

## **Teachers' Use of Developmental Assessment to Support Communication Proficiency for Students with Additional Needs**

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### **Abstract**

The project described in this paper was designed to help teachers of students with additional needs frame their judgments of how best to foster their students' communication skills. This entailed teachers' use of assessment materials interpreted in a criterion-referenced manner, and reported in the format of a developmental progression, in order to make and evaluate decisions about their students' current level of proficiency and the sorts of teaching interventions that should be established for them. Such decisions were expected to meet requirements for the development of individualised learning programs for students, including the setting of unambiguous targets and objectives and the identification of appropriate programs of teaching to support the achievement of those targets. The study drew upon Griffin's (2007) argument for the generalisation of assessment to a developmental progression as integral to a model connecting measurement to decisions about teaching intervention, and then to the provision of resources and the development of curriculum and learning policy. As part of a broader project that investigated teachers' use of developmental assessment for students with additional needs in more than 100 Victorian specialist and mainstream schools, case studies were conducted in two schools specialising in the education of primary school-aged children with intellectual and developmental disabilities. In both schools, teachers drew upon collegial, team-based protocols for the use and interpretation of assessment data to support student learning (e.g., Griffin, Murray, Care, Thomas and Perri, 2008). These protocols were developed from a program of research into the impact of evidence-based teaching and assessment processes conducted within a framework of developmental learning.

Student proficiency in functional communication was monitored over a six month period for 23 students in a special developmental school for students with moderate to severe intellectual disabilities and for 12 students in a school for students with autism spectrum disorder. Teachers drew upon student assessment outcomes to set goals for student learning that were targeted and differentiated to suit student proficiency level. They interpreted their students' assessment results and used the forum of collaborative decision-making to reflect upon and refine their use of strategies and resources to support student learning progress. Examples of learning targets established by experienced special education teachers, or by less experienced teachers under the guidance and mentoring of more experienced colleagues, for students at different levels of communication proficiency are reported in this paper, and linked to programs of teaching that were differentiated to meet the learning needs of students. The paper presents teachers' reflections on the utility of developmental assessment, used within the supportive context of teams of professional colleagues, to scaffold communication proficiency for their students with additional needs.

### **Teachers' Use of Developmental Assessment to Support Communication Proficiency for Students with Additional Needs**

The study reported in this paper was grounded upon a fundamental precept that every child is capable of learning, including those who experience disabilities that impede or complicate their learning progress. It devolved from the seminal writings on the education of students with disabilities of Lev Vygotsky (1929/1993), and his avowal

that learning for these students unfolds in much the same way as for students without disabilities. Indeed, Vygotsky challenged teachers of students with learning disabilities to recognize that:

[c]hildren with a defect do not constitute 'a special breed of people' . . . Instead, we discover that all developmental uniqueness tends to approximate determined, normal, social types. And, the school must play a decisive role in this 'approximation'. The special school can set a general goal for itself; after all, its pupils will live and function not as a 'special breed of people' but as workers, craftspeople, and so forth, that is, as specific social units. The greatest difficulty and profoundest uniqueness of the special school . . . is precisely to achieve these common goals, while using unusual means to reach them.

(Vygotsky, p. 48, emphasis in the original).

Vygotsky's (1929/1993) contention was that the same sorts of educational goals and aspirations should apply for all students, regardless of whether or not they have disabilities. He argued that it is the methods of teaching students with disabilities that need to be varied and tailored to suit the individual, not the goals of education nor the way that learning is conceptualised. Indeed, Vygotsky argued that there is no fundamental difference between the education of a child with or without a disability, but rather that 'both are children; for both, development follows certain laws. The difference lies only in the means of education' (p. 80).

#### *Assessment in Special Education*

Currently, and within this study's context of the government education system in Victoria, Australia, mandated assessment procedures for students with disabilities routinely take two forms. First, students who have, or are suspected of having, a disability are assessed for eligibility for funded support of their education by the Victorian Department of Education and Early Childhood Development's (DEECD) Program for Students with Disabilities. To be eligible for such support on the grounds of intellectual disability, regardless of whether the student is integrated into a mainstream school setting or enrolled in one of the state's specialist schools, evidence is required that the student has sub-average general intellectual functioning, as demonstrated by a full scale score of at least two standard deviations below the mean on a standardised test of general intelligence, significant deficits in adaptive behaviour, and a documented history and evidence of ongoing problems that are expected to continue throughout the years of the student's schooling (Victorian DEECD, 2009). Similarly, to be eligible for funded support on the grounds of a developmental disability, such as autism spectrum disorder, students must evidence significant deficits in adaptive behaviour and expressive and receptive language skills, as measured on approved standardised tests, and score above a set level on a standardised test for the presence of autistic features in behaviour (Victorian DEECD). These two categories of disability represent the majority of students for whom schools receive additional government funding to support adjustments to their learning environment and program (Victorian Auditor General, 2007).

And yet, while standardised and norm-referenced assessments may be appropriate for the establishment of eligibility for special education programs, they are not well-suited to the purpose of guiding courses of teaching and promoting optimal educational experiences for students with disabilities (Couzens, Cuskelly, & Jobling, 2004; Messick, 1984). Indeed, norm-referenced forms of assessment place emphasis on the weaknesses of students with disabilities rather than drawing notice to their abilities and strengths. They describe students in terms of how far they fall behind their age-level peers, without taking into consideration the possible deleterious impact of

poor quality educational programs or learning environments (Messick). In terms of their use by educators, they provide broad information about how much a student has failed to learn, without helping to formulate, resource, or evaluate programs to address the student's learning needs and to improve future learning outcomes.

The alternative form of monitoring mandated for students whose learning is funded by the Victorian government's Program for Students with Disabilities is the establishment of a support group charged with responsibility for the development of an individually tailored learning program for each student. This support group is expected to produce an annual written plan describing the student's current level of academic achievement and a formal statement of priorities and goals for the student's learning (VCAA, 2009). However, the success of this strategy rests upon the knowledge and experience of those who form the support group for the student (Heller, Holtzman & Messick, 1982), a level of expert judgment acknowledged to be in short supply in many schools (Thomas, 2007). Indeed, in 2002 a national Senate Committee investigation into the provision of education for students with disabilities in Australia raised alarm over a serious deficit of knowledge about special education among teachers who have students with disabilities assigned to their classrooms in mainstream schools, and an equally serious shortage of teachers with specialised training in this field of education (Commonwealth of Australia, 2002). In particular, that inquiry identified a pressing need to support the capacity of teachers in both mainstream and specialist schools to work effectively with students with disabilities.

#### *Developmental Assessment of Foundational Learning for Students with Additional Needs: The SWANs Project*

As part of a broader program of investigation into special education assessment and teaching that included the design and validation of measures of foundational learning skills for students with additional needs (Coles-Janess & Author, 2009; Roberts & Author, 2009; Author & Author, 2008), the aim of the research described in this paper was to help teachers frame judgments about their students' communication proficiency in ways that were functional and criterion-referenced, rather than aged-based or norm-referenced. This entailed teachers' use of assessment materials interpreted in a standards- or criterion-referenced manner and reported in the format of developmental progressions, in order to make and evaluate decisions about how best to foster the development of communication skills for their students. These decisions were expected to meet requirements for the development of individualised learning programs for students (VCAA, 2009), including the setting of unambiguous targets for student learning and identification of appropriate strategies and resources to support the achievement of those targets.

The Students with Additional Needs (or SWANs) instruments were developed in collaboration with the Victorian DEECD's Student Wellbeing Division and the Centre for Advanced Assessment and Therapy Services. That program of research drew upon the knowledge of more than 700 special education teachers across 78 Victorian government specialist and mainstream schools to design and validate an assessment tool that enables teachers to assess the ability, rather than disability, level of their students. The instruments have since been used to monitor the learning progress of more than 3000 students in 105 Victorian schools. They comprise two alternate forms of an observation instrument that were equated using a Rasch (1960/1980) method of common item anchoring, and then mapped to developmental progressions using procedures described by Griffin (2007). Further, the current study drew upon Griffin's argument for the generalisation of assessment outcomes to a developmental progression as integral to a model connecting measurement to decisions about teaching intervention, provision of resources and the development of curriculum and learning policy. This model is represented in Figure 1.

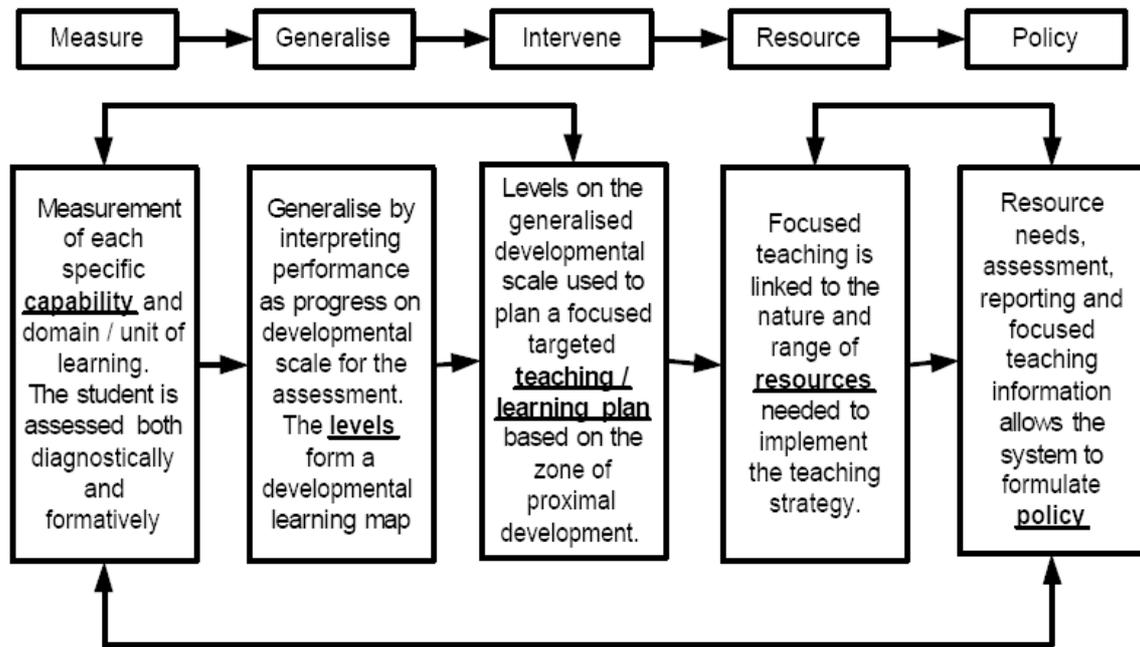


Figure 1. Griffin's (2007) model of change from measurement to policy.

Most cogently, Griffin (2007) pointed out that assessment is too often limited to the reporting of student outcomes in the form of test scores, or as a list of the discrete skills and abilities that students did or did not demonstrate, when what is needed is an understanding of the students' generalised level of proficiency that can be interpreted by teachers to inform their decisions about teaching programs. Further, he noted that attempts to reform curricula and educational policy too often falter because of a lack of effective means for translating new ideas and teaching methods into everyday classroom practice. Therefore, to address these challenges Griffin suggested the use of assessment interpreted in a criterion-referenced manner and generalised to developmental learning progressions as a method for implementing change at multiple levels, from student learning to teaching practice to provision of resources and policy development.

#### *Teachers' Collaborative Use of Developmental Assessment*

Hence, this paper reports a study in which teachers of students with intellectual and developmental disabilities used developmental assessment as a foundation for their decisions about teaching programs. It offers some reflections upon the utility of this form of assessment in terms of teacher professional development and learning outcomes for students.

As part of a broader program of research that investigated teachers' use of developmental assessment for students with additional needs in more than 100 Victorian specialist and mainstream schools (i.e., the SWANs project), case studies were conducted in two schools that specialised in the education of students with intellectual and developmental disabilities. In both schools, teachers drew upon collegial, team-based protocols for the use and interpretation of assessment data to support student learning that were described by Griffin, Murray, Care, Thomas and Perri (2008). These protocols were developed from a program of research into the impact of evidence-based teaching and assessment processes conducted within a framework of developmental learning, and the expectation that these processes would enhance reading comprehension outcomes for students in mainstream primary schools (Griffin et al, 2008). They were grounded on a larger body of research into the

improvement of student learning outcomes by means of teachers' critical and collaborative analysis and discussion of student assessment data (e.g., Mokhtari, Rosemary & Edwards, 2007; Phillips, McNaughton & McDonald, 2004). In brief, the findings of these studies suggested that substantial improvements, not only in student achievement but also in the professional knowledge and expertise of teachers, could be attained by teachers' shared understanding of student learning in conjunction with targeted and differentiated programs of instruction for students.

### *Case Study Schools*

The current paper thus reports the impact of teachers' use of developmental assessment to monitor students' functional communication proficiency in two schools that adopted the protocols described by Griffin and colleagues (2008). Teachers' interpretation of their students' assessment outcomes was supported by a group of professional colleagues; it was actively promoted in schools by the provision of access to specialist expertise, professional development and a range of high quality teaching materials and resources.

#### *A school for students with moderate to severe intellectual disabilities.*

One of the schools was located in an outer suburban area of Melbourne; it specialised in the education of students with moderate to severe intellectual disabilities, with more than half of the students at the school also having a diagnosis of autism spectrum disorder. The school had set improvement in students' communication skills as a priority for all teachers to address; it adopted team-based protocols for review of student assessment data as part of a strategy to support teachers in pursuit of this aspiration. Other strategies included opportunities for teachers to draw on the knowledge and experience of a visiting speech therapist. The principal of the school held firm opinions about the education of students with disabilities, and in particular was adamant that all students at the school should be provided with a learning environment that allowed them to reach their full potential regardless of the nature or severity of their disabilities. She encouraged her teachers to set high expectations for students and to extend their own professional knowledge.

The school had a high proportion of teachers who were either newly graduated or had transferred to the school from a mainstream primary or secondary school, and who did not have specialised qualifications in the education of students with disabilities. These teachers were mentored by more experienced teachers in a strategy intended to provide them with professional learning opportunities. Teams of teachers at the schools were thus structured to include at least one highly accomplished and experienced special education teacher, with the intention that they provide guidance to less experienced teachers.

Teachers monitored the learning progress of 23 students who were chosen to represent the range of ability levels and types of specific additional needs of the student body at the school. Their learning was assessed by their classroom teachers at two points in time with a six month gap between assessments. The students, 15 of whom were boys, ranged in age from four to ten years. In addition to moderate to severe intellectual disabilities, six students had impaired mobility and one of these students had cerebral palsy, 12 of the students had a diagnosis of autism spectrum disorder and two of pervasive developmental delay, two of the students had Down syndrome, and three of the students had epilepsy or other severe health impairments.

#### *A school for students with autism spectrum disorder.*

The school that specialised in the education of primary-school aged students with autism spectrum disorder enrolled approximately 100 students and maintained a

high student to teacher ratio. It provided many opportunities for individualised or small group learning experiences for its students, and placed emphasis on the importance of this for intensive teaching of communication and social skills for students with autism spectrum disorder. A team of four teachers, all of whom were qualified and experienced teachers of students with developmental disabilities, was established to monitor the communication proficiency of twelve students chosen by teachers as representative of the students at the school. These students ranged in age from four to ten years, and nine of them were boys. All of the students had specific additional learning needs in the areas of communication, language, literacy and social development, as would be expected for students with a diagnosis of autism spectrum disorder. Three of the students had impaired mobility, and ten had been described by their teachers as having additional needs in terms of their cognitive development. One of the older students had been assessed as having a severe intellectual disability in addition to autism spectrum disorder.

### *Materials*

#### *Assessment and reporting.*

To assess their students' current level of communication proficiency, teachers responded online to a SWANs measurement instrument (Author & Author, 2008). This instrument presented teachers with eleven questions framed in terms of their observations of the functional communication skills of their students, such as making a request, greeting a person, repeating a message or taking turns in a conversation and adjusting the volume or style of their communication. Students did not participate directly in testing. Rather, teachers observed their students' typical behaviours in everyday, classroom interactions and then responded to items that presented a choice of possible response options representing the typical quality of student performance.

Student assessment outcomes were reported to teachers in a format originally developed by Griffin, Smith and Ridge (2001) to describe learning progress in literacy for non-disabled students. An example of an individual student report is shown in Figure 2. Thus, reports were presented in the form of a developmental scale, with levels of proficiency displayed in hierarchical order. The lowest level of proficiency was shown at the bottom of the scale and the highest level at the top, and each successive level was described by a brief summary of its content or meaning shown adjacent to the level. An individual student's estimated proficiency was denoted on the scale by a black bar. Teachers could review a student's generalised level of communication proficiency by simply reading the level description that corresponded to the student's score on the instrument.

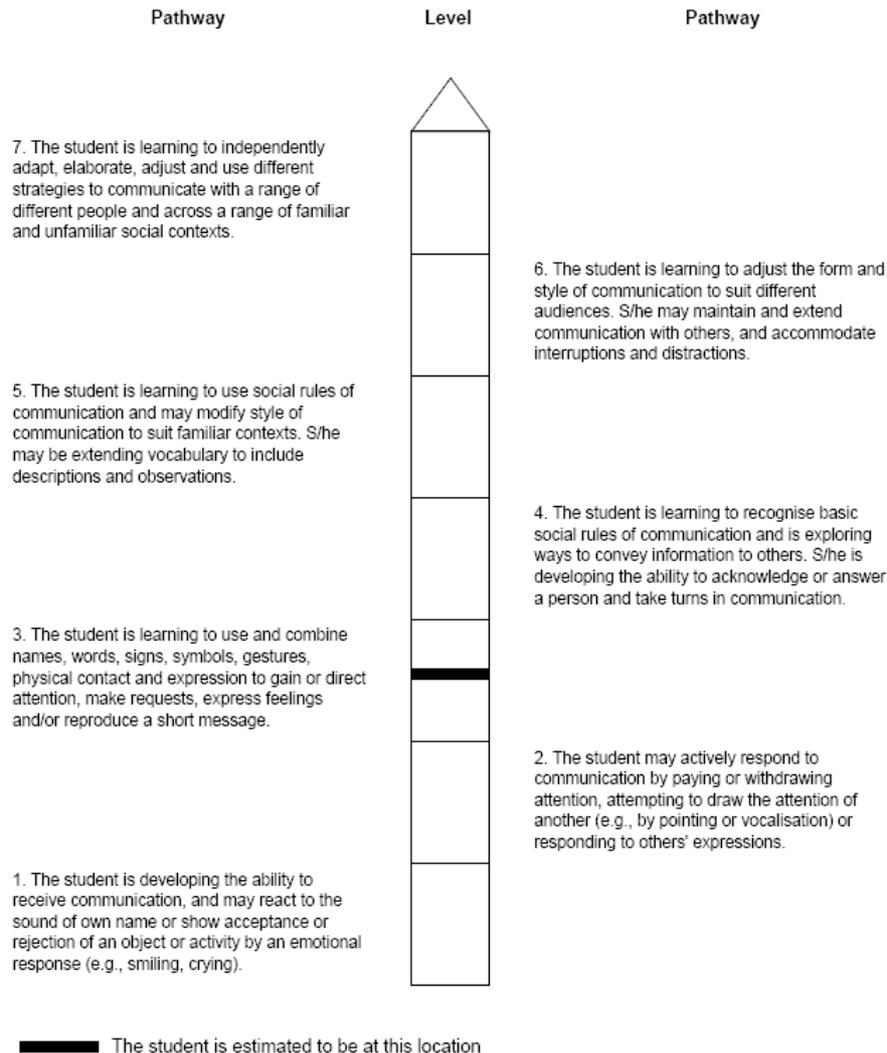


Figure 2. Individual report of student proficiency in communication.

### Procedures for Team Meetings

Teachers reviewed their student reports within the context of collegial meetings which, over time, led teachers through a cycle of examination of student assessment results, setting objectives for student learning, planning a learning program targeted to students' current learning level, and review of the learning program and use of resources. These activities formed the basis of the discussions and decision-making that teachers were expected to undertake in the development of individualised learning programs for each student who received funded support for their learning (VCAA, 2009). Teachers were also provided with questions that should be posed in these discussions, as follows:

- What goals should be set for students at each level of proficiency on the learning progression? Teachers set learning objectives for students by referring to the developmental progression (shown in Figure 2) to examine the abilities described both at the students' current level and the next level on the progression. The critical point was to discuss whether students were ready to progress to a new proficiency level.
- What teaching program should be established to support student learning? Teachers established strategies for working with all of their students at a

particular level of proficiency and to identify the resources they needed to have in place to support their teaching program.

- What evidence of student learning progress should be gathered and reported?  
To complete the discussion, teachers documented the evidence of student learning that they expected to observe, and set a time to review their decisions. All decisions were recorded on logs that were copied and distributed between team members and shared with the researchers.

### *Interpretation of Student Scores and Goal Setting by Teachers*

#### *Setting Goals and Targets for Student Learning*

Teachers thus reviewed their students' reported levels of communication proficiency, and then used this information to establish goals and targets for each student's learning. Some examples are described below for students at each level of proficiency. These learning goals represent only some of the objectives that could be set for students at each proficiency level. They were by no means an exhaustive list. Rather, they illustrate the capacity of teachers to use their students' assessment results, presented in the form of generalised developmental progressions, to make decisions about the direction of future teaching programs. In the main, teachers set between one and four learning goals for students at each level, and then reviewed their decisions in light of evidence of student progress at subsequent meetings or based on their observations of their students in everyday classroom interactions.

In the special developmental school, teachers set a common goal for all of their students working at a particular level, and then adjusted their plans to suit particular strengths or interests of students by drawing on different resources or materials to engage students in learning experiences. They did not differentiate between students with intellectual disabilities and those with developmental disabilities when establishing learning goals. Rather, goals were linked to the generalised level of proficiency of the students. For example, a broad learning goal set for students at the lowest three levels of communication proficiency (i.e., students who were becoming receptive to communication [level one], learning to respond and attend to communication [level two] or learning to express basic needs and feelings [level three]) was that they should make progress towards being able to have their wants and needs understood through the use and manipulation of signs, pictures or verbal forms of communication. For students who were estimated to be working at the fourth level (i.e., learning to recognise social rules of communication) or fifth level (i.e., learning to use social rules of communication), teachers set a general goal that the students should develop an understanding that communication was an interaction between at least two people and learn to recognise and reproduce socially expected behaviours of people engaged in communicative exchanges. For students working at higher levels of proficiency, including students who were learning to take their audience into account when communicating (level six) or learning to extend and adapt communication across a range of social contexts (level seven), teachers determined that their confident involvement in authentic and meaningful opportunities to communicate should be actively promoted.

By contrast, teachers in the school for students with autism spectrum disorder personalised the goals they established for each student, and listed a range of targets for each student's learning. Again, however, the targets were clearly linked to the students' generalised level of proficiency and designed to help the students make progress in their learning from their current level to the next level on the progression. Some of the learning targets, such as establishing and maintaining eye contact when engaging in communication, were specifically designed to address an area of difficulty for students with autism. There were no students working at the very lowest or highest levels on the progression. Table 1 provides examples of the learning goals established

for students with autism spectrum disorder by this group of highly experienced special education teachers.

Table 1

*Learning Goals and Targets for Students with Autism Spectrum Disorder*

Communication Level	Learning Targets for Students
Level 7: Learning to extend and adapt communication across social contexts	<ul style="list-style-type: none"> <li>• There were no students at this level.</li> </ul>
Level 6: Learning to take audience into account	<ul style="list-style-type: none"> <li>• To independently modulate voice and adjust volume and style of speech to match expectations of polite interaction and with a wide range of people.</li> <li>• To listen attentively and ask questions to extend conversations.</li> </ul>
Level 5: Learning to use social rules of communication	<ul style="list-style-type: none"> <li>• To sustain interactions with others for extended periods of time.</li> <li>• To modulate voice and adjust volume and pace of speech to suit the social context.</li> </ul>
Level 4: Learning to recognise social rules of communication	<ul style="list-style-type: none"> <li>• To develop skills in initiating and ending brief conversations.</li> <li>• To make and maintain eye contact when speaking to others.</li> <li>• To tell others about a familiar event/activity using pictures as cues.</li> </ul>
Level 3: Learning to express needs and feelings	<ul style="list-style-type: none"> <li>• To extend use of Picture Exchange Communication System symbols by placing two icons into a sentence strip.</li> <li>• To request present and non present items using a multi-word phrase.</li> </ul>
Level 2: Learning to respond and attend to communication from others	<ul style="list-style-type: none"> <li>• To refine and clarify requests using Picture Exchange Communication System symbols.</li> <li>• To recognise the names of peers.</li> </ul>
Level 1: Becoming receptive to communication from others	<ul style="list-style-type: none"> <li>• There were no students at this level.</li> </ul>

### *Targeted and Differentiated Use of Teaching Strategies and Resources*

Teachers linked strategies for teaching to the objectives they had set for students at different levels of proficiency. These targeted and differentiated teaching strategies were designed to support the learning of students at each proficiency level on the developmental progression. Teachers at the school for students with moderate to severe intellectual disabilities divided their planning into three broad groups - for students working across the lower three levels of proficiency who were learning to respond to communication and express their basic needs and feelings, for students at the middle levels who were building an understanding of the social rules of communication, and for students at the upper levels who were learning to adapt their communication to the demands and requirements of different social contexts. They compiled their recommendations into a list of strategies that individual teachers then used as a reference and from which they selected strategies to suit the interests and learning preferences of individual students.

Examples of these teaching strategies are shown in Table 2. They represent the sorts of strategies used by experienced and qualified special education teachers, or by less experienced teachers working within the supportive context of a team of more experienced colleagues. However, no records were maintained of the number of times teachers used a particular teaching strategy with a particular student, or the duration or intensity of use, and so no strong conclusions can be drawn about the utility of particular programs of learning for students. Rather, the intention is to illustrate teachers' capacity to use developmental assessment to structure their planning and inform programs of teaching for their students with additional learning needs. The information presented in Table 2 can thus be viewed as an exemplar of teachers' use of developmental assessment to scaffold student learning.

Table 2

*Strategies to Support Progress for Students at Different Levels of Communication Proficiency at a Special Developmental School*

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*Levels 6 - 7. Learning to take audience into account and to extend and adapt communication across social contexts*

- Provide leadership opportunities (e.g., acting as class monitor, taking messages to other staff members).
- Use reverse integration (e.g., where students from mainstream schools spend time in the special education classroom) to encourage peer modelling and interactions.
- Provide opportunities for student to present ideas to a small group. Teach the student to use cue cards and pictures or objects to structure presentation of information.
- Use real life activities in which natural discussion can take place, such as cooking activities, community access visits, sporting events, excursions, concerts, supervised use of public transport. Role play and practise expected communication in preparation for new activities and experiences.
- Use social scripts to prepare for interactions and practise communication skills across a wide range of experiences and situations.

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*Levels 4 - 5. Learning to recognise and use social rules of communication*

- Use a 'choice board' and aided language displays to support participation in routine and familiar activities. Establish classroom routines for greetings, moving between activities, asking for assistance and leaving the room. Establish shared rules across school for social behaviours, and reinforce and reward adherence to social rules.
  - Model expected language use in a range of social situations, using role plays and dramatisations of the interactions the student may encounter in everyday life. Provide opportunities for student to practise interactions in a safe and supported context.
  - Read age-appropriate stories with student that model expected forms of
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communication and expand vocabulary.

- Use visual modelling of emotional expressions, and visual cues such as sentence strips (e.g., 'I feel . . .') to encourage student to express own feelings. Begin by teacher providing student with visual cue or PECS card to match the emotion the student is expressing. When the student can make the connection between the emotion and the cue independently, introduce the choice of two cue cards showing different emotions and ask the student to select the card that matches their current feelings.
- Use games and songs to teach skills of turn-taking.
- Build communication skills by explicitly teaching student to use and respond to the basic 'wh' questions. Use a 'chat book' to encourage student to respond to 'who, what, where' questions. Encourage student to retell news about the events of the school day. Use photographs of the day's events to support recall and build vocabulary.

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*Levels 1 - 3. Becoming receptive to communication, learning to respond and attend and learning to express needs and feelings*

- Provide extended processing time for student to respond – be patient, but expect a response from the student. Respond to any attempt to communicate made by the student. Respond to undifferentiated behaviours as though they were intentionally communicative.
  - Coactively teach students to use appropriate ways to gain attention, then transition to modelling and prompting required behaviours.
  - Link objects and activities to symbols (e.g., using Picture Exchange Communication System [PECS] symbols, photographs, laminated pictographs) and explicitly teach student to select or show symbol to request favourite objects, foods or activities. Begin by matching object to object, and then progress to matching object to picture.
  - Provide multi-sensory support (e.g., visual, tactile and auditory) for all communication. Use sensory items (e.g., blow bubbles, play music, play with mirrors and torches) to engage student interest and as a cue for attention.
  - Play with mirrors to help the student recognise him/herself.
  - Explicitly teach student to recognise expression of emotion, using photographs or PECS of basic expressions and mirrors.
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Teachers in the special developmental school did not differentiate their programs of teaching to suit the specific learning needs of students with autism spectrum disorder, in comparison with those with intellectual disabilities. Rather, they matched their use of teaching strategies to a particular student's general level of proficiency, regardless of the category of disability to which that student had been assigned. They explained this aspect of their decision-making by pointing out that many of the interventions and programs of teaching that support the learning needs of students with autism spectrum disorder are also useful and appropriate for their students with intellectual disabilities. For example, using a multi-sensory approach to communication and reinforcing verbal approaches to the student with visual stimuli was recommended for students at lower levels of proficiency, regardless of the nature of their disability. Thus, teachers might ask students whether they wanted a particular object or food item while showing them the item or a picture of the item, or they might verbally ask a student to choose between activities while offering them pictographs of both activities.

Teachers in the school for students with autism spectrum disorder noted that their students were highly visual learners and also strongly motivated by the use of computers in learning. Their planning documents revealed an emphasis on maintaining a small student-to-teacher ratio in the classroom, a strategy described as essential to manage behavioural problems for some of their students. They pointed out that the distress and anxiety experienced by some students with autism spectrum disorder had to be managed by the immediate withdrawal of the student from the group, so it was imperative that more than one teacher was available in the classroom even when the

overall number of students was quite low. The teaching strategies established by teachers for students at each level of proficiency are shown in Table 3.

Table 3

*Strategies to Support Progress for Students at Different Levels of Communication Proficiency at a School for Students with Autism Spectrum Disorder*

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*Level 7: Learning to extend and adapt communication across social contexts*

- There were no students at this level

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*Level 6: Learning to take audience into account*

- Use behavioural scripts to explicitly teach students the skills and behaviours that are expected in different situations and when communicating with different people.
- Display lists of shared rules for appropriate communication in the classroom.
- Model and over-emphasise the use of light and shade in voice when reading aloud to students.
- Discuss how characters in stories, movies or television shows could ideally have expressed themselves and their ideas.
- Use cue cards of the “wh” questions (e.g., who, when, what, where and how) to prompt presentation of information to a group.
- Use group speech pathology sessions to support development of basic skills.

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*Level 5: Learning to use social rules of communication*

- Use social scripts to teach students about social expectations of behaviour when conversing with others.
- Model and over-emphasise the use of light and shade in voice when reading aloud to students.
- Use cue cards of the “wh” questions (e.g., who, when, what, where and how) to prompt student to provide information to teacher or peers..
- Use group speech pathology sessions to support development of basic skills.

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*Level 4: Learning to recognise social rules of communication*

- Role-play and practise the behaviours of polite communication in a range of social situations (e.g., role-play shopping behaviours and provide students with cue cards of the appropriate words to use)
- Use social scripts to teach and reinforce communication behaviours for commonly encountered situations.
- Use cue cards of the “wh” questions (e.g., who, what, when, where and how) to support students’ attempts to elaborate on statements.
- Use group speech pathology sessions to support development of basic skills.
- Construct personalised books of photographs of student and other familiar people to cue student to describe experience of activities and events in the school and classroom.

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*Level 3: Learning to express needs and feelings*

- Construct personalised books of photographs of student and other familiar people engaged in activities of particular interest and relevance for the student. Present student with sequences of photographs of familiar classroom activities and special events to encourage development of vocabulary.
- Teach student to use Picture Exchange Communication System (PECS) symbols to make requests or express needs or feelings. Teachers need the support and advice of speech therapist to understand the use of the stages of PECS.
- Use role-play, modelling and social scripts to allow students to practise communication skills.

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*Level 2: Learning to respond and attend to communication from others*

- Teach student to use Picture Exchange Communication System (PECS) symbols to make basic requests. Teachers need the support and advice of speech therapist to understand the use of the stages of PECS.
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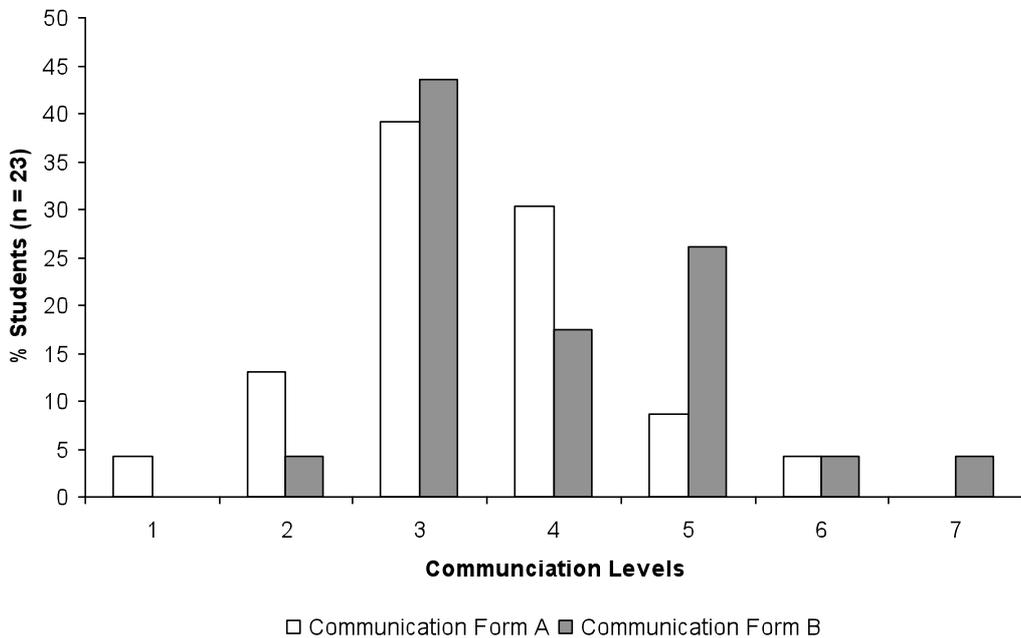
- Display photographs of students labelled with names in classroom and play games to help students recognise and differentiate between self and others.

*Level 1: Becoming receptive to communication from others*

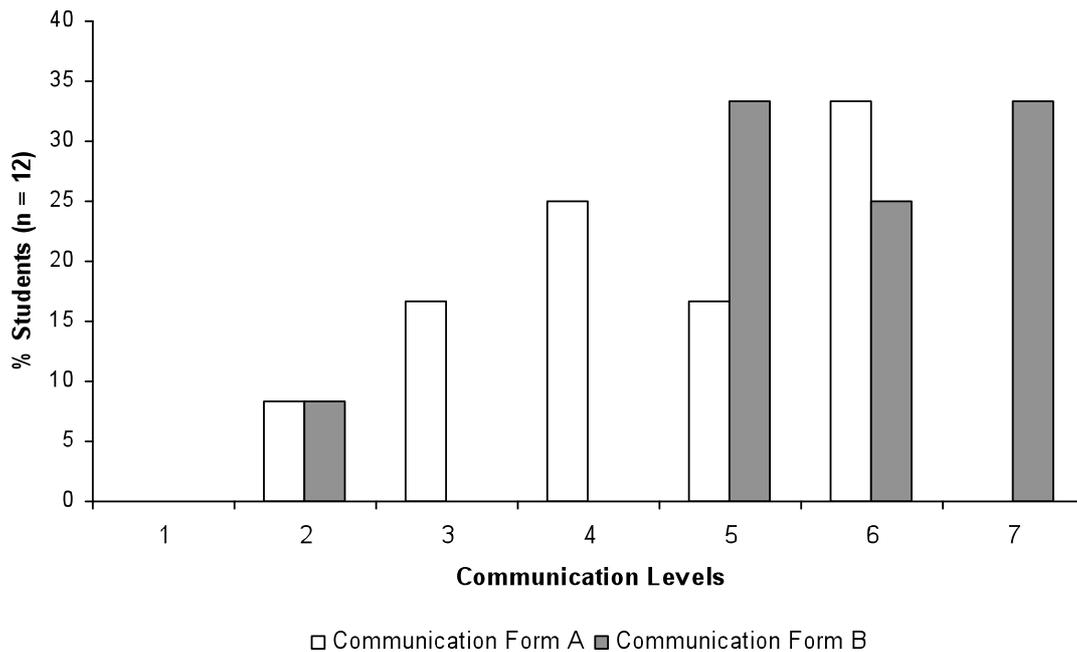
- There were no students at this level.

*Impact on Student Learning*

Student proficiency in communication was monitored over a six month period in both schools. Figure 3 shows the distribution of students at each level of communication proficiency measured at two points in time with a six month gap between assessments in the special developmental school, and Figure 4 shows this information for the school for students with autism spectrum disorder. The graphs show the general improvement of communication proficiency for the students whose learning was monitored and supported by teachers at each school.



*Figure 3.* Student progress in communication proficiency in the special developmental school.



*Figure 4.* Student progress in communication proficiency in the school for students with autism spectrum disorder.

In the special developmental school, all but one of the students had progressed in terms of communication proficiency, and the teacher of that student noted that she had been absent from school for much of the two months prior to the second round of assessment due to health problems. Similarly, in the school for students with autism spectrum disorder almost all students made strong progress in their learning. Only one of the students did not progress to a higher level of proficiency, and that student was an older boy who had a severe intellectual disability as well as autism spectrum disorder. His teacher had set a modest but realistic objective that he should learn to make basic requests using photographs or PECS symbols and learn to discriminate between his own name and those of others. She was continuing to work towards these learning goals with the student. Of the remaining eleven students, all had shifted at least one, and in some cases two, levels of proficiency.

#### *Teachers' Observations and Comments*

Reflecting on their use of developmental assessment to differentiate learning programs for their students, teachers commented on the particular utility of these protocols for the purpose of setting well-targeted and appropriate learning objectives for their students. One of the team leaders commented that teachers often remarked that they 'did not know where to take the students next' and that they sometimes felt under pressure to set goals for student learning that were quite unrealistic or too general to inform programs of teaching. In particular, the developmental progressions were welcomed by teachers as a means of making and sharing decisions about specific and appropriate targets and objectives for student learning.

Teachers also commented on the usefulness of team-based procedures (Griffin et al., 2008) for supporting their planning and capacity to monitor and review student progress. In the school for students with moderate to severe intellectual disabilities, teams of teachers had been structured to include a mixture of graduate, experienced and highly accomplished teachers, so that teachers could learn from each other in a collegial setting. This was commended as a means of mentoring new or less-experienced teachers. One of the teachers commented that she valued opportunities to

listen to the ideas put forward by her colleagues and found this both an inspiration and reassurance. The teachers in the school for students with autism spectrum disorder noted that, at first, they found the work of documenting their decisions quite time-consuming. This was largely because the teachers tended to plan for individual students, rather than group students to a level of proficiency and base their planning of differentiated programs on levels rather than individuals.

In sum, the three areas of particular success that were cited by the teachers, and attributed by them to their use of developmental assessment within a context of shared decision-making, were the capacity to set appropriately-targeted learning goals for students, to mentor less experienced teachers, and to engage in critical reflection on the success of teaching strategies and resources in terms of impact on student learning.

### Summary

This study presented research into teachers' capacity to use developmental assessment to structure their decisions about programs of learning that were differentiated to meet the needs of students with intellectual and developmental disabilities at different levels of proficiency. There were several assumptions about learning among students with disabilities that were foundational to the research. The first of these was a belief that every child is capable of learning, an assumption that drew upon Vygotsky's (1929/1993, p. 80) contention that:

[t]he greatest mistake – the view of a child's abnormality as only an illness – has made our theory and practice subject to a most dangerous delusion. No matter what the affliction may be . . . we meticulously analyse every corpuscle of the defect, every little speck of disease found in abnormal children, while we never notice the gold mines of health inherent in each child's organism.

The second assumption was that teachers could use student assessment outcomes presented in terms of developmental progressions to plan and implement programs of learning for their students. Further, that they could discern the sorts of resources they needed in order to help their students make progress in their learning, and that schools and educational systems could draw on that information to formulate curriculum and policy decisions for students with learning disabilities (Griffin, 2007). Materials and information derived from the study have been used to develop curriculum advice for students with learning disabilities (Victorian DEECD, 2010). Future research has been planned to fully document the teaching resources and strategies that teachers of students with disabilities use to support the learning of students at different levels of proficiency, and to evaluate the efficacy of those strategies and resources in terms of student progress. The intention is to provide information to the state education system that can be used to shift resourcing of special education programs from a deficit model, which allocates funding to schools on the basis of the severity and type of disability of students, and to aspire towards a model that resources schools in order to achieve optimal learning outcomes for students. In Vygotsky's (p. 80) terms, the goal of that program of reform in special education is to draw interest away from the 'specks of disease' and, instead, concentrate the attention of educators on the 'gold mines of health' and potential in each student with a learning disability.

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