AUSTRALIAN Journal of

DYSLEXIA

& Specific Learning Disabilities

A Journal for Teachers & Parents

AUSTRALIAN Journal of

DYSLEXIA & Specific Learning Disabilities

CONTENTS

EFFECTIVE READING COMPREHENSION INSTRUCTION FOR STUDENTS WITH LEARNING DISABILITIES

LORRAINE GRAHAM,
Associate Director
(Student Diversity),

National Centre for
Science, Information
and Communication
Technology, and
Mathematics Education
for Rural and Regional
Australia,

University of
New England,
Armidale, NSW

ANNE BELLERT,
Learning Support Officer,

Catholic Education Office,
Lismore, NSW

ABSTRACT

What can teachers do to address the comprehension disabilities experienced by students with learning disabilities? This paper looks at effective reading comprehension instruction that can support students to improve and develop their skills in comprehending narrative and expository texts. A description and brief review of research pertaining to the 3H strategy, a 'high utility' reading comprehension strategy, is included.

Introduction

Students with learning disabilities can experience comprehension disabilities for a range of reasons. As Graham and Bellert (2005, p.76) conclude,

> reading comprehension problems often feature disabilities in recognizing and appropriately applying background knowledge, poor decoding and word recognition skills, limited vocabulary knowledge, underdeveloped reading fluency, a less than strategic approach to comprehension, including the use of ineffective or inefficient strategies, and limited understandings about common text structures.

This paper tackles the question, 'What can teachers do to address the comprehension disabilities experienced by students with learning disabilities?' In response, research-based strategies are suggested that can inform effective reading comprehension instruction and support students with learning disabilities to develop and improve their skills in comprehending narrative and expository texts.

Before discussing the role of specific strategies in improving the comprehension of narrative and factual texts, general approaches to implementing effective instructional interventions for students with learning disabilities will be outlined. This is an important area to address because considerable progress has been made in designing, implementing and evaluating effective interventions that target these students' performance disabilities in academic areas (e.g. Vaughn, Gersten & Chard 2000). Subsequent sections of this paper will address specific strategies for improving students' comprehension of narrative and expository texts.

General approaches to implementing effective instructional interventions for students with learning disabilities

One of the prevailing criticisms of special education for students with learning disabilities is 'its overemphasis on the "basics" with the exclusion of any creative or cognitively complex activities'

which consequently limits these students to a sparse intellectual diet. This type of instruction reflects the belief that the development of basic skills precedes any complex cognitive activity. Swanson's (1999) meta-analysis of reading research, however, suggests that providing many practice opportunities can actually minimise the disabilities experienced by students with learning disabilities, as long as the practice takes place in small, interactive groups, and is accompanied by direct questioning, and careful control of the difficulty level of tasks.

Similarly, Vaughn et al.'s (2000) meta-analysis which examined the components of interventions associated with high effect sizes found that the strongest impact on students' learning came from interactive, small group instruction coupled with controlled task difficulty which, together, ensured students' success. Vaughn and her colleagues (2000) also found that effective interventions focused on key learning areas and used a style of 'direct response teaching' which is interactive and invites dialogue between the teacher and students, and among peers, through posing questions and encouraging students to think aloud about text.

In their analysis of reading comprehension research for students with learning disabilities, Mastropieri, Scruggs, Bakken and Whedon (1996) also concluded that self-questioning strategies had a positive impact on students' learning. Similarly, Gersten, Fuchs, Williams and Baker (2001) in their review categorised effective strategy interventions as either 'comprehension monitoring' or 'text structuring'.

In both these types of studies students were taught to generate questions and to think aloud about what they read before, during, and after they interact with text. Table 1 presents some of the self-questions students can ask as they work towards constructing and clarifying the meaning of a passage.

To summarise, in effective reading comprehension interventions students are encouraged to articulate their thoughts while teachers provide feedback or ask follow-up questions based on the students' responses to text. This interactive dialogue accelerates the comprehension process and moves students with learning disabilities towards the ultimate goal of the internalisation of more sophisticated thinking skills that can be used appropriately as they read. The role of the teacher is to explicitly teach students how to apply appropriate strategies. This instruction should be overt and include multiple opportunities for students to practise under quality feedback conditions with the teacher or with able peers before they use strategies on their own. Students should also be taught that there are some instances where strategies are only somewhat useful and other situations where strategies do not fit particular passages. Interactive dialogue

Table 1: Self-questions asked before, during and after reading

Before Reading	During Reading	After Reading
What will this text be about? Make predictions based on the cover, title, context of book, prior info about the author, etc.	*What is important information?* Underline important parts of the passage in order to remember where important information is.	*Can I retell the story or restate the main points in my own words?* Summarise and self-question.
What do I already know about this topic? Relate and explore in terms of background knowledge; make connections.	*Where does the information fit into my graphic organiser?* Formulate an on-going graphic overview; consider relationships and connections to what I already know.	*What connections does this text have with my life and background knowledge?* Make links with what I already know
What don't I understand about this text? Skim to identify any words that may be difficult; clarify their meanings.	*What is the author going to say next?* Make predictions based on your reading so far.	*What do I need to find out?* Skimming for a date or name, and looking for a key word or a particular phrase, involves knowing about text structure and layout
What type of text is this? Getting a grip on text structure can help me understand the purpose of the text and know what to expect from it.	*What will I do if I encounter an unfamiliar word or if I realise I don't understand what I have read?* Apply 'fix up' strategies:	*How will I answer comprehension questions after a passage?* Use a strategy like the 3H Strategy. The answers are either Here, Hidden, or in my Head
What type of graphic organiser would be appropriate for this text? Concept map, matrix, cause and effect diagram, numbered steps, etc.	o Sound out the word. Have I heard it before? o Read ahead. o Reread the section that is confusing me. o Vary my pace of reading to better enable comprehension (slow down) or fluency (speed up) o Ask someone to help	*How can I remember information from the passage?* Complete the graphic overview
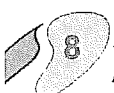
is an essential component of strategy instruction. It provides ongoing and systematic feedback to assist students in understanding what they read.

Improving students' comprehension of narrative text

Proficient readers set their own purposes for reading, engage in active questioning, and understand when to reread or apply other fix up strategies. It has been established that students with learning disabilities can be taught these strategic ways of approaching comprehension tasks if they do not have them. Strategic readers make decisions based on their purposes for reading. For example, if reading for pleasure, they can approach the task in any manner, including reading as fast or as slowly as desired and even skipping over sections of the text. However, if students are reading to learn, they need to use effective strategies that will vary depending on whether the text is narrative or expository.

In general terms, strategic readers start by thinking about what they are going to read and then use the sort of self-questions and fix-up strategies already outlined in Table 1.
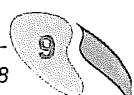
Although this discussion of the strategies that are appropriate to different text structures is separated into narrative and factual sections, in actuality, many of the instructional procedures that facilitate comprehension of narratives can also ease the interpretation of factual texts, and vice versa. There are some special features of each type of text, however, that merit separate consideration. Graesser, Golding and Long (1991) suggest that several characteristics of narratives make them easier to comprehend than factual texts mainly because the topics covered and the organisational strategies used in narratives tend to be more familiar than those employed in, for instance, textbooks. Table 2 contains a range of strategies that specifically support students' comprehension of narrative texts.

Question-Answer Relationships and Reciprocal Teaching are two general comprehension strategies that can be applied to narrative texts. While strategic readers attempt to visualise the action of the story and ask themselves questions focusing on narrative elements (such as setting, characters and motives, the main events of the plot, the problem presented in the story, and its resolution) students with learning disabilities are generally not so active in processing text. Question-Answer Relationships (QARs), then, are useful in engaging the student in thinking about the text during and after reading. They also develop students' understandings about different question types. QARs focus on three particular types of comprehension questions that can be asked after reading. These are text explicit questions that are answered using literal information from one sentence in the passage, text implicit or inferential questions, and

Table 2: Strategies that support students' comprehension of narrative texts

Drama Fables Fairytales Legends Myths Poetry Stories	Focus on descriptive passages featuring noun groups, adjectives and adverbs that illustrate characters and settings.
	Develop understandings about story grammar. Explain how narratives are typically structured in terms of orientation, complication and resolution.
	Develop appropriate graphic organisers. For example: • sociograms to plot understandings about characters and relationships; • storymaps to clarify the sequence of events.
	Look for nuances, hints of future events and the implications of happenings. These are often key clues to what will happen in the narrative.
	Identify main characters and secondary characters. Consider their roles. Explore the relationships between characters.
	Consider, explore and visualise the setting. Relate it to the characters.
	Derive meaning from figurative language. Deconstruct similes, metaphors and descriptions.
	Verbalise and reflect on 'the movie in your head' i.e. students' visualisation of the narrative. How and why does it change as the text is read?
	Identify temporal words that connect happenings to clarify the sequence of events.
	Retell or recount the text using 'who, what, when, where, why' questions as a guide.

script-implicit questions that rely on students' background knowledge.

Another strategy that also encourages students to 'relate information in the text to their own experiences' (Au 1999) is reciprocal teaching. In this strategy, the adult and students take turns assuming the role of 'teacher'. Using a reciprocal teaching framework the teacher and students interact by predicting, questioning, summarising, and clarifying information from text. When students predict what will happen or what information the author wants them to understand from what they are about to read, they are activating their background knowledge. They also learn to use the structure of the text to help them make defensible predictions. Students are, therefore, using and consolidating their knowledge of the structure of text when engaged in reciprocal teaching activities.

The questioning part of the reciprocal teaching strategy provides students with opportunities to identify the kind of information that is the basis of a good question, to frame their own questions and then engage in asking themselves and their peers what their answers might be. In formulating questions, students learn to identify important information in a passage.

In a similar way, reciprocal teaching fosters summarising skills. Summarising is a difficult task for students with learning disabilities. They find it difficult to condense information and to determine which parts of a text are important and which can be omitted without losing key concepts. Teaching summarising requires much modeling and practice before students with learning disabilities experience independent success.

Clarifying is the final aspect of the reciprocal teaching strategy. This section encourages students to preview difficult vocabulary in a passage and gives them practice at implementing fix up strategies to address comprehension breakdowns. This strategic approach to comprehension monitoring is of particular importance to students with learning disabilities who are likely to have a history of comprehension disabilities. Once students are taught in a structured and direct way to clarify their understanding of text through rereading, reading ahead, using pictures or structural clues, and asking for help, the conditions are set for them to read meaningfully and to engage thoughtfully with both narrative and factual texts.

Improving students' comprehension of expository text

Compared to narrative texts, many students find factual texts less familiar and less engaging (Gersten et al. 2001). Because factual texts are written to communicate information, they are more likely to incorporate a greater variety of text structures (e.g. analysis, cause and effect, classification, comparison and contrast, definition, description, enumeration, identification, illustration, problem and solution and sequence) and, therefore, to require the use of multiple comprehension strategies. Table 3 presents a number of strategies that specifically support students' comprehension of factual texts. This section will specifically describe the utility of graphic organisers, the KWL strategy, and SQ3R in supporting students' effective comprehension of factual texts.

Table 3: Strategies that support students' comprehension of factual texts

| Arguments

Descriptions

Discussion

Explanation

Personal responses

Procedures

Recounts

Reports

Response | Build up knowledge of text types in order to:
- understand the social purposes of text
- identify important organisational structures and features

Focus on keywords, technical terms and their synonyms. This key strategy requires development of vocabulary skills.

'Read' charts, graphs, pictures, headings and other graphics.

Use graphic organisers. Concept maps, definition maps, flow charts and structured overviews are all useful organisers for factual texts.

Make judgements and be critical. For example: Is this an argument or an information report? Is this a realistic procedure? How concrete are these 'facts'?

Develop skills in skimming, scanning, and summarising for understanding text organisation and for locating information.

Use contents, glossary, indexes, dictionary and other sources to gather information and clarify vocabulary knowledge. |

The use of graphic organisers is a general strategic approach to teaching reading comprehension that is particularly applicable to factual texts because they can alert students to the organisation of the passage, the central concepts, and the relationships among the ideas presented in the text. Graphic organisers are also known as semantic maps, semantic webs, concept maps, frames, or thematic maps. In essence, graphic organisers are representations of what has been read. They can take various forms such as a Venn diagram of similarities and differences between two countries described in a magazine article, a matrix that organises attributes of different minerals along two or more dimensions, or a flow chart marking the events of a significant period of history. Graphic organisers not only help to make text comprehensible, but they also assist in the memorisation, storage, and analysis of information. As well, they can encourage students to engage in critical thinking activities and improve students' recall of factual information. Graphic organisers are particularly helpful to students who have limited vocabulary knowledge because they can serve as mental maps that allow students to draw and visualise the complex relationships between concepts in any content area.

Another frequently used strategy for understanding factual text is the K-W-L method. This strategy is based on research that emphasises the importance of activating students' background knowledge in order to assist them in constructing meaning from purposeful reading (e.g. Anderson 1977; Steffensen 1978). This strategy makes use of a chart divided into three categories:

What we already know (K)

What we want to learn (W)

What we learned (L)

After the teacher introduces the topic in a general way, students are instructed to complete the first column of the chart. The teacher then leads a class discussion on what the students think they already know about the topic and writes down every response the students offer. No judgment about the validity of responses is made at this time. After the brainstorming session is complete, the teacher elicits and lists comments from students about what they want to find out about the chosen topic. At the completion of the activity students can direct the teacher to cross out the things they thought they knew but which proved inaccurate during their exploration of the topic. During the time set aside to record what was learned, students can clarify vocabulary, categorise new knowledge, and reflect on the amount of learning that has occurred (Ogle 1989).

SQ3R (Survey, Question, Read, Recite (or Record), Review) is a well-known study method that helps students work actively with content material. The process provides a systematic format for reading that helps students interact with the text by asking questions and then looking for answers. The steps of this strategy are:

- *Survey:* Students examine the titles, headings, subheadings, captions, charts, and diagrams to get the 'big picture'.

- *Question:* Formulate questions for each title, heading, subheading, caption, chart or diagram.

- *Read:* Students read and make notes about each section in order to answer the questions formulated from reading the titles, headings, subheadings, captions, charts or diagrams.

- *Record:* After reading the selection, students attempt to answer the questions without looking back at the material.

- *Review:* Students reread to verify answers and to make sure they have understood the main points of the text.

As the students become more proficient at using SQ3R, they formulate their own questions and guide their own study of text. The time students spend practising and being guided to learn this strategy benefits them when they begin to use this strategic approach independently. Carlisle and Rice (2002) note, however, that

> 'Although SQ3R is often advocated as a useful comprehension strategy for poor readers, research on the technique over the years, most of which involved college students, has yielded mixed results' (p. 197).

Indeed, most of the studies investigating this technique have focused on normally achieving students not those with learning disabilities. It is clear from the current research on comprehension strategy instruction, however, that students with learning disabilities need modeling and explicit instruction to master the prerequisites of strategic reading like how to formulate good questions and how to locate the main idea of a passage.

Such instruction must accompany strategies like SQ3R if they are to be of maximum use to students with comprehension disabilities.

Researchers from the University of Kansas developed a strategy called MULTIPASS, based on SQ3R (Schumaker, Deshler, Alley, Warner & Denton 1982) that takes into account the particular needs of students with learning disabilities. In this strategy readers are taught to make several purposeful 'passes' over a passage from a textbook. The innovation Schumaker and colleagues made in developing this strategy and many others appropriate to content area reading was not so much in the technique itself but in the teaching method they used. Students experienced instruction that was very explicit and intense, and practised on materials of controlled difficulty before applying the strategy to grade-appropriate textbook passages. Under these conditions there was clear improvement in comprehension for adolescents with learning disabilities. These findings suggest that for students with learning disabilities strategy instruction needs to be systematic and sustained over time, with many opportunities to practise and extend the use of strategies to a variety of reading situations.

In summary, explicit instruction is an essential feature of effective interventions that aim to improve the comprehension of both narrative and factual texts for students with learning disabilities. The elements of appropriate strategies should be identified and demonstrated to students using examples and providing models of strategy use and interactive dialogue. Ample opportunities for teachers to provide formative feedback and shape students' practice and habit of using comprehension strategies are necessary.

Research into : The 3H strategy for comprehension of narrative and expository texts

As the above information indicates there is a need for teachers to teach, and for students to learn, a range of strategies or 'tools' for text comprehension. Further, students need to know when to use particular strategies and that in some contexts particular strategies are limited in their usefulness. However, many students, especially those with learning disabilities, would also benefit from sound knowledge of a strategy for answering comprehension questions, one that can be broadly applied to a range of texts in a variety of learning and living contexts. In this way the 3H strategy (Graham & Wong 1993), which will be reviewed briefly in this section, has great potential as a flexible, high utility device to enable students to answer questions about text.

Informed, research-based interventions to improve reading comprehension have potentially powerful positive effects on reading comprehension attainment for students with learning disabilities, with a mean effect size of 0.98 reported (Mastropieri, Scruggs, Bakken and Wheldon (1996). Such information is important for educational leaders and classroom teachers because it supports the approach that a school or system developed reading comprehension intervention, based on sound research, can have a positive impact on LD students' learning outcomes across all content learning areas. In this section an overview of the research process used to evaluate the effectiveness of the 3H strategy for implementation in upper-primary and high school classrooms will be presented.

The 3H strategy (see Figure 1) is an example of a QAR strategy that also incorporates self-questioning. Specifically, it is a 'before, during and after reading' strategy used to answer questions about text, a common learning activity in many classrooms. The 3H strategy has high utility – it is useful for narrative and expository texts and for different text types when the task involves answering written or oral questions about a text. The strategy features metacognitive understandings couched in the simple language of a mnemonic-type strategy that can be generalised across different content areas.

Figure 1: The 3H Strategy for Answering Comprehension Questions After a Passage	
The 3H Strategy	
1. Head First!	
Before reading	What do I know?
During reading	What don't I understand
After reading	What do I need to find out?
Ask for help if you need to:	
Content? Vocabulary? How to?	
Use the 3Hs to remind you where the answers to questions are found:	

2. Here

In one sentence from the passage.

3. HIDDEN

Join together. The answer is in two or more parts of the passage. Or the answer comes from joining together information from the passage and information that you already know.

4. In my HEAD

Use what you already know to answer the question. Just you or the passage and you.

5. Check Your Answers.

Reread each question and your answer to see if they fit together. How confident are you of your answer? After you have finished all the questions, return to any answers you are not sure of. Go through the 3H strategy and check these answers again. You should have a reason for each of your answers. You do? Well done!

Graham and her colleagues developed the 3H strategy in classrooms over a number of years (see; Graham & Wong 1993; Graham 2000). The theoretical rationale for the strategy incorporates understandings from influential reading models and research into QAR's and metacognitive awareness. The aim of the research reviewed here was to measure changes over time in the comprehension performance of students with formal diagnoses of learning disabilities, poor readers, and average-achieving comparison students.

This study employed a multiple-baseline design to explore the effect of comprehension strategy training on small groups of readers taught in their own classrooms. Ten average-achieving students provided a local comparison group for the twenty-six trained students. All thirty-six students completed the same baseline, maintenance, and delayed maintenance assessments. However, the thirteen students with learning disabilities and thirteen poor readers received strategy training in mixed groups four times a week for 15 weeks while the average readers received no strategy training but intermittent comprehension probes instead.

Figure 1 shows the 3H strategy as presented to the students in training sessions. Throughout the strategy orientation phase of training, students learned about the 3Hs by answering questions about short passages. The passages used to measure students' reading comprehension performance were from an extensive series of researcher designed, curriculum relevant passages, developed from the grade five and six social studies texts. Each passage was illustrated with an appropriate picture, figure, or map. Seven questions were framed for each passage.

Descriptive results indicated that the 3H strategy has potential to improve the reading comprehension performance of LD students and poor readers. The overall pattern of scores shown in Table 4 indicate that LD and poor readers change from being outperformed by the comparison group at baseline, to outperforming their average peers during training. On the maintenance and delayed maintenance tests (16 weeks after the intervention), the comprehension scores of trained students are similar to those of average comparison students.

Table 4: Learning disabled, poor and average readers' comprehension mean scores and standard deviations (SD) per passage for each phase of the 3H study

Group	Phase of study				
	Baseline M (SD)	Phase 1 M (SD)	Phase 2 M (SD)	Maintenance M (SD)	Delayed M (SD)
Learning Disabled	3.40 (1.10)	5.60 (.65)	6.10 (.34)	5.50 (.94)	5.35 (1.03)
Poor Readers	2.70 (1.03)	5.02 (.57)	5.50 (.63)	4.30 (1.03)	4.75 (1.64)
Average comparison	4.58 (1.18)	4.63 (.92)	4.48 (.49)	5.00 (1.31)	5.30 (.98)

Note: Maximum Score = 7

A single factor multivariate analysis of variance (MANOVA) with repeated measures and a priori contrasts was conducted on the students' comprehension scores. Using this analysis there

was a significant interaction for trained versus untrained students by time ($F(4,120) = 13.52$, $p < .001$). This confirms that trained and untrained students' scores differed in relation to one another across different phases of the study. The second contrast of interest concerning LD and poor readers was the significant between subjects main effect ($F(1,33) = 6.40$, $p = .016$). This means that students' membership in either the LD or poor reader group was important in determining their overall comprehension success using the 3H strategy. The students with learning disabilities consistently outperformed the poor readers in terms of comprehension achievement.

Importantly, students' comprehension improvement was maintained four months after training. This general result replicates the findings of previous QAR research (e.g. Graham & Wong 1993;) and verifies the usefulness of this metacognitive strategy. Of the two groups who learned the 3H strategy, the LD students scored consistently higher than the poor readers. While all students benefited from learning the 3H strategy, LD students' comprehension scores were consistently higher than the scores of the poor readers. This result addresses one of the underlying assumptions implicit in the current conception of learning disabled readers: that LD students read in a way which is qualitatively different from other poor readers because of their specific phonological deficit, but otherwise fairly intact comprehension processes.

This brief review of a research intervention is an example of how theoretical perspectives and information from the literature can be implemented, via a targeted intervention to enable long-term benefit for students who experience learning disabilities. Classroom teachers and school leaders are becoming increasingly aware that a systematic evidence-based approach to teaching reading comprehension can make a difference to student learning outcomes. The classroom teacher has a vital role in this process through explicitly teaching effective strategies, such as the 3H strategy. Systemic responses, such as Follow-up to the Basic Skills Tests and Follow-up to the ELLA Assessments (NSW Department of Education and Training) which include information about the 3H strategy (pp. 166-7) aim to support teachers and schools in this process.

Future directions

Although strategy instruction for students with learning disabilities has undoubtedly been successful in improving reading comprehension performance, considerable work still remains in order to explore how students come to 'own' and to modify, over time, the strategies they are taught. Importantly, future research will also need to grapple with how strategy instruction can be incorporated into schools and classrooms to better support students with learning disabilities.

Because students with learning disabilities perform at a level considerably below that of their age peers on academic tasks it is vital to make full use of valuable learning time. Yet, little is known about how to get students to 'own' their strategies, personalise them, and apply them spontaneously to new contexts. Further research into these issues is necessary because as Garner (1992) points out the changes that students make to strategies after an intervention do not always work in their favour. Alterations and modifications to strategies as well as the ways students personalise strategies need to be monitored to ensure students' strategic plans remain effective.

Comprehension instruction for students with learning disabilities appears to be most effective when it is explicit and intensive and also attends to some of the basic elements of academic skill such as speed of reading and decoding words (Chard, Vaughn & Tyler 2002). In striving to better understand students' reading comprehension strategy use though, it will also be necessary to investigate the importance of the control of task difficulty and its underlying relationship to students' task persistence and motivation. Students with learning disabilities need to be motivated to persist, and may persist longer in what can be for them the arduous task of comprehension, when they take an active role in learning.

While the instructional adaptations that meet the needs of students with learning disabilities may benefit others in a regular classroom setting, the dilemma of providing the intensity of instruction required by this population remains. The

small group and explicit nature of the effective instructional approaches identified by recent meta-analyses seems at odds with moves towards the inclusion of all students in the regular classroom. Schumm, Moody & Vaughn's (2000) finding that appropriate and successful interventions are an effective means of improving the self-concepts of elementary school children further highlight the importance of small group instruction. Although comprehension strategies designed for students with learning disabilities may benefit all learners, their use in the regular classroom belies the intensity of instruction that is necessary to make a lasting change to the comprehension performance of individuals with learning disabilities.

"Unless the challenge of incorporating strategy instruction productively into school systems is met, we will continue to experience the situation where many of the instructional practices that have the most potential to make a meaningful difference for students with LD and other poor readers are seldom employe'" (Carlisle & Rice 2002). Whole-class undifferentiated instruction still seems to be the norm in both regular classrooms (Schumm, Moody & Vaughn 2000) and resource settings (Moody, Vaughn, Hughes). Gersten, Vaughn, Deshler and Schiller (1997) found that when strategy instruction is used in schools, the quality of instruction can be poor and implementation erratic with essential elements, such as the fostering of active participation from students with learning disabilities, omitted. It is clear that we must strive to do better. Children need well-designed instruction in comprehension in order to reach the levels of reading achievement necessary to meet the demands of life in our increasingly technologically oriented society. Researchers and teachers must work together to foster critical thinking, motivation, and comprehension competence for all.

References

Anderson, R.C. (1977). Schema-Directed processes in language comprehension (Tech. Rep. No. 50) Urbana-Champaign, IL: University of Illinois, Centre for the Study of Reading.

Au, K.H. (1999). A multicultural perspective on policies for improving literacy achievement: Equity and Excellence. In M.L. Kamil, P.B. Mosenthal, P.D. Pearson and R. Barr (eds), Handbook of Reading Research (Vol. 111, pp. 835-51). Mahwah, NJ: Erlbaum.

Carlisle, J.F. and Rice, M.S. (2002). Improving reading comprehension: Research-based principles and practices. Baltimore, Maryland: York Press.

Chard, D.J., Vaughn, S. and Tyler, B. (2002). A synthesis of research on effective interventions for building reading fluency with elementary students with learning disabilities. Journal of Learning Disabilities, 35 (5). 386-406.

Garner, R. (1986). Children's knowledge of structural properties of expository text. Journal of Educational Psychology, 78 (6), 411-16.

Gersten, R., Fuchs, L,S., Williams, J.P. and Baker, S. (2001). Teaching reading comprehension strategies to students with learning disabilities: A review of research. Review of Educational Research, 71 (2), 279-320.

Gersten, R., Vaughn, S., Deshler, D. and Schiller, E (1997). What we know about using research findings: Implications for improving special education practice. Journal of Learning Disabilities, 30, 466-76.

Graesser, A.C., Golding, G.T., and Long, V. B. (1991) Advances in discourse processes: Structures and procedures of implicit knowledge. Norwood, NJ: Ablex.

Graham, L. and Bellert, A. (2005). Reading comprehension disabilities experienced by students with learning disabilities. Australian Journal of Learning Disabilities, 10 (2), 71-8.

Graham, L. and Wong, B.Y.L. (1993). Comparing two modes in teaching a question-answering strategy for enhancing reading comprehension: Didactic and self-instructional training. Journal of Learning Disabilities, 26(4), 270-9.

Graham, L. (2000). The 3H strategy. In Follow-up to the Basic Skills Tests and Follow-up to the ELLA Assessments. Sydney: NSW Department of Education and Training.

Graham, L. (2000). Comprehension Strategies for Students in Middle and Upper Primary School. Successful Learning Conference, Sydney, June.

Moody, S.W., Vaughn, S., Hughes, M.T. and Fisher, M. (2000). Reading instruction in the resource room: Set up for failure. Exceptional Children, 66, 305-316. Manzo, A.V. and Manzo, U.C. (1993). Literacy disorders: Holistic diagnosis and remediation. Fort Worth, TX: Harcourt Brace Jovanovich.

Mastropieri, M.A., Scruggs,T.E., Bakken, J.P. andWhedon, C. (1996) Reading comprehension: A synthesis of research in learning disabilities. In advances in learning and behavioural disabilities, T.E. Scruggs and M.A. Mastropieri (eds), Volume 10, pp 201-23. Greenwich, CT: JAI Press.

Ogle, D.M. (1989). K-W-L: A teaching model that develops active reading of expository text. The Reading Teacher, 39, 564-70.

Schumaker, J.B., Deshler, D., Alley, G. R., Warner, L. and Denton, T. (1982). Multipass: A learning strategy for improving reading comprehension. Learning Disabilities Quarterly, 5 (3), 295-304.

Schumm, J.S., Moody, S.W.and Vaughan, S. (2000). Grouping for reading instruction. Does one size fit all? Journal of Learning Disabilities, 33 (5), 477-88.

Steffensen, M.S. (1978). Satisfying inquisitive adults: Some simple methods of answering yes/no questions. Journal of Child Language, 5 (2), 221-36.

Swanson , H.L. (1999). Reading research for students with LD: A meta-analysis of intervention outcomes. Journal of Learning Disabilities, 32 (6), 503-34.

Vaughn, S., Gersten, R. and Chard, D.J. (2000). The underlying message in LD intervention research: Findings from research syntheses. Exceptional Children, 67 (1), 99-114.