintained that these rates were similar to those reported in the UK and USA. Several researchers claim that many students, identified in third grade will still have high support needs by the end of high school (Fielding-Barnsley, et al., 2005, van Kraayenoord, Elkins, Palmer, & Richards, 2001). Within this group it has been estimated that approximately 4 percent of Australian students have a specific learning difficulty associated with perceived neurological dysfunction and may not respond well to regular remedial instruction (Hay, et al., 2005; National Health and Medical Research Council, 1990).

Education Queensland is one of the few Australian school systems or school sectors to use the terms learning disabilities and learning difficulties. From a pedagogical perspective, the term learning difficulties is seen by many as preferable because learning difficulties are considered ‘temporary’ and capable of improvement with suitable instruction (Foreman, 2005; Louden, et al., 2000). From a legal perspective however, and as implied in section 4.3 of this review, it may be unwise for education systems to avoid the term ‘learning disability’ because it then may be argued that the system does not acknowledge the possibility of disability being the cause of the reading difficulty (in terms of the wide definition of the DDA, 1992).

Issues of categorisation are certainly important in the United States where funding and legislation are part of the equation. Within the learning difficulty spectrum there is a wide range of abilities and considerable heterogeneity. Most students with learning difficulties share some characteristics and needs with students who are not labelled and many can achieve at the same level or at a higher level as their peers in literacy. Learning difficulties impact on an individual’s learning in a variety of ways.

Students with intellectual, cognitive or language disabilities are particular concerns in all areas of literacy learning. There are high correlations between intelligence and reading comprehension, and between language development and learning but there is less evidence of a strong correlation between basic reading skills, such as phonological awareness and intelligence (Tiu, Thompson, & Lewis, 2003; Vellutino, Fletcher, Snowling, & Scanlon, 2003). Reading research has indicated that the early word reading difficulties of students with low intelligence and verbal ability are associated with the same factors, weakness in phonological processing, that interfere with early reading growth in students whose general intelligence is within the normal range (Torgenson, 1998). This evidence provides support for teaching
reading skills explicitly to students with a range of disabilities. Traditionally, behaviourist approaches to teaching literacy have been adopted for these students, particularly in special classes and units. More recently there has been increasing support for cognitive, constructivist and socio-cultural approaches to supplement the less contextualised methods (van Kraayenoord, et al., 2001). An example of a contextualised approach to teaching literacy to students with disabilities was the University of Queensland’s ‘Latch On’ program (Literacy and Technology Hands-On). This program is a literacy and technology program for young people aged 18 years and above who have Down syndrome. It is a holistic, socio-cultural approach that encourages literacy learning through reading, writing, speaking, listening, viewing, and integrating information technology (e.g. emails) into everyday learning. The program has been successful in continuing the literacy learning of young adults within real world contexts (Moni & Jobling, 2001).

The identification of the specific learning needs of students experiencing difficulties acquiring literacy has become an important but complex issue. For example, slow decoders may develop difficulty with comprehension as texts become more complex in later years (Rasinski, 2000; Woolley, 2004). Other researchers have added that specific reading disability is difficult to diagnose when it is an isolated problem, but becomes even more difficult if it is complicated by other factors such as English as a second language (Fielding-Barnsley & Murray, 2002).

Some students with specific learning needs do not respond well to phonological instruction and these students are sometimes described as having dyslexia or as having an auditory processing disability. Mather (2003) suggested that individuals with dyslexia (reading disability) or dysgraphia (writing disability) share a left-hemisphere processing limitation that is not confined to written language. Specific impairments of language functions may underpin such problems, have a significant impact on reading and may involve difficulties in the processing of word sounds e.g. verbal short-term memory, rapid naming, syllabic perception, and sound blending (Howes, Biggler, Burlinghame, & Lawson, 2003; McNamara & Wong 2003). Poor underlying language processes may result in weak phonological processing and represent challenges to the effectiveness of interventions involving larger classroom groupings. Moreover, specific language impairments may require more intense and protracted intervention (Vaughn, Levey, Coleman, & Bos, 2002). For example, deficits in naming speed and impairments in phonological skills may interact to produce more severe reading deficits (Wolf & Bowers, 2000). Even though there has been a large volume of recent research related to dyslexia and dysgraphia it has not been clearly defined and consequently there is no widely accepted single method for assessing these types of reading difficulties (Howes, et al., 2003; Schatschneider, Carlson, Francis, Foorman, & Fletcher, 2002). To overcome this problem, Vellutino, et al. (2004) favoured a two-tiered approach using assessment evaluating remedial activities tailored to the individual’s specific educational needs. The first round of assessment would entail a well-balanced and individualised intervention program building upon the child’s own knowledge base. The researchers suggested that a child’s response to this intervention would provide guidance as to his or her long-term remedial needs.

Other secondary factors can add significantly to the complexity of learning difficulties in literacy. For example, associated medical conditions can cause frequent absences affecting continuity in reading instruction. Motivation in literacy is another important factor that varies from one student to the next. Many students, lacking motivation for literacy learning, develop learned helplessness and/or behaviour difficulties that become part of a more complex failure cycle (Westwood, 2004). For example some students who are profoundly deaf can find the acquisition of spoken and reading skills a challenge as they do not have easy access to the phonological code and many do not acquire a strong base in the spoken and written language of the classroom. Furthermore, such students often do not achieve a level of spoken language proficiency that matches that of students who do not have a hearing impairment. To
complicate matters further, most instruction in the mainstream classroom is via oral language rather than signed or visual representational language which would allow for greater literacy success for some students in this group (Moldin-Meadow & Maybury, 2001).

6.8.3 Assessment

In order to help schools cater for students whose progress could be impeded by limited literacy competence, the *Mapping the Territory Report* was commissioned by DETYA (now DEST) to give a national picture of how students with learning difficulties are supported in literacy and numeracy learning in mainstream settings and to identify successful strategies (Louden, Chan, Elkins, Greaves, House, Milton, Nichols, Rivalland, Rohl, & Van Kraayenoord, 2000). The development of national benchmarks in literacy and numeracy has increased the focus in recent years on improving the performance of students with learning difficulties. At this stage, national data on literacy assessment tasks are generally not inclusive (Elkins, 2000a) as many students with disabilities have been excluded from participation. One reason is that the extent to which accommodations for students with disabilities or learning difficulties affect the validity and reliability of assessments is unknown (van Kraayenoord, et al., 2001). It is important to include all students in large-scale educational assessments so that what is happening in literacy nationally and in individual states can be assessed and evaluated. Educational accountability now requires states to participate in an annual “National Report on Schooling in Australia” to inform literacy and numeracy skills of students in years 3 and 5. However each state has its own policy regarding the inclusion of students with disabilities and learning difficulties resulting in a haphazard approach to the reporting of literacy skills of those students (van Kraayenoord, et al., 2001).

In recent years Australian schools have made greater use of standardised testing and there has been a general tendency to use standardised tests that have a one-size-fits-all focus. While accountability has been emphasised, teachers and parents have expressed preference for more personal forms of assessment (Elkins, 2000a). This is particularly relevant for students experiencing difficulties in learning as they often have affective motivational problems (Bruce & Robinson, 2002). Furthermore, many educators are concerned that there are no clear connections between testing programs and interventions (Cumming & Wyatt-Smith, 2004; Wyatt-Smith, 2000). Consequently many recent Australian research studies downplay direct measures of student learning for more teacher reports and qualitative research results that support its value for indigenous students and students from low socio-economic backgrounds (Bradon, 2004). It has been found that early identification, assessment, and intervention have particularly effective outcomes when they are systematic and implemented by highly skilled teachers in individual or small group settings (Rohl & Rivalland, 2002). The sub-text of the above analysis is that assessments are undertaken for many purposes and so assessment methods must always be carefully selected to achieve specific purposes.

6.8.4 Planning and programming

Although there is a wide variety of programs used in schools that claim to develop reading skills there are few programs that have been evaluated for their efficacy in improving literacy performance for students with disabilities and learning difficulties (van Kraayenoord, et al., 2001). However, good research studies can inform teaching practice. For example, Kleiewer & Landis (1999) found that when it came to planning literacy programs for students with severe disabilities, institutional understandings of those severe disabilities appeared to rule out the possibility of the students receiving meaningful reading and writing instruction. Reading in special education classrooms often involved the use of word lists and functional reading lists.
and reading or writing was seldom taught as a form of self-expression. In the same study when students were grouped according to their disability, exact tasks were usually shared across students, with no individualisation occurring. There was also a distinct lack of focus on the students’ use of written language. While reading and writing were not altogether absent, their form was decontextualised. In contrast, in other classrooms, when teachers were encouraged to view the students as learners rather than as disabled students, they began to make more individualised judgements that focused on the students’ educational needs and classroom participation.

Another study by Hammond (2004) supported whole school approaches to literacy education. Grove Primary School was cited as an example of good teaching practice using a system-wide child centred approach to planning and programming their spelling curriculum. Experience and non-experienced teachers had earlier expressed a lack of understanding of the nature of spelling. As a result the school developed a collective approach to teaching spelling. Combining theoretically different positions into a balanced approach to spelling instruction is not new. It is regarded by most teachers as a sensible way of taking the best from different perspectives to cater to the range of student abilities. While it is widely recognised that individual classroom teachers have the potential to make a substantial difference to children’s learning it is vital that they work collaboratively with parents and specialised support personnel (Bean, Swan, & Knaub, 2000; Rohl & Rivalland, 2002).

### 6.8.5 Instructional practices

Some researchers maintain that typical literacy teaching methods are considered suitable for students with disabilities and learning difficulties and that high quality teaching is the most important element in literacy learning for students with special needs (Rohl & Rivalland, 2002; Westwood, 2004; van Kraayenoord, et al., 2001). The main difference in teaching approaches for students with special needs is that instruction should be more efficient, intensive and carefully sequenced as well as carefully monitored to ensure it is effective. For example McNamara and Wong (2003) found when students with learning difficulties and disabilities were involved in regular classroom learning activities and were provided with particular cues or prompts they were able to increase performance to near average levels. Success in teaching students with disabilities and learning difficulties depends on the knowledge and capacity of teachers to find appropriate adjustments and accommodations that lead to greater student independence (Rohl & Rivalland, 2002; van Kraayenoord, et al., 2001; Westwood, 2004).

Both groups of teachers were highly committed to creating a supportive, motivating environment for literature. Modelling of reading and writing occurred frequently and the teaching of reading and writing was integrated across the curriculum areas. Authentic, rich literature was reported with supporting material used to provide practice with specific skills. Careful attention was paid to the needs of individual students, for example, teachers understood the role of the students’ background knowledge in comprehension. Both groups reported the teaching of lower order competencies that develop automatic word recognition. Some specific reading skills were taught in isolation and in a more systematic fashion but only when needed. These skills included concepts about print, letter recognition, the alphabetic principle, phonics and decoding skills and auditory and visual discrimination. The survey also showed the commitment of these teachers to embedding the instruction of skills into the context of real, purposeful reading and writing. The development of comprehension and critical thinking skills was not left to chance but was also an integral part of literacy instruction. One of the main differences between the two groups of teachers was the degree of explicit teaching of letter and word skills by the special educators and in those classrooms there was more small group and individual instruction occurring. While the special educators
used authentic, rich literature there was also more use of basal readers and books with controlled vocabulary and reading level. The special educators also tended to use drill and practice activities more than the regular educators.

A number of researchers have acknowledged the phenomenon known as “the year four slump” where students, having experienced a steady diet of phonics and basic skills, fail to progress because they have not been engaged in higher order thinking and comprehension (Leach, Scarborough, & Rescorla, 2003; Snow, 2002; Woolley & Hay, 2004). Basic skills in literacy, teaching facts and information are necessary but not sufficient for sustained achievement (Fielding-Barnsley, Hay, & Ashman, 2005). Duke & Pearson, (2003) maintained that effective reading comprehension instruction should entail a multiplicity of different strategies. It requires different kinds and amounts of instruction and experiences for different learners. Intensive instruction and modelling are efficient teaching strategies for literacy while teaching a variety of reading comprehension strategies in natural settings has been shown to increase learning effectiveness.

In the United States a major review of the literacy research literature by the National Reading Panel (NRP) (2000) found that multiple cognitive-strategies instruction for students with learning difficulties led to those students making significant gains in reading skills. In a local study the NSW State Literacy Strategy Evaluation 1997-2003 indicated that as a result of the use of multiple strategy instruction there were improved learning outcomes and there was a perceived increased in student engagement and enjoyment. Improved state-wide assessment data and increased sophistication in work samples were reported as evidence. The review concluded that teachers were employing more explicit teaching strategies using a teaching and learning cycle that included modelling, guided and independent practice, and on-going assessment to inform teaching.

However, United States researchers have voiced concern that many teachers do not employ effective instruction, modelling and transactional practices (Duke & Pearson, 2003; NRP, 2000). The NRP (2000) found there were only four appropriate recent research studies on teacher preparation on comprehension instruction strategies. In an Australian study, Fielding-Barnsley (2003) studied 340 teachers and found that teachers had poor knowledge of meta-linguistics used in the process of learning to read, despite the importance of meta-linguistic instruction for beginning readers and those students that find reading challenging. While there have been significant gains research indicates that teachers require further training aimed at developing their knowledge and skills about teaching reading and comprehension strategies.

Traditionally, the teaching of literacy had been viewed in terms of a reading developmental approach focusing on an individual’s ability or readiness to read and write. Thus, normally-achieving readers were expected to move through several distinct yet overlapping developmental stages in progressing to fluent word recognition. More recently the emphasis has focused on the individual reader’s engagement with text meaning (Ryndak, Morrison, & Sommerstein, 1999). Effective reading development requires students to develop efficient self-instruction strategies using already developed reading skills to enable reading and understanding of unfamiliar words (Galletley & Knight, 2001). Bruce and Robinson (2002) found that, for example, meta-cognitive word identification strategies combined with a reading strategy approach were clearly more effective than traditional methods of word identification. Many researchers agree that enriched teaching approaches that promote self-regulated learners should involve; (a) the use of students’ prior knowledge, (b) authentic pedagogies; (c) concrete and real life material, (d) modelling of relevant strategies, (e) guided practice, (f) independent practice, (g) different patterns of organisation (individual, group and whole class etc), (h) provision for a range of materials and differing ability levels, and (f) performance feedback (Pressley, 2002; van Kraayenroord, et al., 2001, Westwood, 2004).
Much of the reading research on student’s beginning to learn to read, and on struggling readers has established that some level of phonological skills is necessary for students to decode words (Turner, Baldwin, Kleinert, & Farmer-Kearns, 2002). However most current curricula contain minimal phonological instruction beyond rhyming and identifying first sounds in words (O’Connor, Notari-Syverson & Vadasy, 1996). Many researchers maintain that explicit instruction in phonological skills beyond rhyming and initial sounds are needed in the early years of schooling and that in fact a student’s fluency with phoneme segmentation and blending are the best predictors of reading success (Adams, 1998; Chard & Dickson 1999; Chard & Osborn, 1999; Smith, Simmons, & Kameenui, 1998; Liberman & Shankweiler, 1985; Snow, Burns, & Griffin, 1998). Beyond a certain level, higher attainment in more advanced phonological skills may add no advantage to a reader experiencing difficulties (Bowers & Sunseth, 2002; Kirby, Parrila, pfiffer, 2003). Some researchers have proposed a two-stage process of written language development whereby students initially learn to decode words based on phonological and letter-sound correspondence processes and after sufficient exposure to particular words, students are taught how to form more direct orthographic connections in memory (Bowers & Sunseth 2002; Ehri,1992). Direct orthographic connections are reflected in automatic word recognition. Thus the two stages rely on phonological processing with frequent exposure leading to orthographic skill. Wolf and Bowers (2000) have suggested that rapid naming speed is an underlying process that is critical to this development.

A number of major concerns have been identified for high school teachers in teaching literacy (Mastropiera, Scruggs, & Graetz, 2003). Firstly, high school teachers cover content at a rapid pace; students with literacy difficulties generally have problems keeping up with their more able peers. Students with reading delays fall further behind because literacy skills are not always taught explicitly to students (Cumming & Wyatt-Smith, 2004). Secondly, text-books often have high-density, domain-specific vocabulary levels along with complex sentence structures; such texts do not cater for students with reading difficulties. Additionally, there is often a lack of suitable supplementary reading material to reinforce the learning of key concepts. New and content specific vocabulary also places more spelling demands on students with learning difficulties and is not normally treated effectively in the classroom. Thirdly, Mastropiera, et al. (2003) reported that teacher training of high school teachers in literacy is generally inadequate, particularly in the area of computer literacy. It is also not uncommon to find teachers operating in other subject areas in which they have not received training. While co-teaching is seen as being an accepted strategy for assisting delayed readers because it brings the skills of the support teacher to bear in the regular classroom, it is not always implemented effectively, nor is it seen as standard collaborative practice in secondary schools.

6.8.6 Electronic and multimedia documents

New technologies are changing the role of the reader from that of a receiver of information to that of a participant. There has been a shift from passive reading to participating in knowledge construction and using the technology in productive ways (Cumming & Wyatt-Smith, 2004). In practice the use of computers and multimedia in education has had a mixed response. While they have been applauded for their motivational value with all students including students with disabilities they have required basic computer operating skills together with added literacy skills. Readers are also required to be able to read electronic texts in non-linear ways (but may have the advantage of using the mouse to track words).

Additional information such as hypertext or hypermedia has the potential to enrich the reading experience for the reader while navigation and integration of information have added extra challenges for students with disabilities. Metacognitive skills such as monitoring and
knowing in advance what information should be obtained are critical. For example, knowing when or when not to open a link and making decisions about non-relevant information can be challenging for students with disabilities and learning difficulties. Determining the purpose of the reading task and level of prior knowledge needed are other added skills. Some students may need restricted options and other adaptations to overcome an inability to manipulate electronic text effectively. Students particularly benefit from explicit instruction in reading electronic texts and making meta-cognitive judgements (Kim & Kamil, 2003).

6.8.7 Literacy intervention programs

There is a diverse but well-established tradition of early identification of reading difficulties within schools across all sectors. There are many similarities in the materials used for early identification in all states and territories. For example, Clay’s Observation Survey (1993) and the ‘First Steps Developmental Continua’ have often been used as tools in the identification of reading problems in many schools. The diagnostic nets developed by Education Queensland and the Education Department of Western Australia were both based on ‘First Steps’. The First Steps Continua have been used effectively in some Northern Territory public schools and by some Catholic schools. Clay’s Observation Survey has been included as part of the identification procedures recommended by the Victorian, New South Wales and Australian Capital Territory government school systems and the Victorian Catholic sector (Lo Blanco & Freebody, 2001).

Rohl & Rivalland (2002) surveyed 20 schools and found that they were implementing a wide variety of programs and strategies to support primary students with literacy difficulties. Most schools have some systematic early identification and intervention procedures but few attempt to predict which students will experience literacy difficulties (Elkins, 2000b; Rivalland, 2000; Rohl & Rivalland, 2002). What is needed is the identification of at-risk students some time during kindergarten. Early intervention programs, overall, attract funding but students progressing beyond year three often have inadequate support (Elkins, 2000b).

There appears to be a large group of students with late emerging literacy difficulties. Many students show signs of reading comprehension difficulties after year 3 (Woolley & Hay, 2004) and these difficulties generally persist well into high school (van Kraayenoord, 2004). The problems are compounded when early support is phased out as the academic demands on struggling readers become more complex. More research is needed on understanding late emerging literacy difficulties and successful approaches to intervention (Elkins, 2000b; Pressley, 2002; Rohl, 2000). In general there has been relatively little systematic evaluation of literacy intervention programs (De Lemos, 2004). While therapists and specialist personnel report a range of interventions, many appear to be ineffective (Sunseth & Bowers, 2002).

Most schools utilise parent volunteers and many schools supply suitable reading materials for parents to support their children at home. It has been reported that this is highly beneficial and even essential to school success. Full partnership seems to be the best model of parental involvement (Cairney, 2003). In many school programs parents are taught strategies to use for assisting with reading and some schools offer more general support for families (Nichols, 2000). It has been suggested that more research on tutoring by paraprofessionals and volunteers and on the relative effectiveness of the types of programs used and the training of helpers is needed (Elkins, 2000b, Woolley & Hay, 1999). Some existing research has shown that students participating in intervention programs exhibited significant improvements in their reading ability, and reading self-concept, while their parents showed marked reduction in self-reported stress during supported reading time (Collins & Matthey, 2001; Rasinski, 2000).
Peer tutoring effectiveness has also been consistently demonstrated for students with learning difficulties (Westwood, 2004; Woolley & Hay, 1999).

A significant number of students enter school with delayed general language skills and poor general knowledge. Such students need focused support in the growth of vocabulary, word knowledge, listening and attending and early word reading skills. Schools identified as being in low-socio-economic areas have tended to report language delay as a major factor in students failing to develop literacy skills (Harasty & Reid, 1994; Locke, Ginsborg, & Peers, 2002).

6.8.8 Learning support staff – reading specialists

Elkins (2000b) reported that a substantial proportion of learning support staff in many schools in Australia have had no specific training in collaborative planning or in teaching reading to students with disabilities or learning difficulties. The qualifications and experience of staff managing special learning programs vary extensively but all schools need to ensure they have expert teachers and adequate resources so that students experiencing learning difficulties will be provided with appropriate and adequate support (Rivalland, 2000).

A leadership role is critical for reading specialists when working with teachers, other professional, administrators and the community. Principals of exemplary schools with reading specialists or learning support staff valued the presence of these specialists and generally believed that they contributed much to the success of the schools literacy program (Bean, et al., 2000). Reading specialists serve as models for their colleagues and the support of school administrators is essential. In Australia most school systems favour an in class collaborative approach by support staff rather than a withdrawal model (Elkins, 2000b). Thus, the role of specialist support personnel is vital for an inclusive team approach and it is important that their training includes communication and leadership skills (Bean, et al., 2000; Klingner & Vaughn, 2002). It has been reported that classroom teachers valued highly the importance of communication and personal skills of specialist support teachers. However, they felt that it was of little value if support teachers had superior teaching skills but could not communicate effectively (Fielding-Barnsley, 2004). Universities need to look seriously at the standards or expectations related to leadership. Without adequate leadership training learning support specialists may not be able to be as effective in their roles.

6.8.9 Professional development

When changing teaching practices and in particular bringing about change in the teaching of literacy, ongoing long term professional development is seen as more effective than one off, short term training. Researchers are finding that changes to teaching practice for teaching literacy occur only after a teacher has received intensive, supportive and practical ongoing support – coaching and mentoring being particular words used to describe best practice around professional learning. Researchers including Chard (2004), Weiner (2003), and Smith, Baker and Oudeans (2001) have described professional learning models using long term intensive support featuring; a) dissemination of research and theoretical perspectives, b) time to discuss new ideas, and c) practical demonstrations have made the greatest changes to teaching practice.

A professional development program (Smith, Baker, Oudeans, 2001) conducted over four years showed that mentoring, opportunities for constructive feedback about teaching practices, peer networking, the dissemination of research and the continuous evaluation of student outcomes to mark success were the elements most valued by teachers. Teachers involved in the professional learning program acquired a deep understanding of the rationale
for changes being considered in the way instruction in early literacy was being delivered in their schools. Ongoing reflective discussions showed teachers a credible link between research and classroom practice. This led to significant changes in teacher practice and improved student outcomes. Furthermore, there is a need to develop an understanding of the role of literacy across the curriculum in high school settings. In particular professional development of teachers should focus on multi-literacies and the cross modal forms of meaning making (Cumming & Wyatt-Smith 2004).

6.8.10 Literacy and students with disabilities in the mainstream: the way forward

One of the first issues we need to address as educators in Australia is how we can measure or gauge the success of our literacy programs in addressing the needs of students with learning difficulties and disabilities. We would like to stress the importance, already stated in this review, of including all students in large-scale educational assessments so that what is truly happening in literacy nationally and in individual states can be assessed and evaluated. Each state has its own policy regarding the inclusion of students with disabilities and learning difficulties in state and national reporting resulting in a haphazard approach to the reporting of literacy skills of those students (van Kraayenoord, et al., 2001). Another important issue is the need to better equip our teachers in the skills, knowledge and understandings about how to teach literacy and in particular reading, to students who can be ‘hardest to teach’ students with disabilities or learning difficulties.

We know that teachers identified as successful teachers of literacy utilise a balanced and eclectic approach to reading instruction, immersing their students in a literature-rich environment and explicitly teaching specific skills. There is some evidence to suggest that students with disabilities do not need instruction that is markedly different from their regular mainstream peers other than instruction that may be more slowly paced, more intensive but no less rigorous. The literature confirms that all students benefit from a “systematic, balanced approach to the teaching of reading in which explicit skill instruction, including phonics and phonic awareness, are embedded in age appropriate reading and writing experiences” (K. Usher, personal communication, 14 February 2006).

In conclusion we need to implement what is already known about teaching literacy and about teaching a diverse range of students in regular classrooms. Greater attention is needed to the nature of professional development, in particular to what makes an effective professional learning program so that teachers are more effective instructors of literacy for all students, including those with disabilities.

6.9. Numeracy and students with disabilities in mainstream classes

In this section the debate over what it means to ‘be numerate’ is discussed and the Australian and international research on numeracy is reviewed. The limited amount of research of relevance to the teaching of mathematics to students with disabilities in the mainstream is discussed and the implications for schools and for teaching practice are listed. This section concludes with the identification of major issues including the impact of national testing on mathematics teaching and reporting and the importance of changing teachers’ beliefs about the role of mathematics in students’ lives and the capacities of all students to become numerate.
6.9.1  Numeracy perspectives

There is a substantial body of literature discussing the effective teaching of mathematics. Much of this is set within a context which in the international literature is called the ‘reform’ agenda (NCTM 2000), and in an Australian context, by the development of a National Statement on Mathematics for Australian Schools (Australian Education Council, 1991) and subsequently by various state and territory curriculum documents. The emphasis is on students constructing meaning and developing a deep understanding of mathematical concepts.

There is also a substantial body of literature discussing the teaching of mathematics to students with disabilities (eg Miller, Butler & Lee, 1998). Some of this literature tends to be a somewhat simplistic transference of the principles of effective mathematics teaching described by the proponents of the reform agenda, while other sources recommend a more atomistic, procedure-based approach in which arithmetic skills are valued over understanding or problem-solving. Neither of these two competing views seems to adequately address the teaching of mathematics to students with disabilities in an inclusive classroom.

There is a similar disjunction over competing views of numeracy in Australia. While numeracy is described in Commonwealth documents as the capacity to use mathematics effectively to meet the general demands of life at home, in paid work, and for participation in community and civic life, many of the so-called numeracy projects in the various states and territories focus on the development of mathematical understanding, particularly in number, in the early years of schooling, rather than on a more contextual, holistic view of numeracy.

Thus, while there is substantial literature, and a substantial research agenda, across a number of different aspects of mathematics, numeracy, effective teaching of numeracy in schools and effective practices for students with disabilities, there is very little that pulls these sometimes competing perspectives together. In particular, the literature relating specifically to inclusive practices in mathematics or numeracy for students with disabilities in mainstream classes is very sparse. Indeed, the common practice of differentiating the school mathematics curriculum through ability grouping may well have the effect of placing many students with disabilities predominantly in the lowest achieving classes, thus effectively excluding them from higher level mathematical thinking. William and Bartholomew (2004) found that students in lower achieving groups were often taught by less well qualified teachers who had lower expectations of their students, frequently set work that was undemanding, used a narrower range of teaching approaches and hardly ever responded to students’ frequent requests for more demanding work.

6.9.2  Mathematics and numeracy

In ‘Numeracy: A Priority for All’ (Commonwealth of Australia, 2000) the Commonwealth states that “numeracy is fundamental to learning at all stages of school and across all curriculum areas”. The Adelaide Declaration on National Goals for Schooling in the Twenty-First Century, agreed upon by the Ministerial Council on Education, Employment, Training and Youth Affairs in 1999 outlines the national goal that “students should have attained the skills of numeracy and English literacy; such that every student should be numerate, able to read, write, spell and communicate at an appropriate level” (p.3). Thus the importance of numeracy for every student is recognised and well articulated at both state and territory, and national levels. However, it could be argued that what “being numerate” means for students, particularly those with disabilities, is much less well articulated.
In its report on a Commonwealth funded national numeracy conference, the Australian Association of Mathematics Teachers (AAMT 1997) proposed the description that “to be numerate is to use mathematics effectively to meet the general demands of life at home, in paid work, and for participation in community and civic life”. The report suggested that numeracy involved not only skills, but also the disposition to use mathematical concepts and skills, mathematical thinking strategies, and general thinking skills, in context, and to have an appreciation of how the context shapes the mathematics being used.

While the development of the underpinning mathematical skills of number, measurement, space and statistical ideas is crucially important, it could be argued that they do not, in themselves, constitute numeracy. Yet a focus on these foundational mathematical skills and understandings has characterised many of the numeracy research projects being conducted in the various states and territories.

Doig, Underwood and Fullarton (2004) conducted a comprehensive review of current numeracy research projects around Australia. They identified projects with a focus on students ‘at risk’ as one aspect of that review. While all of these numeracy projects deal with issues of curriculum, pedagogy and assessment, it is convenient to group them into three broad categories: learning number concepts in the early years, the effective teaching of mathematics, and numeracy in context.

**Learning number concepts in the early years**

A number of projects including ‘Count me In Too’ and the associated ‘Counting into Space’ and ‘Counting into Measurement’ in New South Wales, the ‘Early Numeracy Research Project’ in Victoria, ‘First Steps Mathematics’ in Western Australia, and ‘Thinking and Working Mathematically’ in Tasmania focus on developing skills and understanding in the areas of number, space and measurement, predominantly in the early years of schooling. Common findings from these projects include the importance of understanding children’s learning through a coherent developmental framework; the need to challenge students’ thinking through more open-ended questions; the value of a clear mathematical focus for classroom activities; and the central place of mental computation in children’s mathematical development. In Tasmania teachers participating in the ‘Thinking and Working Mathematically Project’ recommend delaying the teaching of any formal written algorithms in most cases until at least grade 4.

**Effective teaching of mathematics**

A second group of projects, such as ‘Researching Numeracy Teaching Approaches in Primary Schools’ in Victoria, ‘Profiling High Numeracy Achievement’ in South Australia and ‘Teachers Enhancing Numeracy’ in Queensland focus on the development of effective school and classroom practices, and associated teacher development, for promoting improved numeracy outcomes. Common findings from these projects include enacting constructivist learning; connecting mathematics learning and everyday life; implementing assessment and reporting practices that promote learning; supporting students to be independent learners; and making the literacy of mathematics explicit. Each of these projects emphasised the importance of teacher professional learning through collaborative action research.

The ‘Researching Numeracy Teaching Approaches in Primary Schools’ project identified twelve scaffolding practices to support student learning of numeracy. These were termed excavating, modelling, collaborating, guiding, convince me, noticing, focusing, probing, orienting, reflecting/reviewing, extending and apprenticing. The “Teachers Enhancing
Numeracy Project’ identified key teacher characteristics including mathematics knowledge, pedagogy knowledge, school and classroom planning, active learning environments, effective classroom enquiry and teacher student classroom engagement as essential for effective numeracy teaching. These teacher qualities are consistent with those described by the Australian Association of Mathematics Teachers in their Standards for Excellence in Teaching Mathematics in Australian Schools (AAMT, 2001).

Numeracy in context

A third and somewhat smaller group of projects including the ‘Middle Years Numeracy Project’ in the Australian Capital Territory and the ‘Numeracy Across the Curriculum’ project in Western Australia, focus on the development of numeracy in context. Common findings from these projects include that good numeracy skills are important for learning across all curriculum areas and are essential for life after school, and that numeracy is much more than the routine facility with basic mathematical ideas and techniques. The projects developed a framework for numeracy across the curriculum, describing ‘being numerate’ as requiring a blend of mathematical, contextual and strategic know-how. They also suggested that being numerate includes a person’s capacity to take up three key roles – the fluent operator (using mathematics fluently in familiar settings); the learner (a capacity for the deliberate use of mathematics to learn); and the critic (a capacity to be critical of the mathematics chosen and used) (Thornton and Hogan 2004).

The findings from Australian research are consistent with the international literature such as the research of Askew, Brown, Rhodes, William and Johnson (1997) in the ‘Effective Teachers of Numeracy’ project in the UK. This seminal project identified factors that enabled teachers to put effective teaching of numeracy into practice and strategies that would enable those factors to be more widely applied. Evidence was gathered from 90 teachers, and data on over 2000 pupils were used to validate effective numeracy teaching. The case studies of teachers in the project revealed three orientations to numeracy teaching: a transmission orientation, a discovery orientation and a connectionist orientation, with each orientation profoundly influencing the purposes and outcomes of the practices used by teachers. In particular, teachers who had a strongly connectionist orientation to mathematics valued flexible strategies, had higher expectations of student achievement, asked more challenging questions, included more focused discussion in the classroom, and encouraged students to apply their knowledge more frequently than those with a transmission or discovery orientation. These teachers were able to generate more effective learning than either transmission or discovery-oriented teachers.

Yet despite the overwhelming evidence from Australian and international research projects, video studies of Australian year 8 mathematics lessons (Hollingsworth, Lokan and McRae 2003) show a culture of mathematics teaching dominated by repetition of skills of low procedural complexity, a ratio of teacher-to-student talk of 8:1, and a failure to develop the deep connections described in the research quoted above.

6.9.3 Mathematics and students with disabilities

In a strong criticism of the mathematics education reform agenda, Hutchinson (1993) claims that the NCTM Principles and Standards for School Mathematics (NCTM 1989, revised in 2000) make almost no mention of students with disabilities. A similar criticism could be levelled at many Australian mathematics curriculum frameworks despite their emphasis on ‘mathematics for all’. Hutchinson raises three concerns: firstly that there is no evidence to support the claim that implementation of the curriculum and pedagogical frameworks
described in documents such as the NCTM Standards will result in mathematical power for students with disabilities; secondly that special education needs to move beyond equal access and develop a focus on quality teaching and learning; and thirdly that the rhetoric of ‘mathematics for all’ appears to include girls, minority groups or students from non-English speaking backgrounds but seldom students with disabilities, particularly those with a cognitive disability.

Numeracy, and particularly research into students with mathematics learning difficulties (MLDs) has been the “poor cousin” of literacy for many years (Desoete, Roeyes & De Clercq, 2004; van Kraayenoord and Elkins, 2004), with some 30 articles on reading disabilities for every one on mathematics learning disabilities. Yet according to a survey of Australian teachers (Rohl, Milton and Brady, 2000) most schools reported between 10% and 30% of their students as having learning difficulties in mathematics.

MLDs cover a broad spectrum of problems. They include problems related to computation, including lack of number sense, lack of recall of number facts or difficulty with written computation; problems related to comprehension, including language difficulties and auditory processing skills; and problems relating to reasoning, including lack of contextual understanding, difficulties with logical reasoning and metacognitive issues (van Kraayenoord and Elkins, 2004; Desoete, et al.; Robinson, 2002). Montis (2002) describes a student diagnosed with dyscalculia who exhibited language deficits, fuzzy phonological perception and concept inflexibility. Hanich, Jordan, Kaplan and Dick (2001) found that students’ learning difficulties in mathematics are confounded by reading difficulties. They reported that students who had both reading and mathematics difficulties were doubly disadvantaged, and may require specific teaching strategies to promote effective learning.

Miller, Butler and Lee (1998) conducted an extensive review of the literature and reported that students with learning disabilities performed at several years below their age level on computation tasks and made very little progress through school. They examined effective practices for teaching mathematics to students with learning disabilities, citing the results of 54 studies that had validated results. Effective practices to improve computation were use of a constant time delay, use of manipulative devices and drawings, direct instruction, strategy instruction, lecture-pause strategy, goal structure and self-regulation. Students’ problem-solving was improved by the use of manipulative devices and drawings, strategy instruction and direct instruction. The research also pointed to the potential for strategies such as computer-assisted learning and peer tutoring.

Explicit teaching of problem-solving strategies has also been found to be effective by Montis (2002), who recommends chunking of steps into manageable memory capsules, Jitendra (2002) who recommends the use of schema to promote word problem-solving and Milo, Seegers, Ruijssenaars and Vermeer, (2004) who suggest that the use of guided rather than direct instruction in problem-solving can promote the development of positive beliefs about mathematics among students with learning disabilities.

The Commonwealth of Australia commissioned two major research projects into literacy and numeracy for students with disabilities. The ‘Students with Disabilities: Their Literacy and Numeracy Learning’ project (van Kraayenoord, Elkins, Palmer and Rickards, 2000) looked at programs for students with vision impairment, hearing impairment, intellectual disability, social-emotional disorder and multiple disabilities. It provided vignettes of students and described school and classroom practices that were conducive to positive learning experiences. The project found that schools “that work” were characterised by a supportive culture, whole school approaches, a belief that all students can learn, shared responsibility, team approaches and on-going professional development. It found that classrooms “that work” had a language rich learning environment, a modified environment when necessary and a wide variety of
materials used flexibly. Effective teachers used modified curricula when necessary, made learning contextual and meaningful, used activities that matched students’ interests, adapted teaching strategies to meet students’ needs, used explicit teaching and promoted motivation and engagement (van Kraayenoord, et al., 2000).

‘Mapping the Territory: Primary Students with Learning Difficulties Literacy and Numeracy’ (Louden, Chan, Elkins, Greaves, House, Milton, Nichols, Rivalland, Rohl and Van Kraayenoord, 2000) presented case studies of twenty schools throughout Australia and conducted an extensive review of the literature relating to literacy and numeracy for students with disabilities. The case study teachers described five principles for improving the teaching of children who have difficulties with mathematical problem solving: big ideas; conspicuous strategies; efficient use of time; clear, explicit instruction of strategies; and appropriate review.

Most of the research described above was conducted in special classes or schools, or with small groups of students withdrawn from mainstream classes. On the other hand, the literature relating specifically to effective numeracy practices in inclusive settings is relatively sparse. Many of the strategies described in the previous section could, of course, be applied in an inclusive setting, however researching the characteristics of effective numeracy teaching for students with disabilities in mainstream classes remains a significant challenge.

Karp (2000) asked three key questions of a mathematics classroom that aims to provide effective learning for students with disabilities. She asked if students are engaged in meaningful activities; whether the approach will prepare students to independently respond to future problems; and whether students with special needs will respond best to this approach? Karp discussed the pros and cons of explicit instruction, an apprenticeship model and a constructivist environment, recommending an interwoven approach in which each has a place. She suggested that critical factors in an effective inclusive classroom include learner self-directedness and conceptualisation skills; tasks for which learners have adequate time and the requisite prior knowledge; and the availability of extra support where necessary.

Watson, Geest and Prestage (2003) suggest that low attainment in mathematics is due to two factors: not knowing enough mathematics and not knowing how to learn mathematics. In a study of ten teachers who were able to make a difference in student outcomes in mathematics, particularly for students with difficulties, in mainstream classrooms, they identified a number of common elements. Effective teachers established good working habits, generated concentration, interacted verbally, gave students time to think, were aware of students’ progress, gave students choice, were explicit about mathematical connections and differences, valued mathematical complexity, had high expectations and structured lessons carefully. The teaching approaches generated what Watson, et al. termed “deep progress in mathematics”, in which students learned more mathematics, got better at learning mathematics and felt better about themselves as mathematics students.

6.9.4 Numeracy challenges and conclusions

While there are documented practices that promote effective numeracy learning for students with disabilities in special classes, there is little to suggest that these strategies are effective in an inclusive setting. Similarly while there are many studies of effective numeracy teaching in mainstream classes, there is little to suggest that these teaching strategies are effective for students with disabilities. The identification of effective practices through which students with disabilities can learn in an inclusive classroom remains a major research question.

Van Kraayenoord and Elkins (2004) identify three future challenges for promoting effective numeracy learning for students with disabilities in Australia: the development of teacher knowledge through professional development, the role of mandated assessment and the
impact of state testing regimes on students with disabilities, and the role of parents. However, perhaps the greatest challenge is changing the mindset and culture of teachers of mathematics to promote a belief that all students can learn mathematics (Askew, et al., 1997). Associated with this belief is an orientation to curriculum that values mathematics and numeracy as essential aspects of all students’ everyday learning and not merely as gateways to further study.

6.10 Information and communication technologies for students with disabilities in mainstream classes

The introduction of information and communication technologies (ICT) in Australian schools nearly a quarter of a century ago has had varying impacts on educational policy and curricula. For many students with disabilities in the mainstream, ICT developments have meant access to new learning opportunities and to a worldwide knowledge and information base via the internet. Others however, have barely been touched by digital technologies. This section of the review focuses on both educational discourse and empirical work on the impact of ICTs in enhancing learning and supporting students with disabilities in mainstream classes. While there is little Australian research on ICT and students with disabilities, this section has attempted to focus on pertinent local material where available. It first indicates the importance of ICT in a knowledge-based society and the extensive policy support for digital technologies in education. Then it focuses on the limited impact of ICTs in many schools and considers the tensions and contradictions evident in efforts to integrate digital technologies into classroom learning. The main barriers to adoption are listed and conditions believed to support greater ICT infusion in pedagogy are indicated. Finally, the impacts of ICT on learning for students with disabilities in the mainstream are highlighted.

6.10.1 The evolution, value and limited impact of ICT pedagogies

Australian educators are recognised leaders in the introduction, development and adoption of ICTs but this is not necessarily reflected in the spread, scope or infusion of ICTs in schools. Australia was amongst the first countries to develop ‘computers in education’ policies and in the broad area of special education Australian schools were both early and innovative adopters of ICTs (Fitzgerald, Hattie, & Hughes, 1985; DEST, 2004). However, this does not mean that implementation of ICT experiences for students with disabilities in the mainstream has been any more systematic than for other students.

Australian educational policy and position papers in each state and territory have long promoted the idea that all students need new understandings and skills together with traditional domain specific knowledge to operate successfully in today’s information rich world. Information selection and retrieval skills, higher order cognitive skills such as data interpretation and analysis, collaborative problem-solving, both face-to-face and remote, and knowledge creation strategies are considered especially important. Curriculum framework and KLA specific documents indicate that teachers must implement new pedagogies to facilitate students’ learning in this knowledge-based environment and that ICTs provide excellent vehicles to support contemporary pedagogies (Finger & Trinidad, 2002; Fitzgerald, Hattie, & Hughes, 1985; Trinidad, 1998; Western Australian Plan for Government Schools 2004-2007, 2004).

For over twenty years the strong educational policy focus on ICTs in learning has been accompanied by investment of billions of dollars in ICT hardware, software and professional development. Despite this, the adoption and integration of technology within schools has
varied considerably. Progressive teachers and principals have successfully embraced many ICT opportunities, but many still ignore or sideline computer-based activities (DEST, 2004; Schiller, 2003). And this variation is not unique to Australia (Cuban, 2003; Educational Testing Service, 2003, Mau, 1999; Zhao & Cziko, 2001). The recent US Department of Education report – Toward a New Golden Age in American Education. The National Education Technology Plan 2004 (2004) highlighted a similar gap between educational technology developments and effective educational applications. It says that its “great promise” is frequently unrealised and “students mastered the wonders of the internet at home, not in school” (p.10).

The Australian Council for Computers in Education (2004) has described our education systems as having “considerable inertia” in implementing effective ICT experiences. The New South Wales Teachers Federation (NSWTF) contends that “the introduction of new technologies into schools has been largely on an ad hoc basis, and it has relied to a considerable extent on the goodwill and voluntary efforts of teachers and others… Without the necessary funding for maintenance and technical support… as well as professional development of teachers, ICT cannot be properly integrated into pedagogy” (NSWTF, 2004).

A similar situation exists in Queensland. Redmond and Brown (2004) state that “increased ICT availability appeared to be in administration, library and computer labs rather than in classrooms and (teachers) reported difficulties in booking those areas and taking advantage of the ‘teachable moment’ without easy access to ICT resources” (p.14). Nationally, MCEETYA (2002) has acknowledged the limited impact of ICTs on learning outcomes and emphasised the need to support teachers’ professional learning.

Three recent Australian studies illustrate the limited impact of ICTs in classrooms. In a study of 60 Sydney primary school classrooms over a four week period, children in nearly half the classes (43%) used computers for less than 15 minutes per week. In a further 25% of classes children had 20-30 minutes of computer use per week and in 16% of classes students spent about 35-45 minutes engaged in computer activities. In only five classrooms did students have over one hour of computer use per week each. In two classes there were no computer-based learning activities (Elliott, 2003). In a study of internet use across one New South Wales school region, few primary teachers reported using computer-supported learning activities or the internet in any capacity, let alone infused across the curriculum (Leonard, 2001). There was particularly limited ICT use with children with disabilities in the mainstream. Research from Queensland also illustrates limited ICT use. Redmond and Brown’s (2004) indicate that half the teachers in their study had just “three or four computers for thirty students”, plus access to library and other school computers. ICT areas in which teachers felt most proficient included “word processing, sending and replying to emails, using the internet to locate information and using CD Rom programs. … Teachers felt least proficient in web publishing, the internet and collaborative projects, operating data bases and presentation software and operating peripheral devices such as scanners…” (p.16).

6.10.2 Barriers to ICT implementation

Over two decades there have been numerous reviews, policies, and position statements on ICT in Australian education contexts highlighting the positive impacts and benefits of computer technologies in learning (see for example, the ACT Department of Education, Youth and Family Services, 2004) yet many teachers are challenged to understand and manage ICTs as a strategic resource and develop pedagogies that effectively harness its strengths. That ICTs have not had the widespread impact on teaching and learning processes envisaged a decade or so ago is disappointing but not surprising. Most educational innovation happens
slowly and ICT is in itself continually transformed by new developments and market conditions. It is not a discrete subject and its applications in education are the subject of considerable professional and popular debate, informed by a combination of scholarly discourse, opinion and research.

Barriers to effective ICT learning in schools and for people with disabilities have been highlighted in several contexts (eg. Carey, Friedman & Nelson Bryen, 2005; Elliott, 2000; Ely, 1999; Florian, 2004; Leonard, 2001; Schiller, 2003; Stevens, 2004; Underwood, 2003; Woodward & Reith, 1997; Zhao & Frank, 2003) and calls for national ICT standards, greater institutional support and infrastructure, and better professional development for teachers have been addressed to varying degrees in all states and territories (DEST, 2002).

The main barriers to effective ICT implementation for student learning identified in the literature reviewed here can be categorised under Structural and Process dimensions.

**Table 6.1: Structural Barriers**

| **Lack of computers and/or internet in classrooms; old computers** | Zhao & Frank, 2003  
Leonard, 2001  
Elliott, 2000  
Redmond & Brown, 2004 |
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<tr>
<td><strong>Unreliability of the technology</strong></td>
<td>Cuban, 2003; Zhao, et al., 2002</td>
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<tr>
<td><strong>Lack of leadership and support from principals</strong></td>
<td>Ely, 1999; Schiller, 2003</td>
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<tr>
<td><strong>Lack of institutional support and encouragement</strong></td>
<td>Ely, 1999; Leonard, 2001</td>
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| **Poor technology infrastructure** | Zhao & Frank, 2003  
Redmond & Brown, 2004 |
| **Class timetabling difficulties; Short lessons** | Leonard, 2001  
Redmond & Brown, 2004  
Zandvliet & Fraser, 2004 |

**Table 6.2: Process Barriers**

| **Poor teacher attitudes toward technology** | Cuban, 2001; Becker 2000a  
Schiller, 2003 |
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<td><strong>Lack of teacher confidence</strong></td>
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<td><strong>Conflicting information on the value of ICTs in learning</strong></td>
<td>Zhao &amp; Frank, 2003</td>
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| **Limited teacher skills and competence especially in the face of rapidly changing technology** | Leonard, 2001  
Zhao & Frank, 2003 |
| **Classroom management difficulties** | Cuban, 2001; Elliott, 2000  
Leonard, 2001 |
| **Adjusting to new pedagogies** | Underwood, 2003 |
| **Lack of professional development or inappropriate PD** | Cuban, 2001; Leonard, 2001  
Redmond & Brown, 2004 |
| **Lack of time for planning and preparation** | Means & Olson, 1995 |
| **Lack of involvement in computer room and/or classroom layout/planning** | Zandvliet & Fraser, 2004 |
To counter these barriers several main enablers are considered necessary for teachers to infuse ICTs in authentic ways across the curriculum. Assuming the technology is in place, these include that:

- The teacher must believe that technology can more effectively achieve or maintain a higher-level goal than what has been used.
- The teacher must believe that using technology will not cause disturbances to higher-level goals that he or she thinks are more important than the ones being maintained.
- The teacher must believe that he or she has or will have the ability and resources to use the technology (adapted from Zhao & Cziko, 2000, p.27).
- The teacher must believe that he or she has commitment and support from others, and leadership from supervisory and administrative personnel (Ely, 1999; Schiller, 2003).
- The teacher must feel confident and competent with ICT pedagogies, not just with personal computing skills (DEST, 2000, 2002; Elliott, 2000; Schiller, 2003).

6.10.3 Importance and effectiveness of ICT experiences for students with disabilities

Since the early to mid 1980s, ICTs have been effectively but variously employed to support teaching across a range of Key Learning Areas (KLAs) for students with disabilities in the mainstream. For many students previously isolated from mainstream education because of severe speech and visual disabilities, hand-eye coordination and other motor skill problems, ICTs have been liberating. Tools such as concept keyboards, voice recognition software, and Braille and speech generation devices have supported learning in particularly helpful ways. They have meant that some students previously excluded from regular classrooms are now able to be included (Goetze & Walker, 2003; Grabe & Grabe, 2004; Overton, 2004). The flexibility of digital technologies means that computer-based activities and related technologies are readily adaptable and customisable for all developmental levels. Even Internet-based activities that normally require good literacy skills can be readily adapted for students with reading or visual difficulties (Grabe & Grabe, 2004; Harrysson, 2004).

For students with disabilities in the mainstream, ICT experiences and skills are especially important for two main reasons. First, students need information and knowledge-building skills and ICT skills in the wider community and workforce. The transformation from an industrial to a knowledge economy impacts hardest on people without skills to use, access and create information. Disadvantaged and vulnerable communities without relevant knowledge and communications skills, including ICT skills, are increasingly alienated from mainstream social and employment opportunities. Both today and in the future individuals who have sound information, communication and analytic skills will be better positioned for employment than those without such skills (DEST, 2002; Business-Higher Education Forum, 2003; MCEETYA, 2002). This is an important rationale for ICT use in schools.

Secondly, there is strong evidence suggesting that the tools and technologies that have transformed the workplace are in themselves tools that enrich curricula and support learning and cognitive processing. As Pea said nearly twenty years ago - ICTs are “partners in cognition” (Pea, 1988). Specifically, digital technologies can enrich learning environments, engage students and enhance learning outcomes. They are particularly effective for students who find traditional classroom learning difficult, disempowering, alienating and/or disengaging (Becker & Ravitz, 1998; Kozma, 2003; Stager, 2001; Stevens, 2004).
For students with disabilities in mainstream classes, distribution and type of ICT use appears to be much the same as for other students and equally variable (Bahr, Kinzer & Reith, 1991; Leonard, 2001; Neuman, 1991). ICT activities are typically aimed at strengthening specific curriculum skills, sourcing information, and fostering more generic problem-solving and thinking skills, as well as building social skills. Typically too, there is a strong focus on traditional drill and practice activities and word processing that are not closely linked to the core work in class (Cosden & Abernathy, 1990; Leonard, 2001). Leonard's (2001) found that word processing, games and repetitive maths and spelling skills activities were most commonly used by students with disabilities in mainstream classes. ICT activities are also commonly targeted at cognitive strategies traditionally linked to low academic achievement such as strengthening metacognitive skills (Woodward & Reith, 1997).

ICT use and associated research in special education can be divided into three main areas.

- Discrete skill and concept development and practice within KLAs (eg. Word processing and spelling skills).
- Development of cognitive strategies and related pedagogic strategies.
- Knowledge construction, skill and concept development that involves higher order thinking and sustained communication within holistic, socially constructed, collaborative classroom contexts.

Another major category of ICT use is in supporting teachers in their roles in diagnosing and assessing special learning needs, developing Individual Education Plans (IEPs), other teacher planning, preparation, and communicating with families. Some teachers of students with disabilities routinely use available technology in classroom planning, administration, assessment and reporting (Greenwood & Reith, 1994; McKeown, 2004).

This review focuses mainly on the second and third categories. It does not consider research in the first category, because most occurred in the 1980s, technology has changed dramatically since that time, and more importantly, most Australian policy, position and curriculum statements focus on the importance of knowledge construction in integrated, socially grounded contexts with a focus on deep thinking and substantive and sustained interaction between participants.

### 6.10.4 Cognitive strategies and related pedagogies

The main focus in cognitive strategy research seems to be in the related areas of metacognition and self-regulation. Educators generally agree that students with learning disabilities have difficulty in task mediation and applying metacognitive and self regulatory strategies to tasks (Neuman, 1991; Zimmerman, 1994). Considerable research has focused on ICT effectiveness in applying broad and content specific metacognitive strategies, monitoring and feedback, assisting in managing cognitive workload and boosting motivation to learning tasks and most indicate positive outcomes for students (Salomon, Perkins & Globerson, 1991; Woodward & Reith, 1997). For example, studies of feedback, both simple and complex, show ICT supported or delivered strategic feedback was effective in increasing student achievement but that effectiveness tended to be dependent on the task, and especially for more complex tasks (Lin, Podell & Rein, 1991; Okolo, 1992). ICT mediated scaffolding in reading and writing (MacArthur & Haynes, 1995; Salomon, Perkins & Globerson, 1991) and maths (Elliott & Hall, 1997; Gerber, Semmel & Semmel, 1994) have proved effective routes to improving metacognitive and self regulatory strategies and related task performance. However, in most of these studies, the impact on learning outcomes depends on a combination of student characteristics and school-based and teacher-determined factors.
Studies of ways to introduce and consolidate new concepts show that computer supported or generated activities can be especially effective in regulating and systematically distributing new items and practice. This distribution and pacing acts to reduce, spread and/or regulate the cognitive workload for struggling learners (Elliott & Hall, 1997; Gleason, Carnine & Vala, 1991), a finding consistent with the idea that automaticity in foundation or basic skills enables limited cognitive resources to be dedicated to new or more complex tasks (Zimmerman, 1994; Henderson & Cunningham, 1994).

6.10.5 ICT infusion and learning within holistic classroom contexts

The second main ICT focus is on infusing ICT applications in an integrated or seamless way. An early and persistent issue in the ICT and disabilities area in the 1980s, as in other areas of ICT research, was the confounding issue of medium versus teaching. Much of the 1980s research on computer effectiveness focused on the extent to which the technology and low level skill instruction affected cognitive development and academic outcomes and ways in which busy classroom teachers could more effectively individualise learning programs for students with disabilities. Generally, technology tended to improve outcomes in the specific areas on which it focused and was motivating and engaging, but students were generally isolated from major KLA themes and issues and focused on shallow concepts and ideas and repetitive skills instead of deeper knowledge, ideas and understandings (Bahr, Kinzer, & Reith, 1991; Cosden, & Abernathy, 1990; Ragosta, Holland, & Jamison, 1982). Stand-alone use of word processing and drill and practice programs are good examples of this distancing from core content and ideas.

What became clear from subsequent experience and research in the 1990s was that ICTs needed to be an integral part of contemporary pedagogy, not simply peripheral devices, and that they were most effectively incorporated in classrooms as part of more holistic environments and pedagogies (Cawley, 1994; Fleming, 2003; Kozma, 2003; Salomon, Perkins & Globerson, 1991; Waters & Callan, 2003; Wenglinsky, 1998). The current focus on interaction between child, technology and pedagogy and the notion of ICT as a “partner in cognition” (Salomon, Perkins & Globerson, 1991) derive from these developments.

Research has consistently indicated that ICT-enriched activities are effective in enhancing student motivation and engagement and developing more cooperative relations with peers (Baker, Gearhart, & Herman, 1994; Means & Olson, 1995). Inspired by Vygotskian (1978) perspectives on the value of contextual and socially grounded experiences and scaffolding learning (Rogoff, 1990), teachers and researchers have sought to use ICT as a platform for collaborative, scaffolded environments. It is in creating this basis for rich, motivating learning environments that ICTs seem especially promising in mainstream classes for students with disabilities (Florian & Hegarty, 2004; Kosma, 2003; MacArthur & Malouf, 1991; Okolo, 1992; Stevens, 2004). However, for these approaches to be successful, students must be actively engaged in sourcing, analysing and creating knowledge in collaborative, contextualised and authentic ways and it is in facilitating this pedagogy that teachers seem most challenged.

A growing body of evidence shows that ICT supported, holistic learning environments where teachers and peers take an active role in scaffolding learning are perhaps the most effective for students with disabilities (Brooker & Siraj-Blatchford, 2002; Henderson & Cunningham, 1994; Shiah, Mastroiopieri & Scruiggs, 1995; Higgins & Boone, 1990). Work on contextualising science and mathematics learning and modelling and anchoring problems in everyday, collaborative contexts using real world problem solving tools (eg. Spreadsheets) has revealed improved learning outcomes (Kozma, 1991; Woodward & Reith, 1997). More recently, Daniels (2003)
has found that the multi sensory needs of ‘at risk’ students are accommodated when they can see, hear and feel the concepts of reading and writing come alive, such as in making and publishing electronic books in authentic contexts (Carico & Logan, 2004; Grant, 2004).

Unfortunately however, as Leonard (2001) showed, Australian teachers, rather than embracing more integrated and holistic applications of ICTs, were most likely to use ICTs in narrow and isolated ways with drill and practice, games and word processing the most common applications for students with disabilities in the mainstream.

Transcending each area mentioned above is the issue of student motivation and engagement with learning. For many students with learning disabilities, lack of motivation and persistence and alienation from learning are problematic. A longstanding finding from ICT research is that digital environments are motivational, especially for students who find traditional classroom learning stressful and challenging. Aeby, Powell and Carpenter-Aeby (1999) found that disruptive students in particular, made and sustained academic gains and appeared to take more responsibility for their learning. Similarly, Stager’s (2001) work in a constructionist ICT environment found significant improvement in students’ motivation and literacy skills. Most importantly, crossing curriculum boundaries, pursuing “fascinating” things and building a sense of innovation and invention, were linked to successful outcomes and self-confidence. Previously disengaged students with disabilities felt “intellectually empowered” as a result of their experiences with ICTs (including robotics, digital musical and film and journal production etc) in creative and purposeful environments.

One approach that bridges the divide between ICT infusion in open-ended collaborative pedagogies that many teachers find challenging and the more subject-specific content and skill reinforcement of much ICT work, is the use of Integrated Learning Systems (ILS) such as SuccessMaker and Tomorrow’s Promise. SuccessMaker is used in over 300 Australian schools and its impact and effectiveness is documented in a range of case studies and in a recent major Australian study by Fitzgerald and Fitzgerald (2002). Integrated Learning Systems were found to be effective when incorporated in a thoughtful pedagogy. Students most valued three features: “(i) being allowed to work at their own pace; (ii) being told how well they were doing; and (iii) having work corrected quickly” (p 16). For low achieving students in particular, participation in ILS generated activities resulted in generally good gains in maths and literacy compared to children in control groups.

6.10.6 Teacher professional learning and teacher education

The major reports on ICT implementation in Australia, the US, and elsewhere point to the key role of teachers in shaping classroom ICT pedagogy (BECTA, 2002). Education department policies, investment, curricula, and digital content and services, while essential, will not in themselves ensure ICT integration into the school curriculum to enhance teaching and learning opportunities and outcomes. The key to successful ICT infusion in pedagogy is teacher confidence and competence. Teachers know this and want appropriate ICT professional development to support their teaching roles (Leonard, 2001; McRae, Ainsworth, Groves, Rowland & Zbab, 2001).

MCEETYA (2002) has emphasised the need to support teachers’ professional learning “so they have the confidence to exploit the new technologies to expand, extend and modify their practice” (p.4). MCEETYA (2002) urges education authorities to promote “pre-service teacher education and in-service professional development programs that focus on the integration of ICT into classroom practice, across all curriculum areas” (p.17). What has emerged from most post 1990 studies is that ICT support for all students, and especially students with disabilities in the mainstream, involves more than hardware and sourcing
information on the internet. Effective outcomes are most likely to accrue where ICTs are embedded in teacher scaffolded, collaborative settings (Maushak, Kelley & Bloggett, 2001; Merbler, Hadadian & Ulman, 1999).

As digital learning technologies matured through the 1990s and ICTs were distributed to all schools, teacher education programs grappled with how to prepare graduates for a digital world (Downes, 2001; Elliott, 1999; 2002. Two recent projects ‘Raising the Standards: A Proposal for the Development of ICT Competency Framework for Teaching and Making Better Connections: Models of Professional Development for the Integration of ICT into Classroom Practice’ (2001) have pinpointed the limited competence of many graduating students in infusing ICT experiences across the curriculum and highlighted the need for teacher education faculties to work in partnership with education authorities to improve ICT pedagogies. Both reports stressed the key role of continuing professional development for teachers to build and sustain ICT competence. However it can be a vicious circle because unless pre-service teachers can see the application of ICTs in classrooms they have little chance of subsequently developing effective ICT pedagogies or sound foundations for building future ICT strengths to support, motivate and enrich students’ learning.

6.10.7 ICT opportunities and challenges

This section of the review has reported on the largely positive role of ICT supported learning in promoting specific academic competencies and cognitive skills for students with disabilities in the mainstream. There is now a strong body of evidence indicating that carefully planned ICT activities, especially where they are part of rich, collaborative settings have largely positive effects on social and cognitive development and academic outcomes. Few studies demonstrate negative impacts; at the worst some report limited or no cognitive effects in some areas.

However, despite strong policy support for ICT use in schools and clear evidence of its positive effects, digital technologies are not widely used for students with disabilities in the mainstream. As outlined above, the main reasons seem to be inadequate infrastructure and technology and limited teacher confidence, support and understanding for the value of ICT enriched learning experiences. The pertinent question is not so much can and should ICTs be used to support learning, because this is now a given, but what pedagogical approaches are most effective to optimise learning?

As mentioned previously, most research in the 1980s focused on improving discrete skills and understandings, such as word recognition or spelling skills. With improvements to technology and more general interest in knowledge building and constructivist pedagogies in 1990s, practice and research has focused on more integrated and embedded ICT use to support teaching and learning. This perspective sits better with the growing focus on ‘knowledge readiness’. Consistent with this perspective, recent research has highlighted the dramatic changes that have occurred in the ways young people use and view technology in their day to day lives (Christie, 2005). It is argued that ICTs are integral to youth culture and that young people are appropriating and creating ICT-based cultures as a matter of course (Mumtaz, 2001). ICTs are part of their world and should be part of their classrooms. Students want to use ICTs because they are central to their culture and they are ‘disenchanted’ with the limited school access to ICT and the constraints and restrictions on their use. They also sense that teachers believe that computers are “distracting” and interfere with learning (Findlay, Fitzgerald & Hobby, 2004). Too often there is a major mismatch between students’ patterns of ICT use in their communities and homes and in their schools (DEST, 2004; Downes, 2003; Mumtaz, 2001).
Another more general concern, one not so much related to ICTs use and effectiveness in mainstream settings, but to inclusive policy in general, is the extent to which demands placed on mainstream teachers are realistic. For example, Maushak, Kelley and Bloggrett (2001) found that teachers were positive about ICT use and benefits for students with disabilities, but they were far less positive about including these students in mainstream classes.

The considerable variation in ICT use and the range of indicators and examples used to assess and demonstrate application and effectiveness highlight the complexity of the ICT area. Clearly, ICT issues do not stand alone. They are connected to the wider issue of learning for the knowledge age, and to broader issues of education quality and standards, to the nature of pedagogy, to learning outcomes and classroom management, and to school renewal and revitalisation. Importantly too, teachers’ perceptions about the value of technology in the community and in education affect adoption. Unless teachers hold positive attitudes toward the effect of ICT in learning and are able to optimise the technology for classroom use they are not likely to use it in their teaching and the “digital divide” will grow (Becker, 2000; Jackson, 2003; Morse, 2004).

In summary, it is expected that ICTs will increasingly become an integral part of classrooms in the next decade. An emerging body of research is showing the considerable promise of ICTs as both tools and scaffolds to enhance knowledge building and learning outcomes. Of particular value for low-achieving students and students with disabilities in the mainstream are pedagogies that infuse ICTs in the knowledge-construction process. These collaborative perspectives with their emphases on deep knowledge and understanding, substantive communication and higher order thinking now underpin many of the new pedagogical approaches and discourses in Australian schools. As they evolve, they will necessitate further shifts in policy and curricula and concomitant shifts in ICT foci. It is likely that these shifts, together with evolving ICTs, will present continuing opportunities and challenges for teachers seeking to develop and implement effective ICT pedagogies for students with disabilities in the mainstream.

6.11 Students with disabilities and post-compulsory schooling in mainstream classes

This section examines the issues affecting students in the post-compulsory years, particularly their transition to work or further training. The implications for curriculum are explored and the importance of self-determination, self-advocacy and practical skills in job seeking and ‘friend-keeping’ are highlighted. This section concludes with a discussion of Vocational Education and Training (VET) in Schools and other initiatives to promote school-to-work transitions for students with a disability.

6.11.1 Staying on at school

The literature relating to post-compulsory schooling identifies interdependent influences that are likely to affect learning outcomes for students with disabilities attending mainstream classes. These influences include maximising student participation; preparing students for post-school destinations; the importance of friends and social relationships; assistive technologies; and school linkages to VET. Various Australian government analyses, responses, reports and reviews (ANTA, 2001; Commonwealth Government’s Response to the Senate, 2003; Victorian State Government, 2000; MCEETYA reports, 1996, 1998, 2003, 2004; New South Wales Department of Education and Training, 2004; Queensland State Education,
2002; South Australia Department of Education and Training, 2003) confirm these emphases and indicate the desirability of achieving national consistency in policy and service quality, with nationally agreed disability definitions.

Students in Years 10 through to 12 participate in post-compulsory schooling in Australia. The legal age for leaving school varies from 14 years nine months in New South Wales through to 16 years in South Australia. However, it is generally understood that all students (including those with disability), attending Years 11 and 12 participate in post-compulsory schooling. Since the mid 1980s secondary schools in many countries including Australia have been restructuring educational programs and extending the years of school attendance for students with disability to better prepare them for adult life (Falvey, Gage, & Eshilian, 1995). These students commonly attend schooling beyond the age of 18 years by ‘repeating’ one, (and in some cases two) of their final years at school. In Australia, the practice of spending an extra year in post-compulsory school is so common, that it is often referred to as attending ‘Year 13’.

The decision to extend the post-compulsory school years is taken by staff in consultation with parents. These ‘additional’ years of school attendance appear to be motivated by the lack of clear and certain post school destinations for individual students and the desire to equip them with the skills they need in their future environments. For students with an intellectual disability for example, the additional years at school provide time to develop functional academic and general ‘life’ skills. Extended school participation also may provide opportunities for job and community-based training whilst still at school.

6.11.2 Consistency in national provision

Inconsistencies are apparent from the very beginning of schooling. Ensuring national consistency in schooling (DEST, 2004) emphasises both the desirability and advantages of national consistency in terms of ages, stages, curriculum and standards. In Australia, there are eight different education systems with different starting and completing ages, different numbers of years at primary school and different curricula and standards.

There are differences in the end of school credentials (be it Year 10 or 12) for all students. Victoria, Western Australia, South Australia & Tasmania do not issue a Year 10 Certificate (although some schools provide their own), whilst the remaining states and territories (New South Wales, Queensland, Australian Capital Territory, Northern Territory) do. For students completing Year 12 across Australia, students receive one of eight different final certificates, including the New South Wales Higher School Certificate (HSC); Victorian Certificate of Education (VCE); Queensland Senior Certificate (QSC); Western Australian Certificate of Education (WACE); South Australian Certificate of Education (SACE); Northern Territory Certificate (NTCE); Tasmanian Certificate of Education (TCE); and Australian Capital Territory Year 12 Certificate (DEST, 2004).

Different states and territories also issue ‘Statements of Results’ and ‘Records of Achievements’. In New South Wales, students with disabilities complete the same HSC (as all students completing Year 12) and the associated ‘Record of Achievement’ that is issued to all students shows course results for individual students. The Queensland Studies Authority awards a certificate of achievement called the Certificate of Post-Compulsory School Education (CPCSE) as an alternative to the Queensland Senior Certificate (QSC). In 2002, 174 students with special needs achieved this certificate (DEST, 2004). Similar ‘alternatives’ are offered including the Victorian Certificate of Applied Learning (VCAL), which was awarded to 540 students in 2002, and students in SA and the NT undertake alternative
subjects developed and accredited by the Senior Secondary Assessment Board of South Australia (SSABSA).

National consistency both in education policy and service quality is extremely important for students with disabilities. Consistency is likely to have particular benefits for students participating in post-compulsory schooling as they prepare for a seamless entry into Australian communities as adults. The NSW Public Education Inquiry (2002) highlights the importance of reducing the fragmentation of education services, achieving a ‘seamless system’ for young people with disabilities; improving effective collaboration and integration between sectors; and placing a stronger emphasis on a ‘whole of community’ approach to facilitate accountability for, and achievement of, learning outcomes.

A Ministerial Review of post-compulsory education (Victorian State Government, 2000) examined the provision of educational programs and services at the post-compulsory level and called for professional development both at the pre-service and in-service level to assist teachers specifically in the areas of mentoring, case management, outcomes, and destination monitoring and program evaluation.

At the ACTU Congress (Melbourne, 2003) a ‘union perspective’ is provided on the broad management issues relating to education across Australia. Many references are made to MCEETYA and their projects. ACTU refers to the broad framework of principles governing MCEETYA and emphasises its primary obligation in education for “the provision of high quality schooling accessible to all children and young people” (p.3).

The Commonwealth Government’s response to the Senate Employment, Workplace Relations and Education References Committee’s Report- ‘Education of Students with Disabilities’ (2003), called for MCEETYA to develop nationally agreed definitions of disabilities and to identify deficiencies in service provision for students with disabilities in rural, regional and remote areas. The remedying of such deficiencies will no doubt contribute to greater national consistency of services.

Although non-categorical, generalist approaches to disability have been favoured in recent times, there may be merit in having clearer identification of requirements to support students with particular types of disability in post-compulsory education (e.g. vision impairment, autism spectrum disorders). For example, Mull, Sitlington, & Alper, (2001) suggests there is a need to reverse the current trend that promotes a ‘non-categorical’ approach to the education of students with a disability and to specifically ‘document and identify’ the accommodations and supports required for students with a particular disability. While not advocating that disability should be the sole guide to educational support we agree with Mull, et al. to the extent that there can be particular disability-related issues for some students.

In 2001 Mission Australia published a ‘snapshot’ of national social trends based on Australian Bureau of Statistics (1998; 2002), with 19% of the Australian population having disabilities. Mission Australia noted that social and economic variables affect participation in post-compulsory schooling for students with disabilities and that these factors interact and compound. It is clear that the learning outcomes for students with disabilities are likely to be affected by broader social and economic issues such as poverty, family employment, cultural and linguistic background and levels of family income (Mission Australia, 2001). Similarly, Stodden (2005) reported USA research that showed that youth with a disability are twice as likely to drop out of school and that they have insufficient engagement with the individual planning processes that are supposed to support their transition from post-compulsory schooling.
6.11.3 Maximising student participation

There is a recent emphasis in the literature on the importance of students’ own reflections and perceptions that have a bearing on the identification of the types of support and accommodations required in the post-compulsory years of schooling for students with disability (Allen, 2000; Cooper, et al. in Topping and Maloney (2005); Hitchings, Luzzo, Ristow, Horvath, Retish, & Tanners, 2001; Lehmann, Davies, & Laurin, 2000; Lovitt, Plavins, & Cushing, 1999). These findings suggest that teachers should respond to individual student need and formulate creative ways to meet them.

The goals and aspirations of the student are central to efforts aimed at improving learning outcomes. Lehmann, et al. (2000) refer to literature that supports a number of advantages related to student involvement including enhancing students’ future success; fostering self-esteem; providing students with the opportunity to practise self-determination skills; and encouraging responsibility and decision-making skills. Further, students need opportunities to practise making choices and accepting responsibility (Wehmeyer, 1993).

Students need to be more assertive in gaining and expressing their knowledge of their own disability. Often students themselves remain vague in regard to their disability and find it difficult to describe their needs to others. Hitchings, et al. (2001) found that students benefited from assistance in describing in clear and concise terms the nature of their own disability. Such descriptions directly involve students in a level of self-determination and advocacy that is not only beneficial in itself but also likely to assist student participation in future decisions regarding employment, education and other post-school activities. An implication of this research is to directly teach high school students about their disability to deepen their own self-understanding.

Individuals with disability who have left school within the last five to ten years are likely to communicate with enhanced clarity about the types of support and accommodations required in the post-compulsory years of schooling. An example of this is a personal perspective on the way a visually impaired person ‘sees’ the world (Ryan, 2000). Recent school leavers are an excellent resource to inform teachers and others about practical accommodations, adaptations and support needed in the classroom.

Lovitt, et al. (1999) interviewed 54 students with disabilities and surveyed an additional 231 students about their experiences at high school. Types of disability in the sample included learning disabilities, behaviour disorders, intellectual disability, developmental delays, health impairments and hearing impairments. The researchers sought views about Individual Education Plans (IEP’s), individual transition plans and the effectiveness of teaching and educational programs. Their recommendations include assisting students to become more independent and self-reliant and for students to be taught to self-evaluate, self-chart, self-schedule activities, self-select material and self-record personal progress. As important as self-determination and self-advocacy skills are for secondary students, Lehmann, et al. (2000) found that there is a lack of self-advocacy skills and training to enable students to function in a more independent way.

In separate reviews of the literature (Mull, et al., 2001; Williams, 1998) suggest that students be directly involved in specifying what accommodations and supports are needed for the achievement of their own learning. There is a need for student-centred activities, participation of students in the transition planning process, self-determination and the development of self-advocacy skills. The encouragement of self-reliance, assistance with self-advocacy and the facilitation of self-determination appear to be promising directions for policy, curriculum design and the delivery of education programs in Australian schools.
Inclusion and lifelong learning are essential themes reiterated in a 2002 submission prepared by the Physical Disability Council of New South Wales to the Senate Employment, Workplace Relations and Education Committee, Inquiry into the Education of Students with Disabilities. Emphasis is given to students with physical disability having the same freedom of choice as that offered to other students.

A discussion paper for school communities, *The Inclusivity Challenge: Within Reach of Us All, 2002*, issued by the Australian Capital Territory Department of Education and Training, provides an example of an approach to encouraging discussion and debate to promote more inclusive practices in schools. This document noted that “A key outcome is an innovative education and training system that is participative, inclusive, and supports life-long learning” (ACT Department of Education and Training, 2002, p.3). System-wide initiatives such as this one, assist school communities to reflect on, and consider, ways to ensure that the needs of students are met within the unique circumstances of individual school communities.

Principles underpinning curriculum for Australian Capital Territory schools states that curriculum should be based on the belief that every student can learn – “Every student can be engaged, can build upon an innate desire to learn, can attain learning goals within a reasonable amount of time and can find pleasure in attaining these goals” (ACT Department of Education and Training, 2005, p.8). The Australian Capital Territory curriculum should be equitable and inclusive. “It is not an acceptable situation if a group of students, for example those with a culturally and linguistically diverse background, has a pattern of lower achievement than ACT students as a whole” (ACT Department of Education and Training, 2005, p.9). Such policies maximise participation for students with disabilities attending post-compulsory schooling in mainstream classes.

### 6.11.4 Preparing students for post-school destinations

Transition issues for students with a disability need to be given a priority within education systems. The ongoing involvement of senior education system managers, principals and relevant district personnel in transition must be sustained within government and non-government school systems (ACROD- South Australia, 2003). Much has been written about transitioning to post-school environments (Buys, Kendell, & Ramsden, 1999; Hufner, 2000; Michaels & Barr, 2002; Roussel & Murphy, 2000; Soothill, 2004; and Williams, 1998). These ‘beyond school’ destinations include education, employment, accommodation and general community life.

Over the past decade, Australian policies refer to strengthening links between schools, education and employment. Providing for students with disabilities is mentioned in policy statements referring to flexible options for students with disability to improve access to and participation in post-school options (e.g. South Australian Government, 2003).

There is evidence of flexible pro-active strategies in post-compulsory schooling in Australia to provide creative, alternative methods for individual students to ensure positive placements in post-school destinations. A Life and Vocational Skills Unit located at Townsville State High School is an example of a ‘schools to life’ transition program offering courses designed to meet the needs of individual students. Another is the Warnbro Community High School Education Support Centre (Warnbro CHS ESC), a partially mainstreamed program using a reverse embedded model in which regular curriculum subject outcomes are mapped into Units of Competency that meet industry standards and allow simultaneous achievement of competencies and outcomes. Such programs aim to develop effective life and vocational pathways to help students with disability transition from school to post-school options.
Current ‘good practice’ in transition programs for young people includes student-centred orientation, inclusive community environments, comprehensive supports and services, continuity from the student’s perspective, unconditional safety net of support, skills development and outcome orientation (Deschenes & Clark, 1998). However, the authors claim that following current ‘best practice’ may not be enough. In addition, teachers need to be more creative, knowledgeable and practical in considering ‘after high school’ options for students with disabilities. Similarly, Mull, et al. (2001) emphasise the need for secondary teachers to know about post-school environments awaiting their students and be responsive in assisting students to be successful in these environments. As Australian research by Shaddock, Kilham, Spinks, and Williams (2001) on ‘Barriers to Employment for Young People with a Disability’ has shown, the factors affecting job acquisition and retention for students with a disability are essentially the same as for all other students. In addition, this research showed that Australian teachers involved in school to work transition for students with disabilities saw the need to engage more with prospective employers and to understand their needs.

Transitional and other teachers establish collaborative partnerships with post-school services to develop operative yet flexible transitional protocols and models. An example is the Pathways Project (South Australian Department of Education and Children’s Services, 2003) which analyses transition for students and identifies seventeen different pathways for students with different types of disabilities. Soothill (2004) examines the alternative Certificate of Post-Compulsory School Education (CPCSE) to the Queensland Senior Certificate (QSC) offered to those students with special educational needs, whom in the past did not receive a Senior Certificate or they received one which showed little about their schooling achievements. This paper analyses the alternative certificate in terms of curriculum content, peer moderation processes, perceptions of the certificate in terms of credibility and students undertaking the certificate according to the ‘special needs’ criteria. Soothill (2004) reports in 2002 and 2003, 92% and 81% of students who received the CPCSE had an intellectual impairment or multiple impairments.

Our research and analyses of the literature suggest that there appears to be an over-emphasis on transitional planning and insufficient emphasis on identifying ‘real’ post-school destinations for students with disability. Neubert, Moon and Grigal, (2002) state that schools and educational policies may overly emphasise transition whilst placing lesser emphasis on the substance of education, employment and other post school realities for students with disabilities.

In Australia, the National Regional Disability Liaison Officer Initiative (NRDLOI, 1994) assists students with disability make the transition from school to post-school education and training to help increase access and participation rates. To complement the NRDLOI, the Disability Coordination Officer (DCO) programme was announced as part of the Australians Working Together (AWT) package in the 2001-02 Commonwealth Budget. DCOs are located in key regions throughout Australia and perform the tasks of improving transitions for people with a disability between school, post-secondary education and training, and employment; and increasing awareness of post-school options, supports and services available for people with a disability, their families, support networks and relevant stakeholders (Ryan, 2005).

A further role of the DROs is to increase the successful participation of students with disabilities in post-secondary education through facilitating coordination of services for people with disabilities in education and training within the region; and improving linkages between schools, vocational education and training providers, higher education providers and providers of disability programs and other assistance, including relevant Commonwealth programs. Ryan (2005) emphasises the importance of developing linkages with government services and programs offered through Centrelink and Family and Community Services.
6.11.5 VET in schools and paid part-time work linkages

Already mentioned in this review are Australian initiatives in which job training takes place at school through Vocational Education and Training (VET) in preparation for ‘work-readiness’ pre-vocation and vocational courses in the post school VET sector (Victorian State Government, 2000). There has been rapid expansion of accredited vocational education and training (VET) courses in schools since the mid-1990s (Malley & Keating, 2000). Students are able to complete subject units at school that are accredited towards a formal Certificate course at technical colleges and institutions.

Since 1995, VET in schools programs has seen the doubling of students with disability, enrolling in TAFE courses (Roberts, 2003). Most of these students enrol in and complete module courses at Certificate 1 or Transition Education. Roberts suggests that for many students with high needs it is the *gradual and graduated* approach to transition that holds the key to successful outcomes.

A succinct and comprehensive report on the Vocational Education and Training in Schools Framework (MCEETYA, 2003) indicates that VET in Schools has developed from a marginal activity to an established part of mainstream senior secondary education across Australia. There is an emphasis on improving accessibility of VET in Schools programs to targeted groups including students with disabilities. The report identifies the types of student support and transition services available to students and outlines the importance of community and business partnerships. VET in Schools Framework policies have been developed in states and territories within Australia (e.g. Tasmanian Department of Education, 2005), where young people are given opportunities for vocational learning both inside and outside school at an earlier age.

Smith (2004), in a study on the learning outcomes of post-compulsory students in workplaces, found that part-time work is a normal part of life for the majority of students in the final 3 years of schooling in Australia and that students have been “mounting their own assault on workplaces through paid work (p.120). Smith found that part-time work was the setting in which students learned most, and surprisingly, work experience was the least effective means of workplace learning. So, the participation in paid part-time work for students with disability attending post-compulsory schooling may well be a valuable learning opportunity for these students. Further, paid part-time work in specific areas (e.g. shop assistant, hospitality) may well provide a clearer and more logical direction in the pursuit of related vocational training and identify more relevant multiple pathways for life-long learning.

6.11.6 The importance of friends and social relationships

There is extensive literature on the value of attaining and maintaining friendships yet most schools do not include friendship development in educational programming (Turnbull, Pereira, & Blue-Banning, 2000). Many teachers see the facilitation of friendships at best as an unspecified parallel development that naturally occurs along the way, and at worst, as an extra burden on high school teachers attempting to cope with their busy teaching schedules.

Like other students, students with disabilities want to ‘belong’ but they often encounter difficulties in making and retaining friendships. Hamill (2003) reported research on a young woman with Down syndrome at college and described her “feelings of loneliness in her desire to be part of social life on campus” (p.13). However, for students with significant developmental disabilities, friendships are critical, so much so that Hamre- Nietupski, Hendrickson, Nietupski, & Skokoohi-Yekta, (1994) suggest that 25% of the school week should be dedicated to friendship and social relationship development.
One of the difficulties faced by students with disabilities is that their peers may have negative perceptions of them and that these perceptions pose significant barriers to genuine friendships. Gordon, Feldman, Chiribogo, Tantillo, and Perrone (2004) in a study of students in an American university found particular reluctance to form friendships with people with intellectual disability and mental illness, whereas they were more likely to say they would be friends with people having other disabilities.

Research by Pottie and Sumarah (2004) reinforces the importance of friendships by noting that, without friends and social networks, people “with developmental disabilities often live with few connections and friendships within unwelcoming communities” (p.55). Falvey, et al. (1995) suggest that establishing effective networks of friends and natural supports as adults is extremely challenging when such networks have not already been established during the high school years. Carter, Hughes, Guth, and Copeland (2005) have highlighted the benefits of strategies such as cooperative groupings, peer support arrangements and peer-mediated networks that help high school students with disabilities to develop social networks as a natural part of engaging with the curriculum.

The most frequent reason for job loss is a lack of social skills (Falvey, et al., 1995). For this reason alone, practical social skills should be a curriculum focus, i.e. students with disabilities need to be taught the skills that lead to friendship formation and participation in social events (Orsmond, Wyngaarden, Krauss, & Mailick Seltzer, 2004). However, teaching skills alone is insufficient and some students, particularly those with developmental disabilities, will need considerable assistance in making and keeping friends (Day & Harry, 1999).

Important elements for success both in VET in schools and post-school training programs rely on flexible ‘case management’ approaches. Disability Officers and others taking a counsellor role, assist students in making personal connections and help with the social and emotional aspects of undertaking vocational educational and training (Roberts, 2003). Teaching young adults with disabilities how to develop appropriate social skills that support friendships requires careful attention to basic communication skills. For example, Reed and Spice (2003) describe a study on communicating with ‘low academic achieving’ students. High school teachers ranked 14 communication skills in terms of importance in their interactions and communications with students. The communication skills in descending order of importance included turn taking; perspective taking; logical communication; clarification; vocal tone expression; tact; vocal tone interpretation; narrative; eye contact; conversational topic selection; nonverbal comprehension; maintaining topics; humour comprehension and slang usage. This recent study has relevance in guiding high school teachers to become valued communication facilitators of students with disabilities.

In summary, a level of national consistency across the spectrum of educational delivery for students with disabilities attending post-compulsory schooling in mainstream classes would be a desirable achievement. Research has shown that senior students’ participation, especially in decisions that affect their lives at school, will promote inclusion and assist in contributing to a sense of personal influence on, and responsibility for, establishing a pattern for ‘whole of life’ learning. With a dual focus on both post school destinations and transition processes, students are likely to achieve success in school-to-life programs. Developing firm friendships and support whilst at school is likely to result in more robust social relationships on entering vocational education, training and ultimately employment. The expansion of Vocational Education and Training (VET) in schools as part of Australian mainstream curricula will give all students, especially those with disabilities, a head start and build confidence as they move towards adult life in communities where they live.
6.12 Professional development and inclusive practice

This section of the review focuses on the implications of inclusive practice for the professional learning of teachers who are already in the field. After a brief overview of pre-service issues, the limited research on professional development and students with disabilities is reviewed and several system-wide initiatives professional learning initiatives are summarised. The results of a recent major Australian survey of the professional development needs of teachers are discussed with reference to inclusive practice. This section concludes by listing the implications of recent Australian research for professional learning programs about students with disabilities in the mainstream, with attention to content and delivery issues.

6.12.1 Pre-service issues

For some time professional associations and some Departments of Education have advocated a ‘mandatory unit’ on special education for all pre-service teacher education students (AASE, 2004). Researchers from several Australian universities have examined ways of improving beginning pre-service teachers’ attitudes towards people with disabilities (Forlin, Tait, Carroll, & Jobling 1999) and many papers about inclusive practice conclude with recommendations or implications for pre-service programs to support inclusion (e.g. Bartak & Fry, 2004; Broadbent & Burgess, 2005; Ford, Pugach, & Otis-Wilborn, 2001; Murik, et al., 2005; Tilstone (2003) in Tilstone and Rose). As important as these initiatives are, they are probably too new to influence school culture and practice in substantial ways. For example, the biographic data collected by Westwood and Graham (2003) in a two-state comparative study on inclusion, revealed that only 24% of the South Australian sample and 40% of the New South Wales sample had completed a pre-service semester length unit on special needs. Furthermore 68% of the South Australian teachers and 29% of the New South Wales teachers in this study reported no coverage whatsoever of special education needs in their pre-service training. Loreman’s (2002) study found that Australian universities were inconsistent in the way they prepared pre-service teachers for inclusion and Loreman, et al. (2004) observed a lack of interest of Victorian universities in providing practical, classroom-based training for pre-service and for qualified teachers. A clear, professional development priority in Australia is to ensure that all teachers, but especially practising teachers who have not had pre-service preparation to teach students with disabilities, are able to implement current legislation and policy.

6.12.2 Research on professional learning about inclusive practice

All teachers require more substantial preparation for inclusion, irrespective of the ages of their students. Kilgallon and Maloney (2003) found the process of inclusion challenged early childhood teachers to question how effective they were and the adequacy of their practical teaching knowledge and to seek additional professional development. Engelbrecht, et al. (2003) also concluded lack of effective preparation and training of teachers of older children with disabilities was an important avenue to reduce stress. Loreman (2001) in a study of teachers of students with mild to severe disabilities reached essentially the same conclusion.

The research reported earlier in this review on teachers’ concerns about inclusion highlights that many teachers across the world believe they do not have the knowledge or skills to teach students with disabilities in the mainstream. Research by Buell, Hallam, and Gamel-McCormick (1999), suggests that general educators need skills in program modification, assessing academic progress, adapting curriculum, managing student’s behaviour, developing
IEPs, and using assistive technology. Similarly, van Limbeek (2004) has listed the wide range of topics that mainstream teachers need to know about. (See Table 3)

Table 6.3: Skills Needed by Teachers to Support Inclusive Practice

<table>
<thead>
<tr>
<th>Varying instructional groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altering curriculum</td>
</tr>
<tr>
<td>Altering instructional material</td>
</tr>
<tr>
<td>Teaching learning skills</td>
</tr>
<tr>
<td>Modifying assignments</td>
</tr>
<tr>
<td>Facilitating progress monitoring</td>
</tr>
<tr>
<td>Enhancing behaviour</td>
</tr>
<tr>
<td>Modifying instruction</td>
</tr>
</tbody>
</table>

The Australian research on the professional development needs of teachers working with students with learning difficulties in general is not extensive (van Kraayenoord, et al., 2002). Westwood’s and Graham’s (2003) study in South Australia and New South Wales found that “between one quarter and one third of the teachers in the survey claimed to have received no in-service or on-the-job training, yet they were expected to cater for the needs of students with disabilities and difficulties in their classes” (p.14). Forlin (2001) concludes that professional development is not only necessary but that it should also be financially supported and rewarded by increased status or remuneration. Stewart (2003) and Keefe-Martin and Lindsay (2002) in an examination of discrimination and legal issues, also concluded that teachers required further education and specialist support.

There is some Australian evidence that in-service education about one disability category may generalise to other types of disability. Campbell, Gilmore, and Cuskelly (2003) found pre-service teacher education students who gained practical and theoretical knowledge about students with Down syndrome demonstrated an increase in positive attitudes to the inclusive education of children with Down syndrome, and towards people with disabilities in general.

Commonwealth, State and Territory policy initiatives are a major influence on the content of professional development and the Australian Government Quality Teacher Program (DEST, 2000) with its targeted state and territory Programs, aims to aid in the implementation of the Teachers for the 21st Century initiative to improve the quality of teachers, leaders, managers and schools. In New South Wales for example, the Quality Teacher Program has stimulated initiatives that are relevant to the education of students with special needs including behaviour management training, school based leaders programs, as well as some indirectly related support topics such as ICT courses.

State and territory plans for inclusive practice also include attention to professional development. For example, the Queensland Government’s 10 Point Plan for Inclusive Education earmarked funds in the 2004-05 budget to provide professional development under the ‘Aligning Curriculum, Teaching, Assessment and Reporting Project’. The ‘Better Services, Better Outcomes’ Review of Victorian Government Schools (2001) recommended professional development for teachers on reporting the educational outcomes of students with disabilities and on more general professional development to improve the quality of inclusive education programs. In Western Australia, the ‘Review of Educational Services for Students with Disabilities in Government Schools’ resulted in the allocation of resources to schools for professional development of teachers and teacher assistants, with particular support for
professional learning at the local school level. Some of this professional development resulted in the publication of a manual on inclusive practices called ‘Building Inclusive Schools’ (2005).

6.12.3 Australian research on professional development

Recommendations about the nature of professional development are likely to be useful to the extent that they are applicable to particular educational contexts. In Australia we are fortunate that the general professional development context has recently been thoroughly studied, described and analysed in a national mapping of teacher professional development (McRae, Ainsworth, Groves, Rowland, & Zhab, 2001). While this study did not deal extensively or specifically with professional development in relation to students with disabilities in the mainstream, it did provide an in-depth analysis of perceived professional development needs, the modes and the preferred modes of delivery and specific issues associated with key groups, e.g., beginning versus experienced teachers. Because the McRae, et al. study is so current and comprehensive (involving over 5000 teachers in one of its projects), its major findings are summarised below with particular attention to references in their report to professional development and students with disabilities.

McRae, et al. (2001) define professional development as follows:

[The] deliberate processes designed for the purposes of teacher post-initial professionally related education and training (no page given).

Expenditure on professional development of teachers in Australia is substantial and McRae, et al. (2001) estimate that the total expenditure on professional development of Australian teachers in one quarter in 1996 was $132 million.

McRae, et al. (2001) note how professional development intersects with other large trends, policies and issues such as school reform, change management, career structure and development and performance management and accountability. The authors also note that the rationales for the importance of, and need for, teacher professional development remain remarkably consistent over time. In fact, in discussing similar research on professional development that was conducted in Australia ten years previously. McRae, et al. state that “it is impossible not to be struck by the similarity of the themes that underlie and have generated this present study” (p.1) – an observation not unlike the ‘consistency of concern’ referred to earlier about teachers’ unresolved issues about inclusion itself.

McRae, et al. (2001) note that the direction and focus of professional development in Australian schools is strongly influenced by the following:

• State and Territory curricular initiatives.
• Funding availability.
• Operational scale of the education authority in which the professional development is provided.

McRae, et al. (2001) found that teachers’ attitudes to professional development are quite positive. For example, about 60% of the teachers in the McRae, et al. study say that it is a ‘high priority’ activity and that their involvement in professional development activities is efficacious. While this finding may be heartening, it needs to be properly understood and not over-interpreted. For example, although Rudland and Kemp (2004) found that teachers highly value professional literature and believe that they should read it, only a very small proportion actually does. However, according to the teachers who responded to the McRae, et al. survey, the vast majority claim that they do participate in professional development activities and the
researchers concluded that “teachers are undertaking more professional development than a decade ago, largely made up of out-of-hours, non-award-bearing work” (p.8).

Teachers in the McRae, et al. study listed a wide range of professional development topics and those of particular relevance to students with disabilities in the mainstream were: mandated curricular and assessment changes, student behaviour management, equity issues, stress management, and Information and Communication Technologies (ICTs) - the most frequently mentioned area of self-nominated need for professional development.

McRae, et al. (2001) also explored the modes, and preferred modes, of professional development. After noting the considerable variety in professional development modes, McRae, et al. specifically mentioned the following as being particularly popular:

- Workshop/discussion.
- Speaker followed by a discussion.
- Conference attendance.

McRae, et al. noted the increasing recognition of the value of the ominously titled ‘serial activity’ (ongoing rather than one-off or episodic treatment of a topic) and ‘workplace learning’ involving working with colleagues on site with reference to a particular issue, topic or method. This approach to professional learning is challenging but rewarding (Tilstone, cited in Tilstone & Rose, 2003). Teachers in the McRae, et al. study answered questions about their involvement in the much-exhorted classroom-based action research. The researchers reported that action research, coaching and mentoring, despite the strength of arguments in support of them, attract relatively few teachers – 7.3% and 9.5% respectively. It seems that despite the potential benefits of these modes of learning, teachers eventually opt for a trade-off between the time available and the promised benefits. Indeed, McRae, et al. (2001) report that time is the major determinant/barrier to professional development experienced by teachers while the other major issue is cost.

A similar conclusion can be drawn about the use of on-line materials for professional development, i.e., considerable discussion about the potential benefits but not a lot of action or enthusiasm from most teachers. Although McRae, et al. (2001) reported that the “usage levels (of close to 14%) of on-line materials are constant across sector, school type and State/Territory location and gender in our data” (p.9), the use of on-line materials and CD-ROMS for professional development was the lowest ranked preferred modes of professional development – 12.5% and 8.3% respectively. Furthermore, female teachers were even less interested than their male counterparts in on-line professional development.

McRae, et al. findings about the teachers’ preferences for ‘Type of Activity’ are presented in Table 4.

Table 6.4: Preferences for type of activity

<table>
<thead>
<tr>
<th>Activity</th>
<th>% Responses within sub-item (ranked)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workshopping with colleagues</td>
<td>63.3</td>
</tr>
<tr>
<td>Listening to speakers who are expert in my subject field</td>
<td>58.1</td>
</tr>
<tr>
<td>Listening to other teachers speak about their work and ideas</td>
<td>53.7</td>
</tr>
<tr>
<td>Visiting other schools or educational settings</td>
<td>44.0</td>
</tr>
<tr>
<td>Taking on a project and making something new happen</td>
<td>21.1</td>
</tr>
<tr>
<td>Reading books and articles on my own</td>
<td>18.0</td>
</tr>
</tbody>
</table>
An examination of Table 6.4 reveals a natural break occurring in the priorities of teachers for particular forms of professional development after ‘the big three’ – workshopping, expert speakers and listening to other teachers. These results prompted McRae, et al. to conclude that “teachers’ preferred learning styles may not be as various as some people would have” (p.149), a conclusion supported by Loreman, et al. (2004) who found in a study of 154 Victorian teachers that the preferred options for professional development about inclusion were “in-service (62%), use of school consultants (58%) and liaison with other teachers (56%)” (p.9).

Interesting results emerged from some of the more fine-grained analyses of the McRae, et al. (2001) data. For example, primary teachers express a higher preference than secondary teachers for watching and discussing teacher practices, visiting other schools and working through kits and packages. Furthermore, ‘visiting other schools’ was rated as a desirable professional development activity but few teachers engaged in the practice (a little like the ratings for action research). McRae, et al. (2001) commented, “What is stopping this happening (school visits)? It is easily justified – garnering of new ideas, ‘placement’ of practice, networking and relationships, practical help with problems. This may be another point in this document where time is the significant issue” (p.150). These sentiments are echoed by Bartak and Fry (2004) who describe “collaboration amongst teachers of successful practices” (p.20) as “practicable”.

Table 6.5 lists the topics on which the teachers in the McRae, et al. study indicated that they wanted more professional development.

### Table 6.5: Teachers’ desired professional development areas

<table>
<thead>
<tr>
<th>Topic</th>
<th>% of total responses within sub-item (ranked by incidence within cluster)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 1 day</td>
</tr>
<tr>
<td>Curricular/syllabus changes</td>
<td>28.4</td>
</tr>
<tr>
<td>Subject matter</td>
<td>22.3</td>
</tr>
<tr>
<td>Issues related to assessment and reporting</td>
<td>34.4</td>
</tr>
<tr>
<td>Changes to assessment and reporting assessment</td>
<td>28.0</td>
</tr>
<tr>
<td>Teaching processes</td>
<td>20.9</td>
</tr>
<tr>
<td>Student behaviour management</td>
<td>28.4</td>
</tr>
<tr>
<td>Arrangements for student management/pastoral care</td>
<td>17.3</td>
</tr>
<tr>
<td>School planning</td>
<td>17.8</td>
</tr>
<tr>
<td>School or program evaluation</td>
<td>17.4</td>
</tr>
<tr>
<td>Area</td>
<td>Primary</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Child protection issues</td>
<td>22.3</td>
</tr>
<tr>
<td>Workplace health and safety</td>
<td>17.3</td>
</tr>
<tr>
<td>Leadership</td>
<td>9.0</td>
</tr>
<tr>
<td>Other legal issues and obligations</td>
<td>10.7</td>
</tr>
<tr>
<td>Budgeting and financial management</td>
<td>7.2</td>
</tr>
<tr>
<td>Industrial relations</td>
<td>6.2</td>
</tr>
<tr>
<td>Facilities management</td>
<td>3.8</td>
</tr>
<tr>
<td>Drug/alcohol education</td>
<td>16.4</td>
</tr>
<tr>
<td>School quality and effectiveness</td>
<td>11.2</td>
</tr>
<tr>
<td>Parent and community involvement</td>
<td>8.3</td>
</tr>
<tr>
<td>Civics and citizenship education</td>
<td>6.6</td>
</tr>
<tr>
<td>School governance</td>
<td>4.7</td>
</tr>
<tr>
<td>Education of gifted and talented students</td>
<td>12.6</td>
</tr>
<tr>
<td>Education for students with disabilities</td>
<td>10.8</td>
</tr>
<tr>
<td>Gender issues</td>
<td>11.0</td>
</tr>
<tr>
<td>Multicultural education</td>
<td>4.8</td>
</tr>
<tr>
<td>Education for students soc.-ec. Disad. background</td>
<td>4.7</td>
</tr>
<tr>
<td>Education for isolated students</td>
<td>1.3</td>
</tr>
<tr>
<td>Team building</td>
<td>15.3</td>
</tr>
<tr>
<td>Stress management</td>
<td>11.0</td>
</tr>
<tr>
<td>Interpersonal skills</td>
<td>9.0</td>
</tr>
<tr>
<td>Time management</td>
<td>6.2</td>
</tr>
<tr>
<td>Career planning</td>
<td>4.1</td>
</tr>
</tbody>
</table>

As indicated in Table 6.5, the respondents to McRae, et al. (2001) rated the ‘education of students with disabilities’ as a significant need. The researchers went on to report an analysis of the same data by ‘primary or secondary teacher’, with primary teachers rating the education of students with disabilities as the sixth highest area of need overall while it was the eighth highest area of need for secondary teachers.

McRae, et al. (2001) reported that less experienced teachers engage in significantly less professional development, but when they do, they want it to be credentialed. Also the range and type of professional development activity are inversely related to the teachers’ distance from capital cities. McRae, et al. (2001) noted that “isolation may make participation in professional development activity more difficult but it does not appear to limit its scale. ‘Small town’ teachers report an equivalent or higher level of participation than those in capital city schools” (p.155). ‘Small town’ teachers also report significantly more personal expenditure on professional development than do teachers in larger centres and they also are more likely to visit other schools for professional development. Perhaps counter intuitively, ‘small town’ teachers are less likely to use on-line materials for professional development, a finding that McRae, et al. do not attribute to the possible hardware and infrastructure problems experienced by remote communities.
A significant proportion (18.4%) of the respondents in the McRae, et al. study worked part-time. These teachers reported an "increased need to keep up with changing systemic/authority requirements and, perhaps because of their less constant contact with students, additional support in managing them” (p.160). McRae, et al. reported that part-time teachers are even less inclined than other teachers to undertake professional development on-line.

The issue of effectiveness of professional development is an issue of considerable importance. Effectiveness can be measured on numerous dimensions but the improvement of student learning would have to be the ‘gold standard’ goal of professional development initiatives (Speck, 1996). McRae, et al. (2001) reported that over 60% of their sample – about 3000 Australian teachers – believed that their involvement in professional development had a positive impact on student learning.

Kearney and Poskitt (2001) measured the impact and efficiency of professional development on 1400 New Zealand schools during implementation of the Special Education 2000 (SE2000) policy. The study found a positive relationship between teacher confidence and professional development in more than 50% of respondents. Professional development also made positive changes to teachers’ attitudes towards special education in more than 50% of respondents and 38% of respondents believed their ability to teach students with special needs had improved. Sixty nine percent of respondents believed that at least some or most of their needs were met through the professional development program. This support of teacher needs is vital for an efficient professional development program (Buell, et al., 1999; Kervin, 2003).

Finally, given that principals have such a crucial role in shaping the culture and providing the resources to support the learning outcomes of students with disabilities in the mainstream, the recommendation of Hill and Crevola (1999) (in relation to literacy teaching) that there should be separate professional development sessions for principals focusing on their instructional leadership role, seems relevant for inclusive practice also.

### 6.12.4 Implications for professional learning about inclusion

Our earlier analysis of the research on teaching practices that support inclusion indicates that inclusive practice does not just involve new teaching methodologies but whole school reform. Therefore, as Goessling (1998) observes “Just as schools must restructure themselves to allow increased flexibility in roles and organisation, so must traditional approaches to personnel preparation and ongoing professional development also undergo significant reforms” (p.248). In addition, our analysis of the contemporary Australian professional development context further suggests the following conclusions:

- The professional development needs of teachers across all sectors and jurisdictions are remarkably similar.
- Primary and secondary teachers express somewhat different needs and somewhat different ‘preferred modes’ of delivery of professional development.
- Less experienced teachers and experienced teachers have different professional development needs.
- Part time teachers have different professional development needs to full time teachers.
- Teachers in remote areas prefer different types of professional development to their city counterparts.
• The vast majority of teachers do not see the use of CD ROMS and on-line learning, despite their potential, as attractive delivery modes for professional development.

• Teachers generally prefer workshops/discussions, speakers followed by a discussion and conference attendance to other forms of professional development.

• Some forms of professional development have considerable support/appeal but little uptake, e.g. action research, visiting other schools/teachers.

• As the data for the major Australian study on professional development (McRae, et al., 2001) is now five years old, and as the educational community is more sensitive to students with disabilities because of the publicity around the Disability Standards for Education (Commonwealth of Australia, 2005), the importance given to students with disabilities in the McRae, et al. report may underestimate demand for professional learning about inclusive practice.

• The biggest barrier to teachers engaging in professional development is their lack of time, a factor that is closely followed by the expense of professional development.

• There is perceptual evidence from teachers that their involvement in professional development improves the learning outcomes of their students.

### 6.13 Conclusions

This review summarised the literature on improving the learning outcomes of students with disabilities in mainstream classrooms and provided the framework for an Australian research program. The review corroborated, refined and extended conclusions from the international literature and identified issues of particular relevance to Australian educators. The review gave particular attention to Australian literature and identified, validated and described some examples of good practice in Australian schools.

Improving the learning outcomes of students with disabilities in mainstream classes is both a ‘systems’ issue and a ‘technical skills’ issue. That is, learning outcomes are enhanced when (a) mainstream education is underpinned by supportive and compatible legislation, coherent policies, enabling school cultures, skilled leadership and adequate resources and (b) teachers have the necessary skills to teach a wide range of students in mainstream classrooms.

At national and/or state/territory levels, the inclusion of students with disabilities in mainstream classes raises issues about the interplay of different legislation, e.g. the Occupational Health and Safety legislation and the Disability Discrimination Act, particularly around challenging behaviour. Another ‘systems issue’ with ramifications for classroom teachers is that posed by policies about academic standards and benchmarking on the one hand, and ‘equality of access’ for students with disabilities on the other. Additional systemic issues are the need for (a) nationally uniform ways of defining disability; (b) the development of resource-allocation strategies that accurately respond to educational needs; (c) ways of benchmarking student progress and the progress of schools in achieving equality of access for all students.

In addition, the culture of the school, the range and extent of organisational supports, the time and encouragement that teachers have for planning and for professional development, all contribute to improving learning. Although teachers continue to report that lack of time and resources are major barriers, this review described creative and efficient teaching approaches adopted by mainstream teachers. The literature confirms that teachers are a major source of variance in student learning, second only to the students themselves, and so it is important
that examples of ‘good teaching’ for all learners are further identified, celebrated and disseminated.

Simplistic understandings of the factors that influence student learning will result in unsuccessful interventions. Disability is not a unitary phenomenon and it is only one of the many possible factors affecting students’ learning outcomes. Furthermore, there is no single ‘best model’ for including students with disabilities in the mainstream and schools should base their approach to teaching on a suitably complex, research-based model of learning and teaching and teachers should use the strategies for which there is empirical support. While the focus of teachers should be on students – and not on their disabilities – teachers will be more effective if they take time to understand how each student’s learning can be enhanced and to ascertain what issues are affecting their learning – including disability-related issues. Parents and students themselves are a valuable source of this information and the literature confirms more generally that the learning outcomes of all students are promoted by good communication between teachers, students, parents, the school community and the wider community.

The review identified many evidence-based approaches to classroom organisation and delivery that contribute to a successful mainstream learning experience for students with disabilities. A useful framework for planning instruction is one that focuses on the differentiation of (a) curriculum content; (b) classroom processes (including teaching techniques and student groupings); (c) learning products and outcomes; and (d) the learning environment.

Mainstream teachers do not adopt strategies unless they are feasible. As many recommended strategies require teachers to change their general approach to teaching and to implement changes to classroom organisation, e.g. through using peer tutoring, co-operative learning and approaches that involve collaboration, teachers’ use of planning time and the focus of professional development deserve careful consideration. Teachers who engage in significant differentiation tend to undertake the necessary planning and consultation outside their work time and at some personal cost, so the role of principals in identifying, generating and managing ‘collaboration and planning time’ is paramount.

The review identified the need for research on the links between poor literacy and numeracy and for an enhanced literacy and numeracy approach that results in sophisticated screening of students at school point of entry in order to introduce the earliest possible intervention for at-risk students. It also found that the use of a variety of teaching methods is more likely to be effective in improving literacy of students with disabilities. These findings are supported by the Australian Government’s National Inquiry into the Teaching of Literacy (2005). This Inquiry reached seven significant conclusions that are relevant to the current review of the literature:

- That the direct systematic instruction in phonics during the early years of schooling is an essential foundation for teaching children to read.
- That all students learn best when teachers adopt an integrated approach to reading that explicitly teaches phonemic awareness, phonics, fluency, vocabulary knowledge and comprehension.
- That these 5 elements, stated above, coupled with effective support from the child’s home is critical to success.
- That the oft-touted dichotomy between phonics and whole-language approaches to the teaching of reading is false.
- That teachers must be able to draw on those techniques most suited to the learning needs and abilities of the student.
• That systematic phonics instruction is critical if children are to be taught to read well, whether or not they experience reading difficulties.

• That where there is unsystematic or no phonics instruction, children’s literacy progress is significantly impeded, and that their initial and subsequent growth in reading accuracy, fluency, writing, spelling and comprehension are impacted.

ICT promises a great deal for students with disabilities but teachers need considerable support to develop the necessary skills. The review highlighted the need for the more thorough use of ICTs in the classroom so that students with disabilities can benefit fully from technological enhancements to learning and communication now available to them.

Good academic outcomes are frequently linked to, and dependent on, good social outcomes. Peer relationships can be hampered when, for example, a teaching assistant extensively supports students with disabilities. Indeed, despite the current widespread reliance on teaching assistants to support students with disabilities in the mainstream, the efficacy, sustainability and acceptability of this model of support have been queried. The review focused attention on the need for changes to the training, deployment and supervision of teaching assistants.

High schools experience particular issues in providing an appropriate education for students with disabilities in the mainstream. There is an urgent need for further research on how mainstream high schools can accommodate students with disabilities, perhaps through examination of exemplary settings. Successful high schools and post-compulsory settings are those that directly link with employers and focus on the skills and competencies that students need to get and keep a job. The review supports the development of systematic transition-to-work programs and the ‘experience of work’ for senior students.

Many issues related to teacher training, professional development and professional learning were highlighted. Australian research has shown that teachers tend to prefer professional development activities that are practical and involve sharing ideas and networking. Given that principals are so influential in creating the context in which teachers and students work, one implication of the review is that principals should be more strategically targeted for professional development on the factors associated with better learning outcomes for students with disabilities in the mainstream.

The dearth of literature produced by teachers on improving learning outcomes of students with disabilities is surprising given the publicity around the Disability Standards for Education and the increasing numbers of students with disabilities in the mainstream. It seems that teachers may be too busy ‘doing inclusion’ to research or write about it. As teaching one or more mainstreamed students with disabilities is but one of a multiplicity of roles seamlessly performed by good teachers throughout a typical school day, teachers need professional knowledge that is contextualised and cognisant of classroom realities. The development and dissemination of this type of knowledge would be facilitated if classroom teachers were supported to identify, study and share successful approaches to teaching all students.

Finally, there is an emerging consensus that ‘students with disabilities in the mainstream’ is more a diversity issue than a ‘special education’ issue. While students with disabilities, supported by legislation, are at the forefront of this educational response to the heterogeneity of our society and our schools, there is considerable evidence that all students benefit from the differentiation of curriculum and teaching strategies. This renewed attention to individual need has many implications beyond the classroom, e.g. the need for departmental or school system organisational units such as “Curriculum” and “Student Support” teams to more thoroughly integrate their philosophies and policies. The literature suggests that although mainstream education may have once meant, for some teachers, that they ‘taught an undifferentiated curriculum to the middle’, it now requires a prime focus on curriculum and
learning outcomes and simultaneous consideration of each student’s individual learning needs – some of which may happen to be related to their disability.

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Appendix A: Glossary

Disability

1. For the purposes of Commonwealth government funding under the Special Education-School Support program, a student with disabilities means:

- A student who is attending a government or non-government school and who has been assessed by a person with relevant qualifications as having intellectual, sensory, physical, social, emotional or multiple impairments to a degree that satisfies the criteria for enrolment in special education services or programs provided by the government of the State or Territory in which the school or centre is located.

- A child whose impairments, as defined above, would in the future meet the criteria for enrolment in government special education services or programs.

- A student or child whose only impairment is a specific learning difficulty or for whom remedial education or remedial support is appropriate is not eligible for the Commonwealth program.

(Australian Human Rights and Equal Opportunities Commission)

2. A student who has been assessed by a person with a relevant qualification, as having intellectual, sensory, physical, social/emotional or multiple impairments to a degree that satisfies the criteria for enrolment in special education services provided by the government of the state or territory in which the student is located.

(States Grants [Primary and Secondary Education Assistance] Act 2000 in Inclusive Education cited in DEST Request for Tender for the Provision of a Project to Investigate how to Improve Learning Outcomes of Students in the Early, Middle and Post-compulsory Years of Schooling, 2003, p.6)

3. Disability, in relation to a person, means:

(a) total or partial loss of the person’s bodily or mental functions; or
(b) total or partial loss of a part of the body; or
(c) the presence in the body of organisms causing disease or illness; or
(d) the presence in the body of organisms capable of causing disease or illness; or
(e) the malfunction, malformation or disfigurement of a part of the person’s body; or
(f) a disorder or malfunction that results in the person learning differently from a person without the disorder or malfunction; or
(g) a disorder, illness or disease that affects a person’s though processes, perception of reality, emotions or judgement or that results in disturbed behaviour and includes a disability that:

(h) presently exists; or
(i) previously existed but no longer exists; or
(j) may exist in the future; or
(k) is imputed to a person.
(Commonwealth of Australia, 2005). Disability Standards for Education)

4. Disability is the presence of one or more limitations, restrictions or impairments which has lasted, or is likely to last for six months or more. A handicapped person is a disabled person aged five years or over who is further identified as being limited to some degree in the ability to person certain tasks in relation to one of five areas: self-care; mobility; verbal communication; schooling; employment.

Integration

1. Describes the practice by which the student received intensive instruction appropriate to individual needs in an education support centre or unit and joined their mainstream peers for the remainder of their education program.
(Department of Education, Western Australia, 2001, p.44)

2. The term integration is used as a broad term to refer to a child’s attendance at or participation in a regular school. The term can also refer to the process of transferring a student to a less segregated setting (Foreman, 2005, p.9).

3. Integration is the “physical placement of students with extensive needs on regular campuses” Sailor, et al., 1989, p.4).

Inclusive education

1. Inclusive education means that “….schools should accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions. This should include disabled and gifted children, street and working children, children from remote or nomadic populations, children from linguistic, ethnic or cultural minorities and children from other disadvantaged or marginalised areas or groups”

2. Inclusive Education’ is the term used to articulate the rights of students with disabilities, impairments and learning difficulties to participate in the full range of programmes and services and to use any facilities provided by the education system. The term implies that these students have access to a system that consistently delivers quality education leading to outcomes best suited to their unique skills and competencies.
(Meyer, cited in Office of School Education, DEET, 2001)

3. Inclusion describes the process by which a school attempts to respond to all pupils as individuals by reconsidering its curricular organisation and provision. Through this process, the school builds its capacity to accept all pupils from the local community who wish to attend and, in so doing, reduces the need to exclude pupils.
4. The concept of inclusion is based on the notion that schools should, without question, provide for the needs of all the children in their communities, whatever the level of their ability or disability. Inclusive schools celebrate diversity in ability as well as in cultural, racial, ethnic and social background (Giorcelli, 1995, cited in Foreman, 2005, p.12)

5. Inclusion includes physical integration, social integration and access to normalised, educational, recreational and social activities that occur in school” (Alper, 1996, p.3).

6. Inclusive education is a developmental approach seeking to address the learning needs of all children, youth and adults with a specific focus on those who are vulnerable to marginalisation and exclusion (UNESCO, n.d)

7. Elements of Inclusion:
   - Inclusion of all children with diverse abilities in schools they would attend if they had no disability
   - Representation of children with diverse abilities in schools and classrooms in natural proportion to their incidence in the district at large
   - Zero rejection and heterogeneous grouping
   - Age-and grade-appropriate placements of children with diverse abilities
   - Site-based coordination and management of instruction and resources
   - “Effective schools” style decentralised instructional models
     (Sailor and Skirtic (1995, p.423) cited in Loreman, Deppeler and Harvey, 2005, p.3)

“Inclusive schooling is essential to the development of an inclusive society. It involves having an education service that ensures that provision and funding is there to enable pupils to be educated in the most appropriate setting. This will be the one in which they can be most fully included in the life of their school community and which gives them a sense both of belonging and achieving” (p1).


**Mainstreaming**

1. Mainstreaming refers to multiple service levels at which a range of administrative and instructional options as well as a variety of staff utilisation patterns are available. These multiple service options are in contrast to the initial conceptualisation and organisation of special education as distinct from general education
   (Epps & Tindal in Wang, Reynolds & Walberg (eds.), 1987)
2. Mainstreaming is

- the inclusion of special students in the general education process. Students are considered mainstreamed if they spend any part of the school day with regular class peers (Lewis & Doorlag, 1987, p.4 cited in Salend, 1994, p.11)

- the carefully planned and monitored placement of students into regular education classrooms for their academic and social educational program…While the primary responsibility for the mainstreamed student’s academic and social program lies with the regular classroom teacher, mainstreaming is a dynamic, ongoing process that requires communication and sharing information between regular and special educators, ancillary support personnel and parents (Salend, 1994, p.11)

3. A student is mainstreamed while he or she is enrolled in or participating in a regular class (Foreman, 2005, p.12).
Appendix B: Analysis of Teachers’ Attitudes to Inclusion

There is a well documented association between teachers’ attitudes and outcomes for students with disabilities in mainstream education (Avramidas & Norwich, 2002; Barker & Kimberly, 2000/2001; Bennett, Deluca & Bruns, 1997; Buell, et al., 1999; Kavale & Forness, 2000; Kemp, 2003; Shaddock, Paterson, & Osborne, 1990; Van Reusen, Shoho, & Barker, 2000/2001).

Variables affecting Teachers’ Attitudes

The research literature on teachers’ attitudes towards students with disabilities in the mainstream is relatively straightforward but it contains some interesting nuances. Avramidis and Norwich (2002) concluded that student-related variables such as the severity and type of disability were more influential in forming teachers’ attitudes to inclusion than were teacher-related variables. Some studies have found mainstream teachers to be positive about including students with disabilities (Villa, et al., 1996 as cited in Avramidas & Norwich, 2002) and Avramidas & Norwich reported studies that found differential attitudes based on teacher gender (with female teachers generally more positive) and other studies in which no association was found between gender and attitude.

Professional development can affect attitude, e.g. van Reusen, et al., 2000/2001 found a positive relationship between training in special education and positive attitudes while Avramidas & Norwich (2002) reviewed studies that showed that appropriate staff development had a significant positive impact on mainstream teachers’ attitudes.

Mere contact with students with disabilities is not necessarily associated with more positive attitudes towards inclusion. After reviewing studies that reported positive and negative effects of contact on teachers’ attitudes, Avramidis & Norwich, 2002 concluded that when such contact is adequately resourced and supported, i.e., it is a positive experience, then it does result in the teacher expressing more positive attitudes.

Generally, teachers are less positive about including students with severe or complex disabilities and especially those with challenging behaviour (Avramidis & Norwich, 2002; Forlin, Douglas & Hattie, 1996; Hammond, et al., 2003).

Although there is some evidence that primary school teachers are more supportive of inclusion than are secondary teachers (Avramidis & Norwich, 2002; Shaddock, 2005 a; van Reusen, et al., 2001/2002), other studies have not found any association between attitude and grade taught. The crucial variable may not be grade taught but ‘the extent of the teachers’ concern with content and subject matter and their willingness to adapt’.

There is some evidence that teachers’ attitudes vary as a function of their, and/or their country’s, experience with inclusive practice. For example, Avramadis and Norwich, 2002 reported that teachers in countries that had a law requiring inclusion tended to be more positive about the concept. These authors also found that teachers from countries that had a well-established system of segregated special education were less positive about inclusion. Research by Jahnukainen & Korman (2003) supported this finding. These researchers also found that Finnish mainstream teachers were particularly negative about the inclusion of students with intellectual disabilities and those with behavioural and emotional disorders.

Traditionally, Australian principals have been more supportive of the enrolment of students with disabilities than the teaching staff who actually teach them (Center, Ward, Parmenter, & Nash, 1987. In a study with 225 Queensland principals, Bailey and du Plessis (1998) found that two-thirds were in favour of inclusion and that those who had special education teaching
experience were significantly more positive. Consistent with previous research with teachers, the type and severity of students’ disabilities affected respondents’ acceptance of inclusion, with the principals expressing particular concern about aggressive behaviour. Bailey and du Plessis noted principals’ concerns about the adequacy of teacher preparation for inclusion, and their issues about teaching assistants, teacher workload and the need for adequate resources to support inclusion. Cook, Semmel, & Gerber (1999) found that while a sample of 57 principals in United States stated that they were supportive of inclusion, they were less inclined to protect allocated resources for the sole use of these students. This finding prompted Cook, et al. to suggest that some US principals see inclusion as partly a cost-saving measure. On this latter point, Shaddock (2005a) noted more positively that some Australian principals recognise that the enrolment of students with disabilities who attract additional funding can be an income stream for mainstream schools.

Crowther, Dyson, and Millward (2001) surveyed Special Needs Coordinators (SENCOs) in education districts in England and identified gaps between ‘the expectations of policy-makers and the capacity of individual practitioners’ (p.95) in relation to students with disabilities in the mainstream. Crowther, et al. found that SENCOs had insufficient time to provide support for teachers and assistants working with a growing number of students with diverse needs and they noted that declining school budgets and the national focus on education standards had deflected attention and resources from students with disabilities. Crowther, et al. also observed that the specialist training undertaken by SENCOs may be out of date because it tends to focus more on ‘how to teach’ and less on the management skills that would allow consultants to share their expertise in complex and fluid organisations.

Murray (2002), in a study of teacher librarians’ role in facilitating the inclusion of students with disabilities into New South Wales and Victorian schools, found that these important, and potentially pivotal, resources for teachers and students were generally not well integrated into school policy and practice of inclusion. For example, Murray found that school libraries lacked necessary equipment and that librarians were frequently not involved in the planning and delivery of services for students with special needs.
Appendix C: Students with disabilities in the mainstream: Values, cultures and discursive frameworks

While it may not be contemporary orthodoxy in some circles to explore educational issues with reference to categories of disability, this review acknowledges that these are important issues for some of the stakeholders involved in the education of students with disabilities in the mainstream. In this section, the practical consequences of these opposing frameworks are explored.

The social model of disability and education

Broadly speaking, inclusion is linked to a social model of disability in which participation is emphasised over normalcy. A major goal is to increase access and participation (Mittler, 2000) and the focus is on respect, equality and collective belonging (Thomas & Loxley, 2001). So, through inclusion, we transcend “traditional boundaries between those with and without a disability through a focus on the actions and responsibilities of everyone and not just …. [the] disabled” (Culham & Nind, 2003). In education, the social model challenges the assumption that the person with a disability must always adapt and instead emphasises the ways in which practices and contexts might respond more sensitively to the needs of the students with a disability.

This social model is consistent with a non-categorical perspective – one that asserts that the type and nature of disability is of little relevance to teaching and learning. The non-categorical perspective is motivated by a desire to acknowledge the uniqueness of each human being and to recognise that the individual differences within diagnostic types are no less significant than differences between them.

At a more practical level however, the de-emphasis of disability poses a philosophical conundrum for mainstream teachers: Should they basically ignore ‘disability category’ or should they recognise the ‘cultures’ and specific needs of different disabilities? For example, there are some circumstances where people with particular disabilities may choose to remain outside the system and not participate. A case in point concerns individuals who are prelingually and profoundly deaf and whose first language is sign language. These individuals often prefer to refer to themselves as members of the Deaf community or culture (characterised predominantly by sign language) and they may not want to become part of the mainstream culture (Johnson, 1989) (with its preference for terms such as ‘people with a hearing impairment’ rather than straight ‘deaf’)! Furthermore, deaf parents may wish for a deaf baby and/or resist moves to have a cochlear implant either for themselves or their children. If we accept that an inclusive philosophy is underpinned by the belief that participation is a human right, where do these parents stand ethically and should educators support them in their view? Is there an assumption in inclusive philosophies that a community of people with less acute sensory abilities is inferior to a community of people with mixed abilities? And, at what point, and on whose judgement, does a cultural minority become a disability category?

The situation is even less clear-cut when the focus shifts from sensory functioning to cognition. In the case of autism, a neurological disorder with several attributes that make participation difficult, along with communication and social difficulties these individuals display information-processing difficulties in decentering, planning, anticipating change, shifting attention, generalising learnings, and paying joint attention, amongst others (Connor, 1999).

For many teachers and therapy programs, the goal of intervention is to “normalise” (sic) these cognitive processes so the child can become more involved in everyday life. In other words,
education becomes remediation. For example, when faced with children who cannot cope with change and who crave certainty and repetition, the teacher strives to change the children’s rigidity so they become more flexible and actively enjoy and seek out new experiences. Proponents of this approach include Relationship Development Intervention (RDI) (Gutstein, 2006), and the organisation Cure Autism Now (CAN), which supports skills-based approaches such as Applied Behaviour Analysis.

In contrast, some researchers and theorists advocate a “culture of autism” (Mesibov & Shea 1997) where it is recognised that each individual, even within a particular disabling condition and/or syndrome, has their unique ways of processing the world around them. It is not the goal of intervention to ‘cure’ the student with autism but rather to structure their environment so that they may function more easily within it. Students are taught to use their strengths to live with their differences, and the onus is often on the partner to make accommodations. The approach advocated by TEACCH (and others) of using visual supports to prepare for change in advance but not demanding that the individuals concerned enjoy the experience, exemplifies this ‘culture of autism’ view. This conundrum will not be pursued further except to note that both the ‘remedial’ and ‘cultural’ proponents argue that they are acting inclusively, that inclusion is open to multiple interpretations, and that whatever the current orthodoxy, competing perspectives will struggle for recognition in a small ‘p’ political context.
Appendix D: Examples of State and Territory Funding Policies of Students with Disabilities in the Mainstream

New South Wales

The New South Wales Department of Education and Training is committed to providing equal opportunities within a public school setting to all students. The Department recognises the diversity of students in school populations focusing on delivering a curriculum that meets students’ needs relevant to today’s world and responsive to community expectations.

To provide appropriate support for students with disabilities to follow their educational programs in regular classrooms, the Department provides a range of targeted programs and services to enhance opportunities for students with a disability to participate within an inclusive environment.

Such support arises from a planned program based on the individual needs of each student. The needs of each student are considered within five domains: Key Learning Areas (curriculum); Communication (expressive and receptive language); Participation (social competence and safety); Personal Care (hygiene, eating and dietary, health care) and Movement (mobility and hand motor skills). The support provided can involve a range of options including:

- additional classroom assistance from teachers (both classroom and specialist support teachers) and/or teachers aides (special).
- special provisions to enable the participation of students with disabilities in a wide range of curriculum choices
- adaptive technology
- adaptation of accommodations and facilities. (Prepared by Neale Waddy)

ACT

The Student Centred Appraisal of Need (SCAN) process provides a consistent approach to determining educational needs of individual students with a disability so that, if required, additional resources can be allocated to schools on a fair and equitable basis. It is a way of looking at the particular needs of each child, the special accommodations or adjustments they may need to access schooling, and the support they require to participate in the curriculum offered by the school.

The SCAN process was designed to include students in special schools, special classes in regular schools and students in regular classes.

Parameters around eligibility, needs assessment and resource allocation were developed with a direct link to each student’s Individual Learning Plan (ILP) being integral to the process.

Following consultation with key stakeholders, schools, parents, special education staff, advocacy and community groups the SCAN instrument and process was developed. The consultation resulted in a set of principles that guided this development. These included:

- That the assessment and allocation process should not act against choice of educational setting.
- That the assessment of need should link with the stated objectives in each student’s ILP.
• That the assessment and allocation process must be an inclusive process and involve the parents/carers of the student.

The appraisal instrument is divided into two parts, reflecting two major dimensions of educational need:

1. Access which describes the broad needs a child may have in order to access the school program. The Access section is divided into five areas:
   - communication
   - mobility
   - personal care: health & well-being
   - personal care: dietary & medical conditions
   - safety.

2. Participation which takes a closer look at the student and describes their educational support needs in the context of the classroom and the ILP. Participation is divided into the following five areas:
   - social development
   - curriculum participation
   - communication
   - behaviour
   - literacy & numeracy.

The amount of support allocated to the school is determined at an appraisal meeting and is based on the assessed needs of each student within the school setting. This meeting is facilitated by a departmental moderator and involves parents, the principal, classroom teacher and other people who have an involvement in the student’s education. The resources resulting from this process are provided as staffing points and are transferred directly to the school from central office. These additional resources are to be used to assist in the provision of quality educational programs and achieve goals and outcomes identified in the student’s ILP. (Prepared by Craig Curry and Ian Copland)

**Victoria**

In its recent response to the Report by the Ministerial Working Party on the Program for Students with Disabilities – ‘Promoting Inclusive Education’ - the Victorian Government committed to exploring better ways of assessing educational and support needs of students with disabilities through a research project that would assist in refining resource allocation and funding. In agreeing to examine national and international developments in assessing and resourcing educational needs the Victorian Government affirmed its commitment to students with disabilities and to supporting schools and teachers.

**Tasmania**

In Tasmania, students with disabilities attend regular schools as a preferred educational option. “To the fullest extent possible, students with disabilities should be educated in the company of their age peers while also being provided with curriculum and support that effectively meet their needs”.
During 2005 the Tasmanian Department of Education (DoE) is actively implementing recommendations from Essential Learnings for All, the Report of the Review of Services for Students with Special and/or Additional Educational Needs (June 2004). Key themes relevant to resource allocation to individual students with a disability include the development of a needs-based funding model, the provision of additional resources to support students with disabilities to ‘clusters of schools’ for allocation at the local level, a changed focus from funding individual students to funding learning outcomes, (i.e. outputs rather than inputs) and a focus on capacity building and collective responsibility within school communities.

The Tasmanian Department of Education has a two-tiered special education funding model. The Register of Students with Severe Disabilities identifies, approximately one percent of the total student population for whom the functional and educational impact of their disability is the most severe. These students are funded differentially with resources being provided to the cluster of schools for allocation according to identified need at the local level.

A second level of special education resources is provided to the cluster, on the basis of a formula which includes student performance data and an Educational Need Index, to support students with additional needs who are not on the Register of Students with Severe Disabilities. This reflects a belief that specialist expertise is best utilised to provide proactive support for students with additional needs as identified at the local level, rather than engaging in a centralised bureaucratic process to identify and label students.

(Prepares with assistance of Kerry McMinn)

South Australia

The South Australian Department of Education and Children's Services, Students with Disabilities policy is based upon the principles of inclusive schooling. All students have the first point of contact to enrol at their local school. The policy is supported by a range of provisions and resourcing programs that provide the necessary curriculum and specialist resources to achieve successful learning and participation.

The Students with Disabilities Targeted Support Program is a funding and support program that is targeted to students who have been verified as having a specific impairment. Five impairments are used for access to this program. They are Physical, Hearing, Vision, Communication and Language and Intellectual. Once verified school staff and district disability coordinators meet to establish the appropriate level of support. This is done based on the curriculum needs of the student.

Additional negotiated funding is available from districts for specific short term program support and health and issues relating to challenging behaviours.

Work is currently underway in South Australia to review and revise the existing impairment criteria and to strengthen the processes used to identify a student's educational needs.

(Prepared by Mark Tainsh)

Western Australia

Western Australia has recently undertaken a comprehensive review of educational services for students with disabilities and learning difficulties in public schools. The Ten Point Action Plan outlines the implementation plan for the key recommendations contained in the final report Pathways to the Future. The Ten Point Action Plan refers directly to ‘Fairer and efficient allocation of resources for students with disabilities’. The allocative mechanism Schools Plus delivers supplementary resources to schools to support students with disabilities in the
identified groups on the basis of educational need. On-line support and consultants are available to assist schools in making applications. 

(Prepared with assistance from John Brigg and Richard Sanders)

**Northern Territory**

Focusing on the needs of students with disabilities the Northern Territory Department of Employment, Education and Training is developing a new needs-based method of allocating resources, based on a student-centred appraisal process. Students’ needs levels will be assessed in a number of domains, using descriptive statements to assist with plotting. Results will be used to determine resourcing as well as contribute to the staffing at schools where these students are enrolled. (Prepared with assistance from Sylvie Tulacz-Hess)

**Queensland**

The Ministerial Taskforce on Inclusive Education (2004) recommended the phasing out of the ascertainment process and its replacement with a new resource allocation methodology, a recommendation accepted by the Government (Queensland Government Response to the Ministerial Taskforce on Inclusive Education (2004). In 2005 Queensland is transitioning from a needs based model of resourcing that was applied to a fixed student-resourcing ratio to a new model that is redefining ‘education need’ through an adjustment paradigm and will apply to a fixed budget allocation - hence a variable student ratio model. (Prepared with assistance from Nello Raciti.)
Appendix E: Students with Disabilities in Mainstream Classes: Validating Exemplary Classroom Practice in Australian Schools

Anthony Shaddock, Lena Hoffman-Raap, Loretta Giorcelli, Julie Hook & Sue Smith

Abstract

This study was conducted as a part of national research on students with disabilities in the mainstream. In addition to typical sources of reports on good practice in including students with disabilities we want to inform our research by reviewing good practices that are already occurring in mainstream primary and secondary classrooms around Australia. As the majority of these ‘good practices’ have not been validated by conventional procedures, such as through publication in refereed journals or in government reports that have been through a quality control process, we needed to develop a way that these practices could be evaluated and their quality interpreted. This paper reports on the development and piloting of processes to guide our approach to quality control of non-refereed reports on good practice in inclusion. We overview issues involved in ascertaining quality educational practices and we summarise the implications for teachers in mainstream schools and for researchers seeking to identify ‘best practice’.

What is exemplary classroom practice?

Over the past five years increasing attention has been paid in education systems to research findings that have highlighted the strong impact of quality teaching on the learning outcomes of students. As a result, a great deal of activity is occurring in Australian State Education Departments and educational and professional associations through national directions to develop professional teacher standards to describe the qualities and characteristics of exemplary teachers.

There is an abundance of literature that seeks to identify the qualities and characteristics that exemplary teachers should possess so that students’ achievement can be improved. Much of this literature is highly speculative, in that the connection between the recommended teacher attributes and students’ learning is often assumed rather than demonstrated empirically.

Another approach to improving quality is to focus on practices that are being implemented in the classroom and to view these practices in the light of the diverse range of needs of the students who are the recipients of these practices. Rather than looking for the qualities that constitute good teachers, we set out to identify factors that constitute good practices and more specifically, practices that effectively meet a diverse range of student needs, including those of students with disabilities.

The questions guiding this pilot study were:

1. What is good/best/exemplary or innovative practice?
2. Under what criteria can practices be labelled as good/best/exemplary or innovative?
3. How can we validate the validation criteria?
Our review of the literature revealed that inadequate attention has been paid to what is meant by a practice that is best, exemplary or innovative. Inglis, Ling & Joosten (2002) define the term *best practice* as “a comprehensive, integrated and co-operative approach to the continuous improvements of all facets of an organisation’s operations. It is the way leading-edge organisations manage their operations to deliver world class standards of performance” (p. 205).

Peters and Heron (1993) concluded from their review of the literature that the term *best practice*, for a number of reasons, does not always represent reliable and valid examples of world-class standards of performance.

Peters and Heron found that any attempts that have been made to propose a set of criteria for validating classroom practices have mainly pertained to the area of severe disabilities and that even in this area, best practice literature does not necessarily refer to teaching strategies or practices. These authors point out that although use of the term *best practice* is widespread, a number of issues contribute to its misinterpretation and misuse:

These include:

- Firstly, a lack of consensus on how *best practice* is defined in the area of special education. The term *best practice* carries with it a set of assumptions that have over the years led to inconsistencies in how it is defined and which criteria should be applied to label a practice ‘best’.

- Secondly, there are many connotations of the term *best practice*, which have further added to its ambiguity. ‘Best practice’ has been used to identify:
  - exemplary methodologies and strategies
  - effective educational and clinical processes
  - desirable student and client outcomes
  - program quality
  - integration potential
  - ways to transmit valued principles
  - critical features of teacher preparation programs
  - ways to impart technological advances (p. 372)

- Thirdly, there are no clear distinctions made in the literature between *best practice* and *most promising practice*, nor do there appear to be any distinctions between *emerging strategies* and *exemplary strategies*. Various terms have been used interchangeably to depict the same thing.

- Fourthly, Peters and Heron point out that “prescribed best practice may not be best for everyone included in a particular target group…”[ so] what is best practice for some is not so for others” (p. 377). Therefore, applicability and context are issues which contribute to the ambiguous use of the term *best practice*.

As the literature on the form, content and context of ‘best practice’ is somewhat inconsistent it is difficult to rely on, or draw from, this literature to identify ‘best practices’ for a specific purpose. Peters and Heron conclude that: “Differing lists, guidelines and conceptualisations of best practice beg the question: ‘Which best is really the best?’” (p. 375). They recommend that researchers and practitioners apply a standard set of operational parameters that are
measurable and applied, and that there is attention to the feasibility of strategies currently considered ‘best’.

Another major issue related to the implementation of ‘best practice’ is the transfer to practice of published research findings. The process that leads to publication in a refereed journal is characterised by a systematic and thorough conceptualisation, implementation and reporting. When practices are eventually implemented in the classroom, they are more likely to be used quite flexibly, and their procedural integrity may be compromised.

The reality is that practices based on research are not necessarily being implemented in classrooms. For example, the majority of teachers do not rely on the research literature for selecting teaching or management strategies for students with disabilities in mainstream settings (Jackson, Ryndak, & Billingsley, 2000; Rudland & Kemp, 2004; Murik, Shaddock, Spirks, Zilber & Curry, 2004). Furthermore, practices recommended by researchers may not be as effective as intended if/when practitioners attempt to implement them in a wide variety of settings.

With this research-practice gap in mind, our approach in the ‘Learning Outcomes: Students with Disabilities Project’ involves identifying inclusive practices in mainstream classrooms that are good, best, exemplary or innovative, and we will blend these insights and experiences with what the research literature also tells us.

Overview of approach used to define and validate principles for evaluating the worth of a practice

We undertook a small pilot study to provide some empirical support for a set of principles that could ascertain whether a particular practice should be considered good, ‘best’ or innovative. The provision of such a framework should enable educators, school administrators and policy makers to assess new practices or those that are already occurring but have not been formally recognised or published in a refereed journal. We recognise of course that due to the rapid development and change of teaching and learning practices, any framework for assessing ‘best practices’ would need to be regularly reviewed to reflect current social and educational contexts.

For this study a preliminary set of principles based on those suggested by Heron and Peters (1993) and Inglis, Ling and Joosten (2002) was devised. The following procedures were then implemented to ensure that the principles used to validate classroom practice have face validity and could be considered as externally valid:

1. An initial set of validation principles that could be used to evaluate classroom practice was taken from various sources in the literature. The criteria used to select the principles were:
   (a) The principle is broad enough to be applicable to a range of contexts in which a practice is implemented but is explicit enough to enable key stakeholders to develop quality processes for developing and comparing practice.
   (b) The principles apply to the delivery of learning experiences that cater for the needs of a diverse range of learning levels and abilities.

2. In considering the face validity of the principles selected, comment was invited through the following means:
   (a) Researchers were emailed prior to the literature search and asked to put forward ideas about principles that could be used to validate classroom practice.
A literature search was undertaken to identify principles that have been proposed by other authors.

The authors invited informal feedback from teachers and from researchers.

Each principle was linked with statements that identify when ‘best practice’ is believed to have been achieved (indicators).

A survey was completed by a range of key stakeholders (see Appendix 1):

- three mainstream teachers (experienced in teaching students with disabilities in their classes);
- three expert special education teachers with experience in working with students with disabilities in mainstream schools; and
- six researchers from the University of Canberra.

Survey participants were asked to indicate (on a scale of 1-5) the appropriateness of each principle/indicator for evaluating practices for teaching students with disabilities in mainstream classrooms.

Results were analysed with the aim of selecting 5 main principles and at least 2 indicators under each principle.

Results

Results were initially recorded for teachers and researchers as two separate tables. In each table, an average was calculated for each ranking against each principle. Finally, using the average rankings for each principle, the teachers’ results were added to the researchers’ results to gain a combined average ranking for each principle. (See Table 6A1 Combined list)

Table 6A1: Average Rankings

<table>
<thead>
<tr>
<th>Principle</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Teachers</th>
<th>Researchers</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>4.33</td>
<td>4.50</td>
<td>4.42</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3.50</td>
<td>4.50</td>
<td>4.00</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>3.33</td>
<td>3.83</td>
<td>3.58</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>3.67</td>
<td>4.17</td>
<td>3.92</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3.67</td>
<td>3.67</td>
<td>3.67</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4.17</td>
<td>4.00</td>
<td>4.08</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>4.83</td>
<td>4.67</td>
<td>4.75</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2.83</td>
<td>3.50</td>
<td>3.17</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>4.00</td>
<td>4.33</td>
<td>4.17</td>
</tr>
</tbody>
</table>

The results from the teachers showed that the most important principles in defining good practices for including students with disabilities in mainstream classrooms were:

7: The practice involves an understanding of the requirements of the learner’s individual needs.

1: The practice has a theoretical base?
There is evidence of the effects of the practice being implemented

The practice is flexible/transferable?

The methodological integrity of the practice is convincing and compelling?

The results produced for the academics showed that the most important principles for defining good practices for including students with disabilities in mainstream classrooms were:

The practice involves an understanding of the requirements of the learners’ individual needs.

The practice has a theoretical base?

The methodological integrity of the practice is convincing and compelling?

There is evidence of the effects of the practice being implemented

There is evidence that the desired outcomes are consistently produced?

The only principles the two groups differed on were principle 4: There is evidence that the desired outcomes are consistently produced? (selected by the academics) and principle 6: The practice is flexible/transferable? (selected by the teachers).

When the results of the two groups were combined principles 7, 1, 9, 6 and 2 were rated as the top five principles for evaluating practices for including students with disabilities in mainstream classrooms.

Discussion and Conclusion

Once the framework is further refined (by including more data from teachers, and researchers and the views of other stakeholders, such as principals and administrators), it may serve a number of purposes. It could be used to foster discussion among educators in order to reach consensus about the indicators and principles associated with ‘best practice’. At the classroom level, the framework could be used by mainstream teachers who want a more defensible basis on which to select strategies for teaching the students with disabilities in their classrooms. Finally, researchers may find the framework useful because it provides some justification for their consideration of examples of classroom practices that can be shown to be acceptable even though they have not been through typical ‘quality control’ processes.

References


## Appendix 1: Learning Outcomes: Students with Disabilities Project - Validation of Inclusive Classroom Practices

For each principle (marked in bold), please circle the number that describes your ranking of the principle’s importance in assessing ‘best’ teaching practices for including students with disabilities in mainstream classrooms.

For each indicator, please indicate your opinion as to its appropriateness in identifying ‘best practice’ in relation to the principle by circling yes or no.

| Principles and Indicators | Rating of Principle | Appropriate indicator?
|---------------------------|---------------------|------------------------
| 1. Does the practice have a strong theoretical base? | Not important | Highly important 1 | 2 | 3 | 4 | 5 | YES | NO |
| The practice is logical | YES | NO |
| The rules that define the theory’s construct are consistent internally and externally1 | YES | NO |
| The practice can be empirically tested | YES | NO |
| 2. Is the methodological integrity of the practice convincing and compelling? | Not important | Highly important 1 | 2 | 3 | 4 | 5 | YES | NO |
| The practice is analytical - a believable demonstration of an event that produced change occurred.2 | YES | NO |
| The practice is technological – the practice can be replicated by a person with sufficient training by using the same methodology and achieve similar outcomes. | YES | NO |
| The practice is feasible and practical | YES | NO |

1 Does the theory behind the practice fit consistently with empirical observations of the phenomena it is explaining?

2 Believable demonstrations occur when the behaviour comes under consistent control of environmental variables and the practitioner can replicate the effect repeatedly. A best practice can be identified only if and individual’s behaviour changed in predictable directions when a practice was applied and if those gains extend across settings, individuals or behaviour or were lost when the practice was withdrawn.
## Learning Outcomes: Students with Disabilities Project
### Validation of Inclusive Classroom Practices

<table>
<thead>
<tr>
<th>Principles and Indicators</th>
<th>Rating of Principle</th>
<th>Appropriate indicator?</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Is there consensus with the existing literature?</td>
<td>Not important</td>
<td>Highly important</td>
</tr>
<tr>
<td>The practice is informed by existing formal literature on that practice or related practices.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>There is evidence that procedures have been followed to translate research to a classroom situation</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Modifications that have been required to adapt research to suit a classroom context have been listed.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>4. Is there evidence that the desired outcomes are consistently produced?</td>
<td>Not important</td>
<td>Highly important</td>
</tr>
<tr>
<td>There is significant evidence of student progress (various assessment tools, portfolios and anecdotal records have been utilised)</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>There is collective judgement from other teachers that the practice works.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>The outcomes produced meet the performance indicators that have been identified prior to implementing the practice.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>5. Is there evidence of social validity?</td>
<td>Not important</td>
<td>Highly important</td>
</tr>
<tr>
<td>The practice is in accordance with the general current values of society.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>The practice is accepted and valued by other educators</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>The practice has been implemented in other classrooms by other teachers.</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>
Learning Outcomes: Students with Disabilities Project
Validation of Inclusive Classroom Practices

<table>
<thead>
<tr>
<th>Principles and Indicators</th>
<th>Rating of Principle</th>
<th>Appropriate indicator?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the practice flexible/transferable?</td>
<td>Not important</td>
<td>Highly important</td>
</tr>
<tr>
<td>The practice is applicable to a diversity of student needs</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>The practice is applicable to a diversity of mainstream contexts/sectors</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>The practice is sufficiently flexible to adapt to the prior experiences of the learners and their situations.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>The practice is appropriate to the particular population for whom it is being implemented</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>The practice involves an understanding of the requirements of the learners' individual needs.</td>
<td>Not important</td>
<td>Highly important</td>
</tr>
<tr>
<td>The practice acknowledges the learners' individual needs, styles and preferences.</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>The practice takes into account the learners’ access requirements and the demands of the curriculum.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>A process for learner requirements (and satisfaction) is developed and implemented.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>The practice is reflective of Departmental policies and requirements</td>
<td>Not important</td>
<td>Highly important</td>
</tr>
<tr>
<td>The practice takes into consideration government policies and guidelines on the provision of educational services to students with disabilities attending mainstream schools.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Resources available for successful implementation of the practice are sufficient.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Principles and Indicators</td>
<td>Rating of Principle</td>
<td>Appropriate indicator?</td>
</tr>
<tr>
<td>------------------------------------------------------------------------------------------</td>
<td>---------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>6. There is evidence of the effects of the practice being implemented.</td>
<td>Not important</td>
<td>Highly important</td>
</tr>
<tr>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The achievement of learning outcomes directly related to the practice have been documented (reports, ILPs, etc)</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>The learning outcomes related to this practice have been measured through clearly established evaluation criteria.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Assessment practices are fair, reliable and valid and allow for a variety of circumstances</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Base-line data is available to indicate changes in performance/behaviour related to the practice being implemented.</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>The outcomes reflect/correlate with the aims and objectives of the practice prior to implementation.</td>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>
How do successful classroom teachers provide a relevant curriculum for students with disabilities in their mainstream class?


Summary

This study aimed to identify effective and feasible approaches for developing and implementing curricula to meet the needs of students with disabilities in mainstream classrooms. Twenty successful mainstream teachers were studied over ten school weeks. The study found that:

• In facilitating curriculum access for their students, these teachers adopted a wide range of strategies that involved whole-school, paired-class, within-class and individual student strategies.

• Many teachers routinely involved colleagues, parents and other students in assisting them to deliver a differentiated curriculum.

• These teachers preferred to assist students to participate in the work of the class rather than to work on individually tailored programs or modified curriculum.

• The teachers ‘experimented’, tested hunches about what might work and took a reflective and problem-solving approach to their teaching.

• Despite the fact that these teachers were competent, creative and successful, they were not always confident that their approach would work.

• The teachers planned thoroughly and extensively and most felt that they needed more time for essential consultation.

• School culture and policy were strong influences on the success and ease of curriculum differentiation.

• The teachers preferred to collaborate with and observe other teachers as a way of furthering their knowledge on providing an appropriate curriculum.

Finally, a feature of these successful teachers’ performance was that they tended to view all of their students as having individual needs – not just those with a disability – and they capitalised on the strengths and interests of each student as they provided them with a relevant curriculum in a mainstream class.
7.1 Introduction

There are many interpretations of ‘curriculum’. According to Sands, Kozleski and French (2000) narrow interpretations focus on ‘content’ aspects such as subject matter, materials and learning plans whereas broad understandings see curriculum as incorporating all of the experiences that contribute to students’ learning. While the current study focused on the planned adaptation and differentiation of content by teachers who are acknowledged as successful in supporting students with disabilities in the mainstream, it also explored the ways in which these teachers support their students’ learning through less structured learning experiences.

Curriculum access for all students requires increased levels of differentiation of what is taught and how it is taught. Tomlinson (2005) suggests that differentiation is based on the premise that the one unit of work or lesson can be taught to the whole class, regardless of the diversity of need. The curriculum, (content, teaching strategies and assessment) processes products and learning environment can all be differentiated (Tomlinson, 1999). Differentiation is repeatedly nominated as one of the most important methods for supporting inclusion (Cole & McLeskey, 1997; Loreman, 2001, 1998, p.27; Pearman, Huang, & Mellbom, 1997; Thousand, Rosenberg, Bishop & Villa, 1997; Vaughn, Bos & Schumm, 2000).

Historically, responses to student diversity have focused less on the differentiation of the same curriculum and more on the provision of different curricula in special schools and settings. Special education offered individualisation of the curriculum to meet specific needs by determining goals for each student, then differentiating texts, teaching strategies, the pace of instruction, time on task, support and assessment, largely through the development of the Individual Education Program or Plan (Fisher, Sax, Pumpian, Rodifer & Kreikemeier, 1997; Zigmond, 2001). The curriculum for students with disabilities in special settings often targeted life or functional skills such as eating independently, toileting, basic literacy and numeracy, social skills, behaviour and vocational skills (Ford, Davern & Schnorr, 2001). However, teachers are now required to help students achieve appropriate and relevant learning outcomes in mainstream classrooms.

Most teachers find it difficult to adapt curriculum content and delivery unless they have training, special education background or experience in curriculum adaptation (Loreman, Deppeler, Harvey & Rowley, in press). There is also evidence that teachers are more likely to adapt how they teach rather than the curriculum content (O'Donoghue & Chalmers, 2000; Westwood, 2003). Even when curriculum adaptations are made, they tend not to be substantial (Loreman, 2001; O'Donoghue & Chalmers, 2000).

In secondary schools, curriculum adaptation is even more challenging because of the competing influences of prescribed curricula, school structure, external exams, timetables, large numbers of students, limited teaching time and little or no support for making adaptations (Espin, Deno, & Albayrak-Kaymak, 1998; Pearce & Forlin, 2005); Van Reusen, Shoho & Barker, 2001). Furthermore, secondary students may reject adaptations because they want to be the same as their peers (DiMartino, Clarke & Lachat, 2002; Martino & Pallotta-Chiarolli, 2005).

There are many ways to expand or contract the curriculum to cater for individual learning needs. For students who find particular learning difficult, teachers may choose to identify core concepts or skills and focus on these (initially) rather than on the entire curriculum (McLeskey & Waldron, 2002). Another option is to reduce the difficulty of the content or concepts (King-Sears, 1997). However, Westwood (2003) warns that care needs to be taken so that the
mainstream curriculum is not “impoverished” as teachers attempt to cater a broad range of educational needs (p.204). Thoughtless or unnecessary oversimplification of the curriculum could easily be portrayed as indirect discrimination and/or denial of educational opportunity. Another recommended approach is for teachers to view the curriculum as ‘multi-level’ and to select IEP goals from the class curriculum, with students with individual needs accessing as much of the mainstream curriculum as possible (King-Sears, 1997; Wehmeyer, et al., 2002). There are three ‘levels’ to this approach to adaptation, with the first involving the presentation of the curriculum in a variety of ways and using different teaching methods so that the learning needs of all students are supported (Wehmeyer, et al., 2002). Curriculum augmentation, the second level, requires teachers to use specific strategies for some children to support their learning, behaviour, problem-solving skills and/or to encourage self-determination (Palmer, Wehmeyer, Gipson & Agran, 2004; Wehmeyer, et al., 2002). The third level involves students working at different levels within the one classroom (King-Sears, 1997) and is the only approach that involves an ‘alternative curriculum. This option requires content to be added, e.g. independent living skills, or replaced, e.g. higher-level mathematics replaced by functional numeracy objectives (Wehmeyer, et al., 2002).

Curriculum overlapping is an adaptation strategy that involves embedding goals from the student’s IEP in the curriculum (Salend, 2001). The functional skills the student may need to learn overlap with, but are different to, the content and concepts the remainder of the class is learning (King-Sears, 1997). In a Science class, for example, when the students are learning about the properties of liquid, a student with an intellectual disability may be counting the number of drops from the dropper to improve numeracy and sorting equipment to improve classification skills (King-Sears, 1997). The students all participate in the same tasks but the outcomes are completely different (King-Sears, 1997). The challenge is of course to ensure that curriculum overlapping involves students in gaining the skills and understandings that are most relevant for them and not simply appearing to participate in the activities as their classmates.

The provision of a relevant curriculum for all students in the mainstream is an ongoing challenge and McDonnell, Thorson, and McQuivey (2000) argue that it is essential that more research be conducted on ways of meeting the unique educational needs in the mainstream. Acknowledging that research on ‘exemplary practice’ can inform theory and influence the practice of others, the current research focuses on Australian teachers who are already successfully providing a relevant curriculum for students with disabilities in the mainstream. In deriving meaning from ordinary practical knowledge, from the teachers’ reflections about their day to day practice, and from their ‘knowing-in-action’ as they engage in inclusive practice, the methodology draws on the theorising of Schön (1983, 1987, 1991), Clandinin and Connelly (1995, 2000) and on ideas expressed, particularly by Reid, in the Quality Teachers, Quality Teaching Forum (Australian Curriculum Studies Association, 2005). The aim of the research is to study teachers’ practice in order to identify promising practices and to produce useful knowledge for teachers.

### 7.2 Method

#### 7.2.1 Participants

As the logic of this study is dependent on the quality of the teachers who were studied, we developed and validated criteria for selecting the sample of teachers. We first analysed the ‘curriculum adaptation’ and ‘teacher quality’ literature and identified 20 main themes. We then
constructed a questionnaire based on this literature and asked nine academics and nine practising teachers with experience with students with disabilities in the mainstream to indicate the extent to which they believed that each item was a valid indicator of good practice in providing a relevant curriculum (see Appendix A). This analysis suggested four indicators of ‘teacher quality and curriculum adaptation’:

1. There is evidence that the teacher constructs curriculum in order to scaffold the learning of all students;
2. There is evidence that the teacher is knowledgeable about the curriculum/subject;
3. There is evidence that the teacher’s curriculum planning has a positive impact on gains for students with disabilities
4. There has been external/formal recognition of the teacher’s planning/adaptation of curriculum for students with disabilities through positive recognition from students themselves, other teachers, parents and/or supervisors or the teacher has played a leading role in this area within the school (such as conducting in-service training for other teachers).

These indicators were converted into a brief questionnaire that each teacher’s principal or supervising teacher completed (see Appendix B) and the results were used to guide and validate the selection of teachers for the study.

The aim was to study 20 teachers and we first identified a potential sample of 47 teachers from every Australian state and territory and every education sector – government, catholic and independent. These teachers were reputed to be exemplary in the way they adapted curriculum for students with disabilities in the mainstream. We used national student enrolment data (Australian Bureau of Statistics, 2004) to calculate proportionate participation from each state/territory and sector and we applied to the relevant education authorities to conduct the research. After gaining 20 teachers’ ‘in principle’ agreement to participate, we invited each teacher’s principal or supervising teacher to complete the questionnaire referred to above (see Appendix B). We decided that to be considered ‘successful’ (and therefore eligible for the study), each teacher would have to average 3/5 or above on the criteria. The selected teachers came from every state and one of the territories and from every sector (14 from government schools, five from catholic schools and one from an independent school). Ultimately twenty teachers who met the criteria participated (two male, 18 female). Eighteen were primary teachers and two were high school teachers.

### 7.2.2 Procedure

Four types of data on each teacher’s adaptations were collected.

(a) Teachers kept a diary for a term on their decisions about curriculum adaptations, the nature of and reasons for the adaptations, their success in improving learning outcomes for their student(s) with a disability and the issues that arose because of the adaptations. Although the diary was free-flowing and unstructured, teachers were given a list of ‘pointers’ so that they were aware of the researchers’ interests in the diary material (see Appendix C). The researchers agreed on a consistent approach to diary analysis before each researcher analysed the diaries that they had collected. Analysis was undertaken with reference to the ‘pointers’ provided to the teachers, the themes proposed by the teachers after rereading their diaries, and the underlying themes and ideas identified by the researchers. As individual researchers conducted these analyses, we undertook inter-researcher reliability checks, refining and recoding where necessary.
Teachers also provided a portfolio documenting curriculum adaptations that they had used during the ten-week period and their links with student progress. These portfolios were rich and varied data sources that often illustrated material from the diaries or site visits. They were described and categorised.

Each teacher completed a questionnaire that collected demographic data and information about the teacher’s use of integrated curriculum design, the features that made it work/not work, impediments to implementation and other curriculum issues affecting students with disabilities (see Appendix D). The quantitative data were analysed using descriptive statistics and the qualitative data by thematic analysis using categories that emerged from the data. As described above, the coding undertaken by individual researchers was checked for reliability before the results were aggregated.

A member of the research team visited each teacher for a day or more to undertake additional data collection – classroom observations, inspection of the teachers’ curriculum and lesson plans, and interviews with the teachers and other stakeholders including students, parents and the school executive. The researchers used the data from these site visits to corroborate the data from the diaries, portfolios and questionnaires. Each researcher took detailed notes with particular attention to planning: links to individual plans; assessment; literacy/numeracy; school organisation; and policies and procedures.

7.3 Results

7.3.1 Summary of results

The analysis revealed consistent findings across the different types of data - the relatively subjective and personal diary, the items of the personally chosen portfolio, and the structured, researcher-constructed questionnaire. The site visits corroborated these findings and identified additional, useful information about the teachers and their schools.

- These teachers’ supervisors rated them very highly on their ability to provide a relevant curriculum for students with disabilities in the mainstream, yet in terms of qualifications and experience, the sample of teachers seemed typical of the Australian teaching workforce.

- The teachers reported and demonstrated a wide range of curriculum and teaching adaptations and they also identified a number of variables that affect their success in providing a relevant curriculum, including school culture and the quality of the relationships and collaboration within the school.

- Although the ways these teachers differentiated the curriculum and adapted their teaching were highly creative and sometimes ingenious, their strategies reflected the known ways of achieving these ends, i.e. adapting content, teaching strategies, teaching resources, aids and technology, presentation of student work and assessment.

- Several data sources confirmed that these teachers are thorough planners. They tend to spend considerable time in being pro-active, organising resources for teaching, coordinating the various forms of support, preparing, and pre-empting while still managing to be reactive and responsive when necessary.
• Their approach to teaching and assessment was systematic and business-like, and although few specifically mentioned "curriculum-based assessment" (CBA) many gave examples of efficient and rigorous, CBA-like, tracking and monitoring of student outcomes.

• Although many teachers mentioned resource issues, these were not seen as the greatest barrier to the provision of a relevant curriculum for students with disabilities in the mainstream. The lack of time for preparation, planning and engaging in the necessary consultation was by far the greatest perceived barrier.

7.3.2 Rating and selection of participating teachers

The principal or supervisor rated each teacher on ‘Approaches to Providing a Relevant Curriculum’ (Appendix B). Fifteen principals, five Deputy Principals and one Head of Department completed these confidential ratings. The lowest rating for any item for any teacher was a 3/5; the lowest average score for any teacher on all items was 3.5/5; 11 teachers scored at the maximum, i.e. 5/5 on every item; and the average score for all teachers across all items was 4.65/5. Clearly, in the eyes of their supervisors the participants in this study were highly successful in their ability to construct, adapt and implement a relevant curriculum for students with disabilities in the mainstream.

7.3.3 Diaries

Nineteen teachers submitted diaries ranging in length from 750 to 3,500 words. One teacher’s diary was lost in the mail and this teacher provided supplementary notes that were analysed with the diary data.

The diaries were first analysed by searching each diary for any reference to (a) Departmental curriculum frameworks, school curriculum policy statements and similar guides; (b) examples of adaptation to curriculum content; and (c) the teachers’ general feelings about curriculum adaptations.

Prescribed curriculum frameworks. Fifteen of the 19 teachers (79%) referred to the curriculum frameworks of their department or system. Some teachers referred to these frameworks frequently (Frequency of reference to prescribed curriculum frameworks was 49, range 0 - 15, \( \bar{X} = 2.6 \)).

Adaptations to curriculum. The teachers provided many examples of adapting the curriculum for students with disabilities (The total number of adaptations in the diaries was 309, range 7-40, \( \bar{X} = 16 \)).

Teachers’ reactions. Eighteen teachers expressed reactions that were clearly positive or clearly negative about adapting mainstream curriculum for students with disabilities. (The frequency of positive reactions was 111, range 0-24, \( \bar{X} = 5.8 \) and the frequency of negative reactions was 85, range 0-21, \( \bar{X} = 4.5 \)).

The researchers used a grounded theory approach to identify themes in the diary data (Charmaz, in Denzin & Lincoln, 2000). The first author referred to the raw data and to themes identified by individual teachers and proposed preliminary themes and sub-themes. These categories were trialed, refined and agreed by the research team. The six themes and nineteen sub-themes are listed in Table 7.1.
### Table 7.1: Summary of themes from teachers’ diaries

<table>
<thead>
<tr>
<th>Theme</th>
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<tbody>
<tr>
<td>1. School culture, policies and practices</td>
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<tr>
<td>2. Specific curriculum issues</td>
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<tr>
<td>General adaptations</td>
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<tr>
<td>Literacy adaptations</td>
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<tr>
<td>Numeracy adaptations</td>
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<tr>
<td>Content knowledge</td>
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<tr>
<td>3. Adapting teaching to enable curriculum access</td>
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<tr>
<td>General teaching adaptations</td>
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<tr>
<td>Differentiation</td>
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<tr>
<td>Whole school approaches</td>
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<tr>
<td>Parental support</td>
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<td>Technology</td>
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<td>Planning</td>
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<td>Structure &amp; explicit instruction</td>
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<td>Group work</td>
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<td>Assessment</td>
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<td>Scheduling</td>
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<td>Experimentation</td>
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<tr>
<td>Predicting</td>
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<tr>
<td>4. Relationships and collaboration</td>
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<tr>
<td>5. Emotional reactions</td>
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<tr>
<td>6. Particular challenges</td>
</tr>
<tr>
<td>Behaviour</td>
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<tr>
<td>Disruptions to teaching</td>
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<tr>
<td>Class organisation</td>
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</table>

#### 1. School culture, policies and leadership

School culture, policies and leadership exerted both positive and negative influence on the teachers’ capacity to meet the needs of students with disabilities in the mainstream. Positive effects are illustrated by the following:

“The previous principal and I, as the SAER Coordinator (Students at Educational Risk) have worked hard to develop a positive attitude towards teachers including these children in their rooms with the aim of helping them feel happy, safe, accepted and successful.”

“Extra time is allocated by me for teachers of mainstream classes who have ‘inclusion children’ in their rooms to complete their Report Forms. This is a great incentive for teachers!”
Similarly two teachers reported that in their school, students with disabilities are clustered according to age. Six clusters are located in six composite classes and these are resourced differentially, e.g. they receive more support from teaching assistants.

Some teachers worked in highly inclusive schools in which parents, teaching assistants, janitorial staff, bus drivers and gardeners were all involved. Several diaries mentioned the support provided by other students, e.g. “The children are my greatest allies in making the [students with disabilities] feel safe, happy and valued.”

Evident in many of the schools was the way teachers tried to promote an inclusive culture. One teacher wrote, “I have a philosophy to make these students appear as able and non-distinguishable in the classroom as any other student.” In using literacy software programs designed specifically for students with literacy difficulties, this teacher wrote, “I allow all students to use these as they give more credibility and legitimacy to the software programs being an ‘everyday’ part of the classroom.”

In another class, a combined 3-4 class, sets of bolster seats and desk slant-boards were available for students. These physical accommodations were provided initially for a student with small stature. However, the teacher wrote, “Other students can use these if they choose to.” Another teacher wrote, “When thinking about changes I always try to keep students with disability involved with the rest of the class.”

One teacher discussed the value of her school’s diagnostic tool for assessing a wide range of abilities within her class: “I really like the continua – our diagnostic net - as I can plot [student with a disability] on this as I do with all children in the class. I find this a valuable assessment tool.”

Although all of the teachers were rated as ‘highly successful’ in adapting curriculum for students with disabilities in the mainstream, several commented on how school culture, policies and leadership were unsupportive.

A high school teacher in an all-boys school wrote: “I feel frustrated with the school for streaming. I very much feel that this class is stuck in a catch-22 situation and wonder how much better the boys would perform if they were in a class with a greater mix of students.”

This ‘Special Education-trained’ teacher was also the part-time ‘Head of Learning Support’ and expressed dissatisfaction with the way the school set up this role: “This leads me to the dilemma of my role in the school. Ideally I would like to work with each faculty to support them in adjusting the content that they know well. I have done this successfully for a Year 8 student and his TAS teacher. Now the TAS department has this to use in future with all students.”

Another teacher wrote of her frustration with working with a principal who had very different views about inclusion of students with disabilities to her own: “(The principal) has got no ‘head’ for special needs…. (and) seems to be more in favour of segregation than inclusion.”

Funding issues were also mentioned: “We’ve got the structure right but we need more teaching expertise. But because [student] is the only one with a definite diagnosis, we don’t get much funding.” Another teacher wrote:” The frustration for me comes when children have behaviours that I need assistance with and the current protocols and structures/point allocation prevent me from getting any assistance.”

In summary, although it is clearly possible to engage in exemplary inclusive practice even when the culture and practices of the school are not particularly supportive, students with disabilities are more satisfactorily included when school culture, policies and practices provide tangible support for inclusion. The practice of some schools in allocating extra resources to encourage and support teachers who agree to have students with a disability in their class
illustrates a successful approach to change management. The role of the principal may well be a key factor. As a former principal of one of the teachers commented, “I still feel the weak link could be at the Principal level. If a school is truly going to be inclusive the whole staff awareness needs to be focused on this group. If this is the case then policies and procedures evolve quite naturally. Again, having people in leadership positions who are championing the cause of children with disabilities and constantly highlighting their positive contribution to the school’s programs makes the school have this constant flavour of inclusivity.” (Bret Pescod, personal communication, 31 March, 2005).

2. Specific curriculum issues

Embedded in this central theme were issues about curriculum in general, literacy, numeracy and the importance of teachers having content knowledge. As indicated above, the teachers provided over three hundred examples of ways they adjusted curriculum in their classrooms. For example, one teacher adjusted content for her single sex, high school science class by making it more practical and she emphasised “kinaesthetic learning because of the boys’ preferred learning style.”

Some teachers gave greater priority to providing supports that enabled access to the mainstream curriculum rather than to adapting the curriculum. For example, one teacher referred to “including and immersing [for students with disabilities] suitable activities from the Foundation Level and the Level 1 and 2 Student Outcome Statement.”

Another teacher reported how she systematically adapted curriculum goals for each KLA for a student with a cognitive disability. Adjustments involved either the replacement of curriculum, e.g. the class’s spelling list was replaced by a functional word list, or the replacement of the student’s response, e.g. speaking rather than writing. One teacher wrote about having expectations that took into consideration her student’s special needs: “My expectations are different for [student with a disability] than the rest of the class. I accept [the student’s] work, even though we encourage him to do his best. It wouldn’t be fair to make him redo written work because he wouldn’t do it any better. He wouldn’t understand and would only get upset and frustrated.”

The teachers reported many literacy adaptations: “I gave the children a visual literacy response option. It was such a positive lesson. As teachers we should be always looking for different ways for children to show us what they know…. This cohort is unusual and I try to approach them as 44 exceptional individuals. I constantly am trying to look at what are they interested in and how that will help them reach their goals, strengthen their positives and support their needs.”

One teacher listed various options that she gives the students to produce written work: “I feel that they should be given a few options: A) interactive writing – they write the letters they can hear/write and we write the rest. They then illustrate. B) Use the computer (Clicker 4) to create stories.”

Many teachers wrote in their diaries about the ways they organise their classes during literacy sessions to cater for a wide range of student needs. One wrote: “I found small group rotational work worked best so children could work at their own level and to some degree, pace. This does mean children working at different levels and projects at the same time, for example 12+ sets of spelling tests a week to hear.” Another teacher provided an explanation of what is involved in such small group activities: “Each guided reading group has questions, activities or responses created by me to suit the needs of the children within the group. Whilst it takes a lot of my weekend it shows the benefits in allowing the children to learn and express
themselves on their own terms. We shouldn’t be trying to set the children up for failure, rather support them for success.”

One teacher explained the curriculum adaptations she made for spelling for a student with a cognitive disability: “Rather than selecting words based on the four spelling knowledges, the student is given a list of five functional words each week (e.g. ladies, stop, boy, girl etc). When the mainstream completes spelling activities, the student completes activities such as tracing the word, making the word in magnetic letters, signing the word and miming the word.”

Figure 7.1 illustrates how a teacher unobtrusively involved a student with a physical disability in a PE lesson by adapting for all the students.

Figure 7.1: Including a young student with hemiplegia in a kindergarten PE class

Most five year olds (and many adults for that matter) have difficulty in jumping skipping ropes. They just don’t get it. The difficult bit is to exert enough centrifugal force to transform the flimsy rope into an arc substantial enough to jump whilst avoiding shins getting a thwacking on the way through. This is indeed a fine line between pleasure and self-inflicted pain.

‘Be kangaroos!’ is the metaphor used by the PE teacher who shows the students how to hop like a mob of kangaroos by doubling their skipping ropes into kangaroo tails and holding same between their legs. Such tightly held tails compel students to keep their legs together.

In addition to the skipping rope, the student with cerebral palsy uses a hula-hoop, which provides a rigid frame. Other students in the class choose to use hula-hoops for the same reason. This is a simple, fun and creative example of a physical adaptation to ensure students with disabilities participate in the same activity as all other members of the class. The added advantages are that the hula-hoop assists other very young children and avoids, in this case, singling out the student with cerebral palsy.

The diaries contained only eight specific references to numeracy issues and all described positive learning experiences in numeracy such as: “[Student with a disability] was able to join in as he can count backwards but sometimes needed prompting. I was really pleased with the way he interacted with the group.”

“This week before we started our sheet work, we started with floor work around [student with a disability]. Whilst the others were looking at tens and ones, [student with a disability] could count out and sort for us.”

A high school teacher commented how essential it is for the teacher to have ‘content knowledge’ when adapting content. “This is the first time I have taught High School Science and I was therefore not familiar with the syllabus material. If I had greater depth of knowledge of the content, then I might have found it easier to be more creative with the delivery of the material. I found this very stressful.” Writing in her diary about another lesson in a different subject she wrote, “Good lesson. I knew the content well.”
In summary, these teachers differentiated both content and teaching strategy in interdependent and mutually supportive ways. They did not teach, or discuss their teaching, by treating content and strategy as separate entities. However, whether in adapting the curriculum or in adapting teaching to facilitate access to the curriculum, they demonstrated a planned, individually-focused approach that aimed to engage the student with a disability in what the class was doing and learning. The diary data suggest that the capacity to adapt the curriculum depends on the teacher’s knowledge of the students and their grasp of the content, particularly in high school subjects, and a willingness to view the class as a group of individuals, each of whom has particular needs that may or may not be linked to disability.

3. Specific adaptations to teaching to enable curriculum access

The teachers creatively used a wide range of teaching adjustments to assist students with disabilities to access the mainstream curriculum. For example, the diary of one teacher listed alternative response formats for tests and writing activities, peer assistance, adapted worksheets, flexible use of teaching assistants, structured group work that ensured that all students in the group completed each task, and teacher-led ‘brainstorming activities’ to prompt students about possible solutions to class exercises. After a student with ASD refused to complete a written test, the teacher asked the student to complete the test orally. The student achieved the best results in the class. This teacher reported that the teacher who had conducted the test “was happy he had taken time to complete the test orally with the child as it gave a true indication of his knowledge of curriculum content taught that week.”

‘Modified cloze procedures’ that reduced the amount of writing and copying from the board were frequently reported and several teachers wrote that this strategy also ensured that students would keep up with the lesson and would always have correct information in their workbooks. Sometimes this entailed providing several levels of support simultaneously.

One high school teacher structured students’ response tasks by breaking the lesson down into time-limited ‘chunks’ in which each sub-task was clearly specified, and in the case in point, the chunks were ‘observing’, ‘writing answers’, ‘going over answers’. This strategy particularly helped students who had problems in planning and organising.

One teacher wrote about a strategy she was trying out to foster independence in a student with autism and another student with severe cerebral palsy to “free up” the teacher assistant’s time for a third student in the class with a cognitive disability: “We have created a number of ‘visual desk-cues’ to assist these two students in getting their equipment organised and commencing their work.”

Another teacher, commenting on her decision to appoint a student with autism as a library monitor wrote, “I also felt the need to get (student) to gain responsibility to do things for other students (and) the added responsibility could include some basic communication with other students and teachers.”

One teacher wrote about a differentiation strategy that involved all the children completing “the same activity but at different levels.” All children listened to the same story. However, while most children organised a story map into correct order by drawing and labelling events, some students “were given a completed story map and asked to cut it up, shuffle, then rearrange again in order. Both groups then met with partners and retold the story.”

Similarly, another teacher highlighted the benefit in providing access to the curriculum through the provision of materials that appeal to the interests of all the children: “Tactile work with numbers helped all children. I gave them one light and one dark piece of play dough. The dark was much more effective on the light table for [student with a disability] to see. Also, the
tactile medium was good for squeezing and fine motor work. Other children were also engaged well. They worked on ordering numbers to 20 and recognising numbers to 20.”

On another day, the same teacher wrote: “3D shapes are good for [student with a disability] as she needs something very tactile. Found some great handle stamps at Silly Solly’s (shop with inexpensive merchandise) – you continually find or look for things that can be adapted or changed.”

In some settings adjustments ranged from classroom-based strategies to whole school approaches involving creative use of resources and personnel, i.e., what the teachers were able to achieve reflected what the school as a whole supported and resourced. One teacher reported that teachers plan and teach in teams, with mathematics and literacy often programmed and taught separately, while the remainder of the curriculum is team-taught in the mainstream. The teacher reported using scaffolding and ‘pre-teaching’ with the ‘cluster’ of special needs students to ensure that they were able to participate in the class curriculum. “Before we discussed the life cycle of a butterfly in integrated studies, I taught this concept and vocab in a language session. We talked about this for a few days before it was taught in integrated studies. This pre-teaching of the concept of life cycles helped the students understand the way mini-beasts change.”

Another teacher used a similar strategy but enlisted parental support to prepare the student for topics and activities that would be taught in class: “At times, up-coming tasks are sent home with the student so that the parents are aware of what is occurring in that subject area and also so that the student can come along with some prior knowledge on complex topics…”

The use of technology was not referred to frequently in the diaries. “I had hoped to use my laptop in class more with a data projector – so that I could project information on to the board and then email it to all of the boys to eliminate the need to take written notes. Major restriction for this was the palaver involved with booking a data projector for each lesson, collecting and returning to the library on the other side of the school before/after each lesson.” And again, “I didn't get to explore this as much as I would have liked - but the use of computers and interactive sites worked well with this class, especially if there was sound and they could all wear individual sets of headphones.”

A teacher reported how a student with severe cerebral palsy used a laptop to help her to access the curriculum more easily. Because the student was still learning to use the keyboard, other interventions were necessary to ensure that the student could still benefit from using the technology in the classroom. “We prioritise tasks to be completed within a session so she does not feel that she must move on to another activity just because the rest of the class have.”

One teacher, however, was very excited when an idea she had for using a Smartboard to enable the children to access activities through the touch of a symbol representing their reading group proved to be very feasible: “Have asked IT coach. It’s possible! We used Powerpoint to hyperlink symbols. Works well! I’m thinking of doing something like this for maths as well. Should work just the same.”

On another day, the teacher wrote: “Just tried one lesson with the above in language. It was fantastic. Students [with a disability] were pretty much independent. Needed very little support and were engaged! Students [with a disability] were excited, on task and worked very hard! A win for everyone!”

Some teachers referred to putting considerable time into planning. For example one teacher wrote about planned seating and groupings, declaring “I was surprised how something so basic had such an impact!” Another wrote, “I just can’t say too many times just how important it is to be organised.”
Figures 7.2, 7.3 and 7.4 provide concrete examples of the teachers’ planning. These examples are straightforward and commonsense and have been included to illustrate the level of thought and detail that contribute to successful inclusion of students with disabilities in the mainstream.

**Figure 7.2:** Organising teaching assistants, parent helpers and other volunteers (Primary Class)

<table>
<thead>
<tr>
<th>Timetabling Classroom Support</th>
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<tbody>
<tr>
<td>Monday</td>
</tr>
<tr>
<td>9.15am – 9.30am</td>
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<tr>
<td>9.30am – 10.15am</td>
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<tr>
<td>10.15am – 11am</td>
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<td>11am – 11.15am</td>
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<td>11.25am – 11.55am</td>
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<tr>
<td>11.55am – 12.15pm</td>
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<td>12.15pm – 12.45pm</td>
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<td>12.45pm – 1.15pm</td>
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<td>1.15pm – 1.25pm</td>
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<td>1.15pm – 2.15pm</td>
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<td>2.15pm – 3.15pm</td>
</tr>
</tbody>
</table>

**Figure 7.3:** Managing students’ transitions (Kindergarten class)

<table>
<thead>
<tr>
<th>Morning Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Roll to Gross Motor: Call out names and tell them to leave with STA</td>
</tr>
<tr>
<td>2. Gross Motor to Fine motor, STA to organise</td>
</tr>
<tr>
<td>3. Fine Motor to Big book on mat: K&lt;L&lt;A to collect own name tag and places them next to visual time table</td>
</tr>
<tr>
<td>4. Big book to guide reading rotation: Call out names and tell them to leave with STA</td>
</tr>
<tr>
<td>5. Guided reading rotation to toilet: follow class routines of lining up.</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Middle Session</th>
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<tbody>
<tr>
<td>1. News to Brain Gym: Gall out names and tell them to leave with STA</td>
</tr>
<tr>
<td>2. Brain Gym to maths rotation on mat: K&lt;L&lt;A collect own name tag and places them next to visual time table</td>
</tr>
<tr>
<td>3. Maths rotation to Dance /PE: follow class routines of lining up</td>
</tr>
<tr>
<td>4. Dance/PE to Toilet: follow class routines of lining up.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Afternoon Session</th>
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</thead>
<tbody>
<tr>
<td>1. Rest to handwriting: Call out names and tell them to leave with STA</td>
</tr>
<tr>
<td>2. Handwriting to mat for Art: K&lt;L&lt;A collect own name tag and places them next to visual time table</td>
</tr>
<tr>
<td>3. Arts/Quests to construction: move as they are finished to activity of choice</td>
</tr>
<tr>
<td>4. Construction to leave classroom: STA to collect and encourage tidying up.</td>
</tr>
</tbody>
</table>
A teacher wrote about the impact of time for task completion on the way the class is organised for lessons: “Time is such an issue for children with disabilities – allowing enough time for them to process information and to work effectively in the small group. Allowing others to have things to do if they need to wait, as they can get very restless. This is one of the reasons we had to stop team teaching. The mix of students did not work well as there was a high percentage of high needs children who were not able to work independently.

The benefits of structure and explicit instruction by the teacher were also mentioned. A high school teacher wrote, “I told them what we needed to achieve by the end of each lesson; how long to spend on a task (“you have 5 minutes to complete”); how each piece of work would be marked and I included some easy options (e.g. 1 mark for the date, 1 mark for the title etc. & bonus mark if written in the past tense…).”

One teacher reported that all students are involved in considerable group work in which the focus is on each using his/her skills to complete the task and on provision of peer support – which does not always position the students with a disability as the ‘recipient’. The buddy systems that operate in this school focus on academic outcomes in the classroom and social outcomes across the day, including recess and after school. She wrote, “We (the teachers) chose the buddy pairings according to their behaviour but we asked them first to volunteer to look after an ESU (Education Support Unit) student.”

The issue of ‘different levels’ is relevant to assessment and the teachers commented on a range of assessment issues including the tensions involved in state testing programs. “No adjustments were allowed for school exams (apart from the use of Readers and Writers for students with literacy difficulties. “As all year 3, 5 & 7 students will be involved in (the state testing program) the principal asked if we could expose the children to the type of testing they will experience.”
A teacher who systematically and regularly assesses students’ progress wrote: “Like the rest of
the class, [the student] is tested on a Monday and Friday. The only difference is that his pre
and post tests need to be done separately to the rest of the class.”

One teacher summed up her assessment procedures as follows: “I am using the student to
assist in some individual assessments such as spelling tests and high frequency word tests. It is
reaffirming to justify why you have done something. With reports looming, assessing is a very
hot topic. I do a lot of observation or complete checklists based on work, observations or
conferencing. Pre and post tests also show me the validity of my program and teaching as well
as showing me the child’s growth and understandings.” She also wrote that “Assessment has
to be real and an honest reflection of their child and their understanding, not how they can
perform in the constraints of a uniform test. Things like [state-based assessments] stress me as
they are culturally insensitive and do not allow all students to show their true understandings.
We must value the process and not the product as well as valuing the individuals and their
personal goals.”

At a very practical level, some teachers commented on scheduling issues. A high school
teacher wrote: “The first 3 periods in the day were without doubt the most successful learning
times for this class.” A teacher of a primary class wrote, “My timetable is placed permanently
on the wall with Velcro attached so that the particular daily activities can be attached.” A
teacher in another school described how the whole school’s schedule had been built around
systematic attention in the morning sessions to the basic skills of all students (with some
students with disabilities and others receiving small group tuition) and less structured,
inclusive, group experiences in the afternoon.

Many teachers noted that they ‘experimented’ and tested hunches when trying to ensure that
students with disabilities in the mainstream had a positive learning experience. Despite their
acknowledged expertise this group of teachers was surprisingly cautious and self-questioning
about providing a relevant curriculum for students with disabilities in their classrooms.
Phrases such as “I hope this is the right approach...” “I have doubts ...” ... “I really hope
this has a positive effect ...” and “This is quite frustrating...” appear throughout the diaries.

One teacher wrote: “I feel pressured sometimes knowing how to make the right decisions for
how to cater for [student with a disability] as well as all the other individuals in year 1. I also
need more advice from support people to know if I could be doing things better.”

In relation to a strategy to encourage a student who is quiet and withdrawn, a teacher
surmised: “Perhaps she will feel more comfortable choosing to be speaker, rather than just me
asking her?” Another teacher remained uncertain about using a particular approach to literacy.
“I really want literacy time to be engaging and fun, so if this ends up not working, I’ll arrange
things differently.” A further example of uncertainty is revealed by this comment: “I need to
think of more strategies to keep [student with a disability] focused and also help him socially.”
Another teacher wrote, “I am trying to reduce the vocal cues with (a student with vision
impairment) to teach him to respond more often to non-verbal cues so that he starts looking
at people rather than just listening to what they say”, implying that the strategy may or may
not work. Although these excerpts reveal a degree of uncertainty, they also show how these
teachers were reflective and creative, and willing to trial novel teaching approaches.

Similarly, some teachers reported doing a lot of proactive problem-solving, e.g., of what could go
wrong, what might stop students achieving good outcomes and what might cause the class to
get disruptive and unruly. For example, before one of the observed lessons, a high school
teacher was seen rearranging seating and groupings and preparing formats for students to
record data from experiments so as to minimise their off-task behaviour.
In summary, the wide variety of adaptations reported by these teachers to their teaching reflected a strong focus on meeting individual needs and considerable creativity in doing so. The diaries suggest that these teachers predict, test hunches, problem-solve and reflect. The teaching adaptations also indicate the considerable effort the teachers put into planning and organisation and their highly proactive approach to teaching.

4. Relationships and collaboration

The diaries highlighted the centrality of good relationships between and among students, colleagues and parents. Many teachers referred to the importance of knowing their students well. One teacher made a conscious effort to relate the curriculum to children’s lives and, for example, she used role play situations in class to assist students cope with challenging situations at home. Most of the teachers knew what was happening in students’ lives and in their homes, illustrating their strong, personal links with students and parents.

A high school teacher explained why she lowered her expectations in one of her (streamed) classes because she knew what was happening in the students’ lives: “They have a Science assignment to hand in tomorrow and there were a lot of panicky questions (the marks go towards their [external examination].”

A primary school teacher wrote: “All students have individual needs – therefore need individual guidance in as many areas as possible. (I am) looking at the moment why some children in the class have very poor fine motor skills … different problems … different solutions.” Discussing the care with which she set up class groupings this teacher wrote: “A lot of the considerations break down to personalities and who does and doesn’t work well together. You can only place them well in groups if you understand the students and what they are like.”

Many teachers commented on the way they worked with other school personnel. For example, a High School teacher consulted with the Special Needs Team about the adjustments he makes: “As a teacher I work very closely with the teachers and aides from the special needs centre here at (the school). Together we try to come up with a number of strategies to meet [student’s] needs and the needs of all students.”

Another teacher acknowledged the important role played by the school’s Special Education Coordinator whose role includes advising teachers, ensuring students receive appropriate programs, involving Teaching Assistants, following up therapy, writing IEPs, liaison with parents, professional development and school-based team meetings. Another reported how she involved the specialist vision teacher so that the student could “take enlarged print books home for his home reading.”

One teacher has formed a successful teaching partnership with her colleague and together they teach 44 year 2 students. She writes that: “Team teaching is so important so you can reflect and build on your own skills and resources and expand your own understandings.”

Several teachers mentioned their teaching assistants very positively. “My teaching assistants are fantastic and are responsible for many activities and duties. Their caring, friendly and non-confronting natures contribute to the success of the inclusion program.” Another wrote: “This activity would only be possible with the help of the aide because I have to help the other 24 children.”

One teacher, however, highlighted the difficulty of having to communicate with so many people as part of the process of ensuring that inclusion is successful: “Sometimes I find the constant awareness of all people who look after her a strain. For her to be successfully included in our school, she needs continual support, from learning support to aide support to
peer support.” Later in the diary the teacher wrote: “I keep coming back to the fact that a team of people work together to support [the student’s] learning. I am so grateful for the incredible support that is given to me to help [student].”

The importance of parental involvement in the school program was also often acknowledged. “Parents help heaps in my program.” “The parents are required to collect their children after school outside my room and it is great to see the interaction between the ESU parents and mainstream parents. ‘Input from a variety of sources allows for an appropriate curriculum for [student’s] needs and is supportive of [student’s] needs. As parents are involved in the whole process, they know what goals we are aiming towards and how we are working towards them.”

One teacher described a series of lessons that required the students to engage in work outside the classroom and subsequent writing. These lessons involved the whole school community: “The P&C built the vegetable patch. Our school gardener prepared the vegetable patch. Our head cleaner cooked pumpkin for tea and gave us the seeds to grow. All children had a seed to plant and water.” Unfortunately, the crows dug up the garden and ate the seeds but the teacher wrote “After school there was a lot of laughter as the children told their parents about what had happened.”

In summary, the inclusion of students with disabilities in mainstream classes was facilitated by good collaboration and high quality relationships in the schools. Although the teachers emphasised the value of their teamwork with teaching personnel such as consultants and teaching assistants, they also highlighted the ways in which students who do not have a disability, parents and non-teaching staff in the school community are involved in the support of student involvement and learning. These successful teachers seemed adept at involving and leading others to support students’ learning.

5. Emotional reactions

The teachers’ diaries contained positive (N=111) and negative (N=85) reactions to providing a relevant curriculum for all students in their mainstream class. It was clear that some teachers felt very responsible for the success of inclusion and that they were committed to ensuring their students achieved good outcomes. One teacher of a streamed high school class was clearly hurt when nearly all her students failed a school exam and became embarrassed and demoralised “I think I felt more demoralised than they were!” “I was bitterly disappointed in the boys’ exam results and their end of term assignments. This definitely had a negative impact on how I felt towards the class at the end (and now this term). I can hear myself saying, “What else do you want me to do for you - write the assignment!” This teacher continued, “As a result of the make-up of the class (behaviour and learning needs), I felt a great deal of responsibility for ‘making it work’. When a lesson didn’t go to plan I’d try to analyse what I could have done differently. The boys’ apathy and my inability to motivate them weigh heavily on my mind.”

As supportive as these teachers’ diaries were about inclusive practice, they also revealed how much effort is required. One teacher wrote, “The focus was on being creative! However this can be pretty exhausting as you continue to keep exploring different tactics.”

Another commented on how the vision support teacher and the teaching assistant ensured that a student could take an external test that all students did. “I don’t really know how they did it but I do know that it took a fair amount of manpower for it to work.”

A high school teacher wrote, “By the end of the term I was pretty fed up. I wonder whether I had taken on too much responsibility myself and not expected enough from the boys.”
Another teacher wrote more positively “There is not a lot of extra effort in making adjustments to the lessons. This is because the initial planning of my program involved including and immersing suitable activities from the (state’s basic curriculum).”

One teacher commented on the amount of work in setting up an IEP meeting. “(There) was (student), two parents, our principal, my teacher’s aide, the area support teacher, vision impairment, the area Integration Officer and our senior office worker taking minutes. It was very hard to organise.”

In summary, as the teachers in this study were selected because of their demonstrable success in involving students with disabilities in the mainstream it was somewhat surprising to find that that the proportion of negative emotional responses in their diaries was as high as 43%. The diaries expressed commitment and support on the one hand and frustration and disappointment on the other, particularly when plans did not work out. The frustration expressed in the diaries may have been a function of the extent to which the teachers were committed to achieving good learning outcomes for students with disabilities in their mainstream class.

6. Particular challenges

The diaries referred to particular challenges of inclusion including students’ behaviour, interruptions to teaching, class organisation and the question of what level of inclusion is appropriate. As regards behaviour, one ‘Special Education-trained’ teacher wrote, “I think my ability to tactically ignore sometimes was taken as a weakness. They are not used to it.” A primary school teacher observed, “It is the children with ‘creative behaviours’ that consume my day, my time, my thoughts and my teaching time.” Along the same lines, another primary school teacher wrote: “I feel disappointed when the rest of the children are disrupted and learning time is wasted. Also it makes me question what is best for [student with a disability] and what is he achieving?”

The diaries contained creative and positive responses to challenging behaviour. In one school, teachers incorporated positive and engaging ‘time-out’ spaces both within the classroom and the wider school environment for students who disrupt others, cannot sit still, run away and who cannot pay attention. Referring to a student in her kindergarten class, one teacher wrote, “The student keeps running off. I have erected a tent in the classroom so he can use it instead of running away. This worked well for a similar student a few years ago.” Another teacher writes, “He finds sitting still hard at the best of times. I had him doing some outside errands for me instead. I don’t want to leave him in a situation that will risk ‘undoing’ all the great work he’s done all week.” Another classroom has an annex room (containing a lounge and large cushions) which is separate yet open to the main classroom. “I offered him 10 minutes of timeout to calm down which he took 4 times!” One teacher referred to a specifically constructed Yurt which houses Australian reptiles within the school grounds. “The boys have permission to go to the Yurt. This is their refuge because they find it hard to be outside in the yard for the whole of lunch.” On a similarly positive note, one primary teacher wrote, “The role playing situations, incorporating the ‘Stop, Think, Do’ process is very effective in dealing with and teaching appropriate ways of managing self-protection and care.”

Several teachers referred to the effects of disruptions to teaching. “During a nine week term, I went through almost three weeks of not seeing my class. This was due to exams (the Year 10 students are not required to go to lessons in between exams); school excursions; cadet camp; a few days away myself either through sickness or meetings that are part of my role as Head of the Learning Support Department. These (absences) significantly impacted on their behaviour.”
Several teachers mentioned the challenge class organisation due to large classes and working with a wide range of learning needs and abilities. One teacher wrote: “Class size is an issue. I have 26 children in my class including [student with a disability]. I have several other special needs children. Eight children are having extra support for numeracy and literacy, plus one ESL student and two with behavioural problems – not to mention the “normal” day to day runnings.”

Another teacher echoed this view, “With [student with a disability] using very little speech, it is difficult to know what he understands and is learning. Trying to cater for [this student] as well as 24 other children at different levels is also a management issue.”

One teacher posed the following question to conclude her diary: “Juggling the needs of all students can be draining. Is it always possible?”

Some teachers also indicated that they were uncertain about what level of inclusion is appropriate for their students: “Sometimes I have to make choices about whether [student with a disability] really should join in activities, even though I really want him to, he just doesn’t want to cooperate or show any interest.” Another wrote: “So what is inclusion? Providing for the needs of these kids within a mainstream setting or having them physically present at all times?”

In summary, the diaries reveal that including students with disabilities is but one of the many challenges facing contemporary mainstream teachers. Furthermore, non-compliant and/or challenging behaviour, irrespective of its source, is a key issue for these teachers. The capacity of teachers to organise themselves and their students to achieve satisfactory learning outcomes presents as a crucial element of success.

### 7.3.4 Teachers’ portfolios

Each teacher was asked to provide a portfolio that contained examples of the way in which they had planned, adapted and implemented curricula, with particular attention to the student(s) with a disability in their classroom.

Teachers were briefed about their portfolios during site visits, e.g. about student anonymity, and they were offered ongoing phone and email support as they compiled it. Although they were free to choose what to put into their portfolio the researchers’ suggestions included:

- Class program plans
- Examples of Individual Learning Plans or IEPs
- Lesson plans
- Examples of student work
- Examples of teaching resources and aids
- Examples of assessment
- Examples of the implementation of state/system/school guidelines re curriculum
- Other material that the teacher believes is relevant to the study.

Sixteen portfolios were analysed. One was lost in the mail; two were not submitted and two teachers compiled a joint portfolio. The 239 portfolio items were listed and categorised by the researchers and a summary is presented in Table 7.2 and examples in Figures 4, 5, and 6.
Table 7.2: Categorisation of items in teachers’ portfolios

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teaching plans, student plans, class timetables &amp; organisation,</td>
<td>63 (26%)</td>
</tr>
<tr>
<td>teacher assistant timetables &amp; instructions to cater for diversity</td>
<td></td>
</tr>
<tr>
<td>2. Specific adaptations of curriculum &amp; assessment including work</td>
<td>59 (25%)</td>
</tr>
<tr>
<td>samples</td>
<td></td>
</tr>
<tr>
<td>3. Teaching aids, resources, worksheets &amp; strategies to support</td>
<td>54 (23%)</td>
</tr>
<tr>
<td>curriculum access &amp; class membership</td>
<td></td>
</tr>
<tr>
<td>4. Summaries of general teaching approach, reporting pro forma &amp;</td>
<td>31 (13%)</td>
</tr>
<tr>
<td>communication, e.g. with parents &amp; consultants, policies,</td>
<td></td>
</tr>
<tr>
<td>teaching philosophies &amp; similar</td>
<td></td>
</tr>
<tr>
<td>5. IEP/ILP examples</td>
<td>19 (8%)</td>
</tr>
<tr>
<td>6. Sources of support – financial and personnel</td>
<td>13 (5%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>239</strong></td>
</tr>
</tbody>
</table>

Figures 7.5, 7.6 and 7.7 illustrate some of the content of the teachers’ portfolios.

**Figure 7.5:** How to be a good friend (Year 2 class)

- Smile at people
- Say nice things
- Ask people to join in games
- Listen to your friends
- Think about others’ feelings
- Play and have fun
Figure 7.6: Teacher's daily work pad (Primary class)

<table>
<thead>
<tr>
<th>Time</th>
<th>Task (Learning activity)</th>
<th>Background</th>
<th>Learning Area</th>
<th>Assessment Criteria</th>
<th>Evaluation &amp; Recording Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.45</td>
<td>Morning assembly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09.00</td>
<td>Telling</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09.15</td>
<td>Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09.30</td>
<td>Morning recess</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.00</td>
<td>Morning recess</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.45</td>
<td>Morning recess</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.15</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.30</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.00</td>
<td>Lunch</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.15</td>
<td>Afternoon recess</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01.00</td>
<td>Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01.10</td>
<td>Reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>01.30</td>
<td>Library desk charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02.00</td>
<td>Library desk charge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>02.30</td>
<td>Art gallery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03.00</td>
<td>Art gallery</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 7.7: Lesson plan (High school science class)

Aim: Copy from board

Equipment: One well plate

Method:
1. Place 10 drops of copper sulphate in each well of the well plate.
2. Add 10 drops of sodium chloride to the first well.
3. Add 10 drops of silver nitrate to the second well.
4. Add 10 drops of cobalt chloride to the third well.
5. Add 10 drops of sodium hydroxide to the fourth well.
6. Add 10 drops of potassium iodide to the fifth well.
7. Record your observations in the results table.
8. Tip the precipitate into a waste bin and wash the well plate thoroughly.

Conclusion:
A precipitate does not form when the new compound is __________
A precipitate forms when the new compound is __________

Results:
<table>
<thead>
<tr>
<th>Copper sulphate solution</th>
<th>Did it precipitate?</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sodium chloride</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Silver nitrate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Cobalt chloride</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Sodium hydroxide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Potassium iodide</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The above tables and figures cannot convey the richness, creativity, depth and detail of the portfolios. Some items were extraordinarily detailed and comprehensive such as one teacher’s ‘ten-week daily work pad’ that guided her classroom organisation, unit and lesson planning and curriculum adaptations with links to the state curriculum, providing over 40 pages of detail. What is evident is that:

• These successful teachers plan systematically, are highly organised and have developed, adapted or acquired effective tools for timetabling and coordinating resource allocation, the work of additional personnel and individually focused teaching and assessment. The teachers provided many practical examples of plans, timetables, instructions and pro forma that they use to organise and provide supports for students with disabilities in their specific mainstream contexts.

• They showed considerable ingenuity, creativity, resourcefulness and diligence in teaching all of their students.

• Although they adapted the curriculum where necessary they also adapted their teaching and assessment strategies so that all students, including those with disabilities, accessed the mainstream curriculum.

In summary, the portfolio data corroborated diary and site visit data that revealed that these successful teachers gave considerable ‘out of class’ and ‘out of school’ time and priority to planning. They gave the impression that they had to be organised and efficient with time and resources. Their strategies for doing so were varied but were characterised by simplicity, user-friendliness and relevance to their unique context.

7.3.5 Questionnaire data

Towards the end of the data collection phase, each teacher completed a questionnaire that asked for biographic information and teachers’ practice in relation to integrated curriculum design, the features that make it work and impediments to implementation. They were also asked for further examples, particularly in relation to the achievements in literacy, numeracy and use of technology by students with disabilities (see Appendix D).

Eighteen teachers returned the questionnaire. Seven were teaching years K-2, two were teaching years K through to 6, one was teaching years 6/7, six were teaching years 3-6, two were teaching years 7-10. All teachers had students with disabilities in their current class.

Tables 7.3 to 7.13 summarise the questionnaire data.

<table>
<thead>
<tr>
<th>Table 7.3: Teaching qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest teaching qualification</td>
</tr>
<tr>
<td>Masters degree or PhD</td>
</tr>
<tr>
<td>Graduate Diploma</td>
</tr>
<tr>
<td>4 year degree</td>
</tr>
<tr>
<td>Diploma of Education</td>
</tr>
<tr>
<td>Teaching certificate</td>
</tr>
<tr>
<td>No response to question 1</td>
</tr>
</tbody>
</table>
Table 7.4: Age and teaching experience (based on the mid point of the ranges provided)

| Age: 22 years - 52 years; mean: 35.9 years |
| Teaching experience: Range 2 – 30 + years; mean 12.2+ years |

Tables 7.3 and 7.4 indicate that although these teachers were selected because of their outstanding level of performance in adapting curriculum for students with disabilities in the mainstream, they were neither highly trained nor extraordinarily experienced. At least in terms of training and experience, they present as typical teachers.

Table 7.5: Curriculum adaptation

<table>
<thead>
<tr>
<th>1. I use multilevel curriculum order to provide an appropriate curriculum for my students</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>4 (22.2%)</td>
<td>14 (77.8%)</td>
</tr>
<tr>
<td>No response – 1 (5.6%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. I use curriculum overlap in order to provide an appropriate curriculum for my students</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 (0%)</td>
<td>2 (11.1%)</td>
<td>1 (5.6%)</td>
<td>6 (33.3%)</td>
<td>8 (44.4%)</td>
</tr>
<tr>
<td>No response – 2 (11.1%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. I use an embedded skills approach to provide an appropriate curriculum for my students</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0 (0%)</td>
<td>0 (0%)</td>
<td>2 (11.1%)</td>
<td>8 (44.4%)</td>
<td>6 (33.3%)</td>
</tr>
<tr>
<td>No response – 2 (11.1%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. I use universal design of learning materials in order to provide an appropriate curriculum for my students</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 (5.6%)</td>
<td>3 (16.7%)</td>
<td>5 (27.8%)</td>
<td>4 (22.2%)</td>
<td>3 (16.7%)</td>
</tr>
<tr>
<td>No response – 2 (11.1%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. I use the ‘planning pyramid’ in order to provide an appropriate curriculum for my students</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 (16.7%)</td>
<td>2 (11.1%)</td>
<td>2 (11.1%)</td>
<td>4 (22.2%)</td>
<td>6 (33.3%)</td>
</tr>
<tr>
<td>No response – 1 (5.6%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. Planning and implementing an appropriate curriculum for the students with disabilities students in my classroom makes more work for me</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 (5.6%)</td>
<td>0 (0%)</td>
<td>7 (38.9%)</td>
<td>6 (33.3%)</td>
<td>4 (22.2%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7. My pre-service training provided me with satisfactory knowledge and skills to plan and implement an appropriate curriculum for all students in my classroom</th>
<th>Yes</th>
<th>No</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 (22.2%)</td>
<td>11 (61.1%)</td>
<td>3 (16.7%)</td>
</tr>
</tbody>
</table>

A number of comments can be made about the responses summarised in Table 7.5. Firstly, more than two thirds of the teachers reported using standard approaches to adapting curriculum (questions one through 5). Secondly, all acknowledged the significant amount of extra work involved in adapting curriculum. Thirdly, about three quarters stated that their pre-service education had not provided them with the requisite skills but agreed that their professional development (in-service) on this topic was adequate. Finally, despite these teachers’ acknowledged expertise, several commented that they were somewhat unsure of the
meaning of ‘technical terms’ in the questionnaire. As terms such as the ‘teaching pyramid’ are well known to undergraduate teacher education students undertaking what is known in some states and territories as “the mandatory special education unit” this finding suggests that the mainstream teachers can engage in good teaching practice in relation to students with disabilities without necessarily having a specialist vocabulary to describe their practice.

The teachers also answered eight open-ended questions. Their answers were categorised into preliminary categories and refined in discussion with a co-researcher. Ten percent of the data was independently categorised by two researchers, and having established reliability, one researcher then categorised the remainder of the data. The results are presented in Tables 7.6 – 7.13.

Table 7.6 highlights the importance that these successful teachers placed on ‘learning by collaborating’ and ‘learning by doing’. Their responses corroborate the independently analysed diary data in which themes relating to experimentation and supportive school cultures and policies were identified.

### Table 7.6: The best way to learn about providing an appropriate curriculum

<table>
<thead>
<tr>
<th>Method</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborating with/observing other teachers and integration personnel</td>
<td>13 (38%)</td>
</tr>
<tr>
<td>Engaging in professional development/research/training</td>
<td>7 (21%)</td>
</tr>
<tr>
<td>Through teaching experience</td>
<td>5 (14%)</td>
</tr>
<tr>
<td>Having knowledge about how to address individual student needs (e.g. disability, learning style)</td>
<td>4 (12%)</td>
</tr>
<tr>
<td>Flexibility, trial and error, experimentation</td>
<td>3 (9%)</td>
</tr>
<tr>
<td>Having school and system support</td>
<td>2 (6%)</td>
</tr>
</tbody>
</table>

Teachers listed typical impediments to their providing an appropriate curriculum and lack of time was by far the most prominent barrier. As table 7.7 reveals, resource issues (large class size, inadequate teaching assistant and similar supports, and insufficient material and teaching resources) were not perceived by many to be major impediments.

### Table 7.7: The biggest impediments to providing an appropriate curriculum for all students

<table>
<thead>
<tr>
<th>Impediment</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time constraints (affecting planning, preparation and collaboration with integration staff)</td>
<td>15 (48%)</td>
</tr>
<tr>
<td>Lack of resources/catering for access issues</td>
<td>4 (13%)</td>
</tr>
<tr>
<td>Large class sizes</td>
<td>4 (13%)</td>
</tr>
<tr>
<td>Class organisation/behaviour management</td>
<td>2 (6%)</td>
</tr>
<tr>
<td>Rigidity of school assessment procedures/curriculum</td>
<td>2 (6%)</td>
</tr>
<tr>
<td>Limited access to support from other professionals</td>
<td>2 (6%)</td>
</tr>
<tr>
<td>Limited access to TA support</td>
<td>2 (6%)</td>
</tr>
</tbody>
</table>

When asked about the best ways of ensuring support for students with disabilities in the mainstream (see Table 7.8), the teachers highlighted collaboration and ‘whole-school’ support. Once again, funding and resources, while obviously important, were not seen as the most important issues.
Table 7.8: The best ways to ensure that students with disabilities access the mainstream curriculum

<table>
<thead>
<tr>
<th>Method</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective collaboration with students, parents, staff and other professionals</td>
<td>7 (23%)</td>
</tr>
<tr>
<td>Whole school support</td>
<td>6 (19%)</td>
</tr>
<tr>
<td>Adequate funding/system support for inclusion</td>
<td>4 (13%)</td>
</tr>
<tr>
<td>Resources that support learning eg ICT</td>
<td>4 (13%)</td>
</tr>
<tr>
<td>Provision of buddy and peer support systems</td>
<td>3 (10%)</td>
</tr>
<tr>
<td>Provision of a flexible curriculum</td>
<td>3 (10%)</td>
</tr>
<tr>
<td>Provision of positive and relevant learning experiences</td>
<td>2 (6%)</td>
</tr>
<tr>
<td>Early identification of needs</td>
<td>2 (6%)</td>
</tr>
</tbody>
</table>

Responses to a question about ‘successful adaptations’ highlighted the teacher’s need to understand their students well - including strengths (see table 7.9). The teachers’ preference for involving students in the work being done by the whole class rather than in modified/individual tasks was also evident.

Table 7.9: The most successful adaptations of the curriculum for a student with a disability were those that:

<table>
<thead>
<tr>
<th>Adaptation</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Considered the student's strengths, weaknesses and interests</td>
<td>7 (30%)</td>
</tr>
<tr>
<td>Enabled students to take part in whole group activities before completing individual (modified) tasks based on same work.</td>
<td>4 (17%)</td>
</tr>
<tr>
<td>Utilised support structures in room (e.g. peers, TA)</td>
<td>3 (13%)</td>
</tr>
<tr>
<td>Provided structure and predictability for the student</td>
<td>3 (13%)</td>
</tr>
<tr>
<td>Allowed students to experience success</td>
<td>2 (10%)</td>
</tr>
<tr>
<td>Encouraged the student to experiment or take risks in their learning</td>
<td>2 (10%)</td>
</tr>
<tr>
<td>Were practical, hands-on activities</td>
<td>2 (10%)</td>
</tr>
</tbody>
</table>

A variety of literacy and numeracy adaptations was mentioned with some preference for content and activities that related directly to the students’ lives and that were practical and concrete. See Tables 7.10 and 7.11.

Table 7.10: The most successful adaptations of the curriculum in literacy for a student with a disability

<table>
<thead>
<tr>
<th>Adaptation</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texts/worksheets modified to suit ability</td>
<td>3 (19%)</td>
</tr>
<tr>
<td>Co-operative learning experiences</td>
<td>3 (19%)</td>
</tr>
<tr>
<td>Guided reading structures</td>
<td>3 (19%)</td>
</tr>
<tr>
<td>Adaptation of expectations</td>
<td>2 (9%)</td>
</tr>
<tr>
<td>Scaffolding (changing layout rather than content)</td>
<td>2 (9%)</td>
</tr>
<tr>
<td>Real life reading activities</td>
<td>2 (9%)</td>
</tr>
<tr>
<td>Open-ended tasks</td>
<td>1 (6%)</td>
</tr>
</tbody>
</table>
Table 7.11: The most successful adaptations of the curriculum in numeracy for students with disabilities

<table>
<thead>
<tr>
<th>Adaptation</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real life maths/ use of concrete materials/hands-on maths</td>
<td>7</td>
<td>42%</td>
</tr>
<tr>
<td>Co-operative learning experienced (mixed ability groupings or ability)</td>
<td>5</td>
<td>28%</td>
</tr>
<tr>
<td>Guided maths structures</td>
<td>3</td>
<td>18%</td>
</tr>
<tr>
<td>Adaptation of expectations</td>
<td>1</td>
<td>6%</td>
</tr>
<tr>
<td>Constant revision of what is known prior to extension</td>
<td>1</td>
<td>6%</td>
</tr>
</tbody>
</table>

The teachers suggested that generic and specialised technology applications were needed by students with disabilities in their mainstream classes (see Table 7.12).

Table 7.12: The most successful adaptations of the curriculum involving the use of technology for students with disabilities

<table>
<thead>
<tr>
<th>Technology</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of specialised software</td>
<td>4</td>
<td>25%</td>
</tr>
<tr>
<td>Use of computer-based software eg word, PowerPoint, WWW</td>
<td>4</td>
<td>25%</td>
</tr>
<tr>
<td>Use of adaptive technology</td>
<td>2</td>
<td>13%</td>
</tr>
<tr>
<td>Audio resources</td>
<td>2</td>
<td>13%</td>
</tr>
<tr>
<td>Allowing students choice in type of technology used</td>
<td>1</td>
<td>6%</td>
</tr>
<tr>
<td>Thematic teaching</td>
<td>1</td>
<td>6%</td>
</tr>
<tr>
<td>Peer tutoring</td>
<td>1</td>
<td>6%</td>
</tr>
<tr>
<td>Use of programs that contain various entry points (eg. Support/extension)</td>
<td>1</td>
<td>6%</td>
</tr>
</tbody>
</table>

Finally, in response to a question about the best ways of ensuring students with disabilities in mainstream classes access the curriculum, the teachers again highlighted the importance of responding to students as individuals, the value of a supportive school culture and colleagues and the need for adequate resourcing. (See Table 7.13).

Table 7.13: Ensuring that students with disabilities in mainstream classes access the curriculum

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance of addressing individual needs via curriculum modifications</td>
<td>5</td>
<td>28%</td>
</tr>
<tr>
<td>Importance of collaboration</td>
<td>3</td>
<td>17%</td>
</tr>
<tr>
<td>Need for further funding/education system support</td>
<td>3</td>
<td>17%</td>
</tr>
<tr>
<td>Whole school support of inclusion process (e.g. PD)</td>
<td>3</td>
<td>17%</td>
</tr>
<tr>
<td>Classroom strategies (e.g. scaffolding, peer mentoring)</td>
<td>2</td>
<td>11%</td>
</tr>
<tr>
<td>Teacher qualities (e.g. flexibility, using time effectively)</td>
<td>2</td>
<td>11%</td>
</tr>
</tbody>
</table>

7.3.6 Site visits

A member of the research team visited each teacher to observe them in action and to interview them about curriculum issues. The observations and interviews were undertaken mainly to cross check and corroborate the diaries, portfolios and questionnaires. The researchers’ directions for undertaking site visits are presented in Appendix E.
The site visits were essentially confirmatory of the other data. However, the visits revealed important facts of which the researchers were unaware prior to their visits.

- Some of the teachers spent considerable time working and planning with teaching assistants.
- Some of the teachers have formal and informal advocacy, leadership, supervisory and/or coordination roles in relation to students with disabilities.
- Schools in which there is a high status, visible, support mechanism for students with disabilities, e.g. a Special Education Coordinator or Learning Resources Team, provide valuable help for classroom teachers by assisting with IEPs, parent liaison, accessing resources and professional development.
- Some principals allocated time for several of the teachers to undertake school-based planning for students with disabilities.
- The teachers in this study demonstrated a high level of responsiveness, willingness to change their plans, and capacity to implement back-up curriculum options when their plans did not work out.
- Some of these ‘successful teachers’ experienced considerable difficulty in finding ‘points of entry’ to the curriculum for some students with very high needs.

## 7.4 Discussion

This study involved observation and analysis of successful mainstream teachers in order to identify effective and feasible approaches for developing and implementing mainstream curricula for students with disabilities. The 20 teachers met stringent selection criteria and they all reported and demonstrated a wide range of strategies for differentiating curriculum, teaching and assessment.

The study confirmed the findings of previous research on a number of issues. Firstly, the teachers in this study preferred to involve students with disabilities in the work being done by the whole class, i.e. they were more inclined to adapt teaching than to provide a modified curriculum or individual tasks. Secondly, differentiation was facilitated when teachers knew their students and the subject matter well, (the latter was particularly important at the high school level). Many of these teachers had frequent contact with parents, with some even ‘requiring’ it.

Although these teachers were selected because of their teaching expertise, they were fairly typical in terms of training and experience and they worked in typical settings. What was noteworthy was a mindset that may be somewhat atypical - a view that their mainstream class is made up of individuals, each one having particular needs. As one (team) teacher wrote, “I try to approach them as 44 exceptional individuals.”

This study demonstrated that successful teachers plan and organise with extraordinary care and that they are highly proactive. However, the teachers were also quite responsive and were willing, and prepared, to adjust their plans. This pragmatic approach was further demonstrated by their willingness to experiment and see what works, an approach that meant that in particular circumstances and for particular reasons they would engage in practices that might be interpreted as anti–inclusive, e.g. withdrawing students for special tuition or assistance. A former principal of one of the teachers stressed flexibility and focus: “Flexibility is vital. It must come from a base of understanding the system’s resourcing, belief in the positive
aspects of inclusion for all children and clear purpose for the disabled children. Flexibility can easily be perceived as no plan, not caring or buck passing. So, refocusing back onto our purpose for inclusion is always a vital exercise. (Bret Pescod, personal communication, 31 March, 2005).

The context of each school affected the teachers’ capacity to improve the learning outcomes of students with disabilities in the mainstream. Although all were rated highly as teachers, there were differences in the way they experienced and practised inclusion. A crucial variable seemed to be school culture, particularly the extent of support from the principal and executive. Only one of the teachers worked in a school where students were streamed and this teacher experienced considerable difficulties, despite her training, experience and demonstrated expertise.

A notable feature of these teachers’ approach was their high level of collaboration with other teachers and the whole school community. This result supports the conclusion of Alton-Lee (Australian Curriculum Studies Association, 2005) that “...it is not sufficient in this context to just be ‘evidence-based about what works in classrooms’. We must also be ‘evidence-based about the outcomes-linked conditions and supports (italics added) that enable teacher professional learning to occur” (p.27). While it may be convenient to believe (in a technical rationalist way) that teachers simply need to be taught a set of evidence-based strategies for providing a relevant curriculum, the current study suggests that teachers’ capacity to implement those strategies depends to some extent on school cultures, policies and support.

The research also identified the skilled leadership of several of the teachers’ principals. While not the focus of the research, the principals demonstrated effective change management to support inclusion by (a) providing extra time and resources for teachers who were including students with disabilities: (b) using various incentives to change teacher behaviour; and (c) not ‘forcing’ students with disabilities onto unwilling teachers.

While the teachers in this study were rated highly as successful practitioners they also engaged in considerable experimentation, testing of hunches and trial and error, i.e. they were not formulaic, rigid and/or rule-driven but continually exploring better ways to improve their students’ learning and ‘to improve their teaching by doing’. Their approach to teaching, particularly as revealed in their diaries, demonstrated a thoughtful, problem-solving, ‘teacher-researcher’ orientation – what Reid advocates for contemporary teachers as “ a way of professional being” (Australian Curriculum Studies Association, 2005, p.5).

This study would not have been possible without the whole-hearted participation of the 20 teachers and we are most grateful to them for giving so freely of their time and expertise. We also acknowledge with gratitude their principals, colleagues and students. We thank John Elkins and the Research Advisory Committee - Ann Czisloowski-McKenna, Barry Griffin, Tyler Hand, Lesley Holliday, Michael Traynor and Kerry Usher - for their comments on earlier drafts of this report.
References


Martino, W. & Pallotta-Chiarolli, M. (2005). *Being normal is the only way to be.* Sydney: University of NSW.


Appendix A

For each indicator, please circle the number that best describes your ranking of the indicator’s importance as evidence of a teacher’s good practice in curriculum planning and adaptation.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Importance of indicator as evidence of good practice in curriculum adaptation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Evidence has been sighted that the teacher plans/adapts curricula for students with disabilities</td>
<td>Not important</td>
</tr>
<tr>
<td>2. There is evidence of positive educational impact of the teacher’s curriculum planning/adaptation, e.g., gains for students with disabilities</td>
<td>Not important</td>
</tr>
<tr>
<td>3. The excellence of the teacher’s curriculum planning/adaptation has been acknowledged by students, parents or supervisors</td>
<td>Not important</td>
</tr>
<tr>
<td>4. Other teachers have adopted the teacher’s curriculum planning/adaptation methods for students with disabilities</td>
<td>Not important</td>
</tr>
<tr>
<td>5. The teacher has been formally recognised for teaching excellence, e.g. advanced skills accreditation or ‘expert’ classification</td>
<td>Not important</td>
</tr>
<tr>
<td>6. The teacher has a postgraduate degree that is relevant to curriculum planning and development, e.g., pedagogy, special education</td>
<td>Not important</td>
</tr>
<tr>
<td>7. There is evidence that the teacher is knowledgeable about how all students learn</td>
<td>Not important</td>
</tr>
<tr>
<td>8. There is evidence that the teacher is knowledgeable about the curriculum/subject matter</td>
<td>Not important</td>
</tr>
<tr>
<td>9. There is evidence that the teacher is knowledgeable about how all students learn particular subject matter</td>
<td>Not important</td>
</tr>
<tr>
<td>10. The teacher is known for her/his ability to construct inclusive, participatory learning experiences</td>
<td>Not important</td>
</tr>
<tr>
<td>11. The teacher is known for her/his ability to develop a curriculum that connects with the world beyond school</td>
<td>Not important</td>
</tr>
<tr>
<td></td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>12.</td>
<td>The teacher’s excellence has been recognised through a formal award, e.g., an ASG Excellence in Teaching Award or similar</td>
</tr>
<tr>
<td>13.</td>
<td>The teacher has been invited by her/his system to provide professional development to others on curriculum planning &amp; development for students with a disability</td>
</tr>
<tr>
<td>14.</td>
<td>There is evidence that the teacher frequently uses technology to enable students with disability to access to the curriculum</td>
</tr>
<tr>
<td>15.</td>
<td>The teacher is known to use innovative curriculum design to improve the literacy and numeracy of all students in the class</td>
</tr>
<tr>
<td>16.</td>
<td>The teacher plays a recognised leadership role in the school’s decisions about curriculum processes, especially re students with disabilities</td>
</tr>
<tr>
<td>17.</td>
<td>The teacher is known for her/his success in teaching diverse learners</td>
</tr>
<tr>
<td>18.</td>
<td>The students say that this teacher is a good teacher</td>
</tr>
<tr>
<td>19.</td>
<td>The teacher is known to choose curriculum content that addresses diversity.</td>
</tr>
<tr>
<td>20.</td>
<td>There is evidence that the teacher constructs curriculum in order to scaffold the learning of all students</td>
</tr>
</tbody>
</table>
**Appendix B**

**CONFIDENTIAL**

**Study 1: Approaches to providing a relevant curriculum**

Teacher: ____________________ Source (principal/other): ________________

School: ________________________________ Date: ______________

Please indicate the extent to which the teacher meets the following criteria:

<table>
<thead>
<tr>
<th>Indicators of good practice</th>
<th>YOUR RATINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There is evidence that the teacher constructs curriculum in order to scaffold the learning of all students.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. There is evidence that the teacher is knowledgeable about the curriculum/subject.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3. There is evidence that the teacher’s curriculum planning has a positive impact on gains for students with disabilities.</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4. There has been external/formal recognition of the teacher’s planning/adaptation of curriculum for students with disabilities (e.g. from students, other teachers, parents and/or supervisors, formal awards recognising the teacher).</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
Appendix C

Diary structure

Teachers will keep a diary for a term on their decisions about curriculum adaptations, the nature of and reasons for the adaptations, their success in improving learning outcomes for their student(s) with a disability and the issues that arose because of the adaptations, e.g., in relation to state-wide assessments.

They will be asked to make at least one diary entry per week with particular attention to curriculum issues affecting their student(s) with disabilities. Diary entries will be free-flowing, personal and subjective. However, the teachers will be asked to refer, from time to time, to the following list of pointers adapted from Roth (1989), Boud (1998 & 1999) and Polanyi (1967).

1. How did I plan, adapt or implement curriculum adjustments for students with a disability?
2. Why did I make these adjustments?
3. How did I feel when I was able to include a student with disability in the mainstream curriculum?
4. How did I feel when I encountered difficulties in including a student with a disability in the mainstream curriculum?
5. What alternative strategies did I consider for involving the student in the mainstream curriculum?
6. Why did I not adopt these alternative strategies?
7. What assumptions, frameworks, rationales or policies etc did I seem to use in making curriculum decisions?
8. What worked for the student and how did I know (evidence)?
9. What worked for me as the teacher and how did I know (evidence)?
10. Did this particular curriculum strategy work because of the context? Despite the context?
11. What were the consequences for the student of my curriculum decisions?
12. What were the consequences for me as teacher of my curriculum decisions?
13. Would this approach to providing an appropriate curriculum work for other students? For other teachers? In other schools? Why? Why not?
14. What would other teachers say about the way I include diverse students in the mainstream curriculum and how do they feel about it?
15. What am I learning about providing an appropriate curriculum for all students by having (student with a disability) in my class?
16. What pressures did I experience in trying to ensure that students with disabilities accessed the mainstream curriculum?
17. What curriculum issues are raised for me by having student(s) with disabilities in my classroom?
18. If I were mentoring a new teacher about approaches to curriculum planning and development so that all students accessed the curriculum, what points would I highlight?
19. What tacit knowledge of mine about curriculum development has been revealed by my keeping this diary?

20. Having reread my diary, what themes emerge from what I have written?
Appendix D

Study 1: Approaches to providing a relevant curriculum to students with disabilities in mainstream classrooms.

Email Questionnaire for teachers

Dear Participating Teacher

Please complete the questionnaire below and return via email attachment to Lena Hoffman-Raap at Lena.Hoffman-Raap@canberra.edu.au as soon as possible.

**SECTION A: DEMOGRAPHIC INFORMATION**

Q.1. What is your highest teaching qualification?

<table>
<thead>
<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 4 years</td>
</tr>
<tr>
<td>5 – 9 years</td>
</tr>
<tr>
<td>10 – 14 years</td>
</tr>
<tr>
<td>15 – 19 years</td>
</tr>
<tr>
<td>20 – 24 years</td>
</tr>
<tr>
<td>25 – 29 years</td>
</tr>
<tr>
<td>30 years +</td>
</tr>
<tr>
<td>30 – 34 yrs</td>
</tr>
<tr>
<td>35 – 39 yrs</td>
</tr>
<tr>
<td>40 – 44 yrs</td>
</tr>
<tr>
<td>45 – 49 yrs</td>
</tr>
<tr>
<td>50 – 54 yrs</td>
</tr>
<tr>
<td>55 - 59 yrs</td>
</tr>
<tr>
<td>60 + yrs</td>
</tr>
</tbody>
</table>

Q.2. How many years have you been teaching? (tick relevant box)

<table>
<thead>
<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 4 years</td>
</tr>
<tr>
<td>5 – 9 years</td>
</tr>
<tr>
<td>10 – 14 years</td>
</tr>
<tr>
<td>15 – 19 years</td>
</tr>
<tr>
<td>20 – 24 years</td>
</tr>
<tr>
<td>25 – 29 years</td>
</tr>
<tr>
<td>30 years +</td>
</tr>
</tbody>
</table>

Q.3. What is your age? (tick relevant box)

<table>
<thead>
<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 – 24 yrs</td>
</tr>
<tr>
<td>25 – 29 yrs</td>
</tr>
<tr>
<td>30 – 34 yrs</td>
</tr>
<tr>
<td>35 – 39 yrs</td>
</tr>
<tr>
<td>40 – 44 yrs</td>
</tr>
<tr>
<td>45 – 49 yrs</td>
</tr>
<tr>
<td>50 – 54 yrs</td>
</tr>
<tr>
<td>55 - 59 yrs</td>
</tr>
<tr>
<td>60 + yrs</td>
</tr>
</tbody>
</table>

Q.4. What grade level are you currently teaching? (tick relevant box(es))

<table>
<thead>
<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years K-2</td>
</tr>
<tr>
<td>Years 3-6</td>
</tr>
<tr>
<td>Years 7-10</td>
</tr>
<tr>
<td>Years 11-12</td>
</tr>
</tbody>
</table>

If secondary, what is/are your subject areas?
Q.5. Do you have any students with disabilities in your current class (es)? (tick relevant box)

☐ Yes ☐ no

SECTION B: CURRICULUM ADAPTATION & IMPLEMENTATION

For the following 8 statements, please **bold** the most appropriate response

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Very Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>I use multilevel curriculum order to provide an appropriate curriculum for my students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I use curriculum overlap in order to provide an appropriate curriculum for my students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I use an embedded skills approach to provide an appropriate curriculum for my students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I use universal design of learning materials in order to provide an appropriate curriculum for my students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I use the ‘planning pyramid’ in order to provide an appropriate curriculum for my students</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Planning and implementing an appropriate curriculum for the students with disabilities students in my classroom makes more work for me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. My pre-service training provided me with satisfactory knowledge and skills to plan and implement an appropriate curriculum for all students in my classroom</td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. I have received adequate professional development on how to implement an appropriate curriculum for all students in my classroom</td>
<td>Yes</td>
<td>No</td>
<td>Not sure</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. The best ways to learn about providing an appropriate curriculum for all students in the mainstream is
2. The biggest impediments to my providing an appropriate curriculum for all of my students and particularly those with a disability are

3. The best ways to ensure that students with disabilities access the mainstream curriculum involve

4. Generally speaking, my most successful adaptations of the curriculum for a student with disability were those that

5. My most successful adaptation of the curriculum in literacy for a student with disability was

6. My most successful adaptation of the curriculum in numeracy for a student with disability was

7. My most successful adaptation of the curriculum involving the use of technology by a student with disability was

8. Do you have any other comments about ensuring that students with disabilities in mainstream classes access the curriculum?

Many thanks for answering these questions.

Sincerely yours

Tony Shaddock
Project Manager
Appendix E

Procedures for Study One: Curriculum adaptations made by successful teachers

(a) Instructions for researchers

- Once you have been allocated a school(s) and teacher(s), try and take care of all arrangements yourself, i.e. involve Lena only if absolutely necessary.

- Soon after you have been allocated a school and teacher, make phone contact with the principal and teacher to arrange your visit even if you won’t be visiting for some time. If necessary, remind the principal about the study and relax the teacher about it. Where appropriate, let them know that we have to book airline tickets and accommodation so it is difficult and costly to change the agreed dates.

- A few days before your visit, contact the teacher again to confirm the date and time of the visit and what you will be doing – briefing the teacher about data collection and doing some in-class observation basically. Emphasise that we are not assessing the teacher – we are learning from him/her.

- Take the following bits and pieces:
  - Your police check. No need to produce it unless asked.
  - A copy of the procedures as detailed in the Ethics application.
  - Your name badge – wear it.
  - A copy of the two guides (see below) ‘Interview with Teacher’ and the ‘Classroom Observations’.
  - A copy of the instructions for the diary and portfolio to walk the teacher through and leave with him/her unless they already have them.
  - Provide the teacher with a small blank diary/notebook to use for the diary. UC Researchers should see Lena to obtain one before the visit. External researchers will need to buy one ($4.00 - $6.00) and keep the docket to claim the expense when submitting other invoices.
  - A spare copy of the Assessment Form to be completed by the principal.
  - Spare copies of the consent forms and request for a summary of the study in case these have not been completed.

- The day before your visit, refresh your memory about the aims of this study as written in the Ethics application.

- On the day of your visit, arrive punctually and report to the principal.

- Remind the principal to invoice the grant for 2 days of release time for the participating teacher.

- As soon as possible have your meeting with the teacher (but you may have to attend Assemblies etc – just work around the school/teacher). Try to keep the teacher relaxed about the study and give concrete examples of the data collection.

- Take detailed notes, particularly re curriculum adaptation issues.

- Get all relevant email addresses, phone numbers, names of key people such as the helpful secretaries etc.
If you have a digital camera and the school does not mind, take photos – NOT of children – that will help you remember details of relevance to the study. Alternatively, ask them to send you photos of classroom displays, layout etc that will help jog your memory.

If the teacher asks about linking up with other teachers in the study from other schools, say you will look into this and if the other teacher/s agree, we will share email addresses. Principals may ask about publicity – e.g. is it OK for them to put an item in their newsletter about the research? The stock answer is that we don’t mind if THEY publicise it but WE told our Ethics Committee that the data would be anonymous and WE will stick to that unless specific written approval is given to the contrary.

Keep good notes on the day (re curriculum adaptations) and as soon as possible flesh them out with additional notes etc.

Keep all receipts and put in your claim to Lena promptly.

I will get all the researchers involved in this study together to discuss data.

On return from the site visit
- store all data in a locked filing cabinet
- give Lena a copy of the principal’s rating of the teacher

Have a great time – it’s a fun study! Tony

(b) Classroom observations
Focus on:
- Class activities (similarity of task to other students)
- Evidence of any other adjustments/curricular adaptations
- Groupings/involvement with other students
- Supports used – TA etc
- Other

(c) Interview with teachers
Try to cover the following points:
- Planning Process
- How does the teacher plan, adapt/adjust curriculum (particular examples)
- How are decisions made about what to teach?
- Do they use any particular approach/model to do this?
- Ease/difficulty of doing this?
- How is it different to other students?
- Classroom resources that assist
- **Link with IEPs**
  - Process of developing an individual plan
  - How does it link with the curriculum planning process?
  - Ease/difficulty of doing this
  - Does IEP assist with decisions about what to teach
  - Review/monitoring of IEP goals

- **Assessment**
  - How is student’s learning assessed?
  - How is this different to other students?
  - How to monitor/report progress
  - Ease/difficulty of doing this

- **Access to literacy/numeracy**
  - Is this a feature of the curriculum
  - Why/why not?
  - How is this done?
  - How is this different to other students?

- **School organisation**
  - What supports are being provided to assist with curriculum planning
  - Any features of the school organisation that helps/hinders
  - Role of the special education/support teacher in assisting class teachers
  - Role of TA

- **Policies/Procedures**
  - School/state policies/support materials that guide teacher
  - Helpfulness/ease of access/use

- **Examples of**
  Plans, programs, assessment tasks, lesson plans
  Student work
8. What adaptations do classroom teachers make for students with disabilities in their classrooms and why/why not?


Summary

This study examined the teaching adaptations for students with disabilities reported by a sample of 294 mainstream Australian teachers from all states and territories, all sectors, and from primary, secondary and post-compulsory settings. The teachers’ reasons for adapting or not adapting, and their perceived barriers to changing their teaching to accommodate students with disabilities were examined. Although issues with the size and selection of the sample suggest careful interpretation, particularly with respect to policy implications, the study found that:

- Mainstream teachers from this Australian sample of mainstream schools report making a moderate number of teaching adaptations/modifications for students with disabilities in their classes.

- The teachers report making accommodations that can be made for the whole class and that are efficient of their time and effort.

- The teachers report making fewer adaptations of the type that involve major changes to class organisation or substantial individualisation.

- Mainstream teachers with Special Education qualifications ‘alter curriculum’ and ‘alter instructions’ more than other teachers.

- Having Special Education qualifications is associated with a small to moderate increase in the overall extent of reported adaptation but the difference is not statistically significant.

- Teachers who have completed a Special Education subject report a slightly greater extent of adaptation than other teachers but the difference is not statistically significant.

- Mainstream primary school teachers report higher levels of adaptation and fewer barriers to inclusion than do secondary teachers.

- Mainstream primary teachers report more positive attitudes towards inclusion than do secondary teachers.

- Mainstream teachers under 30 or 'young' teachers do not report more adaptation than other teachers.

- The following factors account for 60% of the variance in teachers’ perceived barriers to including students with disabilities: inadequate level of assistance from support personnel; insufficient knowledge, expertise and experience; unsupportive school policies and
practices; the diversity of student needs; stresses related to student behaviour; and inadequate training.

- A very significant stress for most teachers is their perceived lack of time for preparing for and responding to the diverse needs of the students in their mainstream classes.

- Teachers’ major barrier was the demands on time, while “lack of knowledge and expertise” and “lack of experience” were in the bottom 20% of teachers’ concerns.

- Mainstream teachers in Australian schools are moderately supportive of including students with a disability in the mainstream.

- Teachers are more positive about the social benefits for students with disabilities in the mainstream and are less convinced that inclusion improves their academic outcomes.

### 8.1 Introduction

The inclusion of students with disabilities requires many adaptations to mainstream practices and an obvious starting point is the teaching strategies of classroom teachers. Experts on inclusive practice urge teachers to adapt so that all students achieve satisfactory learning outcomes. The challenge for mainstream teachers is to find ways of teaching that allow them to meet the individual needs of students in the social context of the classroom, i.e. where each individual is part of the group and where the teacher must attend to the whole group.

Tomlinson (1999) outlined the differences between a traditional classroom and a differentiated classroom. In a traditional classroom, there is considerable uniformity in the content and method of teaching and assessment whereas in a differentiated classroom, the teacher’s knowledge of students’ learning profiles, personalities, interests, intelligences and learning styles guides planning, delivery and assessment. Multiple strategies, tasks, resources and assessment methods are provided and students frequently interact with each other as they engage in learning tasks and are given choices about what and how they learn, and how they are assessed. It is claimed that differentiated instruction promotes the inclusion of every student, e.g. those with a range of cultural and language backgrounds, those who are gifted and talented and students experiencing difficulties with learning, and it focuses on student achievement, independence and interdependence (King-Sears, 1997; Tomlinson, 2005).

Differentiation involves the selection and implementation of good teaching practices (Audette & Algozzine, 1997; Jackson, Ryndak, & Billingsley, 2000). For example, all students benefit from explicit teaching, teacher demonstration or modeling, guided practice, independent practice, immediate feedback, progress monitoring, reviewing key points, reteaching concepts using different instructional methods and relating the curriculum to real life (King-Sears, 1997; McLeskey & Waldron, 2002, Ysselsyke, 1999). Recommended practices to support inclusion also include those that are based on classroom-based organisational changes, e.g. variants of team teaching, systematic group work and co-operative learning (Broderick, Mehta-Parekh, & Reid, 2005; Gillies & Ashman, 2000; Jenkins, Antil, Wayne, & Vadasy, 2003; McLeskey & Waldron, 2002; Thomson, Brown, Jones, Walker, Moore & Anderson, 2003).

Some successful approaches for educating students with disabilities tend to be individually-focused and their application in mainstream classrooms can be problematic (Jackson, et al., 2000). While techniques such as data-based decision-making, direct instruction, prompting, fading prompts, generalisation, and/or task analysis can be applied in the mainstream setting (Jackson, et al., 2000; King-Sears, 1997; Loreman, Deppeler, & Harvey, 2005; Scott, Vitale, & Masten, 1998; Wehmeyer, Lance, & Bashinski, 2002) some teaching methods such as intense
one-to-one instruction and functional behavioural assessment, despite their empirical support, may not be appropriate because they do not suit the classroom management style of general teachers (Jackson, et al., 2000; McLeskey & Waldron, 2002).

Teachers tend to be more attentive to the needs of the whole class than to the needs of individuals (Chadbourne, 1997; King-Sears, 1997; Scott, et al., 1998) and many favour traditional teaching methods that ‘teach to the middle’ of the class (Agran, Alper, & Wehmeyer, 2002; Tomlinson, Callahan, Tomchin, Eiss, Imbeau, & Landrum, 1997). Consequently, many teachers are more likely to implement practices and adaptations that require little preparation, enable them to maintain control of the classroom and continue to deliver the curriculum to meet the needs of the majority of students (Schumm & Vaughn, 1995; Scott, et al., 1998).

Research suggests that signing up to an inclusive philosophy is one thing whereas providing a well-differentiated, relevant curriculum for every student within a class of twenty to thirty students is another (Fuchs & Fuchs, 1995; McLeskey & Waldron, 2002; van Hover & Yeager, 2003). In a submission to the Review of Educational Services to Students with Disabilities in Government Schools in Western Australia a principal summed up this view:

_The biggest lie out is to say that “it is easy to differentiate the delivery of the curriculum to meet the needs of all students.” It isn’t. It’s jolly hard. So let’s be honest and say that, and understanding and accepting that, makes that the focus of the need to professionally develop teachers. (Department of Education of Western Australia, 2001, p.31)_

Many teachers lack knowledge and pedagogical skills (Forlin, 2001; McLeskey & Waldron, 2002; Schumm & Vaughn, 1995; Scott, et al., 1998). Feelings of self efficacy impact on stress levels and attitudes to inclusion (Forlin, 2001). A recent survey of beginning primary and secondary teachers in Australia showed that many felt unprepared to teach literacy to students with learning difficulties, disabilities, ESL and indigenous backgrounds (Rohl & Greaves, 2005). Whilst the confidence ratings of the new teachers ranged from 26% to 54%, the ratings of their senior staff were less hopeful, only ranging from 11-22% (Rohl & Greaves, 2005).

Lack of materials, personnel resources and time also affect the extent to which teachers are able and willing to adapt their teaching (Chadbourne, 1997; Scott, et al., 1998; van Hover & Yeager, 2003). Jenkins (2003) estimated that differentiation “effectively doubles the teacher’s workload because she/he must first plan the normal lesson and then consider the essential modifications” (p.4). Curriculum adaptations and strategies which promote inclusion such as co-operative learning or reciprocal teaching, require additional teacher time for preparation, particularly in the first six months that a student with disabilities is included in the class (O'Donoghue & Chalmers, 2000; Shaddock & Shaddock, 2003). Consequently, teachers are more likely to adjust classroom organisation and expectations than strategies or curriculum (Chadbourne, 1997; Hamill & Dever, 1998; O'Donoghue & Chalmers, 2000). Scott, et al. (1998) found that teachers prefer strategies that need little time to learn, prepare or implement.

McLeskey and Waldron (2002) call for research on teaching methods that are effective for all students in the classroom, conducive to inclusion and feasible for teachers to implement. The current research examines the teaching adaptations reported by mainstream Australian teachers and the factors that mediate their use, or non-use, particularly of the strategies that the literature has identified as effective for students with disabilities.

In addition to describing the teachers’ reported implementation of, and views about, particular strategies, the study also tested a number of hypotheses derived from the above literature:
1. Mainstream teachers will report ‘varying instructional groups’ less frequently than other strategies.
2. Mainstream teachers will report ‘altering instructional material’ less frequently than other strategies.
3. Mainstream teachers will report ‘modifying assignments’ less frequently than other strategies.
4. Teachers with Special Education qualifications will report engaging in adapting/modifying more extensively than other teachers.
5. Teachers who have done a Special Education subject will report engaging in adapting/modifying more extensively than other teachers.
6. Primary school teachers will report engaging in adapting/modifying more extensively than secondary school teachers.
7. Younger teachers will report engaging in adapting/modifying more extensively than older teachers.

In order to achieve the above objectives we conducted a large scale, multi-state, cross-system survey of teachers in primary, secondary and post-compulsory sectors with a particular focus on students with disabilities in the mainstream.

### 8.2 Method

#### 8.2.1 Participants

National student population statistics provided the basis for a stratified, random sample of Australian schools, with the aim of surveying approximately 500 teachers at an average of 10 teachers from 50 schools. Stratification was nested and reflected the proportion of (1) state/territory school enrolments; (2) Government, Catholic and Independent school enrolments; (3) urban, rural and remote schools; and (4) primary, secondary and mixed schools.

Consistent with the stratification described above, 50 schools and 15 ‘back-up’ schools were randomly selected. More details about the sample are provided in the results.

#### 8.2.2 Materials

We drew on the literature on students with disabilities in the mainstream, and especially on van Limbeek’s (2004) summary of this research and her procedures, to further develop, refine and pilot an 11-page questionnaire (See Appendix 1).

#### 8.2.3 Procedure

We researched the literature on ways of ensuring a satisfactory response rate to questionnaires and incorporated a number of features to the design and procedures including: printing the questionnaire on green paper (Pucel, Nelson, & Wheeler, 1971); making personal and informal contact (Summerhill & Taylor, 1992); providing reminders (Scott, 1961); and using stamps rather than ‘replied-paid’ (Armstrong & Lusk, 1987; Walonick, 1993).
After gaining nation-wide system approvals (involving 34 separate applications) we contacted the principals of the selected schools by letter and telephone to invite their participation. As 65 principals (39 from government schools, 16 from catholic schools and 10 from independent schools) agreed to participate, a decision was made to send questionnaires to all schools, including the ‘back-up schools’. Many of the principals spontaneously offered to make additional questionnaires available to their staff, and ultimately 1200 questionnaires were sent to the schools.

Copies of the questionnaire were mailed to schools with specific directions to principals for the distribution. Principals, or their nominees, were requested to tell their staff about the research at a staff meeting or similar; to ask for at least 10 teachers (where possible) to volunteer and respond anonymously; and to make the questionnaires available without any coercion or inducement to complete them. A stamped, addressed envelope was provided with each questionnaire so that teachers remained anonymous and their responses confidential within their school. Printed directions were provided for teachers and they were asked to sign and return a consent form and indicate whether they wanted a summary of the results.

Approximately three weeks after the distribution of the questionnaires, we phoned the principals or school contacts to remind them to return questionnaires and offered to send more questionnaires if necessary. Three schools requested more questionnaires. Although not requested to do so, some principals returned undistributed questionnaires, bringing the estimated questionnaire distribution to approximately 1120.

### 8.3 Results

Two hundred and ninety four questionnaires were returned. It is difficult to compute a precise response rate because we do not know how many questionnaires were actually distributed by the principals. What can be stated with certainty is that all states, territories, sectors and levels of education were represented and that the response rate was at least 25% and probably considerably higher since it is likely that some questionnaires were not distributed. Data analysis involved descriptive statistics on the quantitative data, inferential statistics that explored relationships and patterns within the quantitative data, and content analysis of qualitative responses to open-ended questions. In addition, quantitative data, where appropriate, was analysed using standardised mean effect sizes. An effect size of .3 is typical of noticeable effects in psychological and educational research. Wolf (1986), for example, refers to .25 as ‘educationally significant’ and Cohen (1977) considers .20 small, .50 moderate and .80 large.

#### 8.3.1 Participants

The characteristics of the sample are summarised in the following four tables.

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Certificate</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>B A</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>B ED</td>
<td>123</td>
<td>42</td>
</tr>
<tr>
<td>Dip Ed</td>
<td>93</td>
<td>32</td>
</tr>
<tr>
<td>P G Dip</td>
<td>23</td>
<td>8</td>
</tr>
<tr>
<td>Masters</td>
<td>29</td>
<td>10</td>
</tr>
</tbody>
</table>
Doctorate 2 1
Missing data 16 5
Totals 294 100

Table 8.2: Teaching experience

<table>
<thead>
<tr>
<th>Years of teaching</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>38</td>
<td>13</td>
</tr>
<tr>
<td>5-9</td>
<td>37</td>
<td>13</td>
</tr>
<tr>
<td>10-14</td>
<td>36</td>
<td>12</td>
</tr>
<tr>
<td>15-19</td>
<td>52</td>
<td>18</td>
</tr>
<tr>
<td>20-24</td>
<td>52</td>
<td>18</td>
</tr>
<tr>
<td>25-29</td>
<td>47</td>
<td>16</td>
</tr>
<tr>
<td>30+</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>Total</td>
<td>294</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 8.3: Grade levels taught

<table>
<thead>
<tr>
<th>Grade</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinder/prep – year 2</td>
<td>90</td>
<td>23</td>
</tr>
<tr>
<td>Years 3-6</td>
<td>86</td>
<td>22</td>
</tr>
<tr>
<td>Years 7-10</td>
<td>130</td>
<td>33</td>
</tr>
<tr>
<td>Years 11-12</td>
<td>85</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>391*</td>
<td>100</td>
</tr>
</tbody>
</table>

* Some teachers teach across these grade levels

Table 8.4: Teacher age

<table>
<thead>
<tr>
<th>Age</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20-24</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>25-29</td>
<td>22</td>
<td>8</td>
</tr>
<tr>
<td>30-34</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>35-39</td>
<td>37</td>
<td>13</td>
</tr>
<tr>
<td>40-44</td>
<td>42</td>
<td>14</td>
</tr>
<tr>
<td>45-49</td>
<td>72</td>
<td>25</td>
</tr>
<tr>
<td>50-54</td>
<td>56</td>
<td>19</td>
</tr>
<tr>
<td>55-59</td>
<td>25</td>
<td>9</td>
</tr>
<tr>
<td>60+</td>
<td>10</td>
<td>3</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>294</td>
<td>100</td>
</tr>
</tbody>
</table>

The sample reflected the national teaching force characteristics, as illustrated in figure 8.1.
Two hundred and thirty seven of these mainstream teachers (81%) reported that they had a student with disability in one of their current classes and 273 (93%) reported that they had taught students with disabilities in previous years.

The teachers reported that they were currently teaching students with: Intellectual/developmental disabilities (106, 31%); Sensory disabilities (33, 10%); Behavioural/emotional disabilities (52, 15%); Autism Spectrum Disorders (70, 21%); Physical disabilities (60, 18%); and 'unknown diagnosis' (18, 5%).

### 8.3.2 Current Teaching Practices

Teachers were asked to report the extent to which they were using particular adaptations/modifications for students with disabilities and to give brief reasons for their ratings. Table 8.5 summarises the quantitative data by reported use of each strategy, Table 8.6 summarises the qualitative responses in which teachers give reasons for use/non-use of each strategy, Table 8.7 summarises the quantitative data by ‘general approach’, i.e. by the eight categories of adaptation (which were made up from the 24 individual strategies – see Appendix 1, Section B) and Table 8.8 summarises the teachers’ additional comments.

#### Table 8.5: Teaching adaptations in order of reported use

<table>
<thead>
<tr>
<th>Adaptation/strategy</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>B19 Create Positive Caring Classroom Atmosphere</td>
<td>4.62</td>
<td>.56</td>
</tr>
<tr>
<td>B10 Teach Necessary Life Skills</td>
<td>4.11</td>
<td>.99</td>
</tr>
<tr>
<td>B17 Examine Each Student Responses to Identity Areas of Difficulty</td>
<td>4.06</td>
<td>.94</td>
</tr>
<tr>
<td>B23 Monitor Individual Students Understanding of Directions</td>
<td>4.05</td>
<td>.86</td>
</tr>
<tr>
<td>B12 Teach Learning Strategies to Promote Independent Learning</td>
<td>3.99</td>
<td>.88</td>
</tr>
<tr>
<td>B24 Instructional Strategies Match Each Students Learning Needs</td>
<td>3.92</td>
<td>.85</td>
</tr>
</tbody>
</table>
In response to a question about their reasons for using, or not using, the listed adaptations, the teachers gave 581 reasons (75%) for their use and 197 (25%) for non-use. Teachers’ reasons were summarised using six categories derived from the data. Trial categories were tested for clarity and consistency, tested and refined on 10% of the data by two researchers over three iterations, and when 90% consistency was reached, the refined categories were used to categorise the 778 responses. The categories were:

1. Resources and logistics – time, timetable, class size, school organisation and general resource issues.
2. Student issues – abilities, behaviour, outcomes, effects, preferences.
4. Teaching issues – theoretical or pedagogical position, teaching style, class organisation, class-based subject and program issues, teachers’ preferences, values, and objectives.
5. Departmental, system and/or school issues – philosophy, policy, culture, prescribed curricula, support services.
6. Miscellaneous – unclear, ambiguous or irrelevant comments, comments on the question or questionnaire, ‘don’t know’ responses.

Table 8.6 shows that teachers’ reasons for using particular adaptations were mainly related to (a) student issues and (b) teaching issues, such as the benefits to students or the effectiveness of the adaptation for the teacher. Responses here included: “Less threatening for students” (Peer tutoring); “So students can succeed” (Breaking down assignments into parts); “To promote tolerance” (Cooperative learning); and “Assists in behaviour management” (Varying group membership).
Table 8.6: Reasons for teachers’ use and non-use of adaptations

<table>
<thead>
<tr>
<th>Reason</th>
<th>N</th>
<th>Percent</th>
<th>Rank</th>
<th>Reason</th>
<th>N</th>
<th>Percent</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student issues</td>
<td>274</td>
<td>47</td>
<td>1</td>
<td></td>
<td>34</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>Teaching issues</td>
<td>212</td>
<td>37</td>
<td>2</td>
<td></td>
<td>32</td>
<td>16</td>
<td>4</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>46</td>
<td>8</td>
<td>3</td>
<td></td>
<td>17</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Departmental &amp; school issues</td>
<td>38</td>
<td>7</td>
<td>4</td>
<td></td>
<td>36</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>Resources &amp; logistics</td>
<td>9</td>
<td>2</td>
<td>5</td>
<td></td>
<td>77</td>
<td>39</td>
<td>1</td>
</tr>
<tr>
<td>Parent issues</td>
<td>2</td>
<td>&lt;0</td>
<td>6</td>
<td></td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>581</td>
<td>100</td>
<td></td>
<td></td>
<td>197</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

In contrast, teachers’ reasons for not using adaptations were more varied and primarily related to (a) resource and logistics issues and (b) Departmental and school issues, such as insufficient time, inability to change the curriculum, or school/department policy. Examples of reasons for not adapting include: “There is only one of me!” (Cross-age tutoring); “No option – focus is on having them all to the same standard” (Assessing whether all students need the same concepts covered); and “Outcomes are ‘syllabus-based’ and not negotiable” (Specifying different outcomes for different students).

The 24 teaching adaptations were constructed around eight underlying, frequently recommended, general adaptation approaches. Table 8.7 summarises teachers’ reported use of these general approaches.

Table 8.7 Teachers’ reported use of general approaches to adaptation

<table>
<thead>
<tr>
<th>General approach</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modifying Instructions</td>
<td>3.94</td>
<td>.33</td>
</tr>
<tr>
<td>Teaching Learning Skills</td>
<td>3.87</td>
<td>.49</td>
</tr>
<tr>
<td>Enhancing Behavior</td>
<td>3.77</td>
<td>.12</td>
</tr>
<tr>
<td>Altering Curriculum</td>
<td>3.72</td>
<td>.26</td>
</tr>
<tr>
<td>Facilitating Progress Monitoring</td>
<td>3.67</td>
<td>.36</td>
</tr>
<tr>
<td>Modifying Assignments</td>
<td>3.42</td>
<td>.31</td>
</tr>
<tr>
<td>Varying Instructional Groups</td>
<td>3.17</td>
<td>.36</td>
</tr>
<tr>
<td>Altering Instructional Material</td>
<td>3.14</td>
<td>.12</td>
</tr>
</tbody>
</table>

Teachers were asked to list any additional modifications they have used and the qualitative data are summarised in Table 8.8.
Table 8.8: Summary of additional modifications reported by teachers

<table>
<thead>
<tr>
<th>Type of modification</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapting teaching and learning strategies (teaching methodology; what teachers do)</td>
<td>128</td>
<td>33</td>
</tr>
<tr>
<td>Working with support personnel</td>
<td>67</td>
<td>17</td>
</tr>
<tr>
<td>Equipment and materials (technology, furniture, lighting, Braille, large print, hearing loops) provided by anyone and not dependent on specialist/teacher</td>
<td>60</td>
<td>15</td>
</tr>
<tr>
<td>Classroom organisation/climate (groupings, position, timetable, tone)</td>
<td>55</td>
<td>14</td>
</tr>
<tr>
<td>Collaboration and relationships (strategies, specific programs and activities)</td>
<td>42</td>
<td>11</td>
</tr>
<tr>
<td>Adapting outcome and assessment</td>
<td>21</td>
<td>5</td>
</tr>
<tr>
<td>Planning (prevention, preparation, predicting, being proactive, pre-empting, forecasting, getting responses)</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>Professional learning</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

The data presented in tables 8.5 and 8.7 were used to test several hypotheses derived from the research literature in relation to the types of adaptations teachers believe are feasible in a mainstream class, the impact of training in Special Education, and the differences between primary and secondary school teachers on ‘extent of adaptation’. It was hypothesised that mainstream teachers would report less use of strategies that involved greater reorganisation of, or disruption to, their class and time-consuming individualisation of the curriculum (hypotheses 1-3); that teachers who have a Special Education qualification or who have studied a Special Education subject, would report more extensive adaptations (hypotheses 4-6); and that primary and secondary teachers will be different in terms of the extent of their adaptations for students with disabilities and their attitudes towards inclusion (hypotheses 7-8).

1. **Mainstream teachers will report ‘varying instructional groups’ less frequently than other approaches to adaptation**

   The mean of Varying Instructional Groups (M = 3.17, SD = .72) was compared with the mean of all other seven approaches (M = 3.65, SD = .55) using a paired samples $t$-test. There was a significant difference ($t(293) = 12.58, p < .05$) indicating significantly less use of this approach compared with the use of the other general approaches. The standardised mean effect size was large (.76).

2. **Mainstream teachers will report ‘altering instructional material’ less frequently than other approaches to adaptation**

   The mean of Altering Instructional Material (M = 3.14, SD = .74) was compared with the mean of all other seven strategies (M = 3.65, SD = .54) using a paired samples $t$-test. There was a significant difference ($t(292) = 13.61, p < .05$) indicating significantly less use of this approach compared with the use of the other general approaches. The standardised mean effect size was large (.80).
3. Mainstream teachers will report ‘modifying assignments’ less frequently than other approaches to adaptation

The mean of Modifying Assignments (M = 3.42, SD = .99) was compared with the mean of all other seven strategies (M = 3.61, SD = .53) using an independent samples t-test. There was a significant difference (t (292) = 3.65, p < .05) indicating significantly less use of varying instructional groups compared with the use of the other general approaches. The standardised mean effect size was small (.25).

4. Teachers with Special Education qualifications will report engaging in adapting/modifying more extensively than other teachers

The mean reported levels of adaptation for teachers with Special Education qualifications (M = 3.78, SD = .44, n = 31) was compared with the mean of all other seven strategies (M = 3.63, SD = .56, n = 258) using an independent samples t-test. The overall difference was not statistically significant (t (287) = 1.42, p > .05), in part due to the relatively small sample size of 31 teachers with special education qualifications. The overall effect of having a special education qualification was a standardised mean effect size of .27. This is a small to moderate effect in favour of greater adaptation reported by teachers who have special education qualifications.

These analyses were replicated for the teachers with Special Education qualifications compared to the sample of teachers who had no Special Education qualifications or a Special Education subject. Similar results were found, i.e. a small to moderate effect size which was not statistically significant.

In addition to exploring differences between those with Special Education qualifications and those without by using the ‘overall adaptation score’, we also examined the effect of having a Special Education Qualification by using the eight Adaptation Categories

The effect of having a special education qualification appeared to differ somewhat according to the category of adaptation. Teachers with a Special Education qualification reported doing considerably more ‘Altering Curriculum’ (ES = .46) and ‘Modifying Instructions’ (ES = .35). While the effects for the other five adaptations were all in favour of those with Special Education qualifications, the differences were relatively small (see Table 8.9). Independent samples t-tests indicated that the differences for ‘Altering Curriculum’ were significant (t (286) = 2.41, p < .05), with the rest being non-significant.

<table>
<thead>
<tr>
<th>Category of Adaptation</th>
<th>Special Education Qualification</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>ES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altering Curriculum</td>
<td>Yes</td>
<td>31</td>
<td>4.05</td>
<td>.77</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>257</td>
<td>3.67</td>
<td>.85</td>
<td>.46</td>
</tr>
<tr>
<td>Altering Instructional Material</td>
<td>Yes</td>
<td>31</td>
<td>3.23</td>
<td>.66</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>257</td>
<td>3.13</td>
<td>.74</td>
<td>.14</td>
</tr>
<tr>
<td>Teaching Learning Skills</td>
<td>Yes</td>
<td>31</td>
<td>3.91</td>
<td>.68</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>257</td>
<td>3.87</td>
<td>.78</td>
<td>.06</td>
</tr>
<tr>
<td>Modifying Assignments</td>
<td>Yes</td>
<td>31</td>
<td>3.55</td>
<td>.97</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>257</td>
<td>3.41</td>
<td>1.00</td>
<td>.15</td>
</tr>
</tbody>
</table>
Facilitating Progress  Yes  31  3.73  .69  
No  256  3.67  .81  .08  
Enhancing Behavior  Yes  31  3.82  .58  
No  257  3.75  .73  .09  
Modifying Instructions  Yes  31  4.17  .62  
No  257  3.92  .75  .35  

5. Teachers who have done a Special Education subject will report engaging in adapting/modifying more extensively than other teachers.

The overall effect of having completed a special education subject was a standardised mean effect size of .17 This is a small effect in favour of greater adaptation reported by teachers who have completed a special education subject. This difference was not statistically significant (t (275.61) = 1.42, p > .05).

The effect of having completed a special education subject appeared to differ somewhat according to the category of adaptation. As indicated in Table 8.11, teachers who had completed a special education subject reported doing more of each type of adaptation. The effect sizes in all cases were small, ranging from .05 to .23. The strongest effect was for Teaching Learning Skills. None of the results was statistically significant.

Table 8.11. Effect of having a Special Education subject by categories of adaptation

<table>
<thead>
<tr>
<th>Special Education Subject</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altering Curriculum</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>120</td>
<td>3.79</td>
<td>.83</td>
</tr>
<tr>
<td>No</td>
<td>168</td>
<td>3.65</td>
<td>.87</td>
</tr>
<tr>
<td>Altering Instructional Material</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>120</td>
<td>3.20</td>
<td>.72</td>
</tr>
<tr>
<td>No</td>
<td>168</td>
<td>3.09</td>
<td>.74</td>
</tr>
<tr>
<td>Teaching Learning Skills</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>120</td>
<td>3.97</td>
<td>.68</td>
</tr>
<tr>
<td>No</td>
<td>168</td>
<td>3.80</td>
<td>.82</td>
</tr>
<tr>
<td>Modifying Assignments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>120</td>
<td>3.46</td>
<td>1.01</td>
</tr>
<tr>
<td>No</td>
<td>168</td>
<td>3.40</td>
<td>.99</td>
</tr>
<tr>
<td>Facilitating Progress Monitoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>119</td>
<td>3.71</td>
<td>.78</td>
</tr>
<tr>
<td>No</td>
<td>168</td>
<td>3.65</td>
<td>.81</td>
</tr>
<tr>
<td>Enhancing Behavior</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>120</td>
<td>3.81</td>
<td>.69</td>
</tr>
<tr>
<td>No</td>
<td>168</td>
<td>3.72</td>
<td>.73</td>
</tr>
<tr>
<td>Modifying Instructions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>120</td>
<td>3.97</td>
<td>.69</td>
</tr>
<tr>
<td>No</td>
<td>168</td>
<td>3.93</td>
<td>.77</td>
</tr>
</tbody>
</table>
Inspection of the mean adaptation scores of teachers who had done a Special Education subject indicated that they were higher (M = 3.70, SD = .51, n = 120) than other teachers (M = 3.61, SD = .58, n = 169), however the difference was not significant using an independent samples t-test (t (276) = 1.39, p > .05). The standardised mean effect size was small (.17).

6. **Primary and secondary teachers will express different attitudes towards inclusion**

When differences between the attitudes of primary and secondary teachers towards inclusion were examined, the primary teachers were found to have significantly more positive attitudes than the secondary teachers.

The mean attitude score for primary teachers (M = 4.04, SD = .79, n = 139) was compared with the mean of the secondary teachers (M = 3.78, SD = .85, n = 132) using a paired samples t-test. There was a significant difference (t (269) = 2.641, p < .05), with a small standardised mean effect size (.32).

7. **Younger teachers will report engaging in adapting/modifying more extensively than older teachers**

The mean adaptation scores reported by teachers less than 30 years (M = 3.63, SD = .47, n = 30) was similar to the adaptation scores reported by older teachers (M = 3.65, SD = .56, n = 263). A paired samples t-test indicated no significant difference (t (291) = .22, p > .05), with a negligible standardised mean effect size (.04).

Approximately half the sample was primary, half secondary. There were major differences, with primary teachers clearly reporting doing more modifications in 7 out of the 8 categories. There were also many item-level significant differences.

8.3.3 **Barriers to implementation**

Teachers were asked to indicate the extent of their agreement with possible barriers to their implementing adaptations/modifications for catering for students with disabilities in their classrooms. The quantitative results are summarised in table 8.11 and in figure 8.2.

**Table 8.11: Barriers to implementation**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Item</th>
<th>Barrier</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>15</td>
<td>Demands on instructional time</td>
<td>4.02</td>
<td>1.10</td>
</tr>
<tr>
<td>2</td>
<td>19</td>
<td>Lack of time for preparation and planning</td>
<td>3.92</td>
<td>1.14</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>Wide range of student ability</td>
<td>3.84</td>
<td>1.24</td>
</tr>
<tr>
<td>4</td>
<td>22</td>
<td>High stress level of teaching</td>
<td>3.71</td>
<td>1.22</td>
</tr>
<tr>
<td>5</td>
<td>14</td>
<td>Behaviour problems of students</td>
<td>3.43</td>
<td>1.28</td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td>Lack of access to special programs, e.g. Reading Recovery, etc.</td>
<td>3.38</td>
<td>2.61</td>
</tr>
<tr>
<td>7</td>
<td>18</td>
<td>Inappropriate pre-service teacher education</td>
<td>3.36</td>
<td>1.15</td>
</tr>
<tr>
<td>8</td>
<td>11</td>
<td>Inadequate teacher-student ratio</td>
<td>3.22</td>
<td>1.47</td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>Lack of resources and materials</td>
<td>3.21</td>
<td>1.33</td>
</tr>
<tr>
<td>10</td>
<td>23</td>
<td>Lack of collaboration with therapy professionals</td>
<td>3.20</td>
<td>1.21</td>
</tr>
<tr>
<td>Rank</td>
<td>#</td>
<td>Barrier</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>------</td>
<td>-----</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>11</td>
<td>7</td>
<td>Lack of availability of specialist support teacher</td>
<td>3.19</td>
<td>1.46</td>
</tr>
<tr>
<td>12</td>
<td>24</td>
<td>Lack of availability of suitably qualified teacher aides</td>
<td>3.13</td>
<td>1.43</td>
</tr>
<tr>
<td>13</td>
<td>3</td>
<td>Lack of appropriate teacher in-service/professional development</td>
<td>3.12</td>
<td>1.36</td>
</tr>
<tr>
<td>14</td>
<td>5</td>
<td>Needs of students with disabilities are incompatible with the needs of other students</td>
<td>2.98</td>
<td>1.32</td>
</tr>
<tr>
<td>15</td>
<td>10</td>
<td>Lack of access to counselling services</td>
<td>2.94</td>
<td>1.33</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
<td>Insufficient access to health and community services</td>
<td>2.92</td>
<td>1.22</td>
</tr>
<tr>
<td>17</td>
<td>12</td>
<td>Lack of parent participation</td>
<td>2.89</td>
<td>1.26</td>
</tr>
<tr>
<td>18</td>
<td>6</td>
<td>Inadequate team planning</td>
<td>2.69</td>
<td>1.25</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>Lack of support in my school for team teaching</td>
<td>2.46</td>
<td>1.31</td>
</tr>
<tr>
<td>20</td>
<td>21</td>
<td>My lack of knowledge and expertise as a teacher</td>
<td>2.37</td>
<td>1.20</td>
</tr>
<tr>
<td>21</td>
<td>2</td>
<td>Lack of support from executives</td>
<td>2.30</td>
<td>1.27</td>
</tr>
<tr>
<td>22</td>
<td>16</td>
<td>Negative staff attitude</td>
<td>2.28</td>
<td>1.21</td>
</tr>
<tr>
<td>23</td>
<td>13</td>
<td>My lack of experience as a teacher</td>
<td>2.20</td>
<td>1.23</td>
</tr>
<tr>
<td>24</td>
<td>8</td>
<td>Unsupportive school policy and programs</td>
<td>2.06</td>
<td>1.11</td>
</tr>
</tbody>
</table>

**Figure 8.2. Barriers in order of perceived magnitude**
Inspection of Table 8.11 and Figure 8.2 reveals the pressures reported by mainstream teachers and the level of stress they experience in classrooms where there is a wide range of student ability. The barrier ‘Demands on Instructional time’ (of including students with a disability) had the highest mean score and the smallest standard deviation, and while the latter may indicate ceiling effects, it may also indicate a high level of consensus among teachers on this item. The second-ranked item also related to time pressures and it too had a relatively small standard deviation.

A six factor Principal Components Varimax Rotation explained 60% of the variance in the teachers' perceived barriers to implementation. The factors were:

1. Inadequate assistance from support staff, e.g. teaching assistants, therapists and specialists.
2. Limited knowledge, experience and expertise of teachers themselves.
3. Unsupportive school policies and practices.
4. Difficulties posed by student diversity.
5. Student related stresses, e.g. difficult behaviour.
6. Inadequate preparation for the demands of inclusion, e.g. preservice training, professional development and preparation time.

The pattern matrix and factor loadings are presented in Appendix B.

Respondents were invited to describe ‘any other barriers’ to their implementing adaptations/modifications for students with disabilities in their classrooms. There were 52 responses and these were content analysed with appropriate reliability checks into (a) system issues; (b) school culture; (c) school practices; and (d) comments about the questionnaire itself. Forty comments (77%) referred to system issues – problems with Departmental/employer policies, personnel issues and restricted professional development opportunities. Seven (13%) mentioned school-based barriers – school organisation, policies and curriculum. Four (8%) saw aspects of their school’s culture as a barrier.

### 8.3.4 Attitudes to inclusion

Teachers responded to an adapted version of the attitude survey of Bender, Vail and Scott (1995) – a five-point scale with 5 as ‘strongly agree’ - and their results are summarised in order of the magnitude of means in Table 8.12.

<table>
<thead>
<tr>
<th>Attitude</th>
<th>Mean</th>
<th>St D</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. I believe inclusion has been beneficial for students with disabilities</td>
<td>4.17</td>
<td>.88</td>
</tr>
<tr>
<td>5. I believe that inclusion has been successful in terms of improving the</td>
<td>4.04</td>
<td>.97</td>
</tr>
<tr>
<td>social skills and behaviours of students with disabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I support the inclusion of students with disabilities</td>
<td>4.03</td>
<td>1.06</td>
</tr>
<tr>
<td>3. I believe inclusion has been beneficial for students without disabilities in the mainstream classroom</td>
<td>3.98</td>
<td>1.10</td>
</tr>
<tr>
<td>4. I believe inclusion in my school has been successful</td>
<td>3.80</td>
<td>1.04</td>
</tr>
<tr>
<td>6. I believe that inclusion has been successful in terms of improving the academic skills of students with disabilities</td>
<td>3.61</td>
<td>1.13</td>
</tr>
</tbody>
</table>
Table 8.12 reveals moderate support for inclusion. There is agreement about the social benefits for students with a disability but less agreement that their inclusion in the mainstream has improved academic outcomes for them.

When differences between the attitudes of primary and secondary teachers towards inclusion were examined, the primary teachers were found to have significantly more positive attitudes than the secondary teachers.

The mean attitude score for primary teachers ($M = 4.0412, SD = .79275$) was compared with the mean of the secondary teachers ($M = 3.7771, SD = .85310$) using a paired samples t-test. There was a significant difference ($t(269) = 2.641, p < .05$), with a small standardised mean effect size (.26).

8.4 Discussion

The study illustrates that this sample of Australian teachers, and particularly primary teachers, believe that they are engaging to a moderate degree in adapting and modifying the ways they teach in order to meet the needs of students with disabilities in the mainstream. However, their preferred accommodations are those that require little planning and that can be made efficiently and economically of time, effort and resources. Furthermore, these mainstream teachers favour approaches that do not disrupt the organisation of their class and that do not involve elaborate or time-consuming individualisation for one student.

The teachers saw the need to adapt curriculum and teaching methods in order to support students with disabilities in the mainstream. The aims of their adaptations were clearly (a) to improve the student’s learning and (b) to accommodate the adaptations into the way they organise their teaching of the whole class. The reasons teachers gave for not adapting revolved around resource and logistics issues and the Departmental or school policies and practices that made such adaptations difficult or impossible.

In general, the teachers were supportive, in attitude and in practice, of the inclusion of students with disabilities in the mainstream but this support was weaker at the secondary level. This finding corroborates research that shows that the structure and demands of high schools may complicate and compromise inclusive practice (e.g. Ainscow, 2005; Forlin, 2005; Pearce & Forlin, 2005).

The participants’ perceived barriers to inclusive practice are similar to those consistently reported in the international and Australian literature. In this study however, teachers reported that the biggest single barrier was the demands on their time. It was interesting that although lack of knowledge and expertise were issues, these barriers were in the bottom 20% of teachers’ concerns.

Several findings deserve further investigation. The finding that teachers trained since the passing of the Disability Discrimination Act (1992) and teachers who have done a Special Education subject did not report engaging in adaptations/modifications significantly more extensively than other teachers was surprising. Although this results requires replication, it suggests the need for examination of (a) the ‘mandatory unit for Special Education training’ as the strategy for preparing new teachers for teaching inclusively; (b) the content of this unit; (c) the school-based factors that may prevent younger teachers and/or those who have done a Special Education subject from more extensively using recommended teaching practices for inclusion; and/or (d) the type of professional development and support that will impact on classroom practice.
This research highlights some tension between inclusion research and policy on the one hand, and the realities of classroom practice on the other. As outlined in the introduction, there is a growing body of research on promising practices to support inclusion of students with disabilities and most involve the adoption of techniques for differentiating curriculum and teaching strategies. Differentiation requires a rethink and reorganisation of traditional classroom roles, routines and practices and this requires planning and planning takes time. However, the teachers in this study identified time pressures as their greatest barrier. These facts suggest that unless teachers are allocated adequate time to undertake the necessary planning and collaboration then their uptake of the full range of recommended strategies is unlikely.

Mainstream teachers need practical, time-efficient strategies for implementing recommended adaptations. In many senses, inclusive teaching is simply ‘good teaching’ (Giangreco, 1996), and the teachers in the current study did not see their lack of knowledge or expertise as the major barriers to teaching inclusively. As Oakeshott (cited in Clandinin and Connelly, 2000, p.38) writes: “As with every other sort of knowledge, learning a technique does not consist in getting rid of pure ignorance, but in reforming knowledge that is already there” (Oakeshott, 1962, p.12). This line of thinking suggests that mainstream teachers’ response to diversity may be better fostered by the sharing of feasible approaches to the implementation of what many already know rather than by loading them up with more ‘technical knowledge’ about ‘best practice strategies’.

Practical support for inclusive practice should be based on research that is contextualised, practice-derived and framed from the perspective of teachers and schools, e.g. as proposed by Australian Curriculum Studies Association (2005) and this knowledge should be shared in ways that teachers prefer. This type of professional development would help teachers learn the ‘nuts and bolts’ of teaching inclusively, i.e. approaches that work despite structural barriers such as time pressures and the particular demands placed on secondary teachers to ‘get through the curriculum’.

The results of this study should be interpreted with consideration of several limitations - the return rate, the fact that the data were ‘self-reports’, and the method by which mainstream teachers were recruited for the study. The stratified sample was moderately large and it involved proportional sampling of teachers from every state/territory, sector and level of schooling. However, because the procedure involved distribution of the questionnaires through the principal to the teachers who volunteered to complete the survey, it is impossible to determine the actual return rate – other than it was certainly above 25%.

Another factor suggesting care in interpretation is that the results are based on self-report data which may reflect social desirability and acquiescence. Perusal of the participants’ comments would suggest otherwise. Furthermore, the procedures were carefully implemented to protect teachers’ confidentiality and anonymity, i.e. there was little pressure to give politically correct answers.

Although the study corroborated some of the results of national and international research, some findings were unexpected. For example, this sample of Australian teachers was relatively positive about including students with disabilities in the mainstream. Another unexpected finding was that the teachers did not report ‘lack of skills’ or ‘lack of experience’ as their major barriers to including students with disabilities. While the results suggest that mainstream teachers in Australian schools may now be somewhat more positive about students with disabilities and see themselves as having a higher level of relevant skills than teachers surveyed in previous research, it is conceivable that these results were achieved because the teachers who volunteered for this study were atypical in their support for students with disabilities in the mainstream, i.e. they may not represent the Australian teaching workforce. Once again, the
range of opinion in the qualitative data would suggest otherwise and it should be reiterated that the procedures involved careful stratification based on state and sector enrollments and random selection of schools. However, the relatively positive attitudes and reported skills of the Australian teaching workforce should be replicated by further empirical research. These caveats aside, we believe that with appropriate interpretation, the results are credible and informative.

The current study found a range of views and practices about inclusion. While some teachers and schools are struggling, others are including students with disabilities effectively and without obvious angst. Systematic study of successful teachers and sites, and the sharing of the professional knowledge that principals and teachers are acquiring in those sites, may have considerable positive impact on policy, professional development and practice because the findings and recommendations more accurately align with the demands and pressures experienced by mainstream schools and teachers.

The authors sincerely thank the teachers who completed the questionnaire and the principals who supported their participation. The expert research assistance of Lurline Fraser, Joy Hoffman, Claire Hoffman-Ruiz, Michelle Pearce, Ann and Patrick Shaddock and Nancy Seivers was much appreciated. We thank staff of the Disability Programs Directorate of the NSW Department of Education and Training for assistance in analysing some of the qualitative data. Finally, the authors wish to thank John Elkins and the Research Advisory Committee - Ann Czizilowska-McKenna, Barry Griffin, Tyler Hand, Lesley Holliday, Michael Traynor and Kerry Usher for their comments on earlier drafts of this report.

References


Appendix 1: Teacher Survey

UNIVERSITY OF CANBERRA

Teacher Survey

What adjustments do Australian teachers make when they teach students with disabilities in mainstream classrooms?

SECTION A: BIOGRAPHIC INFORMATION

Q.1. What is your highest teaching qualification?

Q.2. Do you have formal Special Education qualifications (such as a Grad.Dip.Special Ed.)? (Tick relevant box.)

☐ yes  ☐ no

Brief Details:

Q.3. Have you completed at least one formal subject on students with disabilities as part of a University/College qualification? (Tick relevant box.)

☐ yes  ☐ no

Q.4. How many years have you been teaching? (Tick relevant box.)

☐ 0 – 4 years  ☐ 5 – 9 years  ☐ 10 – 14 years

☐ 15 – 19 years  ☐ 20 – 24 years  ☐ 25 – 29 years

☐ 30 years +

Q.5. What grade/year level are you currently teaching? (Tick relevant boxes.)

☐ K/R/Prep – Year 2  ☐ Years 3 - 6  ☐ Years 7-10

☐ Years 11-12

If secondary, what subjects?

Q.6. What is your age? (Tick relevant box.)

3 Adapted with permission from van Limbeek (2004).

* A student with a disability is one who has been assessed by a person with a relevant qualification as having intellectual, sensory, physical, social-emotional or multiple impairments to a degree that satisfies the criteria for enrolment in special education services provided by the government of the state/territory in which the student is located.
Q.7. Are you aware of any students with disabilities in your current class/es? (Tick relevant box.)
☐ yes  ☐ no

Brief details

Q 8. Have you had students with disabilities in your class/es in previous years? (Tick relevant box.)
☐ yes  ☐ no

Brief details

Please turn over
SECTION B: CURRENT TEACHING PRACTICES

Please circle the number that best indicates the extent to which you use these adaptations/modifications in order to cater for student/s with disabilities in your classroom? If you could give brief reasons for your ratings, that would be really helpful.

<table>
<thead>
<tr>
<th>ADAPTATION/ MODIFICATION for students with disabilities</th>
<th>YOUR RATINGS</th>
<th>YOUR REASONS Why? Why not?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Varying Instructional Groups:</td>
<td>Never Rarely Often Usually Always</td>
<td></td>
</tr>
<tr>
<td>1. I use cooperative learning groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2. I use peer and cross-age tutors</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 4</td>
<td></td>
</tr>
<tr>
<td>3. I vary group compositions/ memberships</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2. Altering Curriculum:</td>
<td>Never Rarely Often Usually Always</td>
<td></td>
</tr>
<tr>
<td>4. I assess whether all students need the same concepts covered in a lesson/unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>ADAPTATION/ MODIFICATION for students with disabilities</td>
<td>YOUR RATINGS</td>
<td>YOUR REASONS Why? Why not?</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>--------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>5. I specify different outcomes for different students, e.g. using individual planning rubrics</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>6. I establish goals for learning that are specific and attainable for each student</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>3. <strong>Altering Instructional Material:</strong></td>
<td>Never Rarely Often Usually Always</td>
<td></td>
</tr>
<tr>
<td>7. I use different instructional materials for different students, e.g. auditory and/or visual amplification</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>8. I use peer note takers and/or audiostream recorders to support students</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>9. I assess the learning value of specific materials before using them</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>ADAPTATION/ MODIFICATION for students with disabilities</td>
<td>YOUR RATINGS</td>
<td>YOUR REASONS Why? Why not?</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>--------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>4. Teaching Learning Skills:</td>
<td>Never Rarely Often Usually Always</td>
<td></td>
</tr>
<tr>
<td>10. I teach necessary life skills eg how to get along with peers</td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>11. I teach students how to compensate for any lack in skills and concepts</td>
<td>1  2  3  4  4</td>
<td></td>
</tr>
<tr>
<td>12. I teach students learning strategies to promote independent learning</td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>5. Modifying Assignments:</td>
<td>Never Rarely Often Usually Always</td>
<td></td>
</tr>
<tr>
<td>13. I provide students with alternative assignments</td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>14. I provide students with alternative response formats for assignments</td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>ADAPTATION/ MODIFICATION for students with disabilities</td>
<td>YOUR RATINGS</td>
<td>YOUR REASONS Why? Why not?</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>--------------</td>
<td>----------------------------</td>
</tr>
<tr>
<td>15. I break assignments down into smaller parts</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>6. Facilitating Progress Monitoring:</td>
<td>Never Rarely Often Usually Always</td>
<td></td>
</tr>
<tr>
<td>16. I assess learner outcomes using a variety of test options</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>17. I examine each student's responses to identify their areas of difficulty</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>18. I adapt scoring/grading criteria for individual students e.g. using assessment rubrics</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>7. Enhancing Behaviour:</td>
<td>Never Rarely Often Usually Always</td>
<td></td>
</tr>
<tr>
<td>19. I create a positive, caring classroom atmosphere</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>ADAPTATION/MODIFICATION</td>
<td>YOUR RATINGS</td>
<td>YOUR REASONS Why? Why not?</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>20. I modify the seating arrangements, heights of desks or chairs, lighting, noise levels etc. for individual students</td>
<td>1 2 3 4 4</td>
<td></td>
</tr>
<tr>
<td>21. I teach students to use self-monitoring strategies to record daily academic and behavioural progress</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

8. Modifying Instructions:

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Often</th>
<th>Usually</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. I provide individualised, ‘hands-on’ instruction</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. I continually monitor the individual student’s level of understanding of directions</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. I use instructional strategies that aim to match each student’s learning needs</td>
<td>1 2 3 4 5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
25. Please list any adjustments and modifications, additional to those already mentioned, that you have made to improve outcomes for students with disabilities in literacy, numeracy and technology.


26. What other adjustments and modifications, additional to those listed in the preceding pages, have you used and why have you used them?


### SECTION C: POSSIBLE BARRIERS TO IMPLEMENTATION

Please circle the number that best indicates the influence that these proposed barriers have on your implementation of adaptations/modifications when catering for students with disabilities in your classroom.

<table>
<thead>
<tr>
<th>POSSIBLE BARRIERS</th>
<th>Strongly disagree</th>
<th>Moderately disagree</th>
<th>No strong feelings</th>
<th>Moderately agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lack of support in my school for team teaching</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Lack of support from executives</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Lack of appropriate teacher in-service/professional development</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Lack of resources and materials</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Needs of students with disabilities are incompatible with the needs of other students</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Inadequate team planning</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Lack of availability of specialist support teacher</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Unsupportive school policy and programs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Wide range of student ability</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Lack of access to counselling services</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Inadequate teacher-student ratio</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Lack of parent participation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. My lack of experience as a teacher</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Behaviour problems of students</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Demands on instructional time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16. Negative staff attitude</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17. Insufficient access to health and community services</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18. Inappropriate pre-service teacher education</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. Lack of time for preparation and planning</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. Lack of access to special programs, e.g. Reading Recovery, etc.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21. My lack of knowledge and expertise as a teacher</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. High stress level of teaching</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23. Lack of collaboration with therapy professionals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24. Lack of availability of suitably qualified teacher aides</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
25. Please list/comment on any other barriers to your implementation of adaptations/modifications for students with disabilities in your classroom.


# SECTION D: ATTITUDES TO INCLUSIVE EDUCATION PRACTICES

Please circle the number that best indicates your response to each statement.

<table>
<thead>
<tr>
<th>ATTITUDE STATEMENTS</th>
<th>Strongly disagree</th>
<th>Moderately disagree</th>
<th>No strong feeling</th>
<th>Moderately agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I support the inclusion of students with disabilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. I believe inclusion has been beneficial for students with disabilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I believe inclusion has been beneficial for students without disabilities in the mainstream classroom</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I believe inclusion in my school has been successful</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I believe that inclusion has been successful in terms of improving the social skills and behaviours of students with disabilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I believe that inclusion has been successful in terms of improving the academic skills of students with disabilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>


Any final comments?

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

Thanks so much for answering this survey. Would you please return the survey in the enclosed stamped envelope as soon as possible to:

Professor Tony Shaddock, School of Education & Community Studies, University of Canberra
## Appendix 2: Pattern Matrix – Barriers

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>C17 Barrier 17 - Insufficient Access to Health &amp; Community Services</td>
<td>.666</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-.307</td>
</tr>
<tr>
<td>C23 Barrier 23 - Lack of Collaboration with Therapy Professionals</td>
<td>.610</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C7 Barrier 7 - Lack of Availability of Specialist Support Teacher</td>
<td>.518</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.436</td>
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<tr>
<td>C24 Barrier 24 - Lack of Availability &amp; Suitably Qualified Teacher Aides</td>
<td>.483</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>C10 Barrier 10 - Lack of Access to Counselling Services</td>
<td>.481</td>
<td></td>
<td></td>
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<td>-.230</td>
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<tr>
<td>C4 Barrier 4 - Lack of Resources and Materials</td>
<td>.346</td>
<td></td>
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<tr>
<td>C20 Barrier 20 - Lack of Access to Special Programs</td>
<td>.307</td>
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<tr>
<td>C12 Barrier 12 - Lack of Parent Participation</td>
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<td></td>
<td>-.207</td>
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<tr>
<td>C21 Barrier 21 - My Lack of Knowledge &amp; Expertise as a Teacher</td>
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<tr>
<td>C13 Barrier 13 - My Lack of Experience as a Teacher</td>
<td></td>
<td></td>
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<td></td>
<td>.735</td>
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<tr>
<td>C2 Barrier 2 - Lack of Support from Executives</td>
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<tr>
<td>C8 Barrier 8 - Unsupportive School Policy and Programs</td>
<td>.206</td>
<td></td>
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<td>C1 Barrier 1 - Lack of Support in My School for Teach Teaching</td>
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<tr>
<td>C16 Barrier 16 - Negative Staff Attitude</td>
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<tr>
<td>C6 Barrier 6 - Inadequate Team Planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>C5 Barrier 5 - Needs of Students with Disabilities are Incompatible with Other Students</td>
<td></td>
<td></td>
<td></td>
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<td>.512</td>
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<tr>
<td>C9 Barrier 9 - Wide Range of Student Ability</td>
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<td>C22 Barrier 22 - High Stress Level of Teaching</td>
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<td>C14</td>
<td>Behaviour Problems of Students</td>
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<tr>
<td>C15</td>
<td>Demands on Instructional Time</td>
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<tr>
<td>C3</td>
<td>Lack of Appropriate Teacher In-Service/PD</td>
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</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>C19</td>
<td>Lack of Time for Preparation &amp; Planning</td>
<td>.357</td>
<td></td>
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<td></td>
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<td>-.469</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>C11</td>
<td>Inadequate Teacher-Student Ratio</td>
<td>.253</td>
<td></td>
<td></td>
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<td></td>
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<td>-.358</td>
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<tr>
<td>C18</td>
<td>Inappropriate Pre-Service Teacher Education</td>
<td></td>
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<td></td>
<td></td>
<td>-.356</td>
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</table>

9. What are the critical factors in ensuring successful collaboration between mainstream teachers and teaching assistants?


Summary

This study used Actor Network Theory (ANT) to study five schools that had different models of teacher-teaching assistant collaboration. The study did not assess the efficacy of the teacher-teaching assistant model but the ways in which the model might work. The study found that:

- School culture and ethos, particularly as mediated by the executive, influenced the success of the teacher-teaching assistant team.
- The different operational models were unspecified, dynamic and reactive.
- The models depended on the maintenance of good relationships between school personnel and also between school personnel and the home.

Stakeholders frequently mentioned the importance of:

- Professional development.
- Adequate resources.
- The need for assistants and teachers to have more time to plan and collaborate.

This study, and the research on which it was based, suggest that schools will be successful in utilising teaching assistants if they:

- Treat assistants as an integral part of the team.
- Provide clear guidance about roles and responsibilities and if the teacher directs the teaching assistant on how to contribute to the class program.
- Involve the assistant in indirect support roles, e.g. Monitoring of student achievement and recording of performance or in small group work.
- Build and maintain good relationships among school personnel and between home and school.
- Facilitate joint professional development for teachers and teaching assistants.
- Involve teachers in the selection of their teaching assistant.
- Arrange workloads so that teachers and teaching assistants have time to build their relationship, to plan and to reflect on their work.
9.1 Introduction

The inclusion of students with disabilities in the mainstream has been supported by strategies such as team teaching, collaborative consultation and teacher support teams (Dieker & Murawski, 2003; Idol, 1997; Thomson, Brown, Jones, Walker, Moore & Anderson, et al., 2003). However, the most utilised strategy is the employment of teaching assistants (Daniels & McBride, 2001; Giangreco, Broer, & Edelman, 2002; Meyer, 2001; NSW Public Education Inquiry, 2002). Giangreco, Broer and Edelman (2001, p.58) attributed the predominance of this model to “history, economic factors, changing demographics, parent advocacy, teacher advocacy, administrative convenience, ease, expedience, and momentum”. Whatever the reasons, the success or failure of inclusion as it is currently being implemented is largely dependent on teaching assistants (Chadbourne, 1997; Daniels & McBride, 2001; Marks, Schrader, & Levine, 1999).

There has been a worldwide escalation of the employment of teaching assistants to support students with disabilities at school. For example, In the United States there are an estimated 300,000 paraprofessionals working in special education (Giangreco, Edelman, Broer & Doyle 2001) and it is predicted that the employment of teacher assistants in general will grow at up to 35% per year at least until 2012 (US Department of Labor, Bureau of Labor Statistics, 2004). In Australia the Australian Institute of Health and Welfare [AIHW] (2003) reported an increase of 38% in ‘integration aides’ between 1996 and 2001, from 7519 to 10396. The NSW Public Education Inquiry (2002) reported that 95% of the funding allocated to NSW students with disabilities was consumed by the employment of teacher assistants.

Parents, teachers and assistants are generally supportive of the widespread use of assistants to facilitate inclusion (Chadbourne, 1997; Loreman, 2001; Werts, Harris, Tillery, & Roark, 2004). Parents interviewed by French and Chopra (1999) believed that teaching assistants created connections between school and home, were accessible to parents, communicated regularly, provided detailed information to parents, and facilitated peer connections and inclusion. Chadbourne (1997) found that teachers regarded the teacher assistant as their most important resource. Teachers insisted they could not include the students without the assistants and stated that they would choose an assistant in preference to effective school administrators, visiting teachers, therapists, equipment, more class space and smaller classes. Teachers said they appreciated assistants who were resourceful and showed initiative because they reduced teacher stress and meant that the teacher could give the other students more attention.

Australian studies reflect the breadth of the role of the assistants employed to support the inclusion of students with disabilities (Chadbourne, 1997; Forlin, 2003; Loreman, 2001). Teaching assistants’ responsibilities range from tasks such as locating and organising resources, marking the roll and student work, entering data on the computer, to crucial responsibilities such as administering medication, first aid and physical care (Chadbourne, 1997; Forlin, 2003; Loreman, 2001). In a qualitative study on the inclusion of students with intellectual disabilities in Western Australia, Chadbourne (1997) noted that assistants gave direct instruction to students individually and in small groups, assumed control of the class if the teacher left the room, acted as a critical friend to the teacher, liaised between special educators and regular class teachers to learn and apply new strategies and frequently managed challenging behaviours.

In another Western Australian study on inclusion in middle school, Forlin (2003) reported that assistants supported students with disabilities with pastoral, emotional and physical care, delivered programs directly to the student, and shared their knowledge of the student and effective strategies with the regular class teacher. Assistants also provided feedback on the outcomes of learning and therapy programs to teachers and co-ordinators, drew attention to
social problems, participated in the evaluation of programs, taught students how to use technology and assisted with communication between teacher and student. In Victoria, Loreman (2001) observed that assistants accepted responsibility for differentiating instruction and made teaching decisions independently – responsibilities reported in international studies as well (D Downing, Ryndak, & Clark, 2000; French & Pickett, 1997; Gerber, Finn, Achilles, & Boyd-Zaharias, 2001; Giangreco, et al., 2002).

It has been wryly, and not inaccurately, observed that a common response to the enrolment of a student with disabilities in a mainstream class in the Australian context is to ‘velcro’ an assistant to the child, and this observation is supported by US research by Giangreco, Yuan, McKenzie, Cameron & Fialka (2005). However, there are divergent views about the desirability of having teaching assistants play such prominent roles (French & Chopra, 1999; Giangreco, Edelman, Luiselli & MacFarland, 1997). For example, the approach is risky because it has the potential to create student and teacher dependency on the assistant. Both Chadbourne (1997) and Loreman (2001) observed assistants completing work for students. This can result in learned helplessness with teachers commenting that they had observed situations when students expected assistants to perform tasks they could do independently when the assistant was unavailable (Giangreco, et al., 1997; Loreman, 2001).

When students are given continual prompts or instructions, or are shadowed in the playground and classroom, they have little chance of becoming independent and may experience a loss of personal control (Giangreco, et al., 1997). Giangreco & Broer (2005) found that assistants spent 86% of their time within one metre of the student with disabilities. With an adult hovering close by, social interaction between the child with a disability and other children can be thwarted, contrary to one of the primary goals of inclusion (Giangreco, et al., 1997; Loreman, 2001). Whereas one-on-one assignment of assistants to students with disabilities increases the chances of dependency, program based instruction reduces the risks (Giangreco, Broer, et al., 2001).

Concern has been expressed about the extensive involvement of teaching assistants when they have had minimal or no training in teaching students with disabilities. Giangreco, et al. (2001) reported that teaching assistants were inappropriately given responsibility for the design, implementation and assessment of programs, differentiation of the curriculum, and communication with families. Giangreco, Edelman, Broer, and Doyle (2001, p.58) asked if parents of children without disabilities would accept their children being taught by unqualified adults and, if giving assistants a teaching role, is “appropriate, ethical, conceptually sound, and effective?” The same researchers questioned the fairness of paying assistants to fulfill teaching roles and the NSW Public Education Inquiry (2002) referred to such situations as exploitation. The AIHW reported that “64.3% (of integration aides) receive incomes of less than $20,800” (p.26) and the corresponding American statistics prompted Giangreco, Edelman, et al. (2001) to observe that “students with disabilities and para-educators might reasonably be considered to include some of the most marginalized people within school hierarchies”. (p.59). Ironically, there is very little evidence to show that the use of assistants has improved learning outcomes for students (Gerber, et al., 2001; Giangreco, 2003; Giangreco, Edelman, et al., 2001; Giangreco, Edelman, & Broer, 2003).

As the instructional role of teaching assistants has evolved through circumstance, rather than careful consideration of the most effective model of service delivery (Giangreco, et al., 2002) their presence in schools and classrooms has often resulted in mainstream teachers devolving responsibility for the education of students with disabilities to their assistant. There is evidence that teachers adopt a ‘minimalist approach’ if they have an ambivalent attitude towards inclusion, are reluctant to change, resist accepting additional responsibilities, or lack knowledge or training (Chadbourne, 1997). An example of a minimalist approach is when one
parent asked about her child’s progress, the teacher responded, “Ask the [teaching assistant], she knows” (Chadbourne, 1997, p.36). Giangreco, Broer, et al. (2001, p.84) described this phenomenon as “don’t want to”, “don’t think they are supposed to”, and “don’t know how to”. The presence of a teaching assistant may reduce pressure on the teacher to review the curriculum and to adapt teaching practices to ensure that all students learn (Loreman, 2001). It seems paradoxical that when teachers feel they lack the necessary skills, they divert their responsibilities to other adults with even less training (Giangreco, et al., 1997).

Another issue raised by the presence of teaching assistants in mainstream classes is that there is a greater need for consultation, collaboration and joint planning. While team collaboration is highly recommended (Carter, Chalmers, Clayton, & Hook, 1998; Daniels & McBride, 2001; Giangreco, et al., 1997; Idol, 1997), it cannot be assumed that all mainstream teachers have the necessary skills. Teaching assistants generally prefer to work collaboratively with the teacher (Chadbourne, 1997; Riggs & Mueller, 2001) and they appreciate being able to ask for guidance and being asked for suggestions in an interdependent relationship (Chadbourne, 1997). However, collaboration is difficult to achieve and a major barrier is the lack of time (Chadbourne, 1997; Marks, et al., 1999). Chadbourne (1997) observed that collaboration usually took place while the teacher and assistant were working with the class and if the teacher sees inclusion as an achievable challenge and has a sense of self efficacy, collaboration with the assistant is more likely to occur (Chadbourne, 1997; Forlin, 2001). In such cases, the teacher tends to direct and support the work of the assistant, instruct and communicate with the student, clarify roles, plan programs, have good knowledge of student outcomes and only require an assistant when necessary (Giangreco, Broer, et al., 2001). Giangreco & Edelman, et al. (2001) also found there was a link between teacher ownership of responsibility for teaching and positive learning outcomes for students, and that the attitude, behaviours and expectations of teachers acted as a model for assistants and students.

There are different models of collaboration. Some researchers have concluded that the teacher-assistant relationship works best when the principal or school develops policies which clarify the role of the assistant, and when the teacher assumes leadership and actively supports and supervises the assistant (Daniels & McBride, 2001; Riggs & Mueller, 2001). Daniels and McBride (2001) advocate a more equal partnership between teacher and assistant as co-teachers, but stress that the partnership is reliant on the skills of the assistant and the willingness of the teacher to share knowledge about the child and all aspects of teaching and learning. French (1999, p.70) sees the shift from teacher responsibility as part of the move towards the teacher becoming a “delegator, planner, director, monitor, coach, and program manager”. Marks, et al. (1999) recommend collaborative meetings to continually clarify roles, share and refine strategies, plan how to fade support, manage behaviour, and assist teachers and assistants with practices that facilitate inclusion, such as adapting the curriculum and instruction.

However, regardless of the specific model adopted, teachers and assistants invariably need training in collaboration (Gerber, et al., 2001). Teachers are generally trained to work with children rather than adults and thus lack training in collaboration, supervision and management skills (French, 2001; Riggs & Mueller, 2001). Wallace, Shin, Bartholomay, & Stahl (2001) found that teachers needed additional competencies to work collaboratively with an assistant, such as effective communication, clarification of roles, knowing how to involve the assistant in planning, modelling appropriate interactions and levels of support, and training and supporting the assistant in identifying the skills in which they need additional training. Research by Riggs (2001) also showed that assistants wanted training in areas directly related to their work, including working with teachers.
Role boundaries between teachers and assistants have become blurred and they often overlap (French & Pickett, 1997) and a thoughtful redefinition of roles has not yet occurred (Giangreco, Broer, et al., 2001). Conflict can occur if stakeholders have different perceptions of their roles or roles are confused (French, 2001; Minondo, Meyer, & Xin, 2001; Wilson, Schlapp, Davidson & Mongiello, 2001). Lack of role clarity has resulted in assistants sometimes being unsure about their responsibilities and feeling unappreciated, isolated, unsupported and overwhelmed (Chadbourne, 1997; Marks, et al., 1999; Riggs & Mueller, 2001). Role confusion has caused some teachers to feel that their assistant was usurping their authority, while others have felt overburdened by the responsibility of supervising the assistants (Chadbourne, 1997; Downing, et al., 2000).

The inclusion of students with disabilities in regular classes has clearly changed the roles of classroom personnel (Giangreco, Broer, et al., 2001). Previously, roles were well defined: the teacher was responsible for planning and implementing programs, teaching and evaluating the progress of students (Zigmond, 2001); the special education teacher was responsible for students with disabilities who experienced difficulties with the school curriculum and were regarded as needing more practical, individualised programs in segregated classes or special schools (Heward, 2003); and the assistant was assigned clerical and classroom organisational duties (French, 1998). However, with the inclusion of students with special needs, mainstream teachers now need knowledge and skills to teach all students regardless of ability (Mock & Kauffman, 2002), and special educators may be required to be familiar with the mainstream curriculum, become consultants, teach segregated classes and team teach (Mastropieri, 2001). In some supposed, co-teaching situations, the special educator has assumed the role of assistant, whilst in other classrooms the assistants spends more time teaching than the special educators (Wasburn-Moses, 2005; Zigmond & Matta, 2004). The role of the teacher assistant has expanded to incorporate responsibilities associated with the traditional role of the teacher and special education teacher, including planning, implementing and evaluating instruction, differentiating the curriculum and one-on-one instruction (Daniels & McBride, 2001; Giangreco, Broer, et al., 2001; Loreman, 2001; Wallace, et al., 2001).

In response to the above concerns, researchers such as Giangreco, et al. (1997), Marks, et al. (1999) and French & Pickett (1997) have recommended further studies to identify ways in which teaching assistants can be better utilised in inclusive classrooms. Marks, et al. (1999) emphasise the need for such studies to explore the perspectives of all the stakeholders so that the context can be better understood. While many teachers in special schools and centres have considerable experience working with teaching assistants, little is known about the ways in which mainstream teachers can best manage such collaborations for the benefit of their students. Therefore this study focuses on identifying ways in which mainstream teachers and teaching assistants who are working in different types of settings and utilising different operational models that are perceived to be satisfactory, work together to improve the learning outcomes of students with disabilities in mainstream classrooms.

9.2 Method

The researchers initially identified examples of different models of teacher-teacher assistant relationships that were purported to be working satisfactorily and gained ‘in principle’ agreement for involvement in the study. Following site visits and/or further contact to ensure that the identified sites were sufficiently different in terms of the teacher-teacher assistant relationship, and that school personnel and others believed that their particular arrangements for involving teaching assistants were working satisfactorily, five sites were selected for further detailed study. The five schools were selected as much as possible to include primary,
secondary and post-compulsory settings, schools from state, catholic and independent sectors, and from a range (four) Australian states and territories.

Five experienced researchers who had been briefed about Actor Network Theory (ANT) methods described and analysed the processes, interactions and influences that mediated, and determined the success of, the partnerships and collaborations occurring around teaching assistants. According to Goguen (2000) Actor Network Theory requires the researcher to attend to what those involved do, to be interested in what interests those involved, and to try and understand what they believe and why they act the way they do. ‘Actor-network theory focuses attention on the socio-technical networks that (others) create to get their projects done, emphasizing that no one acts alone …’ (Goguen, 2000, p.2).

Each researcher collected the data in one or more sites over four days. In three sites, researchers ‘doubled up’ to ensure consistency of the approach across the five settings. Data were collected by: semi structured interviews and/or focus groups as outlined in Appendix A; by observation of interactions between consultants, teachers, assistants and students, an example of which is presented in Table 9.1; and by policy and document analysis. Data analysis involved: thematic analysis of interview and focus group data with reference to the key concepts of ANT – Actors, Interests, Networks, Stability, Alignment, Translation, Enrolment of Actors, Inscriptions, Irreversibility and Black Boxes (see Appendix B for brief description of these key terms that guided the analysis); triangulation of data from different sources; and perception and member checks. The analysis and preliminary report on each site was undertaken independently by the researcher(s) who collected the data at each site using a previously agreed ANT orientation/ framework (see Appendix C). When the reports on all five sites were checked for accuracy with personnel from each site, they were finalised and shared among the researchers. The researchers then examined the results for any overarching themes that were supported by the data and conclusions from each site.

Table 9.1: Example of how the ANT framework might guide data collection and analysis

<table>
<thead>
<tr>
<th>Macro level</th>
<th>Meso level</th>
<th>Micro level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actors</td>
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<td></td>
</tr>
<tr>
<td>Teaching personnel</td>
<td>Dept. of Ed.</td>
<td>Teachers</td>
</tr>
<tr>
<td>Parents</td>
<td></td>
<td>TAs</td>
</tr>
<tr>
<td>Students</td>
<td></td>
<td>Parents</td>
</tr>
<tr>
<td>Community</td>
<td></td>
<td>Students with a disability</td>
</tr>
<tr>
<td>Special groups</td>
<td></td>
<td>Administrators</td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td>Environment</td>
</tr>
<tr>
<td>Internals</td>
<td></td>
<td>Resources</td>
</tr>
<tr>
<td>Beliefs</td>
<td>Policy/ vision development in question.</td>
<td>Ability to get along.</td>
</tr>
<tr>
<td>Attitudes</td>
<td>Time allocation insufficient.</td>
<td>Have sense of equality.</td>
</tr>
<tr>
<td>Interests</td>
<td>Process of approval of students with a disability in question.</td>
<td>Sees the job as a vocation.</td>
</tr>
<tr>
<td>Motivation</td>
<td>Not always diagnosing according to perceived needs by teaching personnel.</td>
<td>Takes initiative yet open to directives.</td>
</tr>
<tr>
<td>Agendas</td>
<td></td>
<td>Personal relationship/ rapport paramount (to child and teacher).</td>
</tr>
<tr>
<td>Skills</td>
<td></td>
<td>Understands pedagogy.</td>
</tr>
<tr>
<td>External</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Policies</td>
<td>PD opportunities for both teachers and TAs.</td>
<td>PD days.</td>
</tr>
<tr>
<td>Documents</td>
<td>Depends on internal factors and consequent collaboration.</td>
<td>Has time for co-construction.</td>
</tr>
<tr>
<td>Environment</td>
<td>Lack of resources.</td>
<td>Environment/ resources inadequate.</td>
</tr>
<tr>
<td>Stables</td>
<td></td>
<td>Training in collaboration?</td>
</tr>
<tr>
<td>Black boxes</td>
<td></td>
<td>Only one TA please!</td>
</tr>
</tbody>
</table>
9.3 Results

9.3.1 Site 1

Setting

This 77-year-old Catholic primary school of 242 students is located within 10 kilometres of the centre of the capital city of an Australian state. The school was selected because of its reputed close working relationships among teachers and teachers’ assistants and the high level of collaboration within the classroom and with other stakeholders in the school community.

The community is mixed in terms of socio-economic status and ethnicity. One third of the families receive government support because of low income. The teaching staff is predominantly female. Several teachers had worked at the school for more than 14 years and the principal for seven years. The school currently has eight students for whom the school receives special education resourcing because of their disability and this number is increasing annually. Two teaching assistants (TAs), one full time and one part time, work as teaching assistants with the students with disabilities. One of the TAs has additional school responsibilities that include library support, first aid and playground duty for a student with brain injury who requires constant supervision. A third TA is employed to work with the students in the ‘English as Second Language’ program. Two researchers collaborated in data collection at this site.

Actors

Students: Five students were observed working with teachers and TAs and three upper primary students were interviewed. The students said that TAs help them with catching up with school work, looking up words in the dictionary, preparing oral presentations, working on the computer, working out things together and similar activities. The students were clear and accurate about who managed the school and the class and they knew that the TA was not ‘in charge’. These senior students had experienced long association with one of the TAs – in some cases about 6 years (more than half their lives!) and their relationship with the TA was comfortable and relaxed. They very much appreciated the TA’s support and found it helpful – “She helps me a lot. She helps other people too; that’s really kind.” Although the school’s
practice is increasingly to provide TA support within the classroom, none of the students expressed dissatisfaction with being withdrawn for one-to-one support or that such support was stigmatising. However, one student added “I like the way she does it this year in the classroom because I still stay with my friends.” The students said that they receive some informal assistance from other students also. The students particularly appreciated the social support from the TA – “She listens to everything I say.” Classroom observations confirmed the interview data.

In terms of learning outcomes, a major contribution of the TAs involved keeping the student with a disability engaged in class activities. That is, the TAs assisted students to achieve group or individual goals and to participate academically and socially without consuming the teacher’s time in extensive one-to-one tuition or management of behaviour.

Parents: Six parents were interviewed and they were unanimously positive about the way TAs and teachers support their children. For some children, particularly those who needed to be ‘handed over’ on arrival and departure from school because of their behaviour, parents valued the opportunity to give, and receive from, the TA a daily briefing. Some parents believed that teachers have so many responsibilities for so many students that they do not have the time for these relationships which are so valued by parents and which can provide such useful information for school personnel. In this sense, the TAs have become a conduit for home-school communication about health, behavioural and general ‘social-emotional’ issues affecting individual students with a disability.

Principal: The principal fully supported the research and felt that the school could only benefit from an independent examination of the way the TAs provided support. Everyone in this school community had access to the principal – teachers, parents, TAs, students, ancillary staff – and the researchers. Furthermore, the principal was active and involved in the affairs of the school and was rarely in her office for long. The principal reported that the TA-teacher model had evolved and that it reflected many influences including Catholic Education Office policy and funding; the ethos of the school; the growing numbers of funded students with disabilities; the personalities of the TAs and teachers; their personal relationships; their skills; the influence of specialist support agencies; and the needs of individual students. Major issues for the principal are the adequacy of funding, the balancing of student needs with available resources and the day-to-day maintenance of a dynamic operational model for the involvement of TAs – a model that is not formally articulated in policy or duty statements. What is articulated is an inclusive vision for Catholic schools and what is evident is that this school community exemplifies and values diversity. However the successful day-to-day functioning of the model depends very much on unobtrusive support, maintenance and repair activity that is orchestrated by a vigilant principal in collaboration with other key actors, such as special education consultants from central office. For example, while valuing the deep relationships that some TAs had with students and families, often over a long period, the principal was aware that such relationships could create co-dependencies that may ultimately become unhelpful for one or more of the stakeholders.

Teachers: Four teachers who work with TAs were interviewed and five were observed in their classrooms. Lessons were teacher-led with an emphasis on teacher exposition to the whole class. TAs tended to maintain the classroom in a variety of ways so that teachers could teach. Thus, although the TAs ensured that the student(s) with a disability participated behaviourally and cognitively, they also sometimes attended to the behaviour and learning needs of other students when necessary and when they could do so. In the observed classes, the TAs worked with the targeted students (with a disability) from 10% to 75% of the time and their proximity to the targeted student(s) varied considerably also. During these observations the teachers infrequently gave the targeted student(s) individualised tuition but the TA did so frequently.
As one teacher said ‘It’s like having another teacher in the class.’ The teachers acknowledged that having a student with a disability in their class could be rewarding - ‘I am enjoying his brilliance in the classroom’ (of a student with ASD) – but also an additional responsibility – ‘One year is enough … it’s very draining.’

The TAs and teachers had considerable experience in working together, and they did so with little planning or explicit instruction/communication. The principal, teachers and TAs all said that there was little programmed time for planning and all perceived this as a weakness. The principal also “wondered about the knowledge of teachers in relation to the duty statements of the TAs.” Factors contributing to the success of this unarticulated model seemed to be (a) the implicit knowledge developed as teachers and TAs worked together over time and (b) the level of attentiveness and intuition of the TAs about the type, timing and focus of their support during the lesson. Generally the TAs and the teachers seemed to like working with each other and to be aware of, and appreciate, their distinctive roles and specific skills. For example, one teacher said, “She is absolutely brilliant; she connects with children at a deep and honest level.” This is not to say that this model is tension-free. For example, while appreciating that as one teacher said “Students’ emotional needs are met more easily by the TA”, the positioning of one individual with limited training – albeit with years of experience with particular students and families - as the key link with families may undermine the role and effectiveness of the teachers who have prime responsibility for students’ education. The issue becomes one of ‘ownership’ and, when the communication system is quite informal, there is the potential for teachers to not be provided with important information, particularly around important social-emotional issues affecting students’ progress.

Some teachers mentioned the lack of time and resources to support students with disabilities in their class – specific program resources, teaching materials. Others noted that their effectiveness is limited when they have insufficient information about the student’s diagnosis and needs. One teacher noted that the availability of assistance from a TA might contribute to one student’s lack of attention and self-direction- ‘He knows [the TA] will help him later.’ Another teacher mentioned the ‘burden’ of personal care such as toileting and another noted that having to instruct TAs is a hindrance to her work.

Teachers and TAs were aware that the policy of central office was for in-class support for students with disabilities and there was general agreement with this policy. However, teachers felt that discretion was needed about the location of support. For example, one teacher said that if support hours were limited and the student’s needs were great, then well-targeted out-of-class support was more desirable. Teachers and TAs did not discuss this issue in terms of stigma or inclusion as a philosophy or values but in terms of efficiency and effectiveness as an educational strategy. As noted above, students also did not feel stigmatised by out-of-class support from the TA. Teachers and TAs also noted that 1:1 support could focus on life skills that were not necessarily a part of the classroom curriculum.

Teaching assistants (TAs): Both TAs were interviewed and observed. Prior to their employment both had been involved with the school as parents and so, they had had a long association with the school, its culture, and many of the teachers and students. Many in the school community saw one of the TAs as the school’s contact point about students with disabilities. This de facto ‘responsibility’ reflected a number of historical factors including personnel changes and funding arrangements. In the recent past, a teacher with strong interest and expertise in ‘special needs’ took much of the responsibility for the school’s support for a small number of students with disability, overseeing arrangements in a collaborative and informal way. However, that teacher had tragically died and her informal role seems to have been loosely picked up by the principal (for administrative and funding issues) and by the experienced TA (for day-to-day management and liaison for the students she worked with).
Similarly, when the numbers of students with disabilities seeking enrolment in Catholic schools was small, the central office approach was, until recently, to allocate hours of support from a TA (see below under 5. ‘Alignment’). Many principals, including this one, simply aggregated the TA hours derived from many students into a substantial job for one TA who then supported many students with a disability. It is understandable that under these circumstances, many in the school community would come to believe that (a) TA support is the preferred model for supporting students with disabilities in the mainstream and (b) responsibility for students with disabilities at the school falls mainly to TAs.

It is difficult to generalise about the specific duties undertaken by the TAs because they consistently and smoothly adapted to the different demands of classes, students and teachers. However, TAs were observed tutoring individual students or groups; keeping students on task; ‘organising’ students so that they participated, e.g., getting out and putting away materials; team teaching; quietly ‘trouble shooting’ often without the teacher being aware, e.g., disciplining students; communicating with teachers ‘teacher’ about classroom management, procedures and the division of labour; and generally adding value by minimising disruptions and ensuring greater participation in class activities by students with disabilities and sometimes other students. The impression was gained that in some classrooms where there were students with very challenging behaviour that even the most competent of teachers would have been severely tested in ensuring safety and in achieving good learning outcomes for the entire class.

Central Office Consultants: Two consultants were interviewed and one of these had a specific responsibility for this school. Both consultants were positive about the efforts of the school to support students with disabilities in the mainstream. These consultants provide a range of services for schools around students with disabilities including assistance with planning (capital works, resources and educational programming), the development of individually tailored ‘Action Plans’, assessment, diagnosis, advice about specific teaching approaches, liaison with disability experts and/or multidisciplinary services, providing professional development and assisting with student review. The consultants’ role is to improve the quality of schools’ support for students with disabilities and they do this not so much by prescription but by encouraging schools to change their culture and/or practices. The consultants mentioned that their agenda included schools (a) taking ownership of Action Plans and students’ academic progress; (b) considering the adoption of support models that are more varied and that do not always depend on TA involvement, i.e. more flexible use of resources; (c) involving TAs mainly in in-class roles; and (d) rearranging resource allocation and timetabling at school so that there is more time for consultation among those involved with students with disabilities.

This school’s consultant mentioned the key role of the principal in nurturing the relationships and communication networks on which the school’s flexible and unspecified model of TA support depended. “Staff, whatever their role, trust her.” The consultant believed that the general lack of knowledge about the roles of TAs meant that professional boundaries and responsibilities were sometimes unclear, raising the possibility that staff might misunderstand the precise responsibilities of their role and/or be unclear about when they should defer or pass information or issues to others in the team.

Senior Advisor - Special Education: The Senior Advisor provided the researchers with considerable support and with written and verbal information about the ways in which Catholic philosophy and values and the requirements of the Disability Discrimination Act are implemented in the schools in this jurisdiction. She explained the Catholic Church’s traditional approach to students with disabilities and highlighted the difficult resource demands when students with significant disabilities attend a mainstream Catholic school. She pointed out that the Catholic Office’s traditional funding arrangements of students with disabilities (in terms of
hours of TA support at a specified dollar value per hour) had led to a belief in school personnel that the preferred and/or only way to support students with disabilities in the mainstream was to give them TA support. The Senior Advisor believed that the funding formula was not only unsustainable but that it was a disincentive to the adoption of more inclusive pedagogical practices and that it placed too much responsibility on TAs. Consequently, she and her colleagues had developed a more needs-based means of ascertaining the level of additional support, and although the ‘currency’ was still hours of TA support, the global amount was offered to schools as a dollar sum (not in TA hours), thus inviting schools to be more creative and innovative in their support of students with disabilities.

Policy Documents, Procedures and Protocols: The documents that were analysed included: The jurisdiction’s vision for Catholic education and for students with disabilities; Operational documents for resourcing and servicing students with disabilities in the mainstream; and New enrolment procedures for students with disabilities. In addition, legislation that impacts in concrete ways on schools’ approach to inclusive practice was highlighted by a number of staff with particular mention of Child Protection and Occupational Health and Safety legislation and issues of safety (of students) and ‘duty of care’. For example, many interviewees mentioned the complex issues surrounding ‘personal care’ for some students with disabilities at school, particularly around toileting. Indeed, Child Protection issues led some TAs to refrain from undertaking some of their former, but unspecified, duties such as toileting. Some documents were notable by their absence, e.g., central office policy about the roles of TAs.

The Actors and their Networks

This section examines the data using key tenets of Actor Network Theory to guide the analysis (see Appendix B).

(1) Beliefs: Catholic Office staff, principal and teachers express strong commitment to inclusive practice within a Catholic pastoral ethos. This belief system is frequently referred to by many of the actors and it affects day-to-day practice in the school.

(2) Attitudes, Interests and Motivation: There is acceptance of the general principle that students with disabilities belong in a mainstream school and that the interests of students are paramount. Although there is not total agreement about how needs should be met, the motivation and commitment of all actors is shaped by Catholic school policy and values.

(3) Interests and Agendas: The interests and agendas of the actors overlap considerably. The unifying objective across policy and all stakeholders is the improvement of the school experience and learning outcomes of all students including those with a disability. There are, however, some differences in the actors’ views about the ways to achieve this objective and these tensions are generally resolved by informal communication. Although students and parents value the support they receive from TAs some teachers and central office staff expressed concern about creating a dependence on this type of support. For example, one claimed that a particular student could perform very well when the TA was present to organise and prompt him, but when the TA was not present, this student ‘did not initiate or show any independent demonstration of skills.’

Central office staff have a somewhat different agenda to the school and parents about how support should be provided and the extent to which an TA should be pivotal. School personnel believe if resources were improved they could do a better job while central office sees the issue more as one about the effective utilisation of resources that will always be limited. While teachers would like to involve TAs in, and out of, the class, the agenda of central office is towards in-class support and the use of available resources to provide services
such as Speech Pathology, Occupational Therapy and Counselling. The focus of all stakeholders was on the adequacy of current arrangements and none focused on longer term issues such as whether the students with disabilities were acquiring the necessary skills for their later and post school years and/or whether the students’ progress in primary school could be maintained in high school.

(4) Networks and Stability: The networks that sustain the ways in which TAs work at this school are strong and longstanding, and just as ‘interests and agendas’ are moulded by a strong commitment to Catholic philosophy and policy that focuses on the pastoral role of the school, so too are the networks among the main actors. Parents and TAs are closely linked, as are students and TAs. Although not uniform, the networks between individual teachers and TAs tend to be strong, and in some cases, long standing also. The networks involving the Senior Education Advisor, the consultants, and to some extent, the principal, are strong, while the networks between central office staff, teachers and TAs are less influential.

(5) Alignment: Alignment refers to the way skills, practices, organisational arrangements and ‘contracts’ are mutually supportive. At the student/class level, the students, TAs and teachers tend to agree on the way students with disabilities should be supported. On the other hand, the principal, while generally satisfied with the success of the informal approach at her school, must deal with a growing shortfall in resources. That is, the model and the resources to sustain it are not well aligned. As a result, central office staff are attempting to change the diocese’s model of support for students with disabilities, not only because of resource issues but also for pedagogical reasons. From a financial perspective, central office staff believe that as more students with disabilities seek enrolment in Catholic schools, more cost efficient support strategies will have to be found and this is despite this principal’s creative use of support derived from disability, ESL needs, and income from an insurance company (in relation to a student with acquired brain injury). In addition, from a pedagogical perspective, central office staff are aware that the previous funding formula gave the least trained staff (TAs) too much responsibility for the most complex students and implied that teachers did not need to change their teaching practices or take major responsibility for achieving acceptable learning outcomes for students with disabilities in their mainstream class. Currently it appears that the new funding mechanism is not well aligned with the views of those in the classroom about the way students with disabilities should be supported.

There was some evidence of non-alignment concerning the roles of TAs. The lack of specification of the roles of TAs means that there is a degree of uncertainty among teachers and TAs about role boundaries. There appears to be some uncertainty about when to refer on, whose responsibility it is to give and receive information about students, and ultimately, who is responsible for the students’ academic progress and social-emotional development. This uncertainty is understandable because although it is true that generally speaking teachers have more training than TAs, these particular TAs may have more knowledge about disability and/or about the specific needs of individual students and families, particularly if they have been involved with them for a number of years. In the case of the TAs at this school it could well be a case of having the least general training and the most specific knowledge.

Finally, at a policy level, there may be a slight, but important, lack of alignment between the system’s New Enrolment Procedures and the Disability Discrimination Act in that the enrolment procedures appear to emphasise the views of principals about the appropriateness of possible placements for a student with a disability.

(6) Translation of Interests and Enrolment of Actors: In Actor Network Theory, ‘translation of interests’ is about the ways in which agendas, interests and networks become aligned or non-aligned. The fact that the school and central office share a strong and pervasive philosophical position about Catholic education is a strong influence on the alignment of all
actors. At a more pragmatic level, the capacity of central office to change funding arrangements for students with disabilities provides strong leverage on principals to change practices at the school to maximise the use of limited financial resources. Similarly, simple changes such as providing professional development about ‘special needs’ for a school’s staff, rather than for particular categories of staff from across schools (such as TAs from many settings), encourages the school-based teamwork and creative use of school resources that the Senior Advisor - Special Education and the consultants are seeking. Another strategy used by the school’s consultant to encourage the teacher to take more responsibility for targeted students’ progress is to expect the teacher and the TA to present a joint report at the planning meeting, with the teacher supplying the main report and the TA the ‘additional information’. At the classroom level, the significant roles currently played by the TAs in the education of students with disabilities suits teachers, TAs, parents and students, i.e. the agendas of those who have day-to-day responsibilities for the students, are closely aligned.

Where interests differ, the principal who communicates frequently and sensitively with all actors usually achieves their translation. Similarly, as the school’s central office consultant participates in all planning and review meetings, this collaboration assists in the alignment of policy and practice.

(7) Inscriptions and Precedence: This heading refers to all of the ways in which particular ‘voices’ get precedence and influence what actually happens. Two major determinants of the current mode of operation are (a) a well-accepted Catholic Education philosophy and (b) a funding formula that has linked funding support for students with disabilities with TA hours. Another powerful influence is the skill and commitment of the TAs themselves and the fact that they have had lengthy connections with the school, with many teachers, with some students and with the principal. In this school, the support of the parents whose child is in receipt of services helps to maintain the status quo.

(8) Irreversibility: The collaboration between teachers and TAs at this school has always been dynamic and responsive to circumstances and student need so it is unlikely that the mode of operation would be irreversible or unchangeable. Funding changes and an increase in enrolments of students with disabilities alone will no doubt force a reconsideration of current resource allocation and this may involve a change in school organisation and teachers’ practices. For example it is currently possible to cluster the small number of students with a disability into a few classes (where they receive TA support) but as enrolments increase, such clustering may not always be a viable option. More fundamental change will be necessary and if so, the teachers will require considerable professional development and ongoing support to implement pedagogical approaches that will decrease the school’s current reliance on TAs. Furthermore, while there is little obvious opposition to central office policy or funding at the moment, any reallocation of the support budget from TAs to other strategies (such as those suggested by Giangreco & Broer, 2003), will require sensitive management as the current arrangements are supported by strong, cohesive and long-standing networks and interests.

(9) Black Boxes: ‘Black boxes’ refers to inscriptions that are accepted virtually without question. In the case of this school, Catholic philosophy and especially that part of the philosophy that embraces inclusive practice could be considered a ‘given’. Another ‘given’ is the Disability Discrimination Act which has been further specified by the ‘Educational Standards’ (subordinate legislation) prescribing and detailing the responsibilities of educational institutions under the Act.
Site One Conclusion

The way in which teaching assistants and teachers work together at this school to provide support for students with disabilities in the mainstream illustrates how a powerful and pervasive philosophy and ethos, tightly aligned networks within the school community and an alert and sensitive principal have ensured the school community’s satisfaction with a dynamic, flexible and unarticulated model of support for a small number of students (about 2% of the enrolment). The model has developed and changed in response to need. The availability and type of resources have determined its shape. The model does not seem to have been based on theory or empirical research; it is not proactive; and its focus is on addressing the current needs of students, parents and teachers. However, the projected increase in enrolments of students with disabilities is now focusing attention on the financial viability of the model, its educational effectiveness and whether it is sufficiently flexible. TAs have been integral in supporting students with disabilities in mainstream classes, and although the school has “done some work on inclusive teaching” there has been little pressure on teachers to make significant changes to the way they teach.

9.3.2 Site 2

Setting

This 10-year-old secondary college of 850 students is located in a relatively new suburb of a major city. This setting was selected because of the high degree of autonomy that the teachers assistants have in providing support for senior students (approximately 16 – 18 years of age). The college is open to year 11 and 12 students only, has class sizes of 18–25, and has earned a reputation for its environmental studies. The community is mixed in terms of socio-economic status and ethnicity. There are roughly equal numbers of male and female staff. Several of the 75 teachers have worked at the school for more than 5-10 years and the principal for 10 years. The college currently has approximately 25 students in receipt of special funding because of ‘special needs’ and enrolments are increasing. Five TAs -four full-time and 1 part time - work with the students with disabilities. Another two TAs are employed to work with students with hearing and vision impairments. One researcher collected the data at this site, checking her observations and conclusions with a co-researcher who had been involved with the school on a previous study.

Actors

Students: Three students with a disability were observed working with teachers and TAs and two students with a disability were interviewed. The students said that TAs help them with their subjects, e.g. English, Cooking, ICT, homework – and for one student - also with feeding and toileting. The students were aware that the TA was an aid to the teacher. The students had developed close relationships with their TA and appreciated his/her support. “She is really good.” “We are good friends.” The students had mixed responses to how they felt about being withdrawn from the class, one student preferring that the tutoring was given in private, another appreciating still being with her peers. In either case, the students said they were happy about the social and academic help offered by the TA and this conclusion was supported by classroom observation.

Parents: Three parents of three different students with a disability were interviewed and they expressed mixed views about the way the school, TAs and teachers support their children.
Problems of adjusting to various special needs (e.g. a student with Down syndrome, another in a wheelchair, access to facilities) within the school were reported. While some parents appreciated the school’s efforts to make adjustments, one parent pointed out that it would be “better still if the school made adjustments before the student started”, considering that the school “knows about the conditions of enrolled students before they start”. Another parent felt that TAs should modify the work in collaboration with the class teacher more. “The school itself hasn’t been that successful”, she said, “as it has been left very much to the individual [TA]”. Observations confirmed the high responsibility placed on TAs for the briefing of parents, modification of work, and general coordination of ‘special needs’ students. All the parents, nevertheless, appreciated the TAs’ patience, understanding, caring, and spending time explaining things.

Of particular interest were the comments made by one parent who believed that she had been the driving force throughout her son’s schooling, constantly making sure that his needs were catered for within schools. As an example, she explained that she had had problems with a TA last year and that “the college had not been proactive enough”. “I have to jump up and down to change things, nobody responds until things are out of control”. “The only difference from last year ‘til now is the people – but it is has made a lot of difference to me and my son”. “Because I am a squeaking wheel, my son gets a lot of help, but a lot of people are not like me.” These comments highlighted the need for an ‘overseer’ of special needs students, a role which the deputy principal currently fulfils but which nonetheless is made difficult by it merely being one of many roles.

Principal: The principal supported the research and was happy to be interviewed. The principal was very accessible but because the school is so large, the principal has to delegate a number of responsibilities. This in effect means that the deputy principal is spending most of the face-to-face contact with TAs, students with a disability and their parents. However, the principal seemed active and involved in the affairs of the school and was held in positive regard by other staff. The principal reported that the TA-teacher model currently was evolving and that the deputy principal is working towards adding a quality-learning centre to the school, where resources and special needs programs would be able to assist students with a disability even further. The vision was for the centre to encompass regular students as well, so that it did not become a ‘special needs unit’ as such. The current practices of working on a one-on-one basis with students with a disability would continue, however – a model the principal believed worked well.

Issues reported to be important for the principal were the balancing of student needs with available resources and the day-to-day maintenance of the TA model. Class sizes presented a particular problem in kitchens, where students with a disability, wheelchairs and TAs “could make it hard to physically fit in at times”. “Other kids sometimes feel awkward about other adults, too.” Other potential problems included students being absent, timetable organisation and insufficient TA subject expertise. The principal also felt that TAs could be included more in staff meetings and general collaboration time. “[TAs] use a lot of time of their own, modifying work and assignments.” Overall, however, the principal felt that the school was “pretty successful”, as “kids get significant amounts of support”. “Most special needs students have gained a year 12 certificate” (although students with Asperger’s syndrome were considered less successful). Reasons given for the success included the support provided by special needs teachers and TAs, and the generosity of the teachers in classes in being accepting and providing additional support. Other students’ acceptance was deemed to be instrumental as well. The principal was also satisfied with the Department’s procedure for allocating TA points (resources), and noted that “parents are very vocal, which is good, as it ensures meeting needs”.

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Teachers: Four teachers who work with TAs were interviewed and three were observed teaching in classrooms. The observed lessons involving students with a disability were overwhelmingly TA-led. TAs’ primary responsibility is to aid the students with a disability one-on-one, either in-class or withdrawn to a special learning room designated for this purpose. In the observed classes, the TAs worked with the targeted students (with a disability) from 95-100% of the time and their close proximity to the targeted student(s) did not vary considerably. Throughout observations the researcher observed the teachers giving targeted students individualised tuition on only a couple of occasions, and then, only momentarily. The proportion of in-class and out-of-class tutoring by the TA was observed to be approximately 50-50%.

The teachers reported mixed views about the successfulness of their collaboration with TAs. Some teachers felt that the model “worked to the students’ advantage because it works on a one-on-one basis but in a classroom setting”. “This gives the student confidence to be part of the class while receiving individual attention.” One teacher reported “The TA can also talk through the work with the students and modify it, which I have not got the time for.” Other teachers were more critical of the model, saying that whilst the model might be successful for students with a disability, “it works at the expense of the teacher, whose workload and time with mainstream students suffer”. “Mainstream students have special needs too.” “Parents are quite demanding so you need time allocation for that as well.” A teacher reported annoyance with the TA when she “interferes or stops me to tell me something which is irrelevant, or is late to class”. TAs should be “organised, able to modify work, and not interfere with my teaching.” Another teacher pointed out that she had “not had one minute of training to teach students with a disability nor to collaborate with [TAs].” “[TAs] should be trained teachers”, she mentioned; “at the moment it is ‘luck of the draw’.”

All teachers agreed that there was a dilemma for the college in balancing the social needs of students with a disability and the need to produce academic results and meet standards. Some suggested this balance would be more easily struck by having a special needs unit, which the school was in the process of establishing. Resources, time allocation and professional development were also mentioned as general areas in need of improvement in order to achieve better learning outcomes for students with a disability. The teachers, TAs and principal agreed that there was insufficient time for planning.

Teaching assistants: Six TAs were interviewed and three of these were observed teaching students with a disability. The TAs had been employed at the school for an average of 2-3 years. Most of the TAs reported having excellent relationships with teachers. Some TAs were reported to be unwilling to modify work, only wanting to ‘nurse’ the students with a disability. ‘Money is so lousy’, one TA remarked, ‘that it is understandable that there is often too little commitment’. One TA also pointed out that, ‘as much as students with a disability are integrated in mainstream, the kids are not fully accepted by other kids, they are always isolated’. A space where students with a disability could ‘hang out’ was suggested as a possible solution to this problem. Some kids slip through the system, one TA reported. ‘Other kids might attract the points but they decline the help’. ‘Keeping an eye from a distance is needed in such cases’.

Other problems mentioned were: personality conflict between teachers and TAs; knowing whether a student with a disability has turned up for class or not; the class teacher being ill prepared; negative teacher attitudes towards students with a disability; lack of communication between some teachers and TAs; lack of office space for TAs (for teaching aids, students’ bags, etc); and lack of time allocation for TAs to recuperate in between working with students with a disability. In general, however, the TAs felt positive about the school and the TA-model in use. The school “has a good idea about integration, and there is not a lot prejudice”.
“Buildings are fairly accessible and the computer facilities are pretty good.” “It is a good model.” “There is no them and us, which I have experienced in other schools.”

“I think they have hand-picked the teachers and TAs; they are careful in picking staff.” “I have more autonomy here, which is good for the creativity.”

The TAs consistently responded to the different needs of the students either in-class or by withdrawing them to a special learning classroom. Working within the confines of the one-on-one model, the TAs were observed tutoring students with a disability, keeping them on task, ‘organising’ them so that they participated (e.g., getting out and putting away materials), talking to parents and talking to the special needs coordinator (deputy principal).

Special needs coordinators (SNC): Two special needs coordinators (also deputy principals), one full-time and one part-time, were interviewed. Both provided a range of services for the school and for students with disabilities including assistance with planning (resources and educational programming), the development of individually tailored learning plans, assessment, diagnosis, advice about specific teaching approaches, liaison with disability experts and/or multidisciplinary services, providing professional development and assisting with student review. One SNC’s primary responsibility was the timetable organisation (she was part-time), whereas the other SNC (full-time) worked face-to-face with students with a disability TAs and teachers. For the most part, the latter also dealt with the outside actors involved in the efforts of catering for the students with a disability at the school (e.g. counsellor [comes in 3 days a week], integration support officer [once a week], and various Department of Education consultants).

In general, both special needs coordinators were positive about the efforts of the school to support students with disabilities in the mainstream, as well as with the Department’s point allocation and the process for arriving at such points. This was confirmed through observation to be a very collaborative process involving parents, teachers and TAs. In terms of perceived difficulties, the SNCs reported that in the past, numbers of students with a disability in the school had been minimal. “But now the school has 25 students and not enough staff and resources.” One SNC reported that teacher’s acceptance of students with special needs are also needed to be fully successful. “A lot of teachers don’t want kids with special needs, it’s too difficult they say.” Supporting similar comments made by other teaching personnel, the SNCs also noted the difficulty of ensuring academic competence and social inclusion equally. “Only 30% of college kids go to university.” “Kids are having behaviour problems because they have had support in early years – support that goes away when they get to college.”

Other potential problems reported by the special needs coordinators included that TAs were expected to make up for professional development days in the holidays (thus leaving them less motivated to engage in professional development); teachers feeling threatened by having an TA in the class; perceptions that TAs are ‘dumbing down’ the class; and that TAs are not proactive and have insufficient training.

Policy Documents, Procedures and Protocols: The main policy documents used by the school were all produced by the Department: A document about inclusive practice; another about school excellence; one about school improvement; and another about curriculum renewal. The documents were stated by the deputy principal to be useful and used on a regular basis to guide the school operations with regards to ensuring optimal learning outcomes for students with special needs. The documents were analysed by the researcher and found to be comprehensive from pedagogy and curriculum perspectives. However, central office and school specific policies concerning students with special needs were conspicuous by their non-existence.
The Actors and their Networks

(1) Beliefs: The fundamental ‘belief’ supporting this model is that TAs are guided by teachers to work with students with a disability on a one-on-one basis, thereby enhancing the students’ academic and social competencies. This belief was observed to be somewhat flawed in actuality, as most TAs are working almost independently with the students with a disability and with little to no guidance from the teacher. This creates a feeling of autonomy in those TAs who feel competent enough to carry such a responsibility and a feeling of anxiety in those who feel less confident in their approach. In either case, a discord between what is ‘believed to go on’ and what actually happens is evident.

(2) Attitudes, Interests and Motivation: School policy is operating from the general premise that students with disabilities belong in a mainstream school and that the interests of these students are paramount. Interviews revealed mixed acceptance of this premise, especially among the teachers. Whilst most were committed and motivated to do their best within existing practices of the school, some indicated doubts as to the effectiveness of the model. It was generally the view that students with a disability, no matter the efforts of inclusion, almost always “were on their own” and not fully accepted socially within the larger group of students. This highlights that there may be an important distinction between ‘full acceptance’ and the ‘ability to tolerate’. For example, the students with a disability were observed to be tolerated by other students, but they experienced little, or no, initiated contact or approach. With regards to the students with a disability themselves, there seemed to be those who had accepted the situation, and thus did not seem to mind being taken away from the group to work with their TA, and those who were still striving to gain social acceptance, even to the point of declining TA assistance altogether in order not to compromise the possibility of peer acceptance. In short, the school embodies conflicting attitudes, interests and motivations, some of them competing to find various alignments within school policies, classroom practices and student dynamics.

(3) Interests and Agendas: The attitudes, interests, motivation and agendas of the actors overlap considerably. The unifying objective across policies and stakeholders is the improvement of the school experience and learning outcomes of all students including those with a disability. But as indicated, there are some differences in the actors’ views about the ways to achieve this objective, in turn creating slightly different interests and agendas across stakeholders. For example, whereas the principal expressed the view that other students accepted the students with special needs, some TAs, teachers and special needs students themselves expressed concerns and contrary views. Thus, the ‘agenda’ at a managerial level derived from quite different experiences than those at the classroom level. Another example of competing agendas was the current managerial ‘interest’ in building a learning centre, an initiative that some teachers believed would create a ‘special needs school’. A parent also mentioned that she “chose the school because it had to use integration” (no learning centre attached). In addition, whereas some TAs found the freedom at the college stimulating and challenging, and therefore in most cases translated it into meaningful activity for the students with a disability, others found it ‘daunting’, perhaps because they lacked the skills to make the ‘autonomy’ work effectively. The aforementioned discrepancies between overall policy and the day-to-day operations illustrate that at times there is a conflicting mesh of interests and agendas at the school.

(4) Networks and Stability: The networks that sustain the ways in which TAs work at this school are strong from one perspective and weak from another. From the perspective of the competent and skilful TA appreciating autonomy, the overall structure and policy of the school are supportive. From the perspective of the less confident TA, (who perhaps lacked subject expertise), success depended on the generosity of the individual teacher with whom
the TA works. If teachers are willing to share their time and expertise with the TA, shortcomings and anxiety might be counteracted to some degree. If teachers, as one teacher indeed put it, “have no interest in students with special needs”, then there is little network support or stability. A related issue is the limited time allocation for general collaboration, a problem reported by most teaching personnel. If teachers and TAs had ‘consultation time’ allocated in their workload, more assistance could be given to those TAs needing help with subject specifics as well as advice on pedagogy.

(5) Alignment: The alignments within the school constitute a multifaceted mesh of varied subtexts that reflect complex issues around the need for specialised subject knowledge, the increased self-consciousness of adolescents, and the sheer number of staff and students. At the macro to micro level, there is better alignment than is the case with Site 5, (later in this report) for example, in that Departmental procedures for TA point allocation are much more collaborative at a school, teacher and parent level. Within the meso and micro level itself, however, the varied subtexts seem to make successful alignment between practices, structures and attitudes considerably more difficult. The comments about the need for an ‘overseer’, made by a mother of one of the students with a disability seem noteworthy in this regard. Whilst the deputy principal ‘officially’ has the role to ensure alignment between school intentions, parent concerns and students with a disability welfare, the fact that this person also has other roles to perform in the school (including teaching), and the fact that the mesh of actors is so multifaceted, seem to clash with the need for someone to continuously ‘oversee’ individual students with a disability.

(6) Translation of Interests and Enrolment of Actors: The main means for ensuring translation of interests and enrolment of actors at this school were reported to be the “carefulness with which the school employed staff”, as one teacher described it. In other words, the inherent complexity and difficulty of teaching students with special needs in college seem to be, at least, implicitly recognised in the effort to employ TAs who are capable of working with senior students with a disability. Once employed, the translation of skills and attitudes into practices complying with the school model and belief occurred in the day-to-day collaboration between teaching personnel and in the opportunities to do PD days. Both aspects seemed undermined by time and resource constraints, however, thus leaving the presence of ‘translation’ within the school somewhat weak. A related issue to this observation is the problem of TAs not always having the specialised subject knowledge needed at college level, nor the pedagogical background to cater for students’ complex social needs. One of the students with a disability had formed a close friendship with the maintenance person at the school, highlighting the need for social relations and that such social relations may be hard to come by for a disabled student. In general, where interests differ, the deputy principal/ special needs coordinator who communicates frequently and sensitively with all actors usually achieves their translation. As noted, however, this is a complex and time-consuming task for one person in a school with a large enrolment.

(7) Inscriptions and Precedence: A major determinant of the current mode of operation is a collaborative process of TA time allocation to students with a disability between the Department of Education and all stakeholders at school level. Another powerful influence is the skill and commitment of the TAs and the fact that those presently employed are held in positive regard by parents and other teaching personnel. Moreover, teachers, TAs, students and parents all seem to collaborate at this school. Meetings were held every term, one hour for each student, twice per semester. These meetings provide an important avenue for stakeholders to share views and concerns. Via parent interviews, some concern was expressed that the communication is not as good at a macro level: “I don’t think the [employing authority] communicates well… Why can’t they work together and support each other?… There is a gap between rhetoric and what happens on a ground level… I think funding has
something to do with it, but mainly it is about attitudes and values…. In general, these concerns were expressed by teaching personnel. However, it should be remembered that teaching personnel generally would not feel the “lack of being heard” as profoundly as those on the ‘receiving end’. A mother reported that the modified toilet was not ready when her son arrived even though the school knew he was coming, and that getting this in order had required “so much of her time and energy”. Within the school itself, it was also interesting to get a feel for the unarticulated hierarchy; whilst being somewhat of a taboo as a discussion topic, seemed to be no less tangible in actuality. Stories about personality conflicts, power plays, teachers feeling themselves above TAs, TAs feeling themselves above administrative staff, and so on, provided evidence that inscriptions and precedence are determined and co-constructed by all stakeholders and there is an ongoing ‘struggle’ for status and influence.

(8) Irreversibility: The collaboration between teachers, TAs and the deputy principal/special needs coordinator at this school is dynamic and responsive to circumstances and student need, so it is unlikely that the mode of operation would be irreversible or unchangeable. Current changes to the model of operation (eg. inclusion of a learning centre) and an increase in enrolments of students with disabilities alone will no doubt force a reconsideration of current resource allocation and may involve a change in school organisation and teachers’ practices. However, whilst not pertaining to this school in particular, an interesting aspect of possible ‘irreversibility’ was reported by some parents at this school: TAs seem to get more ‘power’ the older the students with a disability gets. For example, a mother who has had her son go through all levels of schooling reported that in primary school the TA was predominantly teacher-led, in high school the partnership was perceived to be somewhat equal, and at college the TA exerted the most influence on the student’s learning. If indeed a general trend, an aspect of ‘irreversibility’ with regards to the teacher “handing over power to the TA” can be said to exist at college level, not so much in terms of whether this is ‘good’ or ‘bad’ but more in terms of showing a relationship between a decline in teacher-TA collaboration and a student’s progression through school.

(9) Black Boxes: Because TAs are expected to work flexibly with teachers to ensure students’ individual needs are met, few signs of black boxes were present at the school. One aspect of a ‘black box’ could be argued to possibly exist in the tension between whether or not to have a learning centre attached to the school, and whether such a centre would improve the learning outcomes of special needs students at the school. Questioning the rationale for a learning centre seems valid in itself, simply because it may serve as a starting point for discussing what philosophy and practices should constitute such a centre. Questioning the validity of a learning centre highlights that a learning centre is not beneficial per se, and that its efficiency would depend on a variety of (f)actors. For example, one of the parents said that she did not want her son to be ‘mothered’ because it limits him, and that she had consciously avoided schools in the past that had special needs centres. “Learning centres are dangerous”, she said, “as they work against inclusivity”. Hence, current efforts to establish a learning centre might constitute a ‘black box’ within the school itself (but not in the wider school community), because although assumed benefits have been mentioned within the school, its rationale and potential disadvantages have not been seriously considered.

Site Two Conclusion

The way in which teaching assistants and teachers work together at this school to provide support for students with disabilities in the mainstream illustrates a complex model at college level with many levels of subtext. The inherent tension between the fact that teachers and TAs’ working relationships depend on collaboration and the fact that the employed TA-model embodies, at least mechanically, the opposite, seems a noteworthy challenge. One-on-one
interaction between TAs and special needs students does not exclude collaboration between teachers and TAs, but the former does seem even more dependant on the latter because of this almost ‘oxymoronic’ structural relationship. Time for collaboration outside class teaching is the solution, and the common response given by teaching personnel as lacking in the school. This Actor Network Theory analysis highlights the importance of having strong networks between (f)actors to ensure the model works. The establishment and maintenance of these networks suggests the need for an overseer of not only general functionality across networks, but also of individual student welfare. Currently these are roles of the deputy principal/ special needs coordinator. However, in a college of this size, these roles are very demanding and difficult, particularly when the incumbent has many other commitments.

9.3.3 Site 3

Setting

This school is one of the oldest metropolitan independent denominational schools for girls in one of the state capitals. It caters for over 900 girls in two sections on the same site, a senior school and a junior school. This independent, secondary college was selected because of the high level of planned collaboration that occurs between staff involved with ‘special needs’ and mainstream staff.

The school caters for fee-paying students from the high socio-economic catchment areas and from the country through its boarding facility. The school accepts overseas fee-paying students (mostly from Asia) in the last two years of school. The junior school, in which the study was conducted, caters for approximately 350 students. All permanent teaching staff members are female. Most of the 18 full-time teachers have worked at the school for less than 5 years while the head of the junior has been in her position for nine years. The junior school currently has eight students in receipt of special funding with numbers increasing annually. Two Teaching Assistants (TAs), one full time and one part time, work specifically with students with disabilities. One assistant is provided by the school and works fulltime for a range of children while the second works approximately .6 of a week and is substantially subsidised in payment by the parents of the student with special needs with whom she works. Many of the students with special needs at the Junior School have sisters who also attend the school. Two researchers collaborated in data collection at this site.

 Actors

Students: The Junior School was chosen for this study as it is currently educating several students with manifest disabilities (Down syndrome, Williams syndrome and pervasive developmental delay) while preparing to enrol other students with multiple special needs in the next school year. It also has a small percentage of students with sensory and physical disabilities and the normal prevalence of students with learning difficulties.

All eight students were observed working with teachers and TAs and three students were interviewed. The students interviewed all knew who was ‘in charge’ of the school and the class. They all related to the special education coordinator, their respective teachers and the TAs and saw them as “kind” and “helpful”. One student felt the TAs were good at their job because they “got on with everyone” and “had their own children”. All three students interviewed expressed preference for working in the resource/support room with the Special Education staff especially when other girls were “mean”, when they were “in trouble” and when “the work was too hard”. The students liked music, art and physical education but said
they found some reading and other class work hard. They understood the TA’s role as helping them when things are too hard. All students said they had friends in their classes and liked to be with and to play with them. One of the students liked her classmates because they helped her too.

Most of the support in this model is delivered within the classroom though students are withdrawn for discrete skills building (auditory processing, social skills etc). Classroom observations confirmed that students with special needs spent the bulk of their learning time in the regular classroom, that their program was under the control of the classroom teacher, that the TAs were deployed by the class teacher and that the teachers and assistants encouraged other students to interact with and help the students with disabilities in a natural, non-contrived way as per the interview data.

Parents: Three parents were interviewed and each displayed a strong commitment to her child with special needs being in the school as it was ‘a good place for our kids’. They believed, however, that most of the teachers’ work and the learning of their daughters’ peers would be compromised if there were no TAs to support their children. The parents felt that the main reasons for the success of their children’s inclusion were the strong relationships at the school (described by one parent as ‘synchronised’), the good communication (eg use of home-school communication books) and the positive, creative approach of the head and teachers. The parent who was contributing to the salary of her child’s TA expressed concern about the financial burden of this impost and anger at the lack of adequate government funding for children like their daughter who have high support needs. One mother believed that the bulk of the teacher and TA work revolved around academic learning and although worried about her daughter’s lack of social skills, was unwilling to raise her concerns because of the perceived load she saw the staff as already carrying.

All parents felt that the right of their child to be at the school was maintained by the TAs, as other parents would object to any diminution in the attention their own children would receive from teachers if the assistants were not present. The parents felt that their children had good relationships with the TAs, as well as with the class teacher, the special education coordinator and specialist teachers. They appreciated the time the school took to communicate with them and to arrange for specialist assistance if their children required it. All parents expressed concerns for the transition and placement of their children when they reached high school age.

Head of School: The Head of the junior school is dedicated to the inclusion of all students and displays a forceful, energetic, collegiate approach in her drive to keep the school at the forefront in its response to students with special needs. She displays a complete commitment to students and their families and is constantly upgrading her knowledge and skills through professional development activities and her own professional reading, which is extensive. In the interview she expressed interest in furthering the school’s capacity to include students with special needs and she was very receptive to technologies which assist with programming and placement decisions at the school level.

The Head was fully supportive of scrutiny of the school from critical friends and is currently involved in a special needs review of the whole school by an external facilitator. She is keen to not have any dependency models develop in the school and stressed that from its inception the inclusion model they have shaped for their students is one in which the teacher has pedagogical responsibility and not the TA. She believes that the student should be encouraged to ‘source support’ from any appropriate avenue and not have the TA solve all her problems, i.e. the TA acts as a facilitator for the student’s independent or inter-dependent problem-solving. She is also keen that support for students begins to be ‘weaned off’ from the beginning of Year 4 and that students take more responsibility for their learning at that time.
The Head was conscious of the need for the TAs to receive more training so that areas of need e.g. socio-emotional needs of students, social and organisation skill development etc could be addressed more effectively. The Head placed a great deal of importance on the role of parents and on closer school-home relationships so that students with special learning needs and those with self-regulation difficulties were handled in more seamless and consistent ways in both settings.

Teachers: Two classroom teachers who work with TAs were interviewed and eight were observed in the classroom, playground, music rooms, art room and library. The major difference observed was the way the class teachers of the students with special needs ‘owned ‘ and worked with the students while the subject specialists and other teachers left the regulation of the students’ time and effort to the TAs. The class teachers of the students with special needs were constantly monitoring their progress and participation and conferred with the TA regularly. They both used ‘think-alouds’ often in the presence of the student (what do you think we should do now Mrs X?, have you shown your teacher what you have drawn?) as an aid to shaping planning or speeding up the sometimes sluggish reactions of students to different class activities. The class teachers and the TAs planned together where possible although both complained that there was never enough time for planning and reflection. All teachers were very aware of the skills of the TAs and appreciative of their availability. Some has come from other schools with a lower TA ratio and were delighted at the help on hand.

One teacher interviewed was particularly interested in students with special needs and had specifically requested her (quite challenging) student for the second year running. She appeared motivated, skilled, dedicated and very eager to learn new skills (e.g. Makaton signing techniques). She worked with the assistant in defined ways, and both teacher and TA planned their reactions to persistent student behaviours (bolting from classroom etc) together. The teacher often had the TA supervise the on-going work of other students while she worked directly with the student. For this reason the time she spent with the student with special needs was about 25% of each lesson observed. Both teachers felt that there were three reasons for them being able to work individually with targeted students: (a) the availability of the TAs, (b) the small class numbers (average class size is 22); and (c) the ability of the other students, many of whom are able and eager to initiate and complete work with little adult facilitation. Teachers encouraged the TAs to use their initiative and relied on their feedback and observations of students in general. The teachers and TAs worked effortlessly together and often used non-verbal communication to keep students on task.

Teaching Assistants (TAs): Two teaching assistants were observed and interviewed. Both are working mothers and experienced in other forms of employment before accepting their current roles. They enjoy their work and are liked by students and teachers alike. Both expressed admiration for the Head and the special education coordinator and were clear about what they believed constituted good practice in classroom. Both the TAs bring unique interests, beliefs and motivations to bear on the challenges they face on a daily basis from some of the students with special needs. Their own positive attitudes, resilience and ability to reframe situations ‘on the hop’ in favour of children’s participation and learning were often noted during the observations.

Both assistants displayed ability to take instruction and use initiative, dedication to the students with special needs as well as their ability to use practical ideas and to support students unobtrusively while actively discouraging their dependency – all significant factors in the success of inclusion in this setting. Both assistants supported social integration often using subtle communication in the classroom so that such non-overt interaction between them and their charges would encourage peer interaction and thus benefit the students’ social learning outcomes. To balance that, underlying tensions for the TAs revolved around perceived lack of
time for co-planning and consultation, lack of formal training and inadequate financial recompense.

Special Education Coordinator: The special education coordinator is a highly experienced and qualified teacher with a reputation for dialogue and collaboration. During interview and observations she presented as eager to involve all players in problem solving about difficult cases and is not afraid to acknowledge when she or the school needs additional or external help to align its goals, processes and outcomes for students with special needs. She works easily with class teachers and in each interview was named after the Head as the most significant agent with regard to the inclusion of students with special needs, collaboration with different players from outside the school, the deployment of the TAs and consultation with parents.

The focus for the coordinator is the learning outcomes of each student. She expressed concern that some of the students were not able to participate in the learning program of the classroom and required a completely separate IEP, which could never be implement without TA support. She also expressed concern about the increasing need for TA support and the financial impact on the school of such growth. For her, as for most staff and parents interviewed, requiring parents to pay additionally for the TA remains an uneasy demand for families rearing children with special needs.

Policy Documents, Procedures and Protocols: The documents available to be analysed were: The Charter of Academic Care for Independent Schools, and The Learning Support Handbook (Updated regularly).

The Actors and their Networks

(1) Beliefs: The strongly held belief of all personnel and parents interviewed was that the junior section of the school was a good school for students and a school that was really trying to address the needs of its students with special needs. Those interviewed described (a) a strong focus on, and cohesion of, the learning program, (b) a collaborative planning process focused on improving student achievement and (c) a culture of collaboration among the teaching staff, TAs and the Head of school as the key administrator. From interviews it became evident that one commonly held belief was that the current, longstanding Head of the Junior School, who is also a member of the whole school’s administration team, was a driving force in making the school unique amongst independent schools, in its care for students with special needs, collaboration with parents and innovations for learning.

The shared beliefs of teachers and TAs were also an important factor that emerged in the interviews. Respect for each other’s expertise and all parties espoused effort and a shared desire to do the very best by the children in their care was constantly stated. Respect for the skills and concern of the special education coordinator was another constant theme. This shared respect and mutual beliefs created a fertile ground for the visible collaboration between regular and special educators and between teachers and teaching assistants who were observed during the study. Parents of students with special needs interviewed also reported that their belief in inclusive schooling practices were challenged by other parents at the school who expressed concern to them about where the junior section of the school was headed with the enrolment of all these students with special needs. Their belief was that such inclusive approaches could harm the learning of their regular students as too much emphasis (time and attention) was placed on the few students with special needs.

(2) Attitudes, Interests and Motivation: The shared positive attitudes of teachers and TAs and the keen interest of those interviewed in self and institutional improvement were major highlights of the observational and interview process. Observations of teachers and TAs in
various junior school settings corroborated the Head’s strongly stated belief that cooperative planning, strong team structures and shared concern strategies for all students was the cement that bound together a remarkable set of adults. A strong alignment in terms of interest and motivation was the needs expressed by both TAs for more formal training. This was echoed by the Head who felt that formal training for assistants working with students with special needs needed to be more readily and locally available to the staff through tertiary training systems.

A common point of tension with these TAs is their level of remuneration. Both enjoyed their work immensely but felt they should be better compensated. The assistants, especially the one working part time, did not feel motivated to attend meetings, consultations and professional development conducted in hours for which they were not paid. The strongest alignment of motivation and interest in those interviewed was observed in the parents who were keen to have their children continue in the sanctuary and the challenging learning setting they believe the junior section of the school to be.

(3) Interests and Agendas: The interests and agendas of the Head, special education coordinator, teachers, TAs and parents in this case merged significantly, i.e. they shared a strong sense of nurturing, a commitment to inclusiveness and a strong sense of community which appeared to play an important role in the overall lack of expressed or perceived conflicting agendas and diversity of interests. Perhaps the high agreement reflected the commonly felt need to collaborate in order to succeed with complex students and this collaboration depended on a level of trust and inter-dependence not characteristic of most workplaces. Other aligning factors were the stability of the paraprofessional staff (no turnover to date) and the training, skills and experience of the special education coordinator.

The considerable overlap of interests and agendas was the perceived result of (a) the immediacy of the needs of the students with disabilities and (b) the shared need to collaborate and learn together in order to improve academic and social outcome for students with special needs. In essence the predominant agenda at the school is driven by the students in ways more strident than in a regular school without students with special needs. The agenda driven by one young student with significant special needs, for instance, has shifted staff from ‘survival on a daily basis’ to exploration of new technologies to suit her learning needs.

(4) Networks and Stability: The main network for the teachers and TAs at the junior school was clearly formed by those in everyday contact with the students with special needs. These personnel try to meet on a regular basis, plan collaboratively, meet with other professionals and communicate with parents under the planning of the special education coordinator. There appeared a slight distance however between teachers, TAs and those other professionals (OPs) who worked with students with special needs on a part-time basis. Communication was difficult in the everyday rush to teach while others worked with students with special needs as specialist (therapists, counsellors, tutors etc) in a withdrawal model. The need for feedback and consultation regarding students was seen as highly desirable but not always achievable.

What was also observed were several meetings taking place before and after school and during ‘breaks’ between teachers and OPs as well as teachers, OPs and parents i.e. staff gave up their own time in order to make the connections needed by their networks.

Parents were connected to the supportive network of staff at the school (micro level) though they did not seem to have formed a support network (parent support group) themselves. They did not appear to have connection with the overarching state Association of Independent Schools’ framework (macro level) but were aware of decision-making processes in the school (governing board, principal, head of school, special education coordinator, etc) (meso level) as most interviewed had other children at the school. One network that did not seem to exist
strongly was one between the Junior and Senior school though several transition processes seemed to be in place and were mentioned by those interviewed.

(5) Alignment: Alignment in the pedagogical practices, skill development, organisational flexibility and in undertakings between and among components of the organisation were evident in the junior school. The alignment between what the Head of school believes is best practice and what actually occurs is strongly visible. Because she makes professional development a reality and supports learning in any way possible for teachers and because resources are brought in to support teachers the continua between theory and practice and between practice and best practice and the generation of appropriately individualised practice for complex cases is visible and easy to describe. Throughout the observations and interviews there did not appear to be any major dissonance between the macro, meso and micro levels of functioning at the junior section of the school in respect of the inclusion of students with special needs i.e. the espoused values and beliefs of the school, the vision of the Head of school to provide a quality education for all girls, and the quality of provision and practice of the special education coordinator, teachers and TAs were in alignment. As noted earlier, concern was expressed by several actors about the lack of alignment between the school’s aspiration to respond to student need and the adequacy of the resources to do so.

(6) Translation of Interests and enrolment of actors: It became obvious during interviews and observations that one of the aligning forces was the special education coordinator who is a highly qualified and experienced special educator. The work of both the Head and the special education coordinator have been powerful forces in the enrolment and alignment of actors in this school’s journey towards inclusive schooling practices. In terms of the translation of interests at the junior school, one of the factors of most concern to teachers and to the special education coordinator is the continuation of TA support. Teachers were also concerned that any assistant funded by parents could be made to support only their child and that their constant presence in the classroom would act to make the student with special needs dependent on adult attention and support. Several actors noted this potential for the creation of ‘learned helplessness’ as an undesirable possible outcome of the way the inclusion model in the junior section of the school was being partially funded.

(7) Inscriptions and Precedence: In the junior school, a number of powerful inscriptions have been overturned. Practices that were initiated under the former Principal who sought to make the inclusion of students with complex needs a reality, have countermanded traditional hegemonic stances in the independent school sector. Another inscription at the meso level has been the use of special needs staff (teachers and assistants) to teach students with special needs in support classes or resource rooms away from the mainstream of education. In the junior section of the school students are mainly taught in regular classes though some specialist skills are taught away from the classroom. However, this practice applies to all students many of whom have additional or alternate instruction apart from the classroom. At all times children taught separately are in small groups in the company of their peers.

At the micro level the use of a resource area or special needs centre has traditionally been limited for use with students with special needs. In the junior section of the school, the resource area is a welcoming space used for instruction, meetings, planning and consultations with a variety of staff based there and others using the facilities for multiple purposes. As a result one of the inscriptions typically associated with such areas i.e. ‘that’s where the dummies go’ has no validity with staff and students, many of whom come and go to the resource area/special needs centre each day.

(8) Irreversibility: Nothing in the junior section of the schools seemed set in concrete save the resolve of all major players that the inclusion of students with special needs would continue to evolve at their school until it diminished from the phenomenon it now was into a more easy-
to-assimilate facet of school life. One of the features that was most mentioned by teachers and TAs as needing to be reversed or changed was the need for the status of TAs to be upgraded via on-going professional development with commensurate financial rewards.

(9) Black Boxes: In reviewing the data collected it is impossible to detect any hegemonic stances or pedagogical rigidity in the way the junior section of the school is transforming to more successfully include students with special needs. There are no beliefs accepted without question though people feel free to express opinions and to query decision made about matters such as the distribution of resources for instance. Generally the One parent also mentioned as a ‘fait accompli’ the loneliness and isolation felt by her child with special needs as she had difficulty handling social relationships in the vastness of the playground especially before school. She believed that it was too difficult for her daughter in the playground in the early morning and sadly recounted how she drove around the school after dropping her other children off waiting until the last minute to drop off her child with special needs so that she would not feel the pain of rejection and isolation. In light of the emphasis on social skill development at the junior section of the school, this was a sad story unknown to the teachers and assistants and one, which can and will be reversed with the support of the Head and special education coordinator working in alignment with the teachers and TAs. This illustrated the dynamic rather than irreversible nature of working for students with special needs at this school. The need for more collaborative planning and problem-solving opportunities and fewer impositions on teacher time in the form of paperwork and large scale school activities were the consistent needs expressed by staff who want to keep the focus on learning outcomes for their students.

Site Three Conclusion

As part of an independent school, the junior school does not have the normal bureaucratic or financial strictures of a public school but the Head is accountable to the school principal, administration team and, ultimately, the school board for decisions made and resources used. Although teaching personnel said that resources could be better, resources do appear relatively plentiful, and additionally, in the current model, parents of students with special needs can be asked to subsidise the salary of the TAs. The school has established a long-standing process of negotiated enrolments for students who have specific special needs. The school utilises the services of external agencies which specialise in sensory impairment, early intervention etc, obtains input from Association of Independent School consultants as well as hiring part time private speech and occupational therapists.

The school has evolved its own models of inclusive schooling practices with different factors taken into account in both the Junior and Senior sections of the school. The model used in the junior section of the school is an evolving one, dynamically attuned to the emerging needs of students with special needs and influenced by the Head of Junior School, the skilled special education coordinator, special and regular teachers, the support of the TAs and the nature of external consultancy and support. The pedagogical model used is one where students with special needs are educated in the presence of their peers in the regular classroom and participate in all classroom activities. Modern understandings of reasonable adjustments as mandated by local laws (Disability Discrimination Act, 1992 and the Disability Standards for Education, 2005) are employed at the school and classroom level. TAs are instrumental in supporting the students’ access and participation as well as making adjustments as they are needed for the student, under the instruction of the class teacher, in the course of the lesson.

In this model the TAs can use their initiative and creativity to problem-solve and are free to suggest learning activities that suit the lesson and the child’s capacity. The teacher remains totally responsible for the child’s education and has the ultimate say in the deployment of the
assigned TA. The model relies on collaboration at all levels and the on-going professional development of school personnel. It respects parental rights and is sensitive to the needs of teachers especially in terms of potential burnout in those handling more challenging students. School personnel recognise that a “sense of urgency” is an important factor in dealing with students with special needs and that technology can be used to enhance the acquisition of skills.

9.3.4 Site 4

Setting

This large primary state school grouped classes in a way that maximises the exposure of students with additional needs to teachers’ assistants. Classes that contain ‘clusters’ of students with special needs are taught by a teaching team that consists of a mainstream teacher, a special education teacher and teachers’ assistants. The school is located in a small Australian city in a low-middle class suburb. The principal has worked at the school for 12 years and has been a significant force in raising the school’s profile and popularity. Currently the school has 841 students, forty-five of whom have an identified disability that attracts additional funding. There is a relatively high percentage of students with a hearing impairment and about a dozen teachers and TAs are competent in Signed English. The school decided against accommodating any of the identified students in small units. Instead there are cohorts organised in years 1-2, 3, 4-5 and 6-7. These cohorts consist of classes with 50 (year 1-3) or 60 (year 4-7) students who are team taught by two teachers. In each cohort one of the classes is a designated ‘cluster class’, meaning that it contains students with identified disabilities. Placement in a cluster class benefits all students because they have access to a special education teacher and TA in addition to the two primary trained teachers. Having a critical mass of about eight students with additional needs in a cluster class also permits the employment of a full time TA for the group instead of just five hours per week per student. Each cluster classroom has a teacher annexe, a small classroom for group work, a large room and a wide corridor with partitions for group work. The school is also trialing a full-time Preparatory class for five year olds which includes some identified students. On the school grounds there is also a Special Education Development Unit (SEDU) for students with significant and/or multiple disabilities aged three months to six years, and some will go on to the adjacent special school. Two researchers collaborated in data collection at this site.

Actors

Students: Five classrooms were observed in which there were approximately four-eight students with disabilities. Three students were interviewed. The students all nominated the principal as “the boss”, but also said that “the teacher decides” in the classroom. The TA was welcomed as their most significant helper in the classroom and playground. One student also observed that the TA helped “anyone who needed it”. Another volunteered that “she works 1:1 and sometimes in a group, sometimes inside and outside. She helps me work out things with my friends.” The impression was that the students felt the TAs responded to their needs and that this was an appropriate thing to do. One student who was in a multi-age class said the older students sometimes helped him too. These statements were supported by the classroom observations.

Parents: Three parents, one of whom was a former student at the school, were interviewed. This parent’s view of the school was that is was “wonderful – it has a reputation around town.
Even the parents of peers [without disabilities] say it is the best school around.” The second parent said her child “loved the TA” who worked with her son in small groups and 1:1. This parent felt that the principal ran a tight ship but was very approachable. The third parent said that her child was emotionally labile and that the teacher helped with sex education and social skills, and that the TAs helped him with organisational skills, calming down, and interactions in the playground. This parent had a comprehensive list of material resources on her wish list – including furniture, lighting, visual boards and sensory rooms. She considered that the groups were too large, especially for children with autism, and that noise was a problem. However, this parent concluded by saying she was “most happy” with the school. All parents appreciated the anti bullying policy and its implementation. “They teach the kids how to do it.” The Newsletter and the responsive and consistent way the entire school staff dealt with problems and assisted identified students made the parents feel part of the school.

Principal: The principal was supportive, approachable and expansive, describing how he had carefully orchestrated the current cluster system, beginning with highly competent and willing teachers (to ensure success) and gradually expanding to the rest of the school. He enthusiastically provided exemplars of inclusive practices and a general absence of privileged groups. He pointed out that the TAs had a homeroom, mixed in the staffroom at lunch and afternoon tea and were invited to (and attended) teaching staff functions. They were also provided with the same professional development opportunities as teachers. The principal was also diligent in unearthing first-hand reports about prospective staff and worked hard to achieve a balance in this school. He was proud of the school’s involvement in extra curricular activities and the high standards of performance (academic and behavioural) expected of all students. The development of relationships was seen as critical to the success of the school, as was professional development for which the school provided strong budgetary support. This principal appeared to be a practical and strategic operator who was proud of his reputation of knowing almost all his 840 students by name. He was also a community leader who worked with the media to enhance the school’s reputation.

Teachers: Four female teachers were interviewed and five classrooms were observed. All four teachers enjoyed being members of a team, along with TAs and support staff. Classroom observations verified that the classroom learning was a shared responsibility: neither the TAs nor the teachers worked exclusively with any particular students (though the TAs spent more time with students identified as having additional needs). Proximity to individual students varied. All teachers considered that the TAs had a valuable and often demanding role for which they were underpaid. Teachers preferred to work consistently with one good, compatible TA who was flexible and committed and knew the students. The teachers felt the best TAs tended to have a natural empathy with the students, and they agreed that some of the students with additional needs became very close to the TAs. Teachers were highly appreciative of the role played by the Head of Special Education Services (HOSES) in terms of emotional support, administration and professional development for the TAs.

Despite the relatively large student numbers, no discipline problems were observed and most of the noise was related to the ongoing work activity. Planning time was an issue mentioned by the majority of the teachers, the norm being that it was conducted in ‘free time’ such as lunch breaks and in their own time after school or at weekends. There seemed to be a wide range of communication styles between the TAs and teachers. One teacher stated she shared the Individual Education Plans with her TA and gave her a daily printout of the day’s activities in advance. Another teacher stated she had very little advance written communication with her TA and also considered that there was no need to preach to the students about including everyone, because it was already the school ethos. However she provided helpful inclusive strategies, such as telling the typically developing students to ‘call ‘Tom’ ‘Thomas’ otherwise he does not know you are talking to him’. A third teacher described how she met with the
TAs to discuss with them the ‘big picture’, and then spent time at the beginning of each day talking over the TA’s role for the day. One teacher applied to teach at the school after seeing her own typically developing daughter signing with a student with a hearing impairment. In general the teachers considered it an advantage if TAs were parents, were confident communicators, used a calm, even tone, were informed about education and the curriculum, could use signed English and were knowledgeable about good pedagogy and specific disability information such as cochlear implants.

Teaching Assistants (TAs): Seven TAs, six female and one male, were interviewed individually and a focus group of five TAs was conducted. These TAs confirmed many of the impressions gained from the teachers. TAs felt part of a harmonious team, and believed their skills complemented the teacher and therefore they could take some credit for the students’ progress. TAs considered the senior staff to be extremely supportive and approachable, although most worked through the Head of Special Education Services. The appreciated having their own resource room, not only because it provided them with their own work space, but also because it was conveniently co-located near the staff room and administration block. The overall impression was that the TAs were strongly supportive of each other. The TAs were proud of having responsibility for a lunchtime resource room with games and craft activities for children who needed some alternative choices, support and structure during the break period. The social club and some other school-wide activities were also run by the TAs.

One TA said she “just loved working with these kids”. All TAs strongly favoured the school’s inclusive ethos and for some, this was the element that attracted them to the school. One TA with a profound hearing impairment and excellent signing skills was accepted fully by staff and students, both of whom communicated sensitively with her. In relation to the role of the TA, the perceptions of teachers and TAs were similar. The TAs said they helped with reading, or simply helped some children to get organised. The TAs agreed they worked 1:1 or with groups of children with additional needs, not all of whom were necessarily officially identified. They noted that not only did teachers occasionally use the ‘clever kids’ as peer supports for identified students, but the reverse also applied.

Head of Special Education Services: This person was considered central to the smooth operation of the teachers and teaching assistants. She was strongly supported by the principal, who ensured she received administrative time from the schools allocation so that she could concentrate her energies on supporting the staff and students. The Head was approachable and hard-working with a broad brief, which involved working within the school, particularly in providing professional learning and occasionally working between schools and organisations.

Policy Documents, Procedures and Protocols: There was not a great deal of supporting documentation made available to the researcher. The staff gave clear indications of understanding disability legislation such as the new disability standards on education. However, the general impression was that policy was enacted rather than documented. There was no duty statement for TAs supplied to the researcher. Frequently, the school’s values were articulated in living documents such as the school newsletter, a comprehensive publication that was sent home to parents each week and which always carried a message from the principal.

The Actors and their Networks

(1) Beliefs: The belief that inclusion is a basic right of students was reiterated frequently. Staff believed that students with additional needs could and should be helped, with no sense that this amounted to ‘second rate’ teaching. Interviews and observations confirmed the strongly held belief that inclusion should be ‘real and authentic’ and not just tokenism. Personnel held
a broad interpretation of inclusion which they believed should include people with disabilities and those who were “disabled by life”, such as socio-economic background and culture. Thus the commitment to inclusion seemed rooted in a fundamental belief in the equality of human beings, corresponding to a holistic view in which disability and hence diagnosis should not necessarily be privileged as a criterion for accessing funds and services. A second and consistent belief was that people were a valuable resource in providing inclusive education. It was felt that all personnel needed to be supported to provide quality education in an egalitarian way through experiences such as quality staff development, even though this reduced spending in other areas.

(2) Attitudes, Interests and Motivation: Staff at this school had a positive outlook and they saw the principal as ‘on the ball’ and the Head of Special Education Services, ‘terrific’. There was a sense of purpose and shared goals in the school. In turn, teaching personnel were proud of their work and worked hard on what they felt were worthwhile projects in and out of the classroom. In general, the attitude was one of empowerment in which it was taken as a given that staff would be engaged in their work and find some of their own solutions. Several TAs looked for work-related literature in their own time, the reward being greater job satisfaction for doing their work well.

The school community accepted that other people had different beliefs about inclusion – but not at their school. The principal believed that there was a turning point for the school when it made a public commitment to inclusion during a parent meeting in the initial stages of implementing inclusion. On this occasion, a parent who, at a public meeting, objected to the presence of students with a hearing impairment was told “This may not be the school for you”. The attitude of the administrative staff was that inclusion needed to be supported. The school spent 20% (twice the state mandated budget amount) on professional development. The school leadership were also prepared to persevere in the face of small setbacks rather than expecting a ‘quick fix’.

Several TAs spontaneously reported how much they enjoyed working at the school. It was common practice to the TAs to choose to work with other TAs and the children during their rostered time off, and to volunteer for school camps. Many of the school community had ongoing relationships with disadvantaged persons outside the school. All members of the school community contributed to an inclusive ethos, e.g. the janitor used his own experience of being bullied at school to empathise with the students with additional needs. Several people commented how much their own typically developing children had benefited from the diversity of the student population.

(3) Interests and Agendas: The main agenda of the school was to assist all students to be successful, although this was interpreted more narrowly by the TAs and ancillary staff than the senior executive. Ancillary staff interacted with all students in the school, and a former canteen supervisor followed her agenda of assisting all students by attended the signing classes. Compared to the teachers, the agendas of TAs contained a greater focus on immediate and practical class interactions. They were interested in sharing their experiences openly, without self-promotion: a focus group saw each TA spontaneously generate a humorous anecdote about their own foibles in the space of ten minutes. The teaching staff perceived the TAs’ job was to help the students with additional needs, not make the teacher’s job easier. Accordingly, most of the work hours of the TAs were allocated to face-to-face tasks rather than clerical tasks (these were performed by ‘general TAs’). Teachers accepted their responsibility of liaising with parents over minor issues, whereas the senior staff were more aware of whole school and systemic issues.

(4) Networks and Stability: Wide networking is a feature of the school executive. The principal is president of Rotary and has drawn on those networks when appropriate, and one of the
deputies who lectures at university has attracted pre-service teachers to the school. The school executive also works directly with TAs and the rest of the school community as needed on particular issues related to grant applications and the like. All classes except one are team-taught. The single exception, accepted by the school community, consists of a classroom with a teacher whose expertise was respected but who felt unable to team-teach. In the cluster classes, both the two general and the special education teacher work with the TA, although the TAs consider the special teacher is easier to work with because they are more aware of required teaching accommodations before the lesson begins.

Most staff appear to enjoy engaging with all students, and the popular groundsman actively involves vulnerable students in his work. The general office staff are less focused on the students but the principal and deputies make a point of interacting with students and parents before and after school. While there is consensus that inclusion should encompass many kinds of additional needs, there is nevertheless some uncertainty regarding their severity. The school is next door to a special school, and little interaction was observed between the two. Moreover, the school does not have a clear position on whether it is appropriate to enrol students with extreme behaviours, or severe/profound intellectual disability or autism.

While networks within the school and between the school and the local community appeared to be strong, flexible and resilient, the same could not be said for the relationships between the school and the district office. In particular the District Director was considered to be not ‘on-side’ with the school. Relationships between the school and the district office were complex and possibly complicated by personality issues, but they also reflected fundamental discrepancies regarding convictions about the nature of inclusion and how it should be addressed. For example, the Department gave financial support to a narrower range of students than the school actually supported. It also effectively rewarded schools for having a narrow academic-focused curriculum which the school believed was not conducive to meeting the needs of its diverse school population.

(5) Alignment: Alignment of skills, practices, organisational arrangements and ‘contracts’ within the school was generally strong. First, it was recognised that everyone’s talents should be respected. All TAs reported they were respected by the staff and children. The groundsman and other ancillary staff were also respected and in some cases, extremely popular. Diverse awards were allocated at assembly to give various students a chance to excel. Second, there was general agreement that everyone was welcomed and included. For example the school invited volunteers to assist with many extra curricular activities, and the Principal went out of his way to ensure that all parents could attend the parent-teacher interviews, reminding the staff that the school was aiming for 100% presence. In addition, staff recognised that everyone needed help sometimes, not just the identified students. The students in the cluster classes were not only physically located with the other students but teachers also gave students with additional needs the opportunity to teach their typically developing peers as well be taught by them. Although the special education teacher and the TAs mostly stayed with the identified students and the general teacher mainly with the remaining students, all were observed to ‘roam around’ the main classroom, offering assistance to everyone and responding to all requests for help.

Nevertheless, there were tensions within the school regarding the non-alignment of aims and practices. Parents of typical children tended to be more positive towards inclusion if their own child was taught in a cluster class. Staff strongly supported the cluster classes and team-teaching but lamented that this entailed that the classes were large and/or crowded and at times very noisy. Many of the classes were conducted in the large corridors next to the classroom, and some students were taught outside, with attendant distractions, without appropriate seating or a clear pedagogical reason for doing so. One TA was observed to be
simultaneously signing the content of a television program to a group of students with hearing impairment and monitoring a group of ten students as they worked at their computers. No teacher was observed to have trouble controlling the students but the inevitable noise and movement would work against those students with attention, organisation, and learning difficulties. Whilst acknowledging the benefits of group work, rotations and collaboration, it was also recognised that these techniques are not ideal for all students. However, the large classes gave teachers little choice, apart from withdrawal of students with additional needs to a self-contained space (as sometimes occurred).

It was between the school and Head Office that the most striking examples of non-alignment occurred. In the first instance, the State government only funds six categories of disability whereas the school was committed to a broader interpretation that included socio-economic disadvantage and other factors. This meant that the school had to find creative ways to support these students. One strategy was to offer a broader curriculum and less time spent on ‘academics’. However, this broader curriculum does not align with measures of good teaching used by the state Department. For example, a state-wide Assessment is used to measure reading strategies of young children, and the school has slightly more students diagnosed as having difficulties than the state average. Although one solution would be to limit the chess, choir, tournament of minds and other activities and devote more time to teaching reading, this strategy might change the nature of the school and students and parents would object strongly. Thus, an underlying difficulty arising from differing interpretations of inclusion is that there are divergent views on how to measure the performance of a school. On one hand, the school is very popular, with 60% of enrolments coming from outside the catchment area. However, if the school were to restrict its activities in order to accord more closely with a Departmental indicator of success (early reading performance) the school would lose its appeal for some parents.

Certain administrative arrangements were also non-aligned. For example, in 2005 the TA hours were allocated to children by a Departmental process as well as a more limited internal appraisal process. There is no provision for new students entering the system under the Departmental process, so the District Office has to reserve some hours in case of new enrolments, effectively reducing the hours of support available for known students.

A new Departmental funding scheme is about to be introduced and there was some disquiet within the school about the school’s continuing access to Departmental resources to support students with disabilities in the mainstream. In fact, the school was actively questioning whether it would be penalised for being a ‘good performer’ and possibly seen as not needing further resources to support its current achievements and community standing. In relation to TAs in particular, the school believed that they were undervalued, and hence underpaid, by the Department. At the same time, the school executive recognised that the lower salary enabled them to employ a greater number of assistants and that any salary increase that was not accompanied by additional funding might result in the restriction of other programs. Finally, both the Department and the school were united in their belief that the TAs needed formal qualifications. Although this was only a recommendation by the Department, it was strongly supported at the school and a relatively high proportion of TAs had chosen to undertake further study in the technical college system.

(6) Translation of Interests and Enrolment of Actors: At this school there was strong consensus about the value of inclusion. In addition, many of the actors maintained links with people with additional needs in private life, a nexus that has been shown to lead to higher retention of special education staff. There were two key practices in the school that maintained this consensus of values around inclusion. In the first instance, the principal strongly articulated the position of the school and so persons with similar beliefs were
attracted to work there. Not only did a school newsletter go out to families each week, which included a message articulating the school’s vision, but the staff also ensured the parents ‘got the message’ and even organised a competition for parents on at least one occasion based on the newsletter’s content. The school also used the local media extensively and carefully, either drafting material or provided comprehensive input about various successes.

The school executive constantly reiterated the core business issues to the staff, using humour and reminders such as ‘did you speak to the cleaner today?’ Senior staff also consistently acted as highly visible role models for the rest of the school and for parents, in assembly, in the classroom, in the playground and at the beginning and end of the school day. The school’s vision is highlighted on recruitment and in the first staff meeting of the year, which is attended by all staff, including ancillary personnel. At the weekly staff meeting, the agenda was taken from a whiteboard that was permanently divided into four quadrants: for management, teaching and learning, professional development, and relationships. At these and other meetings the principal is aware of the importance of alignment and uses real life exemplars of the school values to send a consistent message. He also rewards teachers who are responsive to the needs of the students.

A positive attitude to inclusion school-wide was also fostered by the school’s strategic approach to staff recruitment. The school executives were prepared to wait until good staff could be found and they actively used personal contacts to lobby the university for student teacher placements so they could encourage promising young teachers to come and work at the school. The school welcomed a large number of volunteers to assist in meeting the needs of students, and this network was the source of several TA appointments.

(7) Inscriptions and Precedence: The principal’s voice is a powerful determinant of the school’s ethos and performance. He is energetic and committed and the staff trust him to get good results. He is supported by competent deputies and a knowledgeable, committed and hard working Head of Special Education Services. Together they are an effective and responsive team with a clear focus on the needs of the students and a willingness to listen to families’ concerns.

(8) Irreversibility: The school is flexible about the strategies it uses to achieve its objective but considers its core issues non-negotiable. There is no explicit, school-based duty statement that details all of the tasks undertaken by TAs. Their work is described in generic statements that allow for maximum flexibility but also engenders some confusion. The school executive provides opportunities for staff feedback, particularly about workload issues. They reiterate that just because extra-curricular events are good for the school and for individuals this does not mean that these have to be repeated if people are unwilling. There is an emphasis on multi-skilling because it is recognised that the nature of schools is that they have to be responsive and flexible.

(9) Black Boxes: This school is driven by a fundamental belief in the value of all human beings, and inclusion is a logical consequence of this. This was envisaged as ‘their way’ rather than the only ‘right way’ so it was accepted that other schools have the right to operate differently. However, with a percentage of identified students that roughly paralleled that of the general population, the school did not see its role as catering to disproportionately more of these students. The senior staff are attuned to relationships and individual differences in the community. Whilst they see the benefits of cluster classes and team teaching, they accept that some individuals prefer to work differently. There is one class that is not team-taught and at least one child who is not placed in a cluster class in accordance with the parents’ wishes. Staff are comfortable with these exceptions.

The Head of Special Education Services plays a critical role by both supporting all staff and especially the teaching assistants to implement inclusive strategies. Consequently the teaching
assistants enjoy and are competent in their work and are considered a valuable addition to the school. The Head of Special Education Services also manages upwards and supports and informs the most senior staff about contemporary developments in the field. There is tacit agreement that the principal is the voice and the driving force behind inclusion, but there is also a feeling of shared involvement and accomplishment by other staff. The school is positive about upgrading its facilities, even though a multi-million dollar injection is required in the future. There is less optimism that their needs and vision are fully supported or appreciated by the state education authorities, and open disquiet about plans to change the funding formula for students with disabilities.

Site Four Conclusion

Overall, it was the school’s inclusive ethos and its widespread adoption of team teaching that appeared to have the biggest impact on the way the school operated and the way students with disabilities were supported. The mission and values of the school were prominent and influential, affecting day-to-day activity directly. The principal and senior staff played key roles in creating and fostering the school’s exceptionally upbeat ethos and reputation. Generous professional development and recognition of the contribution of the all staff, including TAs, contributed to an energetic, whole-school approach to supporting students, including those with disabilities. Where tensions and non-alignments existed, they were at the macro level, i.e. they reflected the different policy emphases of the school and the state Department. While these non-alignments were significant, any threat they posed to the school’s model of teacher – TA operation were potential and indirect.

9.3.5 Site 5

Setting

This 27 year old, public primary school of 218 students is located approximately 30 kilometres from an Australian metropolitan city in a semi-rural area. This school was selected because of its high level of collaboration in regard to teaching and planning and liaison with parents. The teacher assistant works with all children in the classroom while supporting the learning of the student with allocated support.

The community is mixed in terms of socio-economic status and ethnicity, but has a predominance of middle-class workers with Anglo-Saxon origin. The teaching staff is predominantly female. Several of the 15 teachers have worked at the school for more than 10 years but the principal has only been there 1 year. The school currently has one student in receipt of special funding because of ‘special needs’, although according to teaching personnel, 4-5 children are in need of extra assistance. One teaching assistant works together with the classroom teacher in assisting the student with a disability. Two researchers collaborated in data collection at this site.
**Actors**

Students: One student with a disability was observed working with the TA and classroom teacher, and later, also interviewed. The student with a disability had problems understanding the questions, but the interview confirmed that she enjoyed working with the TA and her classroom teacher. To most of the questions, she responded with “she [TA] helps me”. This general appreciation of the TA’s help was confirmed via observation and via the interview with parents.

Parents: The parents of the students with a disability were interviewed and they were both positive about the way that the TA and classroom teacher worked with their child. The parents were particularly grateful for the TA’s ability to keep them informed via briefings and work with them and their child “on a friendly basis”. “Our child is happy to go to school again”, they said. “The TA has really taken her under the wing and she knows how to make the learning content attractive and fun for her”. The TA’s “instinctual knowledge” in how to interact with their child, her “patience and tolerance”, and her ability to make their child “feel part of the group”, were also emphasised during the interview. “She [TA] has become like a second mother to [the student with a disability]”, they parents said. This stood in stark contrast to the experience the parents had last year, where their child had a different TA. “Tolerance and assertiveness is so crucial for an TA to possess”, they mentioned, “which, when not present, makes everything so hard”. The parents did mention, however, that the occupational therapist (OT) had come into the school and corrected some aspects of the present TA and classroom teacher’s practices. For example, the student with a disability had previously been praised for work that could have been completed to a higher standard, but after the OT had pointed this out, the TA and classroom teacher adjusted their approach and the student’s work improved. Overall, the parents felt that their child had improved much in the last year, both academically and socially, because of the efforts of the current TA and classroom teacher.

Principal: The principal was fully supportive of the research and felt that the school could only benefit from an independent examination of the way that TAs provide support for students with a disability. Everyone in this school community felt free to approach the principal at any time, whether teachers, parents, TAs, students, or administrative staff. Moreover, the principal was very pro-active and involved in what went on in the school community. The principal indicated that she worked with TAs and classroom teachers in a collaborative manner and that she often took their professional advice as much as she gave advice and direction. Interviews with other teaching personnel at the school, all of whom praised the principal’s approach as lead manager, confirmed the principal’s views.

The principal reported that some of the major problems with ensuring successful collaboration between TAs and classroom teachers working with students with a disability were things like getting too little TA time allocation for students with a disability; diagnoses by school psychologists taking “forever”; a general lack of resources (although she felt that this school was relatively well off); not all TAs being as talented as the one working with the student with a disability at present; insufficient encouragement for professional development; and that personality conflicts between the TA and the classroom teacher can present obstacles. She emphasised that the model that they worked with was flexible, determined primarily by the teamwork of the TA and classroom teacher. Important also the input from outside support mechanisms, such as school psychologists and the [the central inclusion support agency], whose staff would come into the school on a needs basis. She also mentioned a unique problem that the school was experiencing at the moment: the school had four other TAs employed but only one child diagnosed with a special need. This meant that they were able to give the student with a disability 0.6 time allocation even though she had
only received 0.3 allocation from official channels. The principal’s fear was that if and when other students were diagnosed, they would have to put the student back to 0.3 and thus insufficient TA allocation. The family of the student had reported to her that they had “seen a notable change” with [the student] since having the extra time devoted to her by the TA.

Teachers: The classroom teacher involved with the student had 30 years of experience working with students with special needs. She was observed teaching and also interviewed. Four other teachers were also interviewed for support data. The teacher said that the TA she worked with now was “the best she had ever had”, thus supporting comments by the principal and other teachers. Some of the TAs in the past did not have the “common sense” to moderate work for the students with a disability, whereas the current TA has that ability. This ability is particular important when working with the students with a disability on a one-on-one basis, she said, because a “constant moderation and adaptation of the work given by the classroom teacher is necessary”. Other TAs of the past “I have not given so much ownership of the teaching process”, she said, “either because of lacking skills or because of lacking initiative”. The teacher believed that a crucial factor was how well she gets along with the TA and the dialogue and collaboration that ensues. She generally felt that TAs should be “older and more experienced” than is often the case.

The lessons that were observed were primarily teacher-led but with the TA often working as a co-teacher, even instructing the whole class at times. Both teacher and TA ‘maintained’ the classroom’ in a variety of ways so that both could teach at different times and in different ways. For example, the TA ensured that the student participated behaviourally and cognitively, but also frequently attended to the behaviour and learning needs of other students. In the observed classes, the TA worked with the student from 5% to 70% of the time and her proximity to the student varied correspondingly – all depending on what was needed and the lesson plan that the teacher and TA had developed together. As the teacher said, “It’s wonderful because it’s like having another teacher in the class”. Both teacher and TA seemed energised by their collaboration, thus providing an interesting contrast to comments made by some of the other teachers that having a students with a disability in the class ‘can be really hard’ and ‘takes up so much time’.

An important factor that most of the teachers emphasised was having time for teachers and TAs to deliberate and plan their teaching together. This was one of the most repeated responses that came out in interviews, e.g. “the biggest obstacle to collaboration is not having the needed time for dialogue and discussion”. The teacher and TA under study took the time for collaboration that they felt they needed to be satisfied with their teaching, but this in effect meant that they often used a lot of their own time. As part of the friendship they had developed, it was not uncommon for them to call each other in the weekend to discuss teaching strategies and activities for the coming week.

The teachers mentioned more than once their preference for working with only one TA, something that was often made hard by part time appointments and low-level time allocation to students with a disability in general. The need for PD days focussing on specific TA needs and training was also mentioned by both teachers and TAs as important means for TAs to develop specific pedagogical knowledge and skills to deal with students with a disability. Interestingly, one teacher also mentioned that teachers and TAs should receive more opportunities to participate in PD programs that focussed on how to collaborate and work together most effectively. The ability to “get along is not a given” she said, but requires an array of interpersonal and people skills – skills as equally dependent on careful study and training as knowing how to teach a student with a special need.

According to both parent and teacher interviews, the student had improved both socially and academically after having been diagnosed as a student with a special need and receiving
subsequent TA time allocation. The success, they felt, was a result of the collaborative approach, growing organically out of perceived student needs and context. As such, the approach observed was less of a ‘model’ and more like a fluid, student-driven ‘response process’, in which chosen strategies and philosophies were the result of constant evaluation and reflection on a daily basis in the classroom, as well as the advice from the occupational therapist or other special groups assigned to provide expert advice.

Teaching assistants: The TA under study was observed in her teaching and also interviewed. She had been employed at the school for 13 years. Four other TAs were also interviewed. Because the school had many TAs, the principal was able to provide more TA time for the student than allocated by the Department. In general, however, TAs and teaching personnel were unsatisfied with the Department taking too long to diagnose children and not always agreeing with their estimate of the student’s level of support need. Moreover, when diagnosis and assessment eventuated in the allocation of support for a student with a disability, the TAs and teachers believed that it was generally much less than desired. Resources were also mentioned several times by TAs and teaching personnel as being insufficient. In short, the vision, understanding and consequent policy-making by the [State] Department of Education was questioned by teaching personnel, and certainly not seen as instrumental in the success that the school felt it was achieving with regards to catering for students with a disability in the mainstream.

As the teacher observed, the TA under study was more like an extra teacher in the classroom, frequently switching between working with the student with a disability, individual students in general, and the whole class. The friendship between the TA and the teacher appeared central to the quality of the work and collaboration between them. The ability to get along and have a personal relationship that extended beyond professional obligations was mentioned several times in the interviews with TAs as crucial for the success in working with students with a disability. Other aspects mentioned frequently in the interviews were things like the necessity of all parties “seeing each other as equals”, that the TA “sees the job as a vocation”, “takes initiative yet is open to directives”, and that he/she “has a rudimentary understanding of pedagogy” in order to establish a good rapport with the student, “include him or her in the academic curriculum”, and ensure that he or she “is not isolated from peer group”. Via observation, the TA under study seemed to fulfil the above criteria on a regular basis. Apart from having a sound understanding of how to interact with children in general, she would spend time outside official teaching time in order to nurture and develop a rapport with the student.

The TA responded quietly and unobtrusively to the different demands of the class and students, supporting individual students with getting organised, participating in the class activities and reacting to issues and incidents as they occurred. Communication with the teacher was usually brief and incidental and the main role appeared to be one of supporting the teacher by facilitating the involvement of all students, particularly the student with a disability.

Central Office Consultants: There were no specific administrative staff involved in the organisation of TAs or in support for students with a disability in general. Outside groups involved included the occupational therapist, school nurse, the state support service for inclusive practice, and other special groups approached when individual special needs dictated it. In effect, the principal appeared to function as the link between these outside groups and the school.

Policy Documents, Procedures and Protocols: The documents that were analysed included the system policies on teaching assistants (general, special needs and ethnic). These documents were generic guidelines and were not referred to on a regular basis within the school,
illustrated by the fact that it took considerable time to even find these documents for the researcher.

The Actors and their Networks

(1) Beliefs: The emphasis on collaboration and personal relationships highlighted in many of the interviews seemed a reflection of an implicit but shared value of the school. For example, the interviews revealed that the principal was perceived as having a major responsibility for the success with which teachers and TAs were working together with students with a disability. Reference was made on several occasions to the previous principal and the fact that he had not had the same ‘uniting effect’ as the present principal. The broad, shared value base that supported collaboration and partnerships approach used was driven by the principal. The model of TA-teacher collaboration at this school seemed to depend significantly on stakeholders sharing basic ideas and values. Certainly, the contrast between the previous and present principal’s approach was perceived as having had a ‘domino effect’ on most of what happened at school level, also highlighting that the ‘beliefs’ of some stakeholders may be more important than others. For example, if the TA and classroom teacher do not share fundamental beliefs about how to work together to ensure optimal learning for students with a disability, their lack of alignment may affect student outcomes in that classroom but may not necessarily change the working relationships in other classrooms. The principal’s ‘beliefs’, however, appear to affect whole-school procedures and practices.

(2) Attitudes, Interests and Motivation: Having somewhat shared goals and beliefs about how to work together translate directly into attitudes, interests and motivation of the teaching personnel. The fact that many of the teachers felt ‘listened to when talking to the principal’, as one teacher put it, meant that the school embodied a relatively homogenous whole with regards to attitudes, interest and motivation. With little or no feelings of dissatisfaction among teaching personnel toward managerial staff within the school, efforts seem to gain an exponential effect and synergy at school level. As such, attitudes, interests and motivation may be seen as a natural extension, or ‘daily manifestation’, of the broad but shared belief in collaboration. What should be noted together with acknowledging the importance of motivational alignment, however, is that the particular TA under study also seemed to have ‘arrived’ at the school with high levels of motivation and interest in the general welfare of both her students and her colleagues. Many TAs “do not see their job as a vocation”, as one teacher put it, making it hard to establish flourishing partnerships, no matter the goodwill from top-down, or even by the classroom teacher with whom an TA works. Hence, while attitudes, interests and motivation seem largely influenced by managerial and structural alliances, individual ‘actors’ bring to the process attitudes, interests and motivation that either resonate or clash with those already present in the setting.

(3) Interests and Agendas: The interests and agendas of the actors overlap considerably. As indicated, the unifying objective across policy and all stakeholders is the improvement of the school experience and learning outcomes of all students including those with a disability, and the overarching approach to achieve this objective was that of collaboration and maintaining a partnership between stakeholders. Minor differences in the practical implementation of objectives were observed, but even these seemed to constitute a natural part of the collaborative approach. Thus, while some interests and agendas varied slightly within the school community, the differences were not ‘wide’ enough to undermine the whole-school, collaborative working climate, and were thus usually transformed into some notion of consensus.

(4) Networks and Stability: While the networks that sustained the TAs and classroom teachers within the school community were strong, there seemed to be a gap between the micro/meso
cosmos of the school (parent body, teaching personnel, principal) and the macro cosmos of wider support such as the central agencies and external therapists. For example, the way students with possible special needs were diagnosed was not a collaborative process. Teaching personnel were required to complete a form that purported to assess a student’s needs. Teaching personnel then “heard nothing more of it until many months later”, as one teacher put it, when the student either received TA allocation or not. This process, therefore, stands in stark contrast to the personal interactions of teaching personnel within the school for determining and responding to student need. School-based staff believed that this impersonal process led to ‘incorrect’ diagnosis of need and inadequate allocation of resources. Certainly, through observation and interviewing, a definite feeling of ‘them’ and ‘us’ was present (which was quite different from the overall impression of Site 2, for example, where the process of diagnosing students was indeed a collaborative one between the department, specialists and the school community).

(5) Alignment: Because the collaborative approach seems intertwined with the notion of alignment, an interesting parallel can be drawn here between alignment, the above comments on networks and stability, and the general success of student outcomes at the school. For example, the fact the macro level was not ‘methodologically’ aligned with that of the micro-meso level created a dissonance between the two in much the same way that the previous principal had created a similar dissonance within the micro-meso level itself. Put another way, the continuum from ‘principal to classroom’, the continuum from ‘beliefs to network stabilities’, and the continuum from the ‘Department to the students with a disability’, can be seen as no different with regard to the importance of alignment: once there is fundamental disparity between ideology, beliefs and methods in any part of the educational continuum, the collaborative approach seems incapacitated in some way. Conversely, alignment between and among (f)actors throughout networks reinforces the collaborative approach. Also evident at this site was a lack of alignment between, on the one hand, the high value and expectation placed on the teaching assistant by the school community and, on the other, the low level of required training and remuneration by the employing authority.

(6) Translation of Interests and Enrolment of Actors: The fact that the school shared a preference for dialogue and collaboration is a strong influence on the alignment of all actors. However, and as was pointed out by teaching personnel in interviews, TAs often have no training in pedagogy and collaboration. While a school may seek employees that fit in with the (f)actors present at that school, this is no guarantee for a translation of individual interests into those of the school community. The TA under study regularly attended professional development days, in which she updated her skills, and this is another way of aiding a translation of interests and intent into informed and shared cooperation. But again, a lot would depend on the actors themselves and the choices they make, as well as the particular programs offered. As one teacher highlighted, few professional development days focus on how teachers and TAs can collaborate and work together most effectively. Again, a principal’s ‘uniting’ effect on this aspect has to be acknowledged. That is, no matter the initial difficulties with translating interest and enrolling actors to fit in with preferred practices, a leader’s vision and example must be acknowledged in such a process. A third aspect of how interests are translated is at a ‘grass roots’ level. For example, the CT and TA under observation had planning meetings twice a week. At this meetings, they would get excited about what to do next week, how to do it, and with what materials. Different thoughts and opinions were shared but always under the umbrella of friendly co-creation. These meetings seem to energise them and make them enjoy the teaching process (and this despite the fact that they were continuously interrupted by a steady stream of children and other staff).

(7) Inscriptions and Precedence: As noted, the main mode of operation at this school was primarily determined by a philosophy of interaction and shared problem-solving. As such, the
inscriptions and precedence seemed secondary to the process by which they emerged and disappeared. The fact that no ‘power play’ was at work between the classroom teacher and the TA meant that common interests and agendas could take precedence over the ‘inscriptions’ with which such interests and agendas were translated into action. A powerful inscription deriving from the aforementioned macro level, however, was the funding formula that links funding support for students with disabilities with TA hours. The inflexibility of this precedence stood in stark contrast to the flexibility with which it was applied at school level (eg. giving ‘double’ TA allocation to students with a disability due to having a surplus of TAs). Another powerful inscription was that with which the TA under observation brought skills and commitment to the task, thus adding layers of professionalism to a (para) profession that fails to do so intrinsically. The parents whose child was in receipt of services also exerted an influential voice in the general mode of operation, mainly because it was heard and appreciated by the school in general.

(8) Irreversibility: There were few signs of irreversibility at this school. The ‘model’ was continuously evolving according to perceived student needs and via the collaboration with specialised expertise groups, parents and teaching staff. Being an ‘organic’ and constantly ‘self-assessing’ approach made it seem inherently resilient to rigidity and irreversibility for that very reason and necessarily so. Resonating with the analysis offered earlier about the ‘educational continuum’ (between micro and macro levels), the only aspect of ‘irreversibility’ present at the school seemed to be the problem with the Department’s policy of time allocation for TA assistance.

(9) Black Boxes: In the case of this school, no black boxes were detected. However, a remote aspect of a ‘black box’ may have been evident in the teacher’s and teacher assistant’s beliefs about the role of praise in improving the performance of students with a disability. This, however, seems more a reflection of the general challenge in teaching to adjust one’s teaching to the individual student’s Zone of Proximal Development (Vygotsky 1986), than the presence of a black box, ‘accepted without question’. The fact that the both were able to quickly (and happily) adjust their practices on advice from the occupational therapist, shows that while initial practices may have stemmed from erroneous inscriptions – such as, for example, ‘students with disabilities must experience positive feedback all the time’ – such inscription seems most likely due to a lack of awareness rather than rigidity or a lack of good will.

Site Five Conclusion

The way in which the teaching assistant and teacher work together at this school to provide support for a student with disabilities in the mainstream illustrates how a potent and enveloping school philosophy and ethos, generally well aligned networks within the school community and a pro-active and sensitive principal have ensured the school community’s satisfaction with a dynamic, flexible and unarticulated model of support. The model seemed somewhat restrained by bureaucratic directives but had adapted well to current realities. As such, the model seemed less of a model and more like a ‘response-driven’ process of constant planning, implementation and reflection according to perceived student needs. Many factors, all related to notions of collaboration, co-construction and shared deliberations, were found to be essential to the successful of this process. The process was not theory, or even policy, driven but inherently dependant on the people involved.
9.4 Summary of results

The results of the five independently analysed site analyses were examined for any overarching themes and these are overviewed in Table 9.2. In the next section, these themes are further discussed and their implications for improving practice in mainstream classes are explored.

Table 9.2: Themes derived from the Actor Network Analysis of five sites

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-Themes</th>
<th>Sites in Which Theme Identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ethos, philosophy, values and school culture</td>
<td>Influence</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td>2. Role of key personnel</td>
<td>Principal's leadership, management &amp; resourcefulness</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td></td>
<td>Executive Team</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Special Needs Coordinator</td>
<td></td>
</tr>
<tr>
<td></td>
<td>School support for professional development</td>
<td></td>
</tr>
<tr>
<td>3. The ‘models’ of teacher - teacher assistant collaboration</td>
<td>Evolution in response to need &amp; school culture</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td></td>
<td>Level of articulation &amp; specification</td>
<td></td>
</tr>
<tr>
<td>4. Resource issues</td>
<td>Funding formulas</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td>5. ‘Head Office’ issues</td>
<td>Policy &amp; school-based decisions</td>
<td>1,2,4,5</td>
</tr>
<tr>
<td>6. Teaching assistants’ work</td>
<td>Appreciation of</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td></td>
<td>Expectations of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Negative impacts</td>
<td></td>
</tr>
<tr>
<td>7. Relationships and collaboration</td>
<td>TAs &amp; students</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td></td>
<td>TAs &amp; teachers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TAs &amp; parents</td>
<td></td>
</tr>
<tr>
<td>8. Planning time</td>
<td>Inadequacy</td>
<td>1,2,3,4,5</td>
</tr>
<tr>
<td></td>
<td>On the run</td>
<td></td>
</tr>
<tr>
<td>9. Actor Network Theory</td>
<td>Interests, agendas &amp; (non)alignments</td>
<td>1,2,3,4,5</td>
</tr>
</tbody>
</table>

9.5 Discussion

Nine themes emerged from the observation and analysis of the five sites. These themes are now discussed with particular attention to improving the ways in which of teachers and teaching assistants can work together to support students with disabilities in mainstream classrooms.
9.5.1 Ethos, philosophy, values and school culture

A pervasive and prominent theme was the extent to which the school and the wider school community expressed and demonstrated unified support for the inclusion of students with disabilities and for the values and practice that support inclusion, e.g. teamwork and collaboration. The cultures of the schools all differed considerably but those schools in which the teachers and teacher assistants worked together most smoothly and productively were characterised by a coherent and concrete commitment to inclusive practice. In terms of Actor Network Theory, they demonstrated a tight alignment between values, school organisation and practice. In some sites, this shared commitment was linked to religious values; in others, to values around human rights and equality; and in others, to a recognition of the intent and implications of discrimination legislation.

However, there was evidence at some sites of a lack of alignment between philosophy and practice. For example, interviewees in one school expressed support for a model in which teacher assistants ‘worked to’ teachers, but in actuality, the TAs worked almost independently and without guidance.

The schools in which the teachers and teaching assistants appeared to work together most harmoniously also appeared to be those in which an inclusive ethos was not confined to the teaching staff. When inclusive values were shared and fostered among the wider school community, (janitorial staff, parents and the general community) there were fewer examples of non-alignment and tension in the classroom-based partnerships supporting students with disabilities.

The above findings suggest that the model of support that involves teaching assistants in providing support for students with disabilities in the mainstream need to be co-constructed by those involved at the school level. Day to day operations may be more coherent and acceptable if there opportunity for discussion and clarification of goals and roles.

9.5.2 Role of key personnel

The principal, executive team and special needs coordinators (where present) played a strong role in supporting each school’s approach to teacher – teaching assistant working relationships. The data contain many descriptions of the pivotal influence of key personnel, and particularly the Principal or Head teacher, in promoting, articulating and maintaining an inclusive philosophy and in translating this philosophy into effective operational arrangements, e.g. by allowing teachers to volunteer to teach students who had more complex needs and then providing those teachers with additional resources, time and status within the school. However, the principals were not uniformly supportive of inclusive practice and where some lack of clarity of vision or ambivalence were observed, they seemed to translate into difficulties at the classroom level. The key role of the principal in supporting professional development for teachers and teaching assistants, in some cases conjointly, was a major contributor to the perceived success of the schools’ approach to teacher – teaching assistant partnerships. In addition to the direct benefits of professional development for teachers and teaching assistants, undertaking professional development together allows for further co-construction of the model and the working relationships. The high priority for appropriate professional development for teaching assistants is highlighted in the recent Australian literature, e.g. Ministerial Advisory Committee: Students with Disabilities (2005).
9.5.3 The ‘models’ of teacher - teacher assistant collaboration

The ‘models’ were not models in any accurate sense but could be more accurately described as pragmatic responses to perceived needs using available resources. While the needs of students with disabilities were certainly prominent in these approaches, the responses to student needs were mediated by consideration of the demands placed on teachers who had students with disabilities in their class, i.e. teacher needs. The approaches adopted by all schools evolved in response to these needs, reflected the culture, values and resources of the school, were dynamic and fluid rather than fixed, and were generally not well ‘inscribed’ in policy documents, duty statements and similar. The approaches relied heavily on good teamwork and collaboration, and in sites in which difficulties were experienced in these areas, tensions were reported in the way the ‘model’ operated. In addition to professional development, another factor associated with stakeholders’ satisfaction with teaching assistants was the amount of time made available for the necessary consultation to occur to make the model work and some principals rearranged resources and priorities to facilitate this collaboration. In addition, because personal qualities and interpersonal relationships were so crucial to the way teachers and teaching assistants worked together, some principals exercised great care in recruiting appropriate and compatible teaching assistants.

9.5.4 Resource issues

Resource issues that affected mainstream education for students with disabilities were spontaneously raised at all sites and in all sectors. While school-based personnel attributed the resource problems to the growth in enrolments of students with disabilities some head office staff and consultants believed that part of the problem resides in features of the model itself, suggesting that it is costly and unsustainable. Schools have responded to the enrolment of students with disabilities mainly by employing assistants to support existing and traditional teaching practices. In circumstances in which the increase in enrolments of students with disabilities has been (to date) a gradual phenomenon, it is not at all unexpected that schools have not changed their practices significantly to support this small but increasing proportion of the enrolment. This ‘incremental’ approach that has essentially involved adding teaching assistants to support students with disabilities has not involved significant change to teaching practice and it has been supported and entrenched by traditional funding formulae for students with disabilities.

9.5.5 Head Office and system issues

Four of the five sites related to a central or head office and all gave examples of significant non-alignments between and among school policies and practices and head office practice and policies. As financial support for students with disabilities in the mainstream has, in some jurisdictions, been based on the currency of ‘teaching assistant hours’, it is little wonder that schools have employed teaching assistants up until now and why they are somewhat bemused by more recent ‘head office’ directives/encouragement to use their resources more creatively. School-based personnel mentioned other important policy dilemmas including the requirement to be inclusive of all students (including those for whom academic progress is difficult) while simultaneously performing at satisfactory levels in national and state testing programs in basic skills in a competitive educational environment. One school noted its head office support for the policy of inclusion but its inadequate resourcing of the support services (professional and ancillary) to implement the policy.
Another non-alignment in some settings was the markedly different approach taken by the state Department to needs assessment and resourcing compared with the more personal, student-focused taken by the school. In these situations there is considerable opportunity for greater cooperation between the Department and school around these processes and for the Department to include the school community more fully in these decisions (as demonstrated at site 2).

9.5.6 Teaching assistants’ work

All sites expressed strong satisfaction for the role played by teaching assistants. However, there were concerns about their level of training and the extent of the expectations placed on them, with some participants suggesting that teaching assistants are exploited in terms of pay, conditions, access to professional development and/or status. The research revealed the significant amount of teaching undertaken by the assistants.

Personnel in all sites were aware of potential negative impacts on students and classroom teachers of a model that placed much of the responsibility for students with disabilities on untrained assistants. In particular, student dependency, teacher dependency, the undermining of teachers’ responsibilities and roles and the impact on non-disabled students were mentioned as possible negative effects of the teacher – teaching assistant approach to support students with disabilities in the mainstream.

These potential negative effects notwithstanding, it was evident in all sites that teaching assistants played a vital role in the schools. In some sites, principals implemented specific strategies to promote their involvement, their acceptance and their status, sending a message that teaching assistants are integral to the school’s mission.

A pervasive finding was the significant and highly valued roles that stakeholders reported about how teaching assistants facilitate the social engagement of students with a disability in the school community. Many stakeholders believe that in the hectic and busy contemporary mainstream setting teaching assistants are playing a pivotal role in monitoring and supporting the social connections of students with disabilities and their families. Some saw the benefits as not strictly social because when students with disabilities genuinely belong, they are then bona fide participants in all school activities, including academic activities. This finding contrasts with research literature that reports the negative impacts of teacher assistant involvement on the social engagement of students with disabilities in the mainstream.

9.5.7 Relationships and collaboration

None of the ‘models’ of teacher – teaching assistant engagement was well articulated; none was derived from research or theory; and all were fluid, dynamic and responsive, held together by school values and ethos and usually dependent on the vision and vigilance of the principal and/or executive team. Consequently, the quality of relationships between teachers and teaching assistants was crucial to the effectiveness of the support provided to students with disabilities in all sites.

Good relationships cannot be mandated but in this research they were facilitated by a range of specific strategies including: deliberate attention by some principals to relationship-building; joint, team-based professional development by teachers and teaching assistants; involvement of teachers in the selection of ‘their’ teaching assistant; and arranging workloads to give sufficient time for classroom partnerships and division of responsibilities to evolve and mature.
9.5.8 Planning time

An essential ingredient of successful teamwork and collaboration is the availability of time to engage in the interpersonal processes on which they are based. In the sites where some planning time was made available it was seen as highly valued. In all five sites the teachers and teaching assistants said that planning had the greatest impact on their effectiveness with students with disabilities. Planning time and planning time was inadequate. Many teachers and teaching assistants reported that communicating ‘on the run’ was unsatisfactory and some used personal, non-work time for planning. This lack of consultation time affected relationships with specialists such as Occupational Therapists, Speech Pathologists and Mental Health workers as well. It appears that the effectiveness of costly personnel resources is undermined by insufficient planning and consultation time and an obvious way to improve the effectiveness of a collaborative model is to provide time for adequate collaboration and to ensure that it occurs.

9.5.9 Actor Network Theory

Finally, Actor Network Theory (ANT) proved to be an appropriate theoretical framework to guide the exploration of (f)actors involved in satisfactory teacher – teaching assistant relationships. Not only did ANT assist the researchers to identify the significant features and possible causal influences at work in the different approaches at the five sites, it also made these features and influences transparent for the stakeholders. For example, when they checked the report on their site analysis for accuracy, several principals reported ‘ah ah experiences’, stating that they now more clearly understood what was happening in their school and that they were now aware of what must happen next to improve their school’s processes that support students with disabilities.

9.5.10 Coordination of support for students with special needs

The schools in which there was a designated person or group with expertise and time to provide oversight of, and advocacy for, students with disabilities in the mainstream seemed to operate more smoothly and effectively.

9.5.11 High schools and post-compulsory settings.

This research identified issues that are particular to the involvement of teaching assistants in secondary and post-compulsory settings. For example, there are issues around the location and type of support for adolescents, some of whom reject individual support that isolates them from the group. Secondly, there are major difficulties in involving untrained staff to support students with disabilities when these staff do not have specific subject knowledge, or knowledge at the required level. Finally, and the previous point notwithstanding, the possibility advanced by one mother that teaching assistants become more influential, more independent and less directed by teachers as students progress through the school system should be further examined.

In conclusion, this analysis of five settings that have each developed different approaches to involving teaching assistants in supporting students with disabilities in the mainstream has identified factors that affect the perceived success of the approach. The culture, ethos and values of the school, particularly as espoused and operationalised by the principal and the executive, are central determinants of the success of the approach. As the teaching assistant
strategy is one that has evolved in response to student and teacher needs and the availability of funding it leaves traditional teaching practices essentially intact (Palladino, Cornoldi, Vianello, Scruggs & Mastropieri 1999). The research demonstrated that the approach is well received under certain conditions but stakeholders realise that it has potential, negative effects for students and teachers and these seem inherent to the approach itself. In the end, the model may be unsustainable from a resource and financial perspective because of increasing enrolments of students with disabilities in mainstream classes (Dempsey, 2001; Forlin, 1997; McNally, Cole & Waugh, 2001; Minondo, et al., 2001; Ohtake & Chadsey, 2001; & Department of Education, Employment and Training, Office of School Education. (2001). Stakeholders unanimously and strongly believe that the effectiveness of the partnership between teachers and teaching assistants depends on sufficient, dedicated time being made available for communication and joint planning around the needs of mainstreamed students with disabilities.

This study did not assess the efficacy of the teacher-teaching assistant model but the ways in which the model might work. As indicated earlier, the use of teaching assistants to support students with disabilities in the mainstream is the dominant model. We agree that the efficacy of the approach should continue to be questioned and alternatives explored. However, we took the view that (a) as there is considerable stakeholder support for the approach; (b) as parents and teachers have come to expect/demand teacher assistant support; and (c) as the model has been until recently, a relatively inexpensive option, it is legitimate to study the factors that contribute to its smooth operation. Although many recommendations are implicit in the discussion above, we conclude with specific recommendations oriented towards educational and cost effectiveness with a primary emphasis on reinstating the central position of the classroom teacher:

- Provide joint professional development for the team that supports students with disabilities, i.e. teachers and their TAs should undertake conjoint rather than separate professional development.
- Ensure that teachers and teaching assistants are allocated sufficient planning time.
- Build “working with and supervising teaching assistants and other support personnel” into the curriculum for pre-service teachers.
- Provide support for teachers and teaching assistants by appointing a suitably qualified person to oversee their work.
- Provide professional development for all teachers on effective ways of working with other adults in the classroom
- Sectors and schools should recognise the extent of teaching undertaken by teaching assistants and renegotiate roles and/or pay and conditions and/or their training for the task.

The authors acknowledge with gratitude the assistance of Sandy Bauerle, Amanda Cescato and Michelle Pearce, the generosity and cooperation of the staff of the five schools that participated in this study and the helpful comments on earlier drafts of this report by John Elkins, Michael Giangreco, Fiona Snodgrass and the Research Advisory Committee - Ann Czislowski-McKenna, Barry Griffin, Tyler Hand, Lesley Holliday, Michael Traynor and Kerry Usber.
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Appendix A: Questions to guide semi-structured interviews and/or focus groups

Q1 In what ways are you, or have you been, involved with teaching assistants working with students with disabilities?

Q2 Who else interacts with, or has some involvement with, teaching assistants who work with students with disabilities at this school?

Q3 Tell me about the relationships that you have, or know about, involving teaching assistants who work with students with disabilities at this school?

Q4 Who/what are the main ‘actors’ and links supporting students with disabilities at this school?

Q5 How do teaching assistants mainly get involved?

Q6 How successful is the school in supporting students with disabilities in the mainstream and what are the key ingredients?

Q7 At this school, how ‘fixed’ is the model in which staff, and particularly teaching assistants, work?

Q8 Who/what determines the model of operation?

Q9 Can you identify what helps and what hinders the effectiveness of teaching assistants who work with students with disabilities at this school?

Q10 In your view, what are the most important roles played by teaching assistants who work with students with disabilities at this school?

Q11 What suggestions do you have for improving the way teaching assistants support the learning of students with disabilities at this school?

Q12 Are there any other comments you would like to make about teaching assistants and students with disabilities at this school?
Appendix B: Key ANT terms to guide the analysis (adapted from McBride 2005)

<table>
<thead>
<tr>
<th>ANT elements</th>
<th>Relationship to study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actors are both human and non-human stakeholders who pursue...</td>
<td>Who are the actors? (Para-educators, teachers, adm staff, children, children with special needs, principals, parents, schools, policies, resource)</td>
</tr>
<tr>
<td>interests which may encourage or constrain...</td>
<td>What are the underlying, explicit or implicit, interests of the para-educators, teachers, children, children with special needs, principals, and parents?</td>
</tr>
<tr>
<td>network of interests which becomes a stable as they are...</td>
<td>How do these networks of interests match/clash with each other?</td>
</tr>
<tr>
<td>aligned to the network. (Skills, practices, organisational arrangements and contracts may all be part of the process of alignment.) This alignment is achieved through the...</td>
<td>How have networks become a stable over time?</td>
</tr>
<tr>
<td>translation of interests (translating involves showing how an actor’s non-aligned interests may become aligned) and the...</td>
<td>What skills, practices, organisational arrangements and contracts constituted the alignment of networks?</td>
</tr>
<tr>
<td>enrolment of actors into the network. Alignment is established in...</td>
<td>What practices, attitudes, procedures or processes have ensured/prevented the translation of interests into aligned networks?</td>
</tr>
<tr>
<td>inscriptions which give a particular viewpoint precedence. These become fixed and indeed may become irreversible. That is, it may be impossible to go back to a point where there were alternative possibilities. They may in fact be so deeply embedded that they become...</td>
<td>Who and what processes were responsible for the enrolment of actors?</td>
</tr>
<tr>
<td>black-boxes whose use is accepted without questioning how it works, or whether it represents the best way to do things.</td>
<td>Are these inscriptions fixed and perhaps even irreversible? And if so, what makes them so?</td>
</tr>
<tr>
<td></td>
<td>Have the inscriptions become black boxes? And if so, what attitudes and practices reinforce them?</td>
</tr>
</tbody>
</table>

The following outlines steps that may be part of applying ANT (adapted from McBride 2005):

1. **Identify actors.** An actor: any human/non-human unit that can affect as well as be affected.

2. **Investigate actors.** For each actor, through interviews with representatives of the groups, analysis of documentation and reflection, interests, attitudes, relationships, roles, power and influence and involvement in the historical context are examined.

3. **Identify actors’ interactions.** Relationships between actors in terms of extent of communication, power, trust, resource control and influence must be investigated.

4. **Build actor-network model.** The identification of links between actors will help in the development of an actor-network model. The actor network will contain both strong and weak connections. The strength of connections will influence strategies and procedures. The complexity of the actor-network can be then assessed. This will have an influence on strategies for aligning the actor-network with desired student outcomes. Alignment may involve...
simplifying the actor-network since the more complex the actor-network, the more difficult it is to align (Monteiro and Hanseth, 1996, in McBride).

(5) Identify irreversibility. To what extent are the technology, organisational structure and attitudes are fixed and are going to be difficult to change? This will require an understanding of the events which have led up to the current people, processes, technology and organisational structure.

(6) Identify inhibitors and promoters. Understanding drawn from the above steps will enable potential inhibitors and promoter of the social acceptance of a networked to be examined.

(7) Identify actions. The ANT analysis will lead to a list of activities designed to promote the alignment of the actor network (replacing black-boxes by more flexible/ transparent inscriptions?)
Appendix C: ANT orientation/ framework for initial report on each site

Site
Age of school
Number of students
Demographics
Number and nature of teaching positions
How long teaching personnel have worked there
How many researchers collaborated at this site

Actors
Students
Parents
Principal
Teachers
Teaching assistants
Central Office Consultants
Special Education Consultants
Policy Documents, Procedures and Protocols

The Actors and their Networks
(This section should examine the data with reference to key tenets of Actor Network Theory)
Beliefs
Attitudes, Interests and Motivation
Interests and Agendas
Networks and Stability
Alignment
Translation of Interests and Enrolment of Actors
Inscriptions and Precedence
Irreversibility
Black Boxes

Conclusion
10. What are the professional development needs of mainstream teachers who have students with a disability in their classrooms?

A.J. Shaddock, L. Hoffman-Raap, S. Smith, L. Giorcelli, & N. Waddy

Summary

This study used the Delphi method to explore the professional development needs of Australian teachers who are teaching a student with a disability in their mainstream class. One hundred and three teachers from all states and territories and from primary, secondary and post-compulsory levels participated in a study that involved them in framing the questionnaire, responding individually and independently to it, and subsequently reflecting on and responding to the earlier-expressed views of the other participants. The questionnaire sought views on their preferred content and mode of delivery of professional development about students with disabilities in the mainstream and their most significant barriers to participation in relevant professional development. The study found that teachers want:

- professional development content that is classroom-based, strategy-oriented and practical;
- professional development that is provided by experts and/or other teachers to directly support the needs they are currently experiencing in their classroom;
- professional development that involves learning from others’ experience through networking, visiting and observing.

Low priorities for most teachers were:

- university courses about students with disabilities
- web-based delivery (although there was some interest in web-based interaction, discussion group, chat rooms and similar)

The teachers perceived the following to be their major barriers to professional development:

- lack of time;
- funding issues;
- competing school and system priorities.

The results were discussed with reference to the benefits and limitations of the Delphi technique, previous research and current policy.
10.1 Introduction

While the integration of students with milder degrees of disability into mainstream classes began in the 70s and 80s (Westwood, 2003), policies that address equity and access in education more generally are leading to the participation of all children, regardless of disability, in mainstream schools and classrooms (UNESCO, 1994). In Australia these principles are underpinned by specific legislation such as the Disability Discrimination Act (1992) and the Standards for Education (2005). This legislation guarantees the rights of students with a disability to learn with other students and to be provided with “equality of access”. The shift toward classrooms of greater diversity in terms of students’ characteristics, interests, abilities and learning needs suggests the need for a strong focus on teacher education to support this systemic change.

Educational reforms must be implemented not just by those whose pre-service training prepared them for the change but by those already in the classroom, i.e. like other educational reforms, inclusive practice affords schools and teachers the opportunity to develop and enhance educational culture, policy, and teaching practice (Carrington & Robinson, 2004). The task of teaching students with disabilities in the mainstream focuses attention on the professional development needs of teachers, prompting questions about the content, style and format of their professional learning.

International research has focused attention on the centrality of professional development for inclusive practice. McNally, Cole and Waugh (2001) question whether mainstream teachers actually appreciate what they need and what they need to know in order to support students with disabilities in the mainstream. McKinnon and Gordon (1999) found that mainstream teachers need a high level of professional development to support students with disabilities in their classrooms. Villa, Thousand, Meyers and Nevin (1996) showed that teachers’ support for inclusion is related to the level and usefulness of the in-service education and technical support they receive (p.54). Avramidas and Norwich (2002) and van Reusen, Shoho and Barker (2000) showed how professional development improves teachers’ attitudes as well as their skills.

Schumm and Vaughn (1995, p.354) concluded that “Many classroom teachers are unclear about what inclusion is, fearful about what it might mean for them, and uncertain about whether they have the will or professional competency to teach in inclusionary practice”. As teachers’ attitudes have a significant impact on the outcomes of inclusive education, Forlin, Douglas and Hattie (1996) contend that the provision of useful professional development is critical.

In Australia also there is evidence that many mainstream teachers do not believe they have the training, skills or experience to teach students with disabilities. Watson (2004) reported “teacher isolation, frustration and a sense of teachers being overburdened” (p.11), in trying to meet the needs of students with learning difficulties in mainstream classes in Queensland. In a study of Western Australian high school teachers, Sutherland (2001) reported their feelings of “helplessness as they do not have the time or the expertise to deal with the immense problems that these students have” (p.13). Some teachers in another Western Australian study by O’Donoghue and Chalmers (2000) reported great difficulty in adapting to having a student with a severe or profound intellectual disability in their classroom. These teachers claimed that inclusion impacted negatively on their in-school life, their professional work at home and their general life” (p.900). Westwood and Graham’s (2003) study in South Australia and New South Wales found that “between one quarter and one third of the teachers in the survey claimed to have received no in-service or on-the-job training, yet they were expected to cater for the needs of students with disabilities and difficulties in their classes” (p.14). Mainstream teachers
in NSW have also drawn attention to the significant personal challenge of teaching a wide range of students, including those with disabilities (NSW Public Education Inquiry, 2002). In a study in Victorian schools Loreman (2002) found that “teachers believed they lack the skills to include a child with a disability into a regular class” (p.4) and in Tasmania, Gardner and Williamson (2004) found that teachers were concerned about practical issues, one of which was access to the professional development that would give them the skills to support inclusive practice.

Buell, Hallam, Gamel-McCormick, and Scheer (1999) suggest that in order to support inclusion general educators need skills in program modification, assessing academic progress, adapting curriculum, managing student behaviour, developing IEP’s, and using assistive technology. In a recent Tasmanian study of teachers’ professional learning needs, Phillips (2005) reported the following priorities identified by 200 focus group participants: Autism Spectrum Disorder (ASD); challenging behaviours; general issues about disabilities and learning difficulties; and students’ social and emotional difficulties. It was noteworthy that these participants also identified their need for further “knowledge and understanding to increase the capacity to work with refugee children, gifted children and those from the aboriginal community” (Phillips, 2005, p.4) indicating that teachers’ emphasis is “on developing responsiveness to all students in an inclusive environment” (Phillips, 2005, p.4) and not just about disability.

There is some Australian evidence that in-service education about one disability category may generalise to other types of disability. Campbell, Gilmore and Cuskelly (2003) found pre-service teacher education students who gained practical and theoretical knowledge about students with Down syndrome demonstrated an increase in positive attitudes to the inclusive education of children with Down syndrome, and towards people with disabilities in general.

The respondents in a large study on general professional development needs of Australian teachers listed a wide range of professional development topics (McRae, Ainsworth, Groves, Rowland and Zbar, 2001). Topics of particular relevance to students with disabilities in the mainstream were: mandated curricular and assessment changes; student behaviour management; equity issues; stress management; and Information and Communication Technologies (ICTs) - the most frequently mentioned area of self-nominated need for professional development.

Commonwealth, State and Territory policy initiatives tend to be a major influence on the content of professional development and the Australian Government Quality Teacher Program in NSW (2003) with its targeted state programs, aims to aid in the implementation of the ‘Teachers for the 21st Century’ initiative to improve the quality of teachers, leaders, managers and schools. In New South Wales for example, the Quality Teacher Program has stimulated initiatives that are relevant to the education of students with disabilities, e.g. behaviour management training.

The extensive research of McRae, Ainsworth, Groves, Rowland and Zbar, (2001) also explored teachers’ preferred modes of professional development. After noting the considerable variety in professional development delivery, McRae, et al. (2001) specifically mentioned that workshop/discussion, speaker followed by a discussion and conference attendance were the most popular. They also noted the increasing recognition of the value of professional development that actively involves teachers in working with colleagues in their workplace on a particular issue, topic or method.

However, there is some disagreement about the preferred mode of professional development. Stephenson, Linfoot and Martin (1999) found that “the supports that teachers are most prepared to use are those which provide information only” (p.13). However, Stephenson, et al. expressed the view that effective professional development should involve coaching and
feedback in addition to the presentation of information. Similarly, while the participants in Phillips (2005) say they value school-based study to support inclusive practice, McRae et al., 2001 found that only about 7% of teachers actually engage in it. It seems that despite the potential benefits of these active and longer-term modes of learning that involve what Ferguson (2000) referred to as teachers’ investigation of ‘problems of practice’, teachers may opt for a trade-off between the time available and the promised benefits. Indeed, McRae et al. (2001) report that time is the major determinant/barrier reportedly experienced by teachers while the other major issue is the cost of professional development.

There has been considerable discussion of the potential benefits of on-line professional development. Although 38% of the sample of Tasmanian teachers in Phillips (2005) expressed interest in this form of professional learning McRae, et al. (2001) report considerably less use of on-line opportunities at that time. McRae, et al. (2001) reported that the “usage levels (of close to 14%) of on-line materials are constant across sector, school type and State/Territory location and gender in our data” (p.9) and that the use of on-line materials and CD-ROMS for professional development was the lowest ranked “preferred modes” of professional development – 12.5% and 8.3% respectively.

In general, teachers’ attitudes to professional development tend to be quite positive. For example, about 60% of the teachers in the McRae, et al. study say that it is a ‘high priority’ activity and that their involvement in professional development activities is efficacious. While this finding may be heartening, it needs to be properly understood and not over-interpreted. Research by Rudland and Kemp (2004) and on a similar topic – teachers’ professional reading - found that teachers say they highly value professional literature and believe that they should read it, but only a very small proportion actually do read it, i.e. aspiration and implementation may not accord. At any rate, according to the teachers who responded to the McRae, et al. survey, the vast majority claim that they do participate in professional development activities and the researchers concluded that “teachers are undertaking more professional development than a decade ago, largely made up of out-of-hours, non-award-bearing work” (p.8).

Smith and Valenzuela (2003) and Phillips (2005) report that teachers have quite definite views about the scheduling and length of professional development sessions and the basis on which professional development should be offered, e.g. most express a preference for PD conducted on a school day. For Tasmanian teachers the “most preferred ways/times to access professional learning opportunities were as part of the regular school day with 67% of respondents preferring in-school sessions and 44.6% favouring after-school sessions (Phillips, 2005, p.16). Fifty two percent of the teachers in Phillips, (2005) expressed interest in being part of school-based study groups.

In summary, the research suggests that the style and format of professional development opportunities may be critical to effectiveness and take-up. Research has shown that preferred modes include workshops, expert speakers and listening to/observing other teachers. These results have been consistently found for many years in research on teachers’ preferred professional development activities, prompting McRae, et al. (2001) to conclude that “teachers’ preferred learning styles may not be as various as some people would have” (p.149). It should be noted too that McRae, et al. (2001), found that Australian teachers rated the ‘education of students with disabilities’ as a significant professional learning need, and available research highlights the importance of useful professional development for effective inclusive practice.

While the work of McRae (2001) and others is useful in describing preferred approaches to professional development generally, there is little Australia-wide data about the specific professional development needs of mainstream teachers who are attempting to include student/s with disabilities in their class. This study explores these and similar professional
development issues with particular reference to the ways in which appropriate professional
development can be delivered so that mainstream teachers find it useful in meeting the needs
of their students who have disabilities.

This study was based on a belief that the teachers who are currently attempting to include one
or more students with a disability in their mainstream class are experts on their own
professional development needs. The study examined these teachers’ preferences for content
and mode of delivery of professional development activities and their perceived barriers to
professional development. The aim of the study was to identify professional development
opportunities that mainstream teachers in Australian schools would find relevant, useful and
acceptable.

10.2 Method

10.2.1 Technique

The study used the Delphi technique (Cary & Salmon, 1976; Delbecq, Van de Ven &
Gustafson, 1975; & Garrod and Fyall, 2005) to explore the views of teachers about
professional development that would support their inclusion of students with disabilities in
their mainstream class. Garrod and Fyall (2005, p.86) state that the “basic rationale of the
Delphi technique is to elicit judgments on problems that are highly complex and necessarily
subjective, requiring significant levels of knowledge and expertise on the part of the
respondents”. The Delphi technique was adopted because it capitalises on the knowledge
gained by teachers as they teach students with disabilities in the mainstream; it gives
respondents the opportunity to influence the type and scope of questions that are asked; it is
not a one-off survey as it allows respondents to give feedback on the views of other
participants and to refine their own opinion; it preserves anonymity; and it gives minority
views greater consideration.

10.2.2 Participants

We aimed for 100 teachers from government primary, secondary and post-compulsory sectors
from every state and territory in Australia and ultimately 103 teachers agreed to participate.
The teachers were recruited with the support of state contacts and the state/territory sub-
samples reflected the primary and secondary student enrolments in each state and territory.
The sampling guide is presented in Appendix A.

State contacts were asked to provide assistance in identifying teachers in their states/schools
who (a) were currently teaching a student with a disability in a mainstream setting and who (b)
would probably be willing to participate in a study on professional development and students
with disabilities in the mainstream. Each contact was provided with sampling information
relevant to their state so that as much as possible the sample reflected the male/female
balance in the teaching profession and contained proportionate numbers of primary and
secondary teachers from the states and territories. These state contacts responded with either
a pool of potential participants or the names of individuals who were in a better position to
approach participants (e.g. principals). Our contacts were asked to approach possible
participants informally about their involvement in the study. Approval was obtained from
authorities through a formal application process to conduct research in schools and potential
participants were then contacted via phone and invited to participate. A formal letter
containing an invitation to participate (see Appendix B) and an “Informed Consent” form (see Appendix C) was sent to all participants.

Details of the final sample of 103 teachers (89 female and 14 male) are provided in Table 10.1.

Table 10.1: Study Sample

<table>
<thead>
<tr>
<th>State</th>
<th>Primary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSW</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Vic</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>Qld</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>SA</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>WA</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Tas</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>ACT</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>NT</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>53</td>
<td>50</td>
</tr>
</tbody>
</table>

10.2.3 Procedure

The initial questionnaire was brief and open-ended, designed to give respondents the opportunity to orient the study without undue influence from the researchers. The few examples that were provided about content, mode of delivery and barriers were drawn from (a) the research on what makes for successful inclusion; and (b) previous research on teachers’ preferences for professional development. In the initial questionnaire (Round One), the respondents were asked for biographic information and they were also invited to include additional items for subsequent rounds of the research. A copy of the Round One Questionnaire is provided in Appendix D.

Considerable thought and effort went into ensuring a good return rate over all three rounds. As much as possible mail-outs were scheduled so that the different holiday periods in the states and territories were avoided. In addition to the personal phone contacts, we provided a follow-up letter (see Appendix E) followed by a hand-written letter and a copy of the study schedule (the latter is provided in Appendix F). Hand-written notes were attached to mail-outs and these were personalised and informal with the aim of encouraging the participants to stay involved with the study for all three rounds.

As the Round One Questionnaires were returned, a researcher recorded the responses to each question on a spreadsheet. Examples of teachers’ comments are presented in Table 2. The quantitative biographic data were summarised and the qualitative data about professional development priorities and preferences were analysed using themes that emerged from the data. Two researchers checked for reliability by categorising 10% of the responses and the categories were refined where necessary to produce items that formed the basis of items for the Round Two Questionnaire.

The Round Two Questionnaire was based on the categorisation of Round One data and comprised 27 items under three headings: 11 about the content of professional development, nine about the style and mode of delivery of professional development and seven about the barriers to participation in professional development (see Appendix G). In this round participants were asked to rank (from most important to least important) the items under each heading. Space
was provided at the bottom of each list of items for respondents to add any items that had not been included and which they felt were important. Space was also provided for respondents to add comments, expressing agreement, disagreement or requesting clarification.

Round 2 data were collated and re-presented as the refined Round Three Questionnaire (see Appendix H). The group mean was calculated for each item so that in the Round Three Questionnaire, participants could view the group priorities (based on group means in Round Two) for “Content”, “Mode” and “Barriers” and they had another opportunity to change and/or comment on these priorities. Items were presented in their rank order in the Round Three Questionnaire. Round Three questionnaires were distributed with a hand written note and a printed certificate acknowledging the teachers’ contribution and encouraging them to complete and return the Round Three Questionnaire even if they did not want to change the group priorities from Round Two. Round Three data were then analysed and the group rankings for “Content”, “Mode” and “Barriers” were recalculated.

10.3 Results

10.3.1 Participant biographic data

Eighty-six teachers - 83% of the original sample - returned the Round One questionnaire - eight males (57% of the males who had agreed to participate) and 76 female teachers (90% of the female teachers who had agreed to participate).

Although 33 (38%) of the participating teachers reported that they had completed at least one Special Education subject, 56 (81%) had no qualifications in Special Education. The schools in which the teachers worked varied considerably in enrolment with four teachers working in settings with fewer than 149 students and 15 reporting that their school had an enrolment of 850 or more. Approximately half the sample worked in schools with an enrolment of over 450 students.

The teachers were varied in experience and the sample reflected the age range of the teaching workforce. The sample was balanced in terms of primary-secondary, with 38 teachers reporting that they worked with students up to grade 6, 29 with grades 11 and 12 and post-compulsory, and the remainder teaching students in grades 7 to 10.

Round One

The teachers provided literally hundreds of comments that formed the basis for the construction of the Round Two Questionnaire and some examples are provided in Table 10.2

<table>
<thead>
<tr>
<th>The content of professional development</th>
<th>“How to create individualised learning programs”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Adapting curriculum for specific subject/skill areas”</td>
</tr>
<tr>
<td></td>
<td>“Practical ideas for classroom situations”</td>
</tr>
<tr>
<td>The style and mode of professional development</td>
<td>“Practical workshops using real case studies”</td>
</tr>
<tr>
<td></td>
<td>“Chat room for teachers to ask questions and respond with examples”</td>
</tr>
</tbody>
</table>
“Workshops with teacher experts (i.e. those who have these students in their classrooms)”

“Not enough funding – 2 days a year!”

“Mental resistance to spending time doing PD. Do not want to be a Special Ed teacher!”

“Lack of casual relief staff”

The teachers were invited to add any additional comments and examples of these are presented in Table 10.3.

**Table 10.3: Examples of teachers’ “additional comments” in the Round One Questionnaire**

<table>
<thead>
<tr>
<th>Location &amp; mode</th>
<th>“Support for mentoring &amp; action research is important”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“Networking opportunities”</td>
</tr>
<tr>
<td></td>
<td>“More online information so that we can quickly access information”</td>
</tr>
<tr>
<td>Topics</td>
<td>“How to plan and include a child with very different needs in a class of 25-30 kids”</td>
</tr>
<tr>
<td></td>
<td>“Teachers’ attitudes: need to change before PD is effective”</td>
</tr>
<tr>
<td></td>
<td>“PD that is geared towards a mainstream teacher’s point of view”</td>
</tr>
<tr>
<td>Timing</td>
<td>“3 to 4 sessions over a couple of weeks – more time to absorb information”</td>
</tr>
<tr>
<td></td>
<td>“Should be on days prior to school starting to prepare teacher and child”</td>
</tr>
<tr>
<td></td>
<td>“Compulsory PD in PD sessions during school time”</td>
</tr>
<tr>
<td>Funding</td>
<td>“Employer sponsored short courses; happening now with AUSLAN and seems an excellent model”</td>
</tr>
<tr>
<td></td>
<td>“PD about special needs children should be deemed essential and not included in allocated budget of 2 days”</td>
</tr>
<tr>
<td></td>
<td>“Financial support to pursue PD”</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>“Identifying support as a state-wide priority: Establishing benchmarks for minimum staff training and improve on these over a 5 year plan”</td>
</tr>
<tr>
<td></td>
<td>“Need time to talk to each other and to educational assistants”</td>
</tr>
<tr>
<td></td>
<td>“Specialist teachers should write the programmes and train aides or teachers should have time off class to write programmes together”</td>
</tr>
</tbody>
</table>

**Round Two**

The Round Two Questionnaire was sent to the 86 teachers who had completed and returned Round One in sufficient time for inclusion in the analysis. Seventy-two teachers completed and returned the Round Two Questionnaire, a return rate of 84% of Round One respondents. Their responses are summarised in Tables 10.4, 10.5 & 10.6.
### Table 10.4: Round Two rankings for the content of professional development

<table>
<thead>
<tr>
<th>Items from ROUND ONE Questionnaire</th>
<th>Group Ranking (based on ROUND TWO Questionnaire)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What teaching strategies can be used to address the diverse learning needs in my class/es?</td>
<td>11 (Highest ranking/priority)</td>
</tr>
<tr>
<td>How to cater for students’ particular disabilities?</td>
<td>10</td>
</tr>
<tr>
<td>What strategies can be used to manage complex and difficult behaviour of students with disabilities in my class/es?</td>
<td>9</td>
</tr>
<tr>
<td>How to provide relevant curriculum content for students with disabilities in my class/es?</td>
<td>8</td>
</tr>
<tr>
<td>How to access resources and support for students with disabilities in the mainstream?</td>
<td>7</td>
</tr>
<tr>
<td>How to address other areas of difficulty for students with disabilities such as social skills, self-esteem, etc</td>
<td>6</td>
</tr>
<tr>
<td>What strategies can be used to assess and record outcomes of students with disabilities in my class/es?</td>
<td>5</td>
</tr>
<tr>
<td>How to involve the whole school community in support for students with disabilities in the mainstream?</td>
<td>4</td>
</tr>
<tr>
<td>How to collaborate with other teachers &amp; professionals?</td>
<td>3</td>
</tr>
<tr>
<td>How to work with teaching assistants?</td>
<td>2</td>
</tr>
<tr>
<td>How to manage transitions for students with disabilities?</td>
<td>1</td>
</tr>
</tbody>
</table>

### Table 10.5: Round Two rankings for the style and delivery of professional development

<table>
<thead>
<tr>
<th>Items from ROUND ONE Questionnaire</th>
<th>Group Ranking (based on ROUND TWO Questionnaire)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultants/experts/other professionals visit and provide support in the classroom</td>
<td>9 (Highest ranking/priority)</td>
</tr>
<tr>
<td>Teachers’ visits to, and observations in, other classrooms/agencies</td>
<td>8</td>
</tr>
<tr>
<td>Opportunities for sharing ideas and networking.</td>
<td>7</td>
</tr>
<tr>
<td>Seminars/inservices followed by planning time</td>
<td>6</td>
</tr>
<tr>
<td>Workshops run by experts</td>
<td>5</td>
</tr>
<tr>
<td>Opportunities for viewing resources.</td>
<td>4</td>
</tr>
<tr>
<td>Classroom-based action Research</td>
<td>3</td>
</tr>
<tr>
<td>On line/web-based/CD ROM</td>
<td>2</td>
</tr>
<tr>
<td>University courses</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 10.6: Round Two rankings of the barriers to professional development

<table>
<thead>
<tr>
<th>Items from ROUND ONE Questionnaire</th>
<th>Group Ranking (based on ROUND TWO Questionnaire)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time issues (such as limited time for PD and/or limited time to implement strategies and knowledge gained from PD)</td>
<td>7 (Highest ranking/priority)</td>
</tr>
<tr>
<td>Funding issues</td>
<td>6</td>
</tr>
<tr>
<td>Timing issues (such as when PD is held)</td>
<td>5</td>
</tr>
<tr>
<td>Relevance issues such as competing school/faculty priorities, availability of PD about teaching students with disabilities</td>
<td>4</td>
</tr>
<tr>
<td>Location issues such as distance of courses from home/school</td>
<td>3</td>
</tr>
<tr>
<td>System issues, such as lack of support from employer, colleagues, school</td>
<td>2</td>
</tr>
<tr>
<td>Personal issues, such as lack of motivation, classroom demands, lack of contact with other teachers in similar situation etc</td>
<td>1</td>
</tr>
</tbody>
</table>

Round Three

Round Three (listing the group’s priorities and rankings from Round Two) was sent to the 86 teachers who responded to Round One and 74 responded (86%). Fifty teachers made at least one change to the group response and 24 suggested no changes. Inspection of the raw data suggested that the changes were generally very minor and when they were incorporated and the rankings recomputed there was no change to the rankings/priorities presented in Tables 10.4, 10.5 and 10.6. The teachers’ final rankings and the aggregate and mean for each item are presented in Tables 10.7, 10.8 & 10.9.

Table 10.7: Final rankings for the content of professional development

<table>
<thead>
<tr>
<th>Items from ROUND ONE Questionnaire</th>
<th>Group Ranking (based on ROUND TWO Questionnaire)</th>
<th>Aggregate &amp; Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>What teaching strategies can be used to address the diverse learning needs in my class/es?</td>
<td>11</td>
<td>740 (10.28)</td>
</tr>
<tr>
<td>How to cater for students’ particular disabilities?</td>
<td>10</td>
<td>674 (9.36)</td>
</tr>
<tr>
<td>What strategies can be used to manage complex and difficult behaviour of students with disabilities in my class/es?</td>
<td>9</td>
<td>614 (8.53)</td>
</tr>
<tr>
<td>How to provide relevant curriculum content for students with disabilities in my class/es?</td>
<td>8</td>
<td>569 (7.90)</td>
</tr>
<tr>
<td>How to access resources and support for students with disabilities in the mainstream?</td>
<td>7</td>
<td>489 (6.79)</td>
</tr>
</tbody>
</table>
How to address other areas of difficulty for students with disabilities such as social skills, self-esteem, etc 6 446 (6.19)

What strategies can be used to assess and record outcomes of students with disabilities in my class/es? 5 363 (5.04)

How to involve the whole school community in support for students with disabilities in the mainstream? 4 285 (3.96)

How to collaborate with other teachers & professionals? 3 233 (3.24)

How to work with teaching assistants? 2 188 (2.61)

How to manage transitions for students with disabilities? 1 152 (2.11)

### Table 10.8: Final rankings for the style and delivery of professional development

<table>
<thead>
<tr>
<th>Items from ROUND ONE Questionnaire</th>
<th>Group Ranking (based on ROUND TWO Questionnaire)</th>
<th>Aggregate &amp; Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultants/experts/other professionals visit and provide support in the classroom</td>
<td>9 (Highest ranking/priority)</td>
<td>589 (8.18)</td>
</tr>
<tr>
<td>Teachers’ visits to, and observations in, other classrooms/agencies</td>
<td>8</td>
<td>538 (7.47)</td>
</tr>
<tr>
<td>Opportunities for sharing ideas and networking.</td>
<td>7</td>
<td>487 (6.76)</td>
</tr>
<tr>
<td>Seminars/inservices followed by planning time</td>
<td>6</td>
<td>449 (6.24)</td>
</tr>
<tr>
<td>Workshops run by experts</td>
<td>5</td>
<td>376 (5.22)</td>
</tr>
<tr>
<td>Opportunities for viewing resources.</td>
<td>4</td>
<td>281 (3.90)</td>
</tr>
<tr>
<td>Classroom-based action Research</td>
<td>3</td>
<td>243 (3.38)</td>
</tr>
<tr>
<td>On line/web-based/CD ROM</td>
<td>2</td>
<td>179 (2.49)</td>
</tr>
<tr>
<td>University courses</td>
<td>1</td>
<td>98 (1.36)</td>
</tr>
</tbody>
</table>

### Table 10.9: Final rankings of the barriers to professional development

<table>
<thead>
<tr>
<th>Items from ROUND ONE Questionnaire</th>
<th>Group Ranking (based on ROUND TWO Questionnaire)</th>
<th>Aggregate &amp; Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time issues (such as limited time for PD and/or limited time to implement strategies and knowledge gained from PD)</td>
<td>7 (Highest ranking/priority)</td>
<td>461 (6.40)</td>
</tr>
<tr>
<td>Funding issues</td>
<td>6</td>
<td>402 (5.58)</td>
</tr>
<tr>
<td>Timing issues (such as when PD is held)</td>
<td>5</td>
<td>343 (4.76)</td>
</tr>
</tbody>
</table>
Relevance issues such as competing school/faculty priorities, availability of PD about teaching students with disabilities  
4 308 (4.28)

Location issues such as distance of courses from home/school  
3 241 (3.35)

System issues, such as lack of support from employer, colleagues, school  
2 159 (2.21)

Personal issues, such as lack of motivation, classroom demands, lack of contact with other teachers in similar situation etc  
1 102 (1.42)

10.4 Discussion

This study provided a national sample of mainstream teachers with the opportunity to reflect on and provide information about the issue of “professional development to support inclusive practice” in their own terms. That is, the teachers’ views were systematically collected in a way that involved their identification of their issues and their concerns. While a benefit of this approach was that the research was practitioner-oriented and classroom-driven, a disadvantage could be that the teachers’ responses might ignore or underemphasise macro issues associated with improving the learning outcomes of students with disabilities in the mainstream. This potential limitation should be considered in the application of the results to policy development and educational reform.

The teachers in this study gave the highest priority to professional development that provided them with hands-on assistance to improve their teaching of students with disabilities in their mainstream classrooms. This priority was evident both in their preferred content and in their preferred delivery mode. It was striking that the top three types of professional development all centered on classroom-based support, either from consultants or from other teachers.

In relation to content, teachers want practical strategies for teaching and management. Although they valued the assistance of other personnel such as teaching assistants, they did not give a high priority to learning how to work with others (whole school, other professionals and/or teaching assistants). “Learning how to access resources” was ranked fifth, just below items directly related to strategies for working directly with students. Although teachers want strategies for responding to diversity in general, their comments suggest that they would learn these general approaches best by conferring with experts and/or with other teachers about the needs of particular students. Teachers express a clear preference for concrete, practical and contextualised content in their professional development.

Rankings of items related to style and delivery of professional development reflected teachers’ interest in direct and personal support from others. University courses and on line/web-based modes were given the lowest rankings. While web-based formal courses received a low rank, there was some interest in more personal and interactive on-line learning, e.g. several teachers suggested they would value an on-line forum, chat rooms and similar on line opportunities for sharing and networking.

Prominent among the barriers to participation in professional development was time (or at least, the lack of it). While funding issues were also seen as barriers, teachers did not see their employers or system (except in relation to funding) or personal issues such as their own lack of motivation, as major impediments.
In general, this national sample of mainstream teachers who are currently teaching a student with a disability corroborated many of the findings of earlier research on professional development. The results were consistent with previous research that has shown that:

- Teachers believe they need more skills to teach students with disabilities in the mainstream, e.g. Loreman (2002).
- Teachers value interacting with other teachers as a way of improving their professional knowledge, e.g. McRae, et al. (2001).
- Teachers supporting students with disabilities in the mainstream need more time for professional development, e.g. Phillips (2005).
- Despite its potential, on-line professional development (particularly if it does not involve significant interaction) is not seen by most teachers as a valued way of engaging in professional development, e.g. McRae, et al. (2001).

The results of the current research differ from previous research and/or current policy/practice in finding that:

- University-based courses about inclusive practice are not seen as high priority by most teachers.
- Teachers express interest in understanding how a student’s disability may affect their learning.
- Teachers express a relatively low priority for professional development about collaboration and consultation in relation to students with disabilities in the mainstream.

Some comment should be made on the Delphi method itself and the procedures adopted in this research. By posing, at the outset, a general issue, inviting preliminary feedback and providing opportunity for ongoing comment, the Delphi technique ensures that the issues that are raised are those that the teachers themselves see as most important and/or crucial. The fact that the Round Two and Three questionnaire results were very consistent also suggests that the focus of the study reflected teachers’ main issues. Several teachers commented that their participation in the research was a source of professional development in itself and this realisation sustained their involvement in a lengthy study requiring substantial commitment.

The study’s procedures also highlight the value of a personal approach when researching with busy teachers. The return rates were extraordinarily high and the attrition rate was very low, despite the fact that the study was conducted towards the end of the school year when most teachers are frantic. Teachers wrote many unsolicited comments, in a sense, returning the researchers’ personal notes, e.g. “I liked the personal approach; we get many requests to do this type of research and mostly I just throw them out. Your personal touch ‘worked’.”

This study raises many issues for policy. Teachers want practical, classroom-based professional development, particularly of the sort that will help them with their current students and they want more opportunities to share with and learn from each other. Deppeler, Loreman & Sharma (2005, p.122) suggest that such activities can include collaborations across schools, and “opportunities to test, devise new practices, discuss outcomes and research, and share practices, beliefs and resources.” In relation to these professional learning opportunities in which teachers work with and support other teachers, it is appropriate to restate the question posed by McRae, et al. (2001) at the conclusion of their large, national study on professional development: “What is stopping this happening (school visits)? It is easily justified – garnering of new ideas, ‘placement’ of practice, networking and relationships, practical help with problems (p.150).
McRae, et al. (2001) suggested that ‘lack of time’ may be the major barrier to the sort of networking that many teachers prefer as a vehicle for professional learning and the current study confirmed this view. Furthermore, finding appropriate relief teachers and securing the necessary funds for travel and accommodation are major practical issues. Some teachers in the current study expressed interest in networking and collaborating online and it may be appropriate for employing authorities to support trials involving ‘inclusive education’ chat rooms, discussion groups and other forms of web-based sharing and networking that have the potential to link teachers, and/or teachers and consultants, in time-efficient ways.

The study highlighted teachers’ preference for professional development that targeted specific students, classrooms and settings. Less contextualised forms of professional development, e.g. university courses, were not seen as a high priority by most participants. While not suggesting that such courses are irrelevant, it could be argued that professional development is likely to have the greatest impact on student outcomes when it focuses on specific classroom issues.

As research has highlighted the impact on classroom practice of the culture, policies and practices of the school, (e.g. Booth, Ainscow, Black-Hawkins, Vaughan, & Shaw, 2000), and as creative collaboration among teachers and other personnel has been shown to support inclusive practice (e.g. McDonnell, Thorson, Disher, Mathot-Buckner, Mendel, & Ray, 2003; Ministerial Advisory Committee: Students with Disabilities, 2005), some employing authorities may need to consider the extent to which the focus and style of professional development should be determined by individuals or by the whole school community.

The results suggest that many teachers do not fully appreciate how beneficial and efficient it is to involve others more thoroughly and systematically in teaching students with disabilities, e.g. collaborating with other teaching personnel and students to support these students in the mainstream. Such strategies usually involve a rethink and reorganisation of school policies and practices – factors over which individual teachers may feel they have little direct control. The teachers did not give ‘school reorganisation’ strategies high priority in their responses, suggesting that their approach to responding to diversity may focus on what they could/should do in their classroom. Similarly, as the study focused on what teachers need now in relation to students with a disability in the mainstream, their responses did not address professional learning in more general areas. For example, as Deppeler, et al. (2005) imply, professional learning should also assist changes to the school cultures and policies on which inclusive practice depends, particularly in secondary schools.

The authors acknowledge with gratitude the support of Sandy Bauerle, Monica Kennedy, Thea Moyes, and our state and territory contacts who helped locate the teachers to meet the sampling plan. We are particularly indebted to the participating teachers who gave generously of their time and expertise over many weeks. We also thank our Advisory Committee members – Anne Czisloowski-McKenna, Barry Griffin, Tyler Hand, Lesley Holliday, Michael Traynor and Kerry Usher – for their helpful comments on drafts of this research.
References


## Appendix A: Sampling guide

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<td>1</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
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Appendix B: Invitation to Participate

UNIVERSITY OF CANBERRA

School of Education and Community Studies

Dear

Re: Research on the professional development needs of teachers who have students with a disability in their classrooms

I am writing to invite you to participate in this important research. The research will involve 100 teachers selected from across Australia in a process to identify their professional development needs re students with disabilities in the mainstream. The research will focus on teachers’ views of the content and the style of professional development about inclusion.

We will be using the ‘Delphi technique’ which is a method for anonymously gathering individual’s views through a questionnaire, providing feedback to each participant about the group’s responses, and then giving the participants an opportunity to change or refine their views in the light of the group response.

Your Department and Principal have given approval for me to approach you and the University of Canberra Committee for Ethics in Human Research has approved this research.

All participants (teachers, schools and Departments) will be offered a summary of the results.

If you require further information before making up your mind, or would like to discuss any aspect of the research, please contact me on 02 6201 5150 or Tony.shaddock@canberra.edu.au

I have enclosed a ‘Consent Form’ and reply paid envelope. I would very much appreciate your returning it promptly if you agree to participate.

Thank you so much for your support and interest.

Yours sincerely

Professor Tony Shaddock

Project Manager

Learning Outcomes: Students with Disabilities Project

Ph: (02) 6201 5150

Email: tony.shaddock@canberra.edu.au
Appendix C: Consent Form

UNIVERSITY OF CANBERRA

School of Education and Community Studies

Informed Consent Form: Teachers

Re: Research on the professional development needs of teachers who have students with a disability in their classrooms

This study aims to provide a comprehensive and data-based analysis of mainstream teachers’ professional development needs for providing an appropriate education for students with disabilities in their classrooms. The study explores the views of 100 mainstream teachers from across Australia and focuses specifically on the content and style of professional development activities. The objective is to identify professional development opportunities that teachers will actually use. This research seeks to go beyond current knowledge about professional development for teachers and to identify more carefully the needs of teachers who have a student or students with disabilities in their classrooms.

The research will be conducted via mail and will involve each teacher in three activities that should, in total, take no more than one to two hours. (a)

Activity One: Each teacher receives a letter asking for a small amount of demographic information, the answers to several questions about professional development and preliminary suggestions for the content of the next round of the questionnaire. Approximate time, 30 minutes. Activity Two: Each teacher is then mailed the Round Two questionnaire and is asked to complete it and make any new suggestions for content. Approximate time, 30 minutes. Third Activity: Finally, each teacher is mailed the final questionnaire and is asked to complete it. Approximate time, 30 minutes. Note well: for methodological reasons, it is highly desirable that each teacher responds to all three questionnaires.

Participation in this research is voluntary. If you agree to participate, all information you supply will be anonymous and will be stored in a locked room at the University of Canberra. You and your school will not be identified in the final report.

The results of this study will be of interest to you personally and will be of great benefit to education personnel across Australia. The research will identify current professional development issues in relation to the inclusion of students with disabilities and it will make suggestions about the preferred content and mode of delivery of professional development activities. The results will be reported to the Department of Education, Science and Training and will possibly be published in an educational journal. If you would like a summary of the final paper please complete the tear-off section below and return it in the envelope provided. The tear-off section will be separated from any other identifying information.

In summary, your involvement in the research requires you to respond to all three rounds of the Delphi and to mail back your responses promptly. There are minimal risks associated with this research but if you found that the research was becoming a burden for you, you should talk to your supervisor and/or to me as soon as possible. Of course, you may withdraw from the research at any time and for any reason.
Teacher's Consent Form

If you wish to participate in the research, please sign and date this consent form and post it immediately in the attached envelope. A copy of the signed consent form will be sent to you.

I _________________________ (Print name) I have read and understood the information provided about the research on mainstream teachers and professional development about students with disabilities in the mainstream. I agree to participate in this research.

___________________________ (Signature) ___________________________ (Date)
Name:

My address for correspondence during this research is:

1) School:

__________________________________________________________________________

__________________________________________________________________________

Phone:
__________________________________________________________________________

Email:
__________________________________________________________________________

AND

2) Home:

__________________________________________________________________________

__________________________________________________________________________

Phone:
__________________________________________________________________________

Email:
__________________________________________________________________________
Research on the professional development needs of teachers who have students with a disability in their classrooms

Please send me a summary of the results of this research.

Name: _______________________________________________________

Address: _______________________________________________________

________________________________________________________________

________________________________________________________________

State ___________________ Postcode ______________________

Mail to
Ms L Hoffman-Raap
Research Assistant
Students with Disabilities Research Project
Division of Communication and Education
University of Canberra
ACT 2601
Appendix D: Round One Questionnaire

ROUND ONE

What are the professional development needs of mainstream teachers who have students with a disability4 in their classrooms?

SECTION A: BIOGRAPHIC INFORMATION

Q.1. Your name: .................................................................
   (NB: We need your name and school temporarily so that we can give you feedback that allows you to compare your responses to Part C of this questionnaire with the group’s. We will not divulge your name or any other biographic information and once the three rounds of the study have been completed, your name and school will be removed from the data you supplied).

Q.2. Name of your school: .................................................................

Q.3. Postcode of your school:   

Q.4. What is your highest teaching qualification?

Q.5. Do you have a tertiary Special Education qualification (such as a Grad.Dip.Special Ed.)? (Tick relevant box.)
   □ yes  □ no
   Brief Details:

Q.6. Have you completed at least one formal subject on students with disabilities as part of a University/College qualification? (Tick relevant box.)
   □ yes  □ no

4 A student with a disability is one who has been assessed by a person with a relevant qualification as having intellectual, sensory, physical, social-emotional or multiple impairments to a degree that satisfies the criteria for enrolment in special education services provided by the government of the state/territory in which the student is located.
Q.7. How many years have you been teaching? (Tick relevant box.)

- [ ] 0 – 4 years
- [ ] 5 – 9 years
- [ ] 10 – 14 years
- [ ] 15 – 19 years
- [ ] 20 – 24 years
- [ ] 25 – 29 years
- [ ] 30 years +

Q.8. What grade/year level are you currently teaching? (Tick relevant box/es.)

- [ ] K/R/Prep – Year 2
- [ ] Years 3 - 6
- [ ] Years 7-10
- [ ] Years 11-12

Q.8. Are you teaching any students who would be considered ‘post-compulsory’?

- [ ] yes
- [ ] no

Q.9. To the best of your knowledge, how many students attend your school? (Tick relevant box.)

- [ ] 0 – 49
- [ ] 50 – 99
- [ ] 100 – 149
- [ ] 150 – 249
- [ ] 250 – 349
- [ ] 350 – 449
- [ ] 450 – 549
- [ ] 550 - 649
- [ ] 650 – 749
- [ ] 750 – 849
- [ ] 850 – 949
- [ ] Over 950

Q.10. Is your school in a rural or remote area? (Tick relevant box.)

- [ ] yes
- [ ] no

Comments

_________________________________________________________________________

_________________________________________________________________________
Q.11. Are you aware of any students with disabilities in your current class/es? (Tick relevant box.)

☐ yes ☐ no

Brief details

Q.12. Have there been students with disabilities in your class/es in previous years? (Tick relevant box.)

☐ yes ☐ no

Brief details

5 A student with a disability is one who has been assessed by a person with a relevant qualification as having intellectual, sensory, physical, social-emotional or multiple impairments to a degree that satisfies the criteria for enrolment in special education services provided by the government of the state/territory in which the student is located.
SECTION B: INFORMATION ABOUT PROFESSIONAL DEVELOPMENT NEEDS

(a) Content of professional development

Q.13. If you could participate in professional development activities on students with disabilities in the mainstream what topics would you like covered? Please list as many as you can, one per line if possible.

Examples.
How to adapt curriculum
How to work with other professionals such as mental health personnel, speech pathologists etc.
Whole school development about inclusion.

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(b) Style and mode of delivery of professional development

Q.14. What types of professional development delivery do you prefer? Please list as many as you can, one per line if possible.

Examples.
Visiting other schools/classes and talking to other teachers.
One-day workshops led by an expert on the topic.
Action research
Online learning, web-based and/or CD ROMs etc

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Q.15. What do you see as the biggest barriers to your participation in professional development? Please list, one per line if possible.

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Q.16. Do you have any other comments or suggestions about how professional development for teachers about students with disabilities in the mainstream could be improved? Please list, one per line if possible.

Examples.

Professional development should be held during school time,

**Teachers need more financial support to pursue individual PD objectives**

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Congratulations! You have finished Round One. Please return your questionnaire as soon as possible in the stamped addressed envelope provided. I will contact you in a few weeks when we have collated your Round One responses and converted them into a questionnaire based on the group’s responses to Round One.

Many thanks and best wishes,

Tony Shaddock
Project Manager
24 August 2005

Dear Teacher

Thanks so much for being so prompt in returning the questionnaire about research on the Professional Development Needs of Mainstream Teachers who Teach Students with Disabilities. As you know, about a hundred teachers from across Australia are being invited to participate in this research.

The timing is rather tricky for us because some teachers have received and returned their surveys while others in some states/territories are still waiting to receive them because of delays in the 'approval process'. So, just because there is a delay in our contacting you for the next round, please don't think we have forgotten you. We cannot send out Round Two questionnaire until all teachers have returned Round One and until we have analysed the results of that round and constructed the Round Two questionnaire.

So, sit tight. As soon as we possibly can we will be in touch again.

It would be appreciated if you could complete the attached form and send it back to me in the enclosed reply paid envelope (unless you have done so already).

I do appreciate your volunteering to participate in this research.

With best wishes

Professor Tony Shaddock
Project Manager
Learning Outcomes: Students with Disabilities Project
University of Canberra
ACT 2601
+61 (0)2 6201 51
Tony.shaddock@canberra.edu.au
# Appendix F: Delphi Schedule

## PD Study Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.9</td>
<td>Finalise sample</td>
</tr>
<tr>
<td>6.9</td>
<td>Send out remaining Round 1 surveys with 2 weeks turn around</td>
</tr>
<tr>
<td>6.9</td>
<td>NSW T3 wk 8</td>
</tr>
<tr>
<td></td>
<td>Qld T3 wk 10</td>
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<tr>
<td></td>
<td>Vic T3 wk 9</td>
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<tr>
<td></td>
<td>WA T3 wk 8</td>
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<tr>
<td></td>
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<tr>
<td></td>
<td>T  Tas HOLIDAYS</td>
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<tr>
<td></td>
<td>N  NT T3 wk 7</td>
</tr>
<tr>
<td>16.9 – 23.9</td>
<td>Compile Round 2 Surveys</td>
</tr>
<tr>
<td>16.9 – 23.9</td>
<td>NSW T2 wk 9</td>
</tr>
<tr>
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<td></td>
<td>Vic T3 wk 10</td>
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<td>WA T3 wk 9</td>
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<td>SA T3 wk 8</td>
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<td>T  Tas T3 Wk 1</td>
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<td></td>
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<td>26.9 – 30.9</td>
<td>Test and print Round 2 Surveys</td>
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<tr>
<td>3.10</td>
<td>Send out Round 2 surveys to Victoria, Queensland, Tasmania,</td>
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<tr>
<td></td>
<td>NSW HOLIDAYS</td>
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<tr>
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<tr>
<td>31.10</td>
<td>Send out Round 3 survey to ALL states</td>
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<td>11.11 (+ 1 week?)</td>
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<tr>
<td>21.11</td>
<td>Commence final analysis and write up</td>
</tr>
</tbody>
</table>
Appendix G: Round Two Questionnaire

ROUND TWO QUESTIONNAIRE

Learning Outcomes: Students with Disabilities Project

Thank you for participating in ROUND TWO of the Delphi study on the Professional Development Needs of Mainstream Teachers who have Students with a Disability in their Classrooms. This, the ROUND TWO questionnaire, was based on the group’s responses to ROUND ONE.

In this round we would like you to do the following:
Read through all 27 items in the questionnaire before ranking them. If you wish to add comments expressing agreement, disagreement or clarification concerning the item, please do so in the space provided. If you feel we have not included a really important point, please add it in one of the spaces provided.

The ROUND TWO questionnaire is presented in three sections. In each section, we want you to rank the listed items.

Note: This is a preliminary vote. You will have the opportunity to revote in the ROUND THREE Questionnaire.

Please post your response immediately so that we can keep to the schedule and begin collating your responses on 17 October.

Thank you so much for your continued participation. I will be in touch again with ROUND THREE (the final round!) very early in November.

Best wishes

Tony Shaddock
1. **The Content of Professional Development**

Please read all 11 items and then rank them in terms of how important they are for your professional development about students with disabilities in the mainstream. Assign ‘11’ to the most important, down to a a ‘1’ to the least important.

<table>
<thead>
<tr>
<th>Priority vote</th>
<th>Items from ROUND ONE Questionnaire</th>
<th>Comments on items (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>How to cater for students’ <em>particular disabilities</em>?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to <em>involve the whole school community</em> in support for students with disabilities in the mainstream?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to <em>collaborate</em> with other teachers &amp; professionals?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What strategies can be used to <em>assess and record outcomes</em> of students with disabilities in my class/es?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What <em>teaching strategies</em> can be used to address the diverse learning needs in my class/es?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to <em>access resources and support</em> for students with disabilities in the mainstream?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>What strategies can be used to <em>manage complex and difficult behaviour</em> of students with disabilities in my class/es?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to manage <em>transitions</em> for students with disabilities?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to provide relevant curriculum <em>content</em> for students with disabilities in my class/es?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to work with <em>teaching assistants</em>?</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How to address other areas of difficulty for students with disabilities such as social skills, self-esteem, etc</td>
<td></td>
</tr>
</tbody>
</table>

Please turn to next page ⇒
2. **The style and mode of delivery of professional development**

Please read all 9 items and then rank them in terms of your preference for the style and mode of professional development about students with disabilities in the mainstream. Assign ‘9’ to the *most preferred*, down to a ‘1’ to the *least preferred*.

<table>
<thead>
<tr>
<th>Priority vote</th>
<th>Items from ROUND ONE Questionnaire</th>
<th>Comments on items (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Opportunities for sharing ideas and networking.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>University courses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consultants/experts/other professionals visit and provide support in the classroom</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Opportunities for viewing resources.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seminars/inservices followed by planning time</td>
<td></td>
</tr>
<tr>
<td></td>
<td><em>Workshops</em> run by experts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teachers’ visits to, and observations in, other classrooms/agencies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>On line/web-based/CD ROM</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classroom-based action Research</td>
<td></td>
</tr>
</tbody>
</table>

Please turn to next page ➤
3. **Barriers to participation in professional development**

Please read all 7 items and then rank them according to the extent to which they prevent you from participating in professional development about students with disabilities in the mainstream. Assign a ‘7’ to the biggest barrier, down to a ‘1’ to the smallest barrier.

<table>
<thead>
<tr>
<th>Priority vote</th>
<th>Items from ROUND ONE Questionnaire</th>
<th>Comments on items (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Funding issues</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Relevance issues such as competing school/faculty priorities, availability of PD about teaching students with disabilities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>System issues, such as lack of support from employer, colleagues, school</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Location issues such as distance of courses from home/school</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Time issues (such as limited time for PD and/or limited time to implement strategies and knowledge gained from PD)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Timing issues (such as when PD is held)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personal issues, such as lack of motivation, classroom demands, lack of contact with other teachers in similar situation etc</td>
<td></td>
</tr>
</tbody>
</table>

Many thanks for doing this so promptly. I really appreciate your assistance in this research, the results of which will inform recommendations to the Department of Education, Science and Training about professional development for Australian teachers.

Tony Shaddock

Project Manager
Appendix H: Round Three Questionnaire

Learning Outcomes: Students with Disabilities Project

ROUND THREE (and FINAL!) QUESTIONNAIRE

Dear Colleague

Please don’t throw this out as this is the last time I’ll bother you. Promise! If you could help by giving me a few minutes of your time to complete this study, I would be most grateful.

Firstly, thanks so much for your participation in this final round of the Delphi study on the Professional Development Needs of Mainstream Teachers who have Students with a Disability in their Classrooms. The enclosed certificate acknowledges your valued contribution.

Secondly, would you read the attached pages in which we have provided you with feedback on how the whole group assigned priorities in the previous round. You should find it quite interesting. I did.

Thirdly, once you have looked at the group’s priorities, for each item, would you assign your priorities again IF you do not agree with the group on any or all item(s). Please do this for all three sections.

Finally, post the form ASAP in the enclosed reply-paid envelope whether you have made changes or not - but please complete at least page 2 anyway.

Thank you once again for your continued participation. I will be in touch with a summary report for you.

Best wishes

Tony Shaddock
(Project Manager)
November 3, 2005
SECTION A

Please complete and return this page, even if you make no further changes to the other pages.

Q.1. Your name: ……………………………………………………………

Q.2. Name of your school: ……………………………………………………………

(N.B We will remove this identifying information once we have linked and aggregated the Round One and Round Three responses)

Q.3. I completed the ROUND TWO (the previous) Questionnaire

YES    NO

[ ]   [ ]
1. The Content of Professional Development

Please note the ranking given by the group in the previous round (column 2). If you do NOT agree with the group’s ranking on any all or items, please re-rank whatever items you want to in column 3, remembering that ‘11’ is for the most important, ‘1’ is for least important and so on in between. Remember that ranking involves your using each of the numbers between 11 & 1 only once on this page.

<table>
<thead>
<tr>
<th>Items from ROUND ONE Questionnaire</th>
<th>Group Ranking (based on ROUND TWO Questionnaire)</th>
<th>Your Round Three Ranking</th>
<th>Comments (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>What teaching strategies can be used to address the diverse learning needs in my class/es?</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to cater for students’ particular disabilities?</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What strategies can be used to manage complex and difficult behaviour of students with disabilities in my class/es?</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to provide relevant curriculum content for students with disabilities in my class/es?</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to access resources and support for students with disabilities in the mainstream?</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to address other areas of difficulty for students with disabilities such as social skills, self-esteem, etc</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What strategies can be used to assess and record outcomes of students with disabilities in my class/es?</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to involve the whole school community in support for students with disabilities in the mainstream?</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to collaborate with other teachers &amp; professionals?</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to work with teaching assistants?</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How to manage transitions for students with disabilities?</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please turn to next page ➞
2. **The style and mode of delivery of professional development**

*Please note* the ranking given by the group in the previous round (column 2). If you do **NOT** agree with the group’s ranking on any all or items, please re-rank whatever items you want to in column 3, remembering that ‘9’ is for the *most preferred*, ‘1’ is for *least preferred* and so on in between. Remember that ranking involves your using each of the numbers between 9 & 1 only once on this page.

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</thead>
<tbody>
<tr>
<td>Consultants/experts/other professionals visit and provide support in the classroom</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Teachers’ visits to, and observations in, other classrooms/agencies</em></td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities for sharing ideas and networking.</td>
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</tr>
<tr>
<td>Classroom-based action Research</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>On line/web-based/CD ROM</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University courses</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please turn to next page ➞
3. **Barriers to participation in professional development**

Please note the ranking given by the group in the previous round (column 2). If you do **NOT** agree with the group’s ranking on any all or items, please re-rank whatever items you want to in column 3, remembering that ‘7’ is for the *biggest barrier*, ‘1’ is for *smallest barrier* and so on in between. Remember that ranking involves your using each of the numbers between 7 & 1 only once on this page.

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<tbody>
<tr>
<td>Time issues (such as limited time for PD and/or limited time to implement strategies and knowledge gained from PD)</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Funding issues</td>
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<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>System issues, such as lack of support from employer, colleagues, school</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal issues, such as lack of motivation, classroom demands, lack of contact with other teachers in similar situation etc</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Many thanks for doing this so promptly. I really do appreciate your assistance in this research at such a busy time of year.

Tony Shaddock
Project Manager