Meeting the challenge of limited literacy resources for adolescents and adults with intellectual disabilities

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For adolescents and adults with mild to moderate intellectual disabilities (or, in the UK, learning disabilities or learning difficulties), the achievement of successful engagement with, and construction of meaning from, texts necessitates the implementation and use of specifically designed and adapted teaching strategies and resources. The careful selection and application of appropriate resources is vital to allow learners with intellectual disabilities to engage and participate with texts in positive, enjoyable and meaningful ways. The challenge for teachers of adolescents and adults with intellectual disabilities is to overcome the limited availability of suitable literacy resources for these learners. In this article, Michelle Morgan, who teaches literacy at the University of Queensland, and Karen Moni, director of the secondary programmes in the School of Education at the University of Queensland, identify the literacy needs and reading practices of adolescents and adults with intellectual disabilities based upon findings from an action research investigation. They go on to explore ways in which teachers can meet the challenge of limited resources for these learners through the specific and deliberate adaptation and creation of suitable texts.

Key words: learning disabilities, adolescents, adults, literacy, reading, action research.

Introduction

As part of a research project undertaken by the first author, in which reading comprehension in young adults with Down's syndrome was investigated, data was collected about the literacy experiences, skills, attitudes and behaviours of the participants. The results revealed that these young adults had a diverse range of literacy needs and practices. For example, the participants' responses from the researcher-developed Participant Reading Interview (PRI) (Morgan, 2005) together with the parents' responses from the researcher-developed Parent Guardian Reading Questionnaire (PGRQ) (Morgan, 2005), indicated that the participants had a range of reading skills, interests, reading behaviours and attitudes toward work, reading and their peers. Copies of the Participant Reading Interview and Parent Guardian Reading Questionnaire may be obtained

from the first author. The responses also showed that the participants read a variety of materials that were based on interests, movies and familiar topics. Reading preferences ranged from not reading at all to reading books, magazines, poetry, newspapers, comic books, the TV guide, movie reviews and information from the Internet. They also showed that the participants read both for pleasure and to gain information.

However, while reading was considered to be important, responses from the Participant Reading Interview (Morgan, 2005) showed a preference for activities other than reading. In addition, observations of the participants revealed that they were reluctant to read long, difficult, challenging texts or books that looked like school readers. Observations showed that the participants tired easily during literacy activities; that oral reading tasks required real effort; and that they experienced difficulty in constructing meaning from the texts and responding appropriately to questions about the texts.

Research has shown that motivation facilitates engagement in reading, which is correlated with success in reading and improvement in reading comprehension (Guthrie & Cox, 2001; Guthrie & Davis, 2003; Guthrie, Wigfield, Barbosa, Perencevich, Taboada, Davis, Scafiddi & Tonks, 2004; Guthrie, Wigfield, & Von Secker, 2000). Furthermore, motivation and task persistence are essential for continued life-long literacy learning. Gunn (1993) suggested that for individuals with intellectual disabilities to learn and continue to learn, the tasks given to them should be functional and enjoyable. When learners are motivated, they are more likely to persist at a given task and initial motivation will be generalised and extended to other content and text (Guthrie, Alao & Rinehart, 1997; Guthrie & Cox, 2001; Guthrie & Davis, 2003). Conversely, when learners are not motivated, task persistence decreases and, as a result, reading comprehension is adversely affected (McKinney, Osborne & Schulte, 1993). In addition, for teachers of learners with intellectual disabilities, the inclusion of real-world interactions and activities which are relevant to the learners, and which enable them to feel connected to their world, is important in heightening motivation and engaging individuals in learning (Alverman & Hagood, 2000; Gunn, 1993; Guthrie & Davis, 2003; Guthrie & Wigfield, 2002; Hermann, 1995; McCombs & Pope, 1994; Morgan &

Moni, 2005, 2007; Morgan, Moni & Jobling, 2006; Pressley, Roehrig, Bogner, Raphael & Dolezal, 2002; Westwood, 1998; Zahorik, 1996).

However, Kotula (2003) argued that a discrepancy exists between applicable instructional and interest levels in reading materials for this population. Similar difficulties in selecting appropriate texts were also experienced by Moni and Jobling (2000, 2001) in their Latch-On® (Literacy And Technology Hands On) post-school literacy programme. For emergent and beginner readers, texts at an appropriate skill level often consist of vocabulary, concepts and topics related to early childhood. Many of the Latch-On® students shunned these texts, claiming that they were *'baby books'* and refused to engage with texts that were not age-appropriate and that did not contain topics of interest to them. Others insisted on reading non-fiction texts related to their interests that were well above their reading ability. Findings from Morgan's (2005) Parent Guardian Reading Questionnaire also indicated that the participants frequently selected reading material that was above their reading ability, but was age-appropriate and based upon interests and popular culture.

Furthermore, the results from standardised reading assessments (Peabody Picture Vocabulary Test (PPVT) (Dunn & Dunn, 1997), a standardised test of receptive oral language; and the Neale Analysis of Reading Ability (Neale, 1999), a standardised test of reading accuracy, fluency and comprehension) in separate studies by Moni and Jobling (2001) and Morgan (2005) indicated that the participants' age equivalent scores were well below their chronological ages, with mean reading and comprehension abilities at an equivalent level to that of six-year-old school students.

Herein lies the challenge for teachers to overcome the limited availability of resources for adolescents and adults with intellectual disabilities. This article describes some ways in which teachers can meet the challenge of creating resources for learners with intellectual disabilities through the specific and deliberate adaptation and creation of suitable texts. The next section describes the context for this article.

Context
The strategies discussed in this article were developed by the authors in response to findings from an action research investigation about the literacy needs and reading practices of a group of young adults with Down's syndrome. This investigation was undertaken by the first author as part of a Master of Philosophy degree, for which the second author was the principal supervisor. The project was conducted in Queensland, Australia, within the Latch-On® (Literacy And Technology Hands-On) post-school programme, of which the second author is the Director. As part of a team, both authors are responsible for curriculum development, teaching and resource development within the Latch-On® programme. The young adults who attend this two-year programme have a wide range of literacy abilities, with reading age varying from emergent to approximately 13 years.

While the findings about the literacy skills and needs of these young adults are not new, they confirm the need for using creative strategies to overcome the challenge of limited resources. In this article, the authors demonstrate how they have addressed this challenge, extending the first author's action research investigation with young adults (aged 18 to 26 years) with Down's syndrome (Morgan, 2005) to applications within the broader Latch-On® programme with young adults (aged 18 to 30 years) who have a range of intellectual disabilities, including William's syndrome, Down's syndrome, cerebral palsy and autistic spectrum disorder.

The next section discusses considerations for selecting suitable texts. It specifically looks at the importance of developing a deep understanding of the needs and interests of the learners; the use of readability formulas and levelling procedures in text selection; and matching texts to individual learners' needs.

Text selection
The selection of appropriate texts is essential for ensuring that learners have the best opportunities to construct meaning from texts and enjoy participating with and using texts in a variety of ways. The use of suitable texts was shown by Morgan (2005) to be an important factor in enhancing the reading comprehension of young adults with Down's syndrome. Specifically, matching texts to the learners' interests, prior knowledge and reading abilities was found to be essential in heightening motivation, enhancing confidence and developing and applying specific reading comprehension strategies. Some considerations to be made when selecting suitable texts for learners with intellectual disabilities include: type of text (narrative/expository); readability (or difficulty) of text; length of text; vocabulary in text; complexity of sentence structure; purpose of text (information/instruction/advertisement/pleasure); concepts in text; interest for learner; relevance to learner, and presence, type and placement of illustrations.

In addition to the findings of Morgan's (2005) investigation, others have also reported difficulties in selecting suitable texts for learners with intellectual disabilities (Kotula, 2003; Moni & Jobling, 2001). In addressing this difficulty, Morgan (2005) found that there were effective strategies for providing suitable texts for the learners: namely, the application of readability formulas, levelling procedures, and adaptation and creation of texts in relation to the information gathered about the needs and interests of the learners. These findings, together with those of Moni and Jobling (2001), indicate that teachers of individuals with intellectual disabilities need to go beyond using commercially available texts, and adapt or create texts that suit the needs and interests of their learners.

Knowing the learner
In order to make informed decisions regarding the suitability of texts, teachers need to have extensive knowledge and understanding of the educational needs and abilities of their learners, together with knowledge about their interests, family life, experiences, hobbies and social activities. Such

information can be gathered through a combination of informal and formal data collection methods. Informal assessments, such as interviews and observation, add rich detail about learners' educational and social needs, practices, attitudes and behaviours (Carothers & Taylor, 2003; Morgan, Moni & Jobling, 2006; Neuman, Copple & Bredekamp, 2001; Mueller, Waters, Smeaton & Pinciotti, 2001). Assessments should enable the learners

> 'to demonstrate knowledge, abilities and skills with materials with which they are familiar and confident in using and which are responsive to their learning needs.'
> (Morgan et al., 2006, p. 53)

Non-standardised interviews and questionnaires, such as the Participant Reading Interview and Parent Guardian Reading Questionnaire developed by the first author (Morgan, 2005), are examples of informal data collection methods used with learners with intellectual disabilities and their carers.

Formal standardised reading assessments can provide useful and accurate measures of the reading skills and abilities of learners. Such measures may also provide information about the learners' reading strengths and limitations, while providing reading age and grade level equivalents. This information may then be used in programme planning and in the selection of appropriate texts. However, like the availability of literacy resources, formal standardised assessments for this population have also often been found to be inadequate (Moni, Jobling & van Kraayenoord, 2002; Morgan, 2005).

Traditionally, such knowledge of learners has been used together with readability formulas and, more recently, levelling procedures to match readers to texts.

Using readability formulas and levelling procedures in text selection

Selection of suitable texts can be made using readability formulas and levelling procedures. However, it is acknowledged that readability formulas focus on only two features of a text: sentence length and the number of syllables in words (Bailey, 2002; Fry, 2002; Osborne, 2000; Stephens, 1991). Furthermore, readability scores depend on writing style rather than content (Bailey, 2002). Fry (2002) argued that text support factors (such as illustrations, language structure, the relationship of the text to the current curriculum and the format of the text) are 'absent from most readability formulas'.

To overcome the inadequacies of readability formulas in measuring 'features like interest and enjoyment . . . how comprehensible a text is . . . whether a text is suitable for particular readers' needs' (Stephens, 1991), levelling procedures can be applied. Levelling is a subjective means of considering text support factors when making decisions regarding the selection of texts for specific learners. Furthermore, to successfully select and match texts to readers, the process of levelling should be applied in combination with readability formulas (Chall & Dale, 1995; Gunning, 1998;

Kotula, 2003; Meyer, 2003; Rog & Burton, 2001; Weaver, 2000).

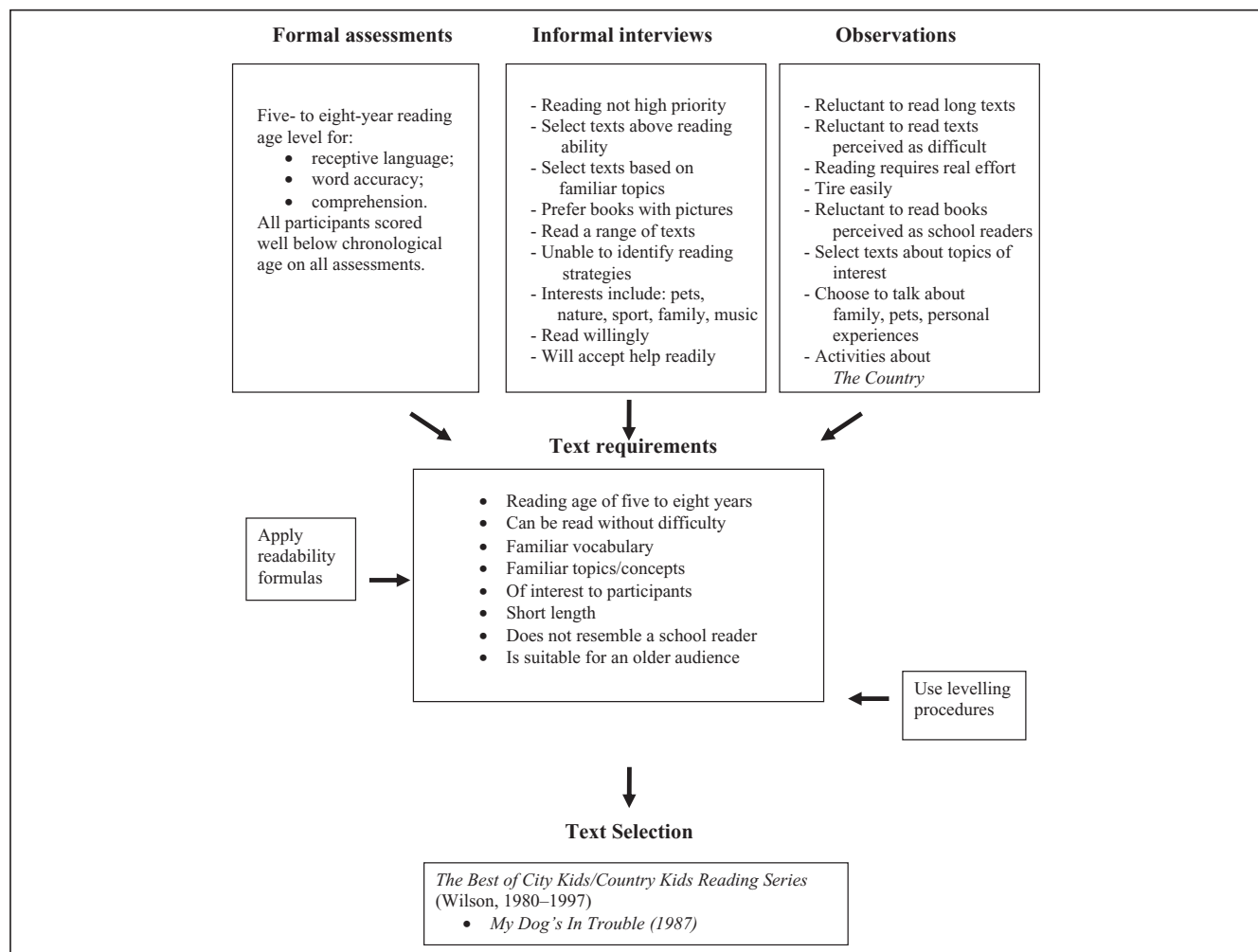*An example of the process of text selection through the application of multiple sources of data*

Within the first author's recent investigation (Morgan, 2005), a narrative text called *My Dog's in Trouble* (Wilson, 1987) was selected for use in the retelling assessment. This text was selected based upon knowledge of the participants' reading skills from the results of formal standardised assessments, the information gathered from the Parent Guardian Reading Questionnaire and the Participant Reading Interview (Morgan, 2005) about the participants' skills and interests, and from observations of the participants during literacy activities. Two quantitative readability formulas were then applied to support text selection. These were *Fry's Readability Graph* (Fry, 1977a, 1977b) and the *Flesch Reading Ease Formula* (Kincaid, Fishburne, Rogers & Chissom, 1975). The latter formula was also converted by Kincaid et al. (1975) to estimate grade level equivalents. It is known as the *Flesch-Kincaid Grade Level* and, together with the *Flesch Reading Ease Formula*, is available as an automated computerised readability formula built into Microsoft Word.

The readability of the selected text, *My Dog's In Trouble* (Wilson, 1987), based on *Fry's Readability Graph* (Fry, 1977a, 1977b), indicated that it was suitable for learners with a chronological reading age of six years. The *Flesch Reading Ease Formula* (Kincaid et al., 1975) provides a readability score out of 100. The higher the score, the easier the text is to read. The selected text scored 98.1, which equated to a *Flesch-Kincaid Grade Level* (Kincaid et al., 1975) of 1.6, which is appropriate for six-year-olds. This score was calculated automatically on the computer using Microsoft Word.

The results from the standardised assessments indicated that the participants were able to read and recall details of texts at a reading age level equivalent of five to eight years. As such, the above readability results indicated that the selected text was at an appropriate level of difficulty for the participants to read and construct meaning from.

However, it is acknowledged that to successfully match readers to texts, the process of levelling needs to be applied together with readability formulas (Chall & Dale, 1995; Gunning, 1998; Kotula, 2003; Meyer, 2003; Rog & Burton, 2001; Weaver, 2000). In selecting the text used in the retelling assessment within the investigation, knowledge of the learners' interests from informal data collection methods was used, together with text levelling procedures. These procedures included: considerations of the learners' familiarity with vocabulary, concepts and topics; interest and relevance to the learners; and text length, format, structure and layout (Morgan, 2005). Figure 1 provides a flow diagram showing the process of text selection, which used the results from a combination of formal and informal assessments, readability formulas and levelling procedures.

Figure 1: An example of the process of text selection

Formal assessments	Informal interviews	Observations
Five- to eight-year reading age level for: • receptive language; • word accuracy; • comprehension. All participants scored well below chronological age on all assessments.	- Reading not high priority - Select texts above reading ability - Select texts based on familiar topics - Prefer books with pictures - Read a range of texts - Unable to identify reading strategies - Interests include: pets, nature, sport, family, music - Read willingly - Will accept help readily	- Reluctant to read long texts - Reluctant to read texts perceived as difficult - Reading requires real effort - Tire easily - Reluctant to read books perceived as school readers - Select texts about topics of interest - Choose to talk about family, pets, personal experiences - Activities about *The Country*

Text requirements

Apply readability formulas →

- Reading age of five to eight years
- Can be read without difficulty
- Familiar vocabulary
- Familiar topics/concepts
- Of interest to participants
- Short length
- Does not resemble a school reader
- Is suitable for an older audience

← Use levelling procedures

Text Selection

The Best of City Kids/Country Kids Reading Series
(Wilson, 1980–1997)
- *My Dog's In Trouble (1987)*

However, age- and interest-appropriate texts often cannot be found for adolescents and adults with intellectual disabilities, despite the application of readability formulas and levelling procedures. When this occurs, existing texts can be adapted, or original texts created specifically for the learners, to suit both their interests and literacy needs. The next section examines text adaptation and creation through a socio-cultural approach to literacy.

Adapting and creating suitable texts
When appropriate texts cannot be found, teachers can use the information collected about learner interests and abilities to adapt texts to suit their interests and literacy needs. By adapting existing texts, or creating new texts, teachers can ensure that the texts are relevant, meaningful and interesting to the learners. It has been shown that the appropriate selection and/or adaptation of suitable texts are essential for adolescents and adults with intellectual disabilities to engage with, participate with, and construct meaning from the texts (Morgan, 2005; Morgan et al., 2004). In this regard, a socio-cultural approach to text selection can assist teachers in addressing the difficulty of finding suitable texts for adolescents and adults with intellectual disabilities.

A socio-cultural approach to adapting and creating suitable texts
The basis of a socio-cultural approach to literacy learning is the understanding that literacy activities must be meaningful to the learners and have purposeful outcomes. Through this approach, learners are able to make meaningful connections between their personal lives and the literacy activities with which they engage (Moni & Jobling, 2001). Activities within a socio-cultural framework are based upon learners' interests and experiences and are developed around the learners' purposes. This enables the learners to bring knowledge of themselves, their community and their experiences to the literacy task. Motivation remains high because the texts are chosen or developed around the learners' interests with outcomes that are meaningful to them (Moni & Jobling, 2001).

Both narrative and expository texts can be adapted or created to meet the interests and literacy needs of adolescents and adults with intellectual disabilities. The rest of this section presents some of the ways that teachers can adapt existing texts, or create original texts, together with authentic examples of texts that have been adapted and created by

the authors and used successfully with adolescents and adults with intellectual disabilities.

Figure 2: Using specific language patterns and structures

Endeavour Reading Let Us Read A	Text adaptation Fonzie's Bike
Look!	Look!
Look at the rat!	Look at the bike!
Look Digger!	Look Craig!
Look Nat!	Look Fonzie!
Look at the rat!	Look at the bike!

Using specific language patterns and structures
The language patterns, structures and some vocabulary in early childhood and emergent basal readers can be adapted to suit the interests of adolescents and adults with intellectual disabilities, by interchanging early childhood concepts and themes with those that are relevant to the social interests and activities of older learners. For example, Figure 2 shows how the text structure from an Endeavour Reading Programme's (1979) pre-reader was used for a young adult emergent reader with intellectual disabilities, but with the subject being the learner's interest in the TV series *Happy Days* instead of the early childhood subject of *Digger the Dog*. This proved highly motivating for the learner and was an effective method of teaching, introducing and extending the key vocabulary of an emergent reader.

This was one of the first texts that Craig (all names here are pseudonyms) had been able to read independently. His thrill and pride at being able to read for the first time at the age of 24 years left us all feeling quite emotional. Our tears of joy for Craig's accomplishment added to his sense of achievement and enabled him to understand the power of literacy to effect emotion. At the conclusion of the reading session Craig, mimicking the text he had just read, called to us as we were walking to the lunch room, *'Hey! Look Michelle! Look Karen! Look at me! I can read!'*

Figure 3 provides an example of how the early childhood concepts present in a first grade basal reader were replaced with concepts applicable to young adults, while the basic vocabulary remained relatively unchanged to suit the reading abilities of emergent and beginner readers. At the

conclusion of this reading session, the group of learners who were involved in reading this text were overheard laughing about the humour of splitting one's jeans. Lizzie was heard saying, *'You better be careful bending over, Maddy, because your jeans might go RIIIIIIIPPP and leave a big hole!'*, which caused both young women to have fits of laughter.

Teacher-created texts
Teachers can specifically create texts for individuals, or small groups with similar interests, by using target vocabulary with familiar interest words that are drawn from knowledge of the interests of the learners. For example, Figure 4 provides samples from two texts, *Backstreet Boys* and *The Amazing Adventures of Craig and Ben*. These were created by the first author using knowledge of the literacy skills, needs and interests of the learners. The target vocabulary specific to these learners is indicated in bold typeface. In developing the *Backstreet Boys* text, Craig and Ben were integrally involved in searching the Internet for information and pictures to assist in joint construction of the text and providing appropriate visual material to accompany the text. Engagement with the final text extended beyond the reading session with the young men reading the text to each other, to their friends and to other staff members throughout the day.

After reading *The Amazing Adventures of Craig and Ben*, Ben asked if they could videotape an actual interview with their friends playing the roles of the stars in the text. This proved to be a very motivating and engaging activity for all learners, which extended literacy beyond a formal reading session through the integration of popular culture and multi-media. Ben commented, *'I think I am a natural with a microphone in front of the camera. This is the start of me being famous and getting to drive around in a limousine'*, while Craig said, *'I am going to be Ricky Martin's best friend now and go to all his concerts and interview him back stage with Britney. I might even marry her!'*

Adapting non-fiction narrative and expository texts
Non-fiction narrative and expository texts can be adapted and simplified by replacing difficult vocabulary and phrases with simpler, more easily understandable language. Sentence and text length can be shortened and simplified to include only main points and key concepts. In addition, the main points from expository texts may be represented through the use of graphic aids, such as flow diagrams, semantic webs, labelled pictures, charts and also by using

Figure 3: Adapting early childhood concepts in basal readers

The Day I Split My Pants **(Wilson, 1979)** I bent down to pick up a block and my shorts split. RIP!	**Text adaptation:** ***The Day My Jeans Split*** At Uni I dropped a book on the floor. I bent down to pick it up and RIP! My favourite jeans split!

Figure 4: Creating original texts based on learners' interests and needs

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Backstreet Boys

Page 1:

We are the Backstreet Boys.

We are a Group of 5 guys!

Page 2:

This is Nick.

Hello! My name is Nick.

I can sing **and** dance.

I am very cool!

Page 3:

This is Kevin.

Hello! My name is Kevin.

I can sing **and** dance.

I am very cool!

Page 7:

We have lots of fans.

They clap **for us.**

They cheer **for us.**

They scream **for us.**

We like it!

We like it a lot!

The Amazing Adventures of Craig and Ben

Page 1:

This is Craig.

Craig **is** amazing!

Page 2:

This is Ben.

Ben **is** amazing **too!**

Craig **and** Ben **are** amazing!

Page 4-5:

Craig **interviews** TV stars **and** music stars.

Ben **interviews** TV stars **and** music stars **too!**

Craig and Ben **interview** TV stars **and** music stars.

Pages 6 to 8

They interview Britney Spears.

They interview Sabrina.

They interview Ricky Martin.

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computer software programs such as *Inspiration* (1997) to simplify, organise and connect information, vocabulary, themes and concepts.

Figure 5, *Jarrod (the Dirt Bike Demon) Goes Bush on a Postie Bike*, provides an example of a non-fiction narrative text (recount) that was produced by adapting an article from a motorcycle magazine to specifically meet the interests, literacy needs and skills of a young adult with Down's syndrome. Exchanging the name of the individual in the article with that of the learner enhanced motivation and interest in the recount and thus aided the learner's reading comprehension, engagement with the text and enjoyment in reading.

Prior to adapting this text, Jarrod had been reluctant to read anything that looked like a 'baby book' or school reader, electing instead to bring along army manuals, car mechanic manuals and motorcycle magazines, all of which were beyond his reading and comprehension ability. When Jarrod first saw his name and realised that he was the *'dirt bike demon'* in this text, his face lit up and he grabbed the text, flicked through the pictures and exclaimed:

> *'Oh, this is so cool. I can't believe I am in a story about motorbikes and that it's about me on an adventure and I'm a dirt bike demon. This is way cool. I'm not doing anything else but read this, and when I finish, I'm taking it home and I'm going to read it again. Let's do it!'*

Joint construction of original texts

Texts can be constructed in collaboration with the learners utilising their choice of vocabulary, concepts, topics, dialogue, characters, settings, sequence of events, complications and resolutions. Figure 6, *Craig interviews the stars from Neighbours* (Australian TV soap opera), provides an example of a jointly constructed text by the first author and a young adult with intellectual disabilities, based around the learner's interest in, knowledge of and enjoyment of a popular teenage television drama and a desire to gain future employment as a television host. Again, following the construction and reading of this text, Craig asked to be video-taped using this text to interview his friends who would role-play the characters from *Neighbours*. At its conclusion he commented:

> *'I would be so hot at being a TV host. That's what I'm going to do you know. Get a job and spend all day in a limo, drinking champagne and having lunch with famous people and interviewing the stars. I might go to Hollywood and be a movie star. That would be so cool. If I was a movie star I'd drive a red Ferrari.'*

Using scaffolds to adapt, create and innovate on texts

Through the use of specifically structured scaffolds that assist and guide them to develop their own versions of an existing text, learners can create a new version, or innovation, of a text using their own humorous and age-appropriate ideas for characters, actions, settings, problems and resolutions. Using word processing, these scaffolds assist the learners to personalise their stories by inserting elements from their own experiences and prior knowledge into the blank spaces provided. Figure 7 provides an example of an

Figure 5: Adaptation of a non-fiction narrative text

Jarrod (the Dirt Bike Demon) Goes Bush on a Postie Bike

Page 1:

One Sunday afternoon Jarrod (the dirt bike demon) and his mates had a wicked idea to travel to

Cape York (the very tip of Australia) in the wet season! To do this in an off road vehicle was

mad but to do it on postie bikes was just plain crazy!

Page 2:

A postie bike is a bright red Honda CT110 used by posties to deliver the mail. Great for posties

but terrible for dirt biking to Cape York. The four speed automatic gearbox is a shocker on hills,

the suspension is a killer and the thick frame is heavy.

So why a postie bike? Because it's a laugh and only Jarrod and his mates were tough enough to

do it!

Figure 6: Using joint construction to create original text with learners

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Craig interviews the stars from *Neighbours*

Page 1:

Craig interviews Benji McNair who plays Malcolm Kennedy:

Craig: I like your character.

You are a good actor.

What do you want to do in the future?

Benji: Thank you Craig.

One day I want to go to England.

Page 2:

Craig interviews Jesse Spencer who plays Billy Kennedy:

Craig: I like your character.

You are a good actor.

What do you want to do in the future?

Jesse: Thank you Craig.

I want to play in my band called Splade '.

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extract from an original text, a scaffold adapted from this text with blank spaces inserted for the learners to add their own innovations, and the finalised text created with the aid of the scaffold. The theme of the Olympics was used, with learners creating as many innovations of text as they desired. Using word processing, innovations were collated and illustrations added to produce an original book entitled *I Went to the Olympics*, which was provided to each learner for individual and shared reading. Innovation on text through the use of scaffolds proved to be a highly motivating, engaging, productive and effective literacy activity, which enhanced the learners' writing and oral language skills as well as their reading. Laura was particularly enthusiastic about this activity, commenting:

> *'I actually did go to the Olympics in Sydney and I really did see the people doing all the sports. Now I have my own book about what I saw at the Olympics.'*

Using computers to produce original texts

As demonstrated above, learners with intellectual disabilities can effectively use computers with a basic word processing program to produce personalised texts. Using a handwritten scaffold for support, learners can enter their text and then add borders, edit fonts and colours, and add clip art or import photos or scanned images to support and enhance their text. This can then be printed and bound into a book to read and to share with others. In addition, the authors have successfully supported learners with intellectual disabilities to create original texts, or innovations of existing texts, and to use them to create and show Powerpoint presentations. Thus, with support, patience and creative and effective teaching strategies, the computer can be a highly motivating and effective tool for aspiring readers.

Adapting texts to simple scripts

Emergent reading texts can be adapted to create a simple script by following the language pattern and structure of the text and then adapting the concepts and context to make the script relevant to adolescent and adult experiences (see Figure 3) and by changing the text format to that of a script. Segments from popular television dramas, movies or advertisements can also be scripted using joint construction methods. In addition, original scripts can be created with the learners and used in group reading or drama activities.

Application of text adaptation

For emergent readers, adapting and creating texts enables them to develop a basic sight vocabulary based upon their

Figure 7: Using scaffolds to produce innovation on existing texts

Innovation on text (*I Went Walking*, Machin, 1989)

I went walking (original)	**I went walking (scaffold)**
I went walking.	I went _____
What did you see?	What did you see?
I saw a black cat	I saw a _____
looking at me.	_____past me!

I went walking (innovation on text)

I went to the Olympics.

What did you see?

I saw a swimmer

swimming past me.

Note: The original scaffold and innovation on text have been reduced in size and reformatted for inclusion.

interests and literacy needs, with topics and concepts that are socially relevant and age-appropriate. This provides them with the opportunity to read for meaning and for pleasure, thus encouraging the continuance and enjoyment of life-long reading development and engagement with meaningful and relevant texts. Furthermore, reading skills and positive attitudes towards reading and related literacy activities will develop and progress, promoting enhanced confidence and perceived self-efficacy in their literacy capabilities. Beginner readers are able to increase their sight vocabulary and maximise construction of meaning by engaging with texts that are interesting, relevant and meaningful to them. Furthermore, reading texts about topics that are relevant and age-appropriate, with applicable concepts and vocabulary at a level consistent with reading ability, but comfortably challenging, promotes fluency, construction of meaning, reading success and enjoyment (Morgan, 2005). When adapting and creating texts to meet the needs of adolescents and adults with intellectual disabilities, a benefit of applying the strategy of joint construction is that the learners are able to participate in the construction of texts to meet personal needs and interests, with outcomes that are meaningful to them. This allows them to feel a sense of ownership, which heightens motivation and task persistence and, in turn, enhances academic achievement (Guthrie & Cox, 2001; Guthrie & Davis, 2003; Guthrie et al., 2004; Guthrie, Wigfield & Von Secker, 2000).

Adapting existing texts to suit the needs and abilities of learners with intellectual disabilities allows more competent readers to expand their literary repertoire and read from different literary genres, including expository texts. This enables these learners to gain information from a variety of sources about a range of topics that are of interest to them. Being able to read expository texts also offers the choice of reading, comprehending and following instructions to achieve desired outcomes, which may lead to increased skills in other areas of their social and personal lives, including greater autonomy, independence and employment opportunities.

Conclusion

Adaptation of existing texts and creation of original texts provide significant benefits for the initiation and continuance of life-long literacy for adolescents and adults with intellectual disabilities. By adapting existing texts, or creating original texts, teachers can ensure that the literacy needs and interests of adolescents and adults with intellectual disabilities are being met, thus overcoming the limitations of literacy resources for this group. When texts are suitable to their interests and literacy needs and abilities, learners can more readily apply word recognition skills and reading comprehension strategies when reading, thus maximising motivation, engagement and their ability to construct meaning from texts.

Adapting and creating texts allows teachers to produce new versions of texts that become relevant, interesting, appropriate and meaningful to the learners. This approach to overcoming the limitations of existing literacy resources encourages and enables learners to use texts in new ways which are relevant to their personal experiences and current interests. Motivation is heightened and maintained when specific texts are adapted and created to meet the individual literacy needs and interests of learners and this may be regarded as one of the most significant benefits of using this approach to overcome the problem of limited resources, thus facilitating and supporting life-long literacy for adolescents and adults with intellectual disabilities.

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