

Chapter 1: Executive Summary and Implications

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Literacy, Numeracy and Students with Disabilities: The Aims

For people with disabilities the acquisition and use of literacy and numeracy skills can be a source of active participation in society, personal empowerment, and self-advocacy. People with disabilities who are literate and numerate have more opportunities to integrate with their communities, and have greater access to education, recreation and leisure opportunities, employment, housing, and transport. As such literacy and numeracy are a basic right.

This basic right is acknowledged in the phrase “literacy for all”, and in particular in the National Literacy and Numeracy Plan for Schools (Department of Employment, Education, Training and Youth Affairs, 1998). The plan clearly sets out the Commonwealth, state and territory governments' commitment to literacy and numeracy in the goal: “That every child leaving primary school should be numerate and be able to read, write and spell at an appropriate level” (p.9).

In April 1999 in the *Adelaide Declaration on National Goals for Schooling in the Twenty First Century*, Commonwealth, State and Territory Education Ministers restated their agreed commitment to improving literacy and numeracy skills of all Australian children in the 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” (Ministerial Council on Education, Employment, Training and Youth Affairs, 1999, p.2).

In the project *Literacy, Numeracy and Students with Disabilities* the current situation in Australia with regards to moving towards achieving this basic right of literacy and numeracy for students with disabilities in primary schools was explored. In using the Commonwealth definition of students with a disability, the project focused on how educational authorities provided for these students, how these students were taught literacy and numeracy and how teachers were prepared for the challenge of teaching these students and ensuring they become competent and successful individuals.

The Department of Education, Training and Youth Affairs (DETYA) (1999) defines a student with a disability as:

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. (*Part 2.3: Grants for Commonwealth Targeted Programmes - Special Learning Needs*, p.2)

The project comprised a national study and had four main aims which were related to primary education:

1. To identify the programs and strategies provided by education systems and sectors throughout Australia for students with disabilities in the areas of literacy and numeracy.
2. To provide a critical review of literature related to literacy and numeracy for students with disabilities.
3. To describe how literacy and numeracy are acquired and developed with students with disabilities through the documentation of curricula, teaching practices, assessment and reporting.
4. To describe tertiary education programs and professional development programs for teachers working with students with disabilities in the areas of literacy and numeracy.

Methodology and Outcomes

The project was conducted by the research team comprising Christa van Kraayenoord, John Elkins, Carolyn Palmer and Field Rickards in collaboration with a number of research assistants and colleagues. In order to obtain information related to the first aim: *Mapping of programs and strategies provided by educational authorities in states and territories of Australia* we examined key documents and surveyed or interviewed educational decision makers in the systems and sectors in all states and territories of Australia. In order to complete the second aim, *reviews of current literature focusing on Australian and international research* each member of the research team constructed reviews of the literature. The third aim, *a description of how literacy and numeracy are acquired and developed in students with disabilities* was accomplished through the development of case studies of children with disabilities who were in regular school and classroom settings. The fourth aim consisted of *a mapping of preservice preparation and professional education of teachers in regular classroom contexts in Australia*. A literature review related to teacher education was developed. A survey of preservice primary education and training and two surveys of professional development provision were undertaken. An analysis of a small sample of professional development brochures was conducted. Throughout the project the researchers were advised by an Advisory Committee.

There were two main products from this project: the report and a brochure for teachers. The final report is entitled: *Literacy, Numeracy and Students with Disabilities* and it consists of four volumes. The teacher brochure was entitled *Students with Disabilities: Their Literacy and Numeracy Learning*.

The Findings

The findings summarised here are drawn from Chapter 8, Volume 1. Readers should consult this Chapter for further details.

Definitions, identification, prevalence and student attendance in regular schools

Our project found that most states and territories did not have a definition of disability per se, and most education departments referred to students with disabilities as a group or to categories of disability. Many used the DETYA definition of disability or referred to the categories listed in the DETYA definition which allowed them to access Commonwealth funding. Some states and sectors did recognise other groups of students with disabilities as eligible for other funding. Amongst state systems, there was considerable variability as to which categories of disabilities were provided for. Due to the interpretation of the DETYA eligibility statement a more restricted range of students was provided for in the Catholic and independent sectors than in the state systems.

While students with a disability may be described in terms of their type of disability (eg., a student with an intellectual disability) and/or the severity of their disability (eg., a mild intellectual disability), there are a number of characteristics and other findings about students with disabilities that are notable. These included:

- students with disabilities are not alike and have a wide range of abilities,
- students with disabilities have very many similarities to their non-disabled peers,
- within each disability group there is considerable heterogeneity,
- many students with disabilities can achieve at the same level as their non-disabled peers, and
- many students with disabilities can achieve at high levels of performance.

We found a lack of uniformity across Australia in the way in which students with disabilities were identified with different criteria being used for operationalising the definitions across the states and territories. Our findings also suggested it was possible for students who are not in the DETYA categories to be unidentified or for there to be under-identification.

Most state education departments had set up processes of appraisal or ascertainment which were established to determine the level of support students required. We found that where identification was undertaken the designation of a level of support was always connected to a label for a particular type of disability.

Based on the information we obtained, students with vision, hearing, intellectual, physical, social-emotional and multiple disabilities comprise between three to five percent of the school population in Australia.

Most of the students with disabilities were in regular classes or in special classes in regular schools. Our findings indicated that government schools enrolled the majority of students with disabilities. Students with more severe disabilities were more likely to be enrolled in special schools, which were not studied in this project.

Literacy and numeracy

Our project found that the definitions of literacy varied across Australia, but not markedly, with state and territory systems predominantly using the former federal definition as documented in the *Australian Language and Literacy Policy* (Department of Employment, Education and Training, 1991). Definitions of numeracy used in Australia appeared to us to reflect a political imperative, but as yet there is some variability as to what kinds of mathematical competence are needed for effective citizenship (Ellerton, Clarkson, & Clements, in press).

Reporting of achievement levels in literacy and numeracy of students with disabilities was more common in the government school system than the other education sectors.

Our findings indicated that to date a much greater emphasis had been placed on the development of literacy in comparison to numeracy in students with disabilities. The reviews of literature also highlighted the dearth of information related to numeracy for all groups of students with disabilities. It is important that there is a balance in time and attention spent on the provision of literacy, numeracy and other curricula areas.

Two of the factors that we believe will be important to consider in the provision of literacy and numeracy for students with disabilities in Australia in the future are the growing inequalities (eg., based on socioeconomic status and social/cultural differences) amongst schools and the increasing cultural and linguistic diversity of school populations. In Australia we know little about the interface between disability and socioeconomic disadvantage or about the interface between disability and cultural and linguistic diversity.

What can be achieved?

It is obvious that the literacy and numeracy learning of many students with disabilities in our study was impacted by their disability and they were not always able to achieve the same outcomes as their peers. However, several of the students in most of the disability groups were achieving in literacy and numeracy at the same levels as their peers and, in some cases, much better than their classmates.

There were many factors that influenced what individuals with disabilities could achieve. Factors such as attendance in regular schools and early application of assistive, adaptive or augmentative devices, communication skills, and health and medical problems appear to have made a difference to achievement.

The study indicated that where teachers and parents had high expectations for developing independence at school and at home these students did well. Motivational variables also appeared to play a significant role in the literacy and numeracy achievement of these students.

Based on the literature we found it difficult to get a clear picture of the numeracy achievement of students with disabilities. There was a lack of published literature in the

area of numeracy development for students with all types of disabilities and what research we found was often dated.

Requirements for success: Commonwealth and state government legislation, policies and provision

The findings related to policy and provision for literacy, numeracy and students with disabilities revealed that Commonwealth and state governments have made considerable contributions to the education of students with disabilities and to their literacy and numeracy learning, both a result of legislation and in terms of policy directions and funding initiatives.

Our findings indicated that all states and territories in Australia also had their own legislation related to disability discrimination based on the Commonwealth legislation. Specifically, in terms of educational provision, students must be able to access educational services.

All state education departments in Australia had policies and statements which related to equity, and social justice. Due to the autonomous nature of schools in the Catholic and independent sectors, there were few policies that were mandated, including policies in areas pertinent to students with disabilities. However, all schools in Australia must adhere to Commonwealth legislation and can not deny access where unjustifiable hardship to the school has not been proven.

What schools need to provide

According to the literature the move towards inclusive education has meant that students with disabilities were more likely to come into contact with broader curricula than they might have received in a segregated setting. However, the literature reviews and inferences drawn from the case studies indicated that there were several characteristics that can improve the likelihood of successful inclusive education. These included: the provision of specialist support for teachers and students with disabilities; the development of partnerships between the home and school; planning and collaboration between teachers, parents and specialists or support staff in the areas of placement, curricula and assessment; and time for planning and collaboration to take place during the school day. In addition, optimal conditions and adaptations and accommodations are required in: school and classroom environments, curricula, teaching, and assessment.

Models of delivery

Our findings indicated that the policies of the various educational authorities often framed the support services which were provided to students with disabilities. The case studies also revealed that school leadership often influenced the models of provision which were prevalent in schools.

The findings from the mapping and the literature reviews indicated that typically a continuum of support was available for students with disabilities from full-time special school placement to full inclusion with support. Because the project brief asked us to focus on students in regular schools, no special schools were studied in the case studies,

although we did investigate what occurred with students in a special class and in a unit in two regular schools. Furthermore, one student in one of the case studies had a dual enrolment in a regular school and in a special school.

The classroom teacher was the main decision maker and responsible for literacy and numeracy in the classrooms we visited. However, teacher aides were very prominent in assisting the teachers and/or the students in the delivery of instruction, with some of the aides undertaking a significant amount (in some cases - all) of the direct instruction of literacy and numeracy. Because many of the teacher aides had very little or no training in literacy and/or numeracy, we are concerned about the implications of this finding. Most of the teachers we visited had had some training or professional development in special education. However, some of the teachers had little training and this may be true for the majority of teachers in Australian schools. We believe this is a concern.

There were also several specialists who worked with students or the teachers using a multidisciplinary approach to assessment, planning and provision of intervention. In many cases the specialists were the sole source of expertise about a disability available to a school. Skills in collaboration were required by all staff. The more inclusive the model of support the greater there was a need for staff to work together. We would argue that these specialists were essential in schools. We believe that the itinerant and often part-time nature of their work and the substantial case loads impact negatively on the quality of the service these professionals can offer schools.

The literature reviews and case studies revealed the importance of home-school or parent-professional partnerships. The beliefs and attitudes of parents and the choices they made had a significant impact on the perceptions they had of a school, of the teachers, of the educational authorities and of the government. The literature reviews also revealed that parents should play a highly active role in the development and review of Individual Educational Programs (IEPs).

Technology: Computers and other equipment

While the literature reviews raised some issues related to the use of computers with students with disabilities, the benefits to students of technology and other equipment in their literacy and numeracy learning were clearly obvious in the case studies. The mapping of provision indicated the widespread use of technology and other equipment for students with disabilities throughout Australia, with devices often being modified to suit individual students. Our findings revealed that there were a great number of other pieces of equipment used by the students with disabilities and without them many students would not have had equitable access to opportunities in literacy and numeracy learning. These included: auditory amplification or assistive listening devices, devices providing visual representation of material, and augmentative and alternative communication devices. Items as simple as a special pencil grip, tilt chair, height adjustable desk, slope board, or a photocopier to enlarge a page of text were also used by students in the case studies and did a great deal to facilitate their literacy and numeracy learning.

Important concerns related to technology included the need for teachers to have access to skilled, technical support staff, adequate and ongoing funding for technology and its maintenance, and the need for technology-related professional development of classroom teachers.

Developing teachers

The Christie Report (1990) which investigated the preparation of teachers to teach English literacy in Australia made several recommendations that have yet to be realised in practice. We have argued that the recommendations of this report be revisited. In the area of numeracy, the *Report of the Numeracy Education Strategy Development Conference* (Australian Association of Mathematics Teachers, 1997) has suggested that priority in funding should be given to professional development that focuses on developing an awareness of the numeracy demands across all learning areas, understanding the nature of numeracy, using identification and intervention strategies, and addressing the numeracy learning needs of all students. We have endorsed these priorities. Furthermore, the literature review on teacher education has suggested that teachers need knowledge about new terms in literacy and numeracy, new constructs and practices (eg., in assessment), and skills in the area of technology.

We believe that qualified classroom teachers are essential for the development of literacy and numeracy in students with disabilities. The mapping revealed that there was no uniform qualification or basic mandatory requirement related to knowledge about disabilities and students with disabilities for classroom teachers across Australia. The literature reviews indicated that the lack of teacher knowledge about individual differences and lack of skills in adapting curricula, teaching and assessment was a significant problem in many countries, including Australia.

The mapping of provision also indicated that various people other than teachers were associated with students with disabilities in schools. These included psychologists, guidance officers, specialist teachers (eg., teachers of the deaf, interpreters, orientation and mobility teachers), advisory or consultant teachers, and therapists. Most of these people had relevant professional qualifications.

State systems had a more comprehensive array of personnel to assist teachers and/or students, than did the Catholic or independent sectors. Trends in the area of personnel included: specialists working alongside classroom teachers rather than with individual students, the sharing of staff across systems and sectors, and the use of private providers, especially by the Catholic and independent sectors. We were also aware of a growing trend to have specialists operating on an itinerant basis and serving more than one school. The reviews of literature and our case study participants reported that itinerant services can have a negative impact on students with disabilities and their teachers in that they appear to compromise efforts in professional development, cooperative planning, liaison and consultation with teachers, therapists and families, and the development of resources.

Findings from the investigation into preservice education in Australian universities revealed that while literacy and numeracy were generally well represented in the content

of preservice programs, disability/special education was rather variable, often being an optional component. More emphasis is needed on teaching students with disabilities in subjects on literacy and numeracy education. Conversely, there should be more coverage of teaching literacy and numeracy within subjects about disability/special education.

The investigation into professional development (PD) of teachers indicated there were more literacy than numeracy PD courses. The extent to which the topic of technology was discussed in the courses was low. PD offered by university staff appeared to be slightly more inclusive in terms of topic and audience. The PD courses offered by organisations tended to be one-off courses. This contrasted with those offered by universities.

There were many factors which respondents said caused barriers to the delivery of PD. Organisations most often referred to a lack of funding or lack of equitable funding. Universities described inadequacies in staffing levels and the inability of staff to provide PD due to competing teaching responsibilities.

The respondents of the organisations most often reported that teachers needed to develop knowledge of teaching strategies. The university staff, on the other hand, most frequently referred to the need to develop knowledge about the elements of literacy and numeracy. A lack of experts to provide PD in literacy as well as numeracy was noted by both organisations and universities, though this may be more apparent than real. Perhaps such expertise is heavily committed elsewhere, such as in preservice teacher education.

One issue that emerged from the analysis of the PD brochures (see methodology p.2) was related to PD being offered in out-of-school versus in-school hours. Because out-of-school time is often needed by teachers for personal recovery, PD that is offered in out-of-school time may have a low priority.

There was very limited evidence of PD providers utilising CD-ROMs or the internet as methods by which teachers could access PD. Conditions which may enhance the up-take of PD by teachers includes funded release time during school hours, the provision of appropriate incentives for engaging in PD, and helping teachers to join professional associations.

The literature review related to teacher education indicated there were a number of elements that appeared to contribute to the efficacy of preservice and professional development programs. These included: ensuring that PD involved the participants in planning the program, included field experiences, was ongoing, and involved follow-up.

There were several issues of concern raised across the data sources in our project related to: preservice qualifications, the distribution of specialist teachers, and professional development for regular classroom teachers, specialist teachers, and teacher aides.

Improvement through research

Research into the literacy and numeracy achievements and needs of students with disabilities has been scarce. Australian research into the literacy and numeracy abilities of students from all disability groups is needed. With respect to particular disabilities there are also specific topics that should be researched.

Implications of the Project's Results

There are several implications that emerge from our study for DETYA, educational authorities in Australia's states and territories, for individuals and groups offering preservice teacher education and professional development to teachers, and for school administrators and teachers. These implications can also be found in Chapter 8 *Summary and Conclusion* in this volume.

Implications for the Commonwealth Department of Education, Training and Youth Affairs (DETYA)

Equity and social justice

We endorse the continuation of the policies and practices of inclusive education for students with disabilities.

We suggest that the receipt of Commonwealth funding to Catholic and independent schools be made contingent on their acceptance of equity goals similar to those which apply to state schools.

The uncertainty related to ongoing funding of students with disabilities in particular schools should be examined.

We believe that the achievement of all students should be reported, and that where students with disabilities complete mandatory testing and/or classroom assessment with adaptations and/or accommodations that this information be recorded, interpreted and reported.

We suggest that a study to investigate the interaction of disabilities and cultural and linguistic variables in the child and adult populations in Australia would be useful.

Schools located in areas of poverty or in suburbs with families with poorer socioeconomic circumstances need special funding consideration.

We would encourage closer cooperation between the Commonwealth government departments and educational authorities in the areas of education, health, family services and welfare to explore ways in which the needs of families in low socioeconomic income groups with children with disabilities can be better met in a sustained, and coordinated way. The concept of "full-service schools" may be one approach to this issue.

We suggest that funding for therapies, respite care and the like, that are not in the domain of the education system, but are in the health, family services and welfare

portfolios be maintained and that they be distributed equitably. Furthermore, where services appear to be inadequate (eg., through increased waiting lists particularly in the identification of students and for therapy services), these services need to be improved.

Definitions

We would encourage development of nationally agreed definitions of the different types of disabilities and consistent criteria associated with operationalising these definitions.

We believe that a common definition of numeracy needs to be developed.

Research into the literacy and numeracy abilities of students with disabilities

We support any funded research to investigate the literacy and numeracy abilities of students from all disability groups.

Research into teaching and program evaluation

Research to investigate effective teaching approaches in numeracy for students with disabilities is required.

It is important that systematic, scientifically-sound, empirical evaluation studies be undertaken of the literacy and numeracy programs used in Australian schools. In particular, we believe that these evaluation studies should begin with those programs being used with students with disabilities. We would urge that these studies include the evaluation of programs offered by private providers.

Longitudinal studies are necessary in order to examine the effects of instructional approaches over time, and to lead to the development of more valid conclusions about the predictive factors on the literacy and numeracy achievement of students with disabilities.

Technology

Consideration needs to be given to the funding allocated to technology and equipment for students with disabilities.

We suggest that funding initiatives allow for the ongoing maintenance and upgrading of technology and for modifications to the technology as individual students' needs change over time.

We suggest that infrastructure, necessary for the access and use of technology in rural and remote areas be improved so that students with disabilities and their families living in these areas are not further disadvantaged.

Teacher education

Consideration needs to be given to the funding allocated to teacher training, with funding for professional development programs in disability areas allocated to ensure that teachers working with students with disabilities are adequately prepared to meet the literacy and numeracy needs of these students.

Significant training initiatives and ongoing professional development for teacher aides in literacy and numeracy and in disabilities/special education are needed.

Implications for DETYA and educational authorities

Preservice education

All classroom teachers should be required to have at least one subject in their preservice degree that relates to disabilities/special education and the teaching of students with disabilities. Such preservice education subjects should focus on the understandings and skills related to the literacy and numeracy learning of students with disabilities and the modification of curricula and teaching and assessment approaches in ways that meet the students' needs.

New understandings of literacy and numeracy should be incorporated into preservice education training.

With respect to literacy, we argue that the recommendations of the Christie Report (1990) be revisited and be reconsidered.

Professional development

We would endorse any continued Commonwealth government and state and territory government commitment and funding to the provision of professional development in literacy, numeracy and disabilities/special educational needs for the whole teaching profession. Such professional development should focus on the understandings and skills related to the literacy and numeracy learning of students with disabilities and the modification of curricula and teaching approaches in ways that meet the students' needs. Professional development efforts need to be coordinated and flexible.

We believe that new understandings of literacy and numeracy be incorporated into professional development, and that such professional development should be evaluated by specialists in both special education and literacy/numeracy education.

With respect to numeracy, we reiterate the recommendations related to the funding priorities in professional development suggested by the Australian Association of Mathematics Teachers (1997).

We suggest that funding be set aside for the professional development of teachers' knowledge and use of technology to support students with disabilities.

The creation of scholarships and internships for advanced training and funding for schools to allow for the release of teachers from face-to-face teaching for the development of classroom programs, consultation and professional development may be important.

An investigation to examine the conditions under which teachers can be supported to engage in professional development in a context of increasing demands and stress would

be worthwhile. These conditions may include funded release time during school hours, or the provision of appropriate incentives for engaging in professional development.

We would encourage professional development providers to consider the use of such methods as CD-ROMs and the internet for the delivery of courses.

Research to explore the relationship between professional development and practice would be useful. Such research could examine the efficacy of short, one-off courses versus sustained courses or those with follow-up.

Research that investigated if professional development was reaching those teachers who need it the most would be useful.

We would endorse any attempts to actively recruit experts in numeracy who can offer professional development to teachers.

Provision of specialists

It is important that educational authorities ensure that there is adequate provision of appropriate specialist staff (eg., advisory teachers in all areas of disability, teachers of the deaf, interpreters, note takers, orientation and mobility teachers, etc.) in schools.

The continued professional development of specialists is important.

We suggest that initiatives be developed to create a more equitable spread of specialist teachers in districts, regions and states, with particular attention being paid to rural and remote areas.

The practice of itinerant specialists should be reviewed in order that the negative consequences of such service delivery options be minimised.

Implications for educational authorities, school administrators and teachers

Principles

We believe that the guiding principle that “ALL children can learn” be revisited in all policies and in planning and practice initiatives.

We would encourage teachers and parents to have high expectations of students with disabilities with respect to their literacy and numeracy learning.

The earliest possible diagnosis of a disability and the implementation of early intervention are crucial.

Classroom teachers need to see themselves as facilitators of learning within a classroom of students with diverse abilities.

Where students have aids for learning these should be viewed as essential and used at all times (eg., glasses, hearing aids, tilt chairs, adjustable desks).

The learning environment

The creation of a physical environment within the school grounds and within all school buildings that facilitates the equitable access and learning of all students is essential and any impediments or barriers should be removed.

We would promote the establishment of positive and accepting learning environments where students with disabilities can develop academic, personal and social skills likely to facilitate the development of literacy and numeracy and appropriate behaviours and facilitate friendships with peers.

Students should have an appropriate learning environment to ensure access to and participation in the literacy and numeracy curricula. This may include suitable lighting, appropriate acoustic provisions, adapted furniture, storage for books and materials equipment and devices, sufficient electrical points, and space for mobility.

Curricula

The development of inclusive curricula is vital.

We believe that all students with disabilities have access to normal curricula in all settings. That is, students with disabilities should follow much the same curricula as their non-disabled peers.

We would argue that teachers need to work to enhance students' access and participation in teaching activities (see below) while remaining faithful to the intended learning outcomes or goals and that teachers provide "alternative ways" for students with disabilities to participate in the curricula rather than "watering it down".

We suggest that students with disabilities have access to training in the areas of the expanded core curriculum (eg., braille, keyboard skills, orientation and mobility skills, social skills etc.) that are relevant for them.

In circumstances where students with disabilities have an IEP or its equivalent, the content of the IEP should be consistent with and linked to the classroom curricula.

The IEP should be seen and used as a living, working document which is reviewed and changed as students' needs change.

Teaching practices

We endorse the use of teaching approaches with known efficacy.

We commend the use of teaching approaches that have been adapted to the students' needs. That is, instruction should be differentiated according to the individual differences of students with disabilities and environmental considerations.

We believe that teachers should include early literacy and numeracy experiences in their programming and promote early literacy and numeracy learning in the information and support they provide to parents.

We favour the use of literacy and numeracy activities that are “child directed and constructive rather than teacher directed and reactive”.

We would endorse using a balanced approach to teaching involving use of students’ prior knowledge, explicit teaching, hands-on activities, concrete materials, problem solving, frequent practice, a variety of texts and tasks and feedback in practical everyday situations. For many students with disabilities teaching within social-cultural and constructivist instructional models will be appropriate.

We encourage the use of a range of organisational structures for teaching (that is, whole class, groups, individual and peer teaching).

We believe that braille reading and writing should be taught by professionals who not only have expert knowledge of the braille code but also have been trained to teach braille. This means teachers must have knowledge of the perceptual and cognitive processes of braille reading and writing and be familiar with techniques for teaching literacy and numeracy.

Assessment

*(See also the section *Equity and social justice* for DETYA above).*

Accurate, appropriate assessment for identification and support should be carried out by trained, skilled specialists in the disability area. (For example in the area of vision, a trained specialist should conduct the assessment to decide whether a student should use braille or print.) Assessment for identification should be supported by objective information, a diagnostic teaching phase and an exploration of different options for teaching.

We believe that the assessment of students’ needs for access and participation in literacy and numeracy curricula and their classroom achievement in literacy and numeracy should be sensitive to the students’ methods and abilities for demonstrating their knowledge and skills. Specifically, where adaptations and accommodations are necessary these should be made and recorded.

We would encourage the use of student-centred, rather than content-driven assessment and that assessment information be gathered over time in multiple contexts and from a number of sources.

We believe that assessment should involve the use of formal and informal measures. Many of the measures used to assess literacy and numeracy for non-disabled students can be used with students with disabilities (although see implication about adaptations and accommodations above.)

We urge that the diagnostic value of tests be evaluated, and if standardised tests are used they be used in conjunction with a wide range of other assessment instruments.

Greater attention for all students should be focused on the classroom assessment of numeracy.

Greater attention for all students should be focused on the classroom assessment of literacy skills other than reading.

Greater attention should be focused on the classroom assessment of higher level reading skills for all students such as comprehension and metacomprehension.

Texts and other resources

We would encourage educational authorities to support the design of appropriate, adapted texts and materials.

We suggest that funding be allocated to services supporting the literacy and numeracy needs of students with disabilities (eg., those with vision impairment, intellectual disabilities, physical disabilities, multiple disabilities) to ensure that texts and materials in appropriate formats (eg., braille, large print, tape) can be produced and distributed at the same time as they are to their classmates.

Teachers need to be creative and flexible in their use of existing resources to meet students' needs and find out about the interests and preferences of individual students in order to engage motivation and individualise programs.

Technology and other equipment

We commend teachers who utilise appropriate technology to facilitate literacy and numeracy learning for students with disabilities.

Teachers need to become familiar with and be able to use the alternative or augmentative means of communication used by their students with disabilities.

We suggest that financial and other resources (eg., technical staff) be allocated to ensure that students with disabilities have access to appropriate technologies.

Technology should be used in conjunction with sound teaching practices and relevant curricula in order to achieve successful learning outcomes for students with disabilities.

Personnel for students, teachers and parents

Students with disabilities should have access to trained specialists on a regular basis.

Regular classroom teachers should have access to skilled specialists who provide support in the areas of language development, literacy, numeracy, therapies and technical and technological matters.

We promote the development of partnerships between teachers and parents of students with disabilities.

We encourage specialist teachers to provide assistance to parents of students with disabilities in areas such as communication, mobility, literacy and numeracy development.

Collaboration of teachers, parents and specialists in such areas as placement, curricula, assessment and reporting is vital.

Classroom teachers need to collaborate with other staff involved in students' programs (eg., specialist teachers, therapists) to ensure that the goals, teaching and assessment related to literacy and numeracy are integrated and complimentary.

Taking up the Challenge

The challenge to develop the literacy and numeracy knowledge and skills of students with disabilities is an exciting one. We believe the challenge is worth pursuing in this millennium.

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