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Comparing two strategy tutoring programs for children with persistent spelling difficulties

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Summary

How did two methods of one-on-one strategy tutoring make a difference?

This strategy is a research pilot study conducted by staff and pre-service students from the Education Faculty, Avondale College of Higher Learning, Cooranbong, NSW, with volunteer students in years 3–6 from local schools.

Research supports the commonly held belief that academic progress may be impeded by poorly developed spelling skills affecting the ability to transmit meaning in written form and creating problems with reading and comprehension, and often attitude. However, a positive research finding is that instruction in the underlying structure of the alphabetic system for students who are struggling with spelling leads to significant gains not only in spelling ability, but also in word-level reading ability.

A group of Bachelor of Education (Primary) pre-service teachers from Avondale College of Higher Learning were trained in two strategy-based tutoring approaches for the remediation of spelling: Look–Say–Cover–Write–Say–Check and Old Way/New Way – Mediation Learning. They implemented this training with 25 students, aged 7 to 12, from local schools. The program involved one-on-one tutoring under the mentorship of the trainer, Mrs Barbara Fisher, Senior Lecturer in Education at Avondale College of Higher Learning. The focus was to compare the effectiveness of the two programs for children with persistent spelling difficulties and to explore students' attitudes to the programs.

The results showed that the spelling skills of students in each group improved significantly, and that the tutoring method used did not make a difference. Both methods proved to be equally effective. Students also reported feeling happier about the special spelling programs than they were about learning to spell at school.

Note: For the purposes of this study, spelling difficulty was defined as having a discrepancy of 12 months or more between chronological age and spelling age.



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Target student group

The schools from which the 25 primary school students were drawn were located in areas of mixed middle and low socio-economic status in the regional district of Cooranbong in NSW, Australia.

Method

“Today was a much better day with my student, he was much more receptive and attentive.”

Parents and caregivers of the students responded to a brochure offering free after-school-hours spelling tuition at Avondale College of Higher Learning as part of a research project into effective spelling programs. A total of 25 students, aged 7 to 12, who were poor spellers had valid data available for statistical analysis. As far as possible the students were randomly allocated to one of the two groups. External constraints meant the two groups were uneven in number from the beginning. Ten students participated in the Look–Say–Cover–Write–Say–Check procedures. Fifteen students participated in the Old Way/New Way – Mediation Learning procedures. All the students could be described as remedial students, not students with a disability who would require more intensive programs.

Tutors

The 13 tutors were volunteer pre-service BEd Primary education students in the third or fourth year of their course. Prior to the commencement of the intervention program, tutors were trained in tutoring strategies for both spelling remediation methods, and were closely supervised by B Fisher during the program. Depending on circumstances and availability at the specified tutoring times, tutors tutored between one and four children. In five cases, tutors were involved in teaching children in both Look–Say–Cover–Write–Say–Check and Old Way/New Way – Mediation Learning.

Each subject was involved in one 20-minute session per day, four days per week, for four weeks (16 sessions in total). The pre-test occurred on the first day of the intervention, and the post-test on the last day, leaving a total of 14 days for instruction.



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Measures

As a measure of improvement in spelling achievement, participants were pre- and post-tested with the South Australian Spelling Test (SAST) (Westwood 1999). As a measure of attitude to the effectiveness of the intervention program, students were post-tested with a short questionnaire developed by B Fisher. Each of the items on the questionnaire was set against a four-point Likert scale using faces ranging from 'smiley' to 'frowny'.

Training of the tutors

Prior to commencement of the intervention, the volunteer pre-service teacher education students were trained in both methods of remediation by B Fisher. They were also supplied with worksheets for the intervention program they would be teaching and a list of instructions outlining the procedures to be carried out for each of the 16 sessions of the intervention. Because the procedure for Old Way/New Way – Mediation Learning required more writing than the procedure for Look–Say–Cover–Write–Say–Check, the worksheet for the latter included other activities such as sentence writing and alphabetising the spelling words. The tutors were also familiarised with the spelling section of the book *What, When, How to teach: English K–6* (Webb 1998), a teacher resource book developed specifically to support the teaching of English curriculum in NSW primary schools.

Tutoring the students

Using the training strategies for the respective methods, tutors followed the same weekly routine.

Week one: On day one of the first week, students were pre-tested with SAST, and the tests were marked by the tutors. Students' approximate spelling ages were determined from the standardised tables accompanying the test. Based on their approximate spelling ages, tutors also worked out the grade level at which their students were working. On days two and three, the tutor selected three words per day that had been wrongly spelt on the pre-test, making a total of six words for the week which were learnt according to the respective training methods. On the fourth day students were tested on all six words. They were also tested on a proofreading test developed by each tutor, based on the six words for the week.



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Weeks two and three: For the first three days the tutor selected three words per day from the appropriate core list in the teacher resource book *What, When, How to teach: English K–6*, being careful to select words at the grade level corresponding to the student's spelling age. On the fourth day, students were tested on the spelling of all nine words and tested on a proofreading test developed by each tutor, based on the nine words for the week.

Week four: For days one and two the tutor again selected three new words per day, and on day three the students were tested on all the new words from weeks one to four. Day four was allocated to administration of SAST.

An important feature of the intervention was that as new words were being learned according to the respective procedures, the tutors actively prompted the students in applicable spelling strategies and spelling rules. For example, 'Exaggerate the sound in the tricky part of the word', or 'What letters usually make the or sound?' If the tutors could not think of an appropriate strategy or prompt, the tutor trainer was immediately available to prompt and mentor them.

Results

Results of the pre- and post-tests of spelling ability were analysed using a Condition (2) x Testing Occasion (2) repeated measures design, while elements of the questionnaire were presented using box plots. There was a significant improvement in spelling scores for students under both conditions.

In a relatively short time, sixteen 20-minute sessions spread over a period of four weeks, participants in both Look–Say–Cover–Write–Say–Check and Old Way/New Way –



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Mediational Learning made significant mean improvement in their spelling scores from pre- to post-test.

When the mean raw scores were converted to spelling ages, it was revealed that students in Look–Say–Cover–Write–Say–Check had improved their mean spelling ages by a total of 17 months, from a mean of 9 years 2 months at the pre-test to a mean of 10 years 7 months at the post-test. Students in Old Way/New Way – Mediational Learning improved their mean spelling ages by a total of 15 months, from a mean of 7 years 10 months at the pre-test to a mean of 9 years 1 month at the post-test. Both groups showed significant improvement with effect sizes of 1.1 for Look–Say–Cover–Write–Say–Check and 0.8 for Old Way/New Way – Mediational Learning. However the lack of significant interaction between the pre- and post-test results against group membership indicates that neither intervention treatment appeared to be more effective or less effective than the other. More information about the data can be found in [Look-Say-Cover-Write-Say-Check and Old Way/New Way – Mediational Learning: a comparison of the effectiveness of two tutoring programs for children with persistent spelling difficulties.](#)



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The research has shown that an individual tutoring program involving either Look–Say–Cover–Write–Say–Check or Old Way/New Way – Mediational Learning may have significant and powerful effects, at least in the short term, for improving the spelling ability of children in the middle to upper grades of primary school.

The short Likert-scale questionnaire completed by students indicated that they felt happier about the special spelling program than they did about learning to spell at school.



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Lessons learned

One of the main factors that most likely contributed to the significant improvement in spelling ability was the one-on-one tutoring by the pre-service teacher education students. The tutors actively prompted the students in applicable spelling strategies and spelling rules. For example, ‘What letters usually make the *or* sound?’ Moreover, as indicated earlier, the tutor trainer, who was also the lecturer for that subject, was constantly available to provide support, guidance and modelling for the tutors as necessary.

“My child’s confidence has increased as a result of the program.”

An unanticipated factor that may have affected the initiative was that nearly all of the children had problems with handwriting due to poor pencil grip. In fact, some of the instructional time was taken up with the tutors training the children how to hold their pencils correctly and how to form letters neatly and accurately. Westwood (1999) suggests that kinaesthetic memory may be involved in the storage and retrieval of spelling patterns, and that spelling development may be inhibited by laboured handwriting and uncertain letter formation.

Next steps

Replication

This research was undertaken as a small-scale study into the effectiveness of two currently available spelling programs, in a one-on-one tutoring situation. Both of the tutoring programs, as described, could be used by learning support teachers or trained volunteers, as all the materials are available from B Fisher at Avondale College of Higher Learning.

Replication would depend on the training of tutors, and use of the outlined daily program and the accompanying materials. The program was successfully implemented using middle to upper primary-aged children from a variety of educational and socio-economic backgrounds, indicating it could be used in a variety of settings. Tutors could be drawn from a number of sources, for example, parents, older students or teachers’ aides.



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Further research

Further research is recommended to determine the effects in the long term. Future research could also explore some of the issues that became apparent during the implementation of the program, such as the relationship between handwriting and spelling, the effect of different methods of selecting the words to be learned, and strategies for incorporating the tutoring programs into a classroom setting.

The findings should be interpreted in the context of a number of limitations and considerations, which would need to be addressed in any further large-scale studies designed to build on this one. Participants in Condition Two (Old Way/New Way – Mediation Learning), were, on average, younger, and had lower pre-test scores than did participants in Condition One (Look–Say–Cover–Write–Say–Check). This may have had some effect on the outcome, as Old Way/New Way – Mediation Learning was the more intensive of the two interventions, requiring a lot more writing than Look–Say–Cover–Write–Say–Check. It was observed that some of the younger boys, in particular, found this to be rather onerous. It may be that the nature of Old Way/New Way – Mediation Learning is more effective for older students.



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The small number of participants must also be considered when interpreting the results. The actual process of handwriting itself may be another factor for future research.



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One factor to be considered in future studies is the process of selecting words to be learnt in the respective interventions. According to Baxter (2000), Look–Say–Cover–Write–Say–Check is an excellent way to learn new words, but Old Way/New Way – Mediation Learning is more suited for correcting persistent errors. Perhaps future research could look at selecting words that students persistently spell incorrectly in their written work as the basis for comparing the effectiveness of the two interventions.

More information about the data can be found in [Look-Say-Cover-Write-Say-Check and Old Way/New Way](#) – *Mediation Learning: a comparison of the effectiveness of two tutoring programs for children with persistent spelling difficulties*.

Research base

“[My student] has a lot of trouble distinguishing between sounds and letter [names]. When I ask him to sound out a word he will sound it out, but when I ask him to spell the word, he starts sounding it out again.”

Research supports the commonly held belief that progress in school may be affected by poorly developed spelling skills (eg Graham, Harris & Fink-Chorzempa 2003; Sipe, Walsh, Reed-Nordwall, Putnam & Rosewarne 2002). Not only does poor spelling impede academic progress by affecting the ability to transmit meaning in written form (Graham et al. 2003), but it is also linked to problems with reading at word level (Ehri 2000; Graham et al. 2003). In turn, poor decoding skills frequently place comprehension processes at risk (Stanovich 1992).

Furthermore, the shame and embarrassment encountered by students who struggle with spelling and decoding often leads them to resist or avoid situations that involve reading and writing, thus further compromising academic progress (Sipe et al. 2002). However, a positive research finding is that instruction in the underlying structure of the alphabetic system for students who are struggling with spelling leads to significant gains not only in spelling ability, but also in word-level reading ability, even when no direct instruction in reading is provided (eg Bhattacharya & Ehri 2004; Graham et al. 2003).



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Implications for learning to spell

Given the critical role of spelling in the overall development of literacy, it is important to determine the most effective instructional methods for children who are challenged spellers. A growing body of research has highlighted a number of important principles underlying best practices in spelling instruction and remediation, including the following:

1. using a combination of traditional and language-based approaches (Bear & Templeton 1998; Hammond 2004; Schlagal 2002; Westwood 1994)
2. student self-correction of errors (Baxter 2000; Goddard & Heron 1998; Wirtz, Gardner, Weber & Bullara 1996)
3. targeting the instructional level of the child (Morris, Blanton, Blanton, Nowacek & Perney 1995; Schlagal 2002)
4. strategy training (Bruce & Chan 1989; Westwood 1999).

The research intervention program involved comparing the effectiveness of two strategy training programs, both of which contain elements of the instructional principles mentioned above; namely, attention to a combination of visual and language-based strategies, self-correction of errors, and individualised instruction targeted at the spelling age of the child and carried out in a one-on-one tutoring situation.



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Insights from cognitive and metacognitive research have highlighted the value of strategy training in helping students gain conscious control over their own learning (Bruce & Chan 1989; Westwood 1999). This may be particularly important for poor spellers, who, in comparison with skilled spellers, are less efficient in their use of strategies and who attribute their successes and failures to factors beyond their control (Ralston & Robinson 1997). Strategy training programs make use of self-instructions in the form of questions, statements or mnemonics to guide the student through the task. Training follows a process



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of modelling and verbalisation of instructions by the teacher, guided practice and feedback as the teacher and student perform the task together, and independent practice as the student internalises the procedures (Bruce & Chan 1989). Strategy instruction specific to spelling provides students with a plan of action whereby they can take their knowledge about words (phonological, orthographic and morphological) and apply it to the task of learning a new word, or checking the spelling of a word (Sipe et al. 2002; Westwood 1999).

The two strategy training approaches compared in this research were Look–Say–Cover–Write–Say–Check and Old Way/New Way – Mediational Learning.

The Look–Say–Cover–Write–Say–Check strategy

The Look–Say–Cover–Write–Say–Check study method, or variations thereof, has been widely promoted in the literature as being an effective means of helping students learn new words (Keller 2002; Knight & Smith 2000; Schlagal 2002; Westwood 1994). It is widely used in Australian schools (Knight & Smith 2000; Hammond 2004), being recommended by several state departments of Education (eg Board of Studies NSW nd).

The Old Way/New Way – Mediational Learning strategy

Old Way/New Way – Mediational Learning is promoted as a very effective way of correcting persistent spelling errors (Baxter 2000). The procedure, developed by Lyndon (1989), has been designed to overcome what has been termed ‘proactive inhibition’, or the interference effect that previous learning has on the ability to acquire new learning, or to ‘unlearn’ an incorrect response (Baxter 2000).

More specific information about both of these strategies can be found in *Look-Say-Cover-Write-Say-Check and Old Way/New Way – Mediational Learning: a comparison of the effectiveness of two tutoring programs for children with persistent spelling difficulties*.

Note: The research information in this document has been adapted from:

Fisher, B, Cozens, ME, and Greive, C 2007, '[Look-Say-Cover-Write-Say-Check and Old Way/New Way](#) – Mediational Learning: a comparison of the effectiveness of two tutoring programs for children with persistent spelling difficulties'



Further reading and links

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Contacts

For more information contact Avondale College of Higher Education
vivienne.watts@avondale.edu.au 