

Balanced



approach needed for students with learning difficulties



Louise A. Ellis

Louise was a Research Fellow with ACER from June 2004 to August 2005.

The latest Australian Education Review, 'Balancing approaches: Revisiting the educational psychology research on teaching students with learning difficulties' was released in October.

*The review's author, **Louise Ellis**, explains what contemporary research says about the often controversial subject of how best to teach basic skills to students with learning difficulties.*

As Professor Peter Freebody says in the foreword to the review, the issue of how we should teach entry-level literacy and numeracy is perhaps one of the most divisive topics in education. There are similar heated debates about the education of students with learning disabilities or difficulties. This review deals with both issues.

Concerns regarding the most appropriate methods to address the educational needs of students with learning difficulties are widespread among teachers. The Commonwealth government has a major policy objective to improve the literacy and numeracy skills of *all* Australian children. Its *National Literacy and Numeracy Plan* espouses the need for early identification of, and adoption of intervention strategies for, students with learning difficulties in order to improve their literacy and numeracy outcomes.

This review examines research, drawn largely from the field of educational psychology, in an attempt to identify methods that are effective for a wide range of students in mainstream classrooms, but are especially powerful for students with learning difficulties. The review provides detailed information on a range of teaching methods that have been used extensively and have been judged to be effective by research.

Instructional methods have generated much interest and heated controversy for several decades, particularly in the area of literacy. There has been much debate among professionals regarding the most effective instruction techniques for both mainstream students and for those with learning difficulties. Two prominent psychological theories, the behavioural and cognitive perspectives, have heavily influenced much classroom teaching practice. During the 1970s and throughout the early 1980s, behavioural approaches provided a structure and an optimism that were of immense influence on teachers. Two popular methods derived from this perspective include *direct instruction* and *precision teaching*. However, an increasing number of people began to criticise, either directly or by implication, the exclusive use of behavioural methods. As such, cognitive approaches have gained widespread use over the past 20 years; particularly by way of *constructivism*.

This review focuses largely on *meta-analyses*, many of which were undertaken in the United States of America. The intent was to identify the relative effectiveness of various teaching approaches. Meta-analysis is a research procedure used to aggregate findings across many studies. Unlike traditional reviews, meta-analyses can synthesise larger quantities of research



findings and quantify the outcomes of, and make judgements about, the effectiveness of the strategy being researched. Meta-analyses are seen as providing a more objective, quantifiable summary of the evidence than individual research studies are able to provide. The number of meta-analyses published in education research has increased markedly over the past ten years.

Direct Instruction and Strategy Instruction

Direct instruction (sometimes referred to as *explicit instruction*) is a teacher-centred approach. Key features of direct instruction programs include: scripted presentation, teaching the essentials, small group teaching, rapid pacing and practice and drill.

An example of a direct instruction program designed for Australian schools is Elementary Math Mastery (EMM). EMM is a powerful diagnostic tool which clearly maps student progress, and can be used with both mainstream students and those with learning difficulties. EMM enables teachers to identify exactly where and when students experience difficulty in their learning. The daily incremental portions learned are small, and because they are reinforced and built upon in subsequent lessons they are more easily retained. The teacher models each scripted lesson in the prescribed format with whiteboard presentations being an integral component. Everything taught is revisited, developed further, and gradually integrated into the whole mathematical scheme.

Strategy instruction has usually been associated with constructivist models. However, proponents of strategy instruction do not assume that students with learning difficulties will independently *discover*

effective learning strategies, nor do they believe that direct teaching is required. Learning strategies are tactics used by students to enhance their performance on a given task or tasks. Strategies are broadly classified as cognitive, metacognitive or self-regulatory. Cognitive strategies focus on developing or enhancing particular task-related skills such as underlining, note-taking, rehearsing and summarising. Meta-cognitive strategies are those that focus on the self-management of learning—planning, implementing, and monitoring one's own efforts, and on the conditional knowledge of when, where, why and how to use particular strategies. Self-regulation strategies have been defined in terms of self-generated thoughts, feelings and actions, which are systematically oriented toward the attainment of students' own goals.

The balanced approach can generally be described as a combination or alternation of various aspects of the curriculum and/or instruction. Balanced approaches can be applied to both *what* is taught (the curriculum) and *how* it is taught (the method of instruction). 'Best practice' is now generally recognised by classroom practitioners as the combination of instructional approaches which best fits the students being taught.

Moreover, advocates of balanced programs do not endorse a *laissez faire* combination of approaches, but rather a thoughtful, carefully integrated selection of validated instructional components. Many researchers believe that effective balance is achieved through the selection of methods of instruction that best suit the types of learning involved in a lesson, and that in deciding such matters the age, ability, and aptitude of the individual students should have been taken into account.

What is best practice for students with learning difficulties?

Essentially the research reviewed in this publication suggests that firstly, teaching approaches based on models of direct instruction and strategy instruction produce higher positive effects for students with learning difficulties than other approaches. Secondly, when a balanced approach is adopted, the outcomes for students are most positive. Thirdly, teachers need to have the necessary theoretical and pedagogical knowledge and skills to combine essential elements of both approaches. Fourthly, teachers need to have the attitude that *all* students can learn, even those who experience difficulties in learning.

The review emphasises that there is no one single instructional method that deserves sole claim to being 'best practice'. Of course this will come as no surprise to teaching practitioners operating in the real worlds of their classrooms. Rather than single strategy solutions, the common wisdom of research in the field currently points to the need for *balanced* approaches, also known as 'eclectic' and 'combined' approaches, to accommodate the diverse needs of students.

The meta-analytic research reviewed in this publication, derived largely from the field of educational psychology, is described and analysed in considerable detail in the review. The findings are strongly supportive of the view that a combination of *direct instruction* and *strategy instruction* has a greater and more long-lasting impact in dealing with the academic problems of those with learning difficulties than any single-focused approach.

The review calls for an end to the continuing contest between the instructivist and constructivist teaching

'camps'. The best research avoids the adoption of either/or positions. Such a contest limits the professional consideration by practitioners of the possibility of balancing instruction and it blinds educators to the value of different perspectives.

What are the implications for teacher training?

Most Australian university departments currently base their teacher education programs on constructivist views of learning and do not expose their students to a wide range of methods, including teacher-directed instruction. In view of the findings presented in this review, it is worrying that significant numbers of teachers in Australia are not being exposed to training and research that emphasises the importance of direct instruction.

In order to move closer towards the adoption of the 'best practice' for students with learning difficulties, it is critical that teachers be trained in the use of practices that have been shown to be effective. Thus, tertiary teacher-training courses and inservice professional development programs must incorporate training in the use of direct instruction and strategy instruction, as well as the training in constructivist methods currently provided. This will provide teachers with the skills/competencies in the pedagogic/teaching practices most necessary for those with learning difficulties. Only then will they be provided with a conceptual understanding, attitude and level of competence that will enable them to freely exercise the choices associated with best practice.

Future research

The review urges an end to the either/or debate regarding teaching methodology. In Australia, direct instruction is the under-researched and under-resourced half of the balanced approaches equation. Since this review has established its important role in effective teaching for students with learning difficulties, more research into its effectiveness should be undertaken. Currently there have been few Australian studies specifically designed to compare the effectiveness of direct instruction with constructivist instruction. In order to move forward, further research comparing the effectiveness of the different methods of instruction in Australian classrooms is necessary.

The evidence presented in the review also casts light on the relative neglect of numeracy research in comparison with literacy research in Australia and other Western countries. Further research into the numeracy field is required to obtain a clearer picture of 'best practice' for teaching literacy and numeracy. If such work were undertaken, it may be found that much of the research findings in literacy are replicated, but there may also be unique characteristics to numeracy learning.

Research that would enable the research community to determine the extent to which Australian teachers implement integrated approaches when teaching students with learning difficulties should also be conducted. Findings from such research would enable teachers of students with learning difficulties to be more confident about what constitutes 'best practice' with these students.

An evaluation of what is currently taught in teacher-training courses is vital. It is critical that teachers be trained in the use of all teaching practices that have been shown to be effective, so they will be able to exercise the choices associated with best practice. ■

Further information

Balancing approaches: Revisiting the educational psychology research on teaching students with learning difficulties, by Louise Ellis was published by ACER in October 2005 as Australian Education Review Number 48. The review can be purchased from ACER Press or downloaded from the ACER web site at www.acer.edu.au