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Enhanced teaching and learning of comprehension in Years 5–8: Otara schools: A summary

The schools of South Auckland, which have high proportions of Māori and Pasifika students, have long been described by researchers as sites for low achievement, particularly in literacy (see, for example, Ramsay, Sneddon, Grenfell, & Ford, 1981). However, recent evidence suggests that the disparities between Māori and Pasifika students and other students in reading accuracy have been reduced, and that there has been a substantial reduction in the proportions of students in the lowest bands of achievement. Despite this, the evidence also suggests that at Year 4 and Year 9 the disparities in reading comprehension have continued, if not increased (Crooks & Flockton, 2005).

Research questions

A research and development programme, conducted as a collaborative partnership between researchers, schools, and the Ministry of Education, was designed to test several questions about achievement in seven decile 1 schools in South Auckland. It was also designed to replicate the findings of a previous study with a cluster of seven schools in Mangere. In the Mangere study achievement levels after three years were significantly higher (0.97 stanine) than baseline and predicted levels, with an overall effect size for gains in stanines of 0.62 (McNaughton, MacDonald, Amituanai-Toloa, Lai, & Farry, 2006). Replication is the hallmark of good science and the present study set out to repeat the intervention of the previous study and test the generalisability of the findings in terms of the analysis of effective processes and the obtained outcomes. As with the previous study there were two general questions:

- Can a research–practice collaboration develop cluster-wide and school-based professional learning communities that are able to critically analyse and problem solve issues of instructional effectiveness, thereby developing more effective instruction that has a powerful educationally significant impact on Māori and Pasifika children's comprehension at Years 4–8 in decile 1 schools?
- Can a set of effective instructional activities be identified that are able to be used by teachers to enhance the teaching of comprehension for Māori and Pasifika children in Years 4–8 in decile 1 schools?

Research design

These questions were based on a set of hypotheses about the nature of effective instruction for reading comprehension, and the nature of effective school-based interventions. There were two main hypotheses: first, that more effective teaching could be developed through a professional learning community that has a continuing process of critical discussion and problem solving, based on evidence (Robinson & Lai, 2006); and second, that effective instruction would include a range of attributes, such as explicit teaching of strategies and deliberate teaching of vocabulary (Pressley, 2002), but that these would need to be contextualised to the specific needs of the students, as determined by past histories of schooling and contemporary profiles.

The research and development programme was conducted over three years with up to around 50 teachers and, in different years, approximately 1400 students, over 90 percent of whom were Pasifika or Māori students. A quasiexperimental design was employed to examine relationships between the programme and the outcomes over three years. The robustness of the design was enhanced by features such as a planned comparison with the cluster of similar schools in the Mangere study, and checks on subject attrition. Repeated measures of student achievement at the beginning and the end of each year form the basis of the design, which, among other things, examines rates of stanine gain against predicted patterns of growth generated from a baseline.

Findings

An initial step involved collecting baseline 'profiles' of achievement, using the standardised assessments of reading comprehension from Progressive Achievement Tests (PAT) (Reid & Elley, 1991), and of a range of aspects of reading comprehension, including decoding, provided by Supplementary Tests of Achievement in Reading (STAR) (Elley, 2001). It also involved collecting baseline profiles of classroom instruction, using systematic observations in classrooms. Together these baselines provided detailed evidence about strengths and weaknesses in the students' reading comprehension, which were able to be mapped onto patterns of instruction in the classroom. For example, it showed that low decoding levels were generally not a problem; rather, problems included low rates of checking and detecting threats to meaning in paragraph comprehension, and the size and knowledge of vocabulary, which we predicted were posing difficulties in reading comprehension. An unpredicted finding was that while high rates of explicit strategy instruction occurred, students were focused on the strategies as ends in themselves, and often resorted to guessing.

Classroom observations showed a low incidence of teachers or students monitoring and checking strategies, and low rates of identifying and elaborating meanings of low-frequency words, unusual uses of common words, or idiomatic uses.

Feedback, analysis, and problem solving

The first phase included systematic feedback, analysis, and problem solving at cluster, school, and classroom levels using the baseline profiles as evidence. This process occurred each year thereafter. A second phase added targeted professional development, based on the evidence in the first phase, with all the Year 4–8 teachers. The third phase involved planned sustainability of the professional learning communities, with teacher-designed projects and a teacher-led conference.

At baseline, students were on average at stanine 3.02, approximately two years below expected levels, and this was generally the case, with some variation across year levels and across schools. To test the impact of the programme, a number of different analyses were conducted using longitudinal cohorts, comparisons with baseline projections, and total school population changes.

Analysis of achievement for the longitudinal cohort showed that by the end of the project, the average student now scored in the average band of achievement (stanine 4.01). The overall effect size for gains in stanines was 0.64. This effect size is higher than those reported in international schooling improvement initiatives (Borman, 2005), which report effect sizes of up to 0.3 for initiatives running for less than six years. Māori students' achievement accelerated at similar rates to those of the other ethnic groups participating in the project, so that by the end of the project the average Māori student scored within the average band (mean = 4.29). Although female students, on average, started with higher levels of achievement than male students, by the end of the three years the males' average achievement was the same as the females'. On average, students in each school made accelerated gains in achievement from the beginning to the end of the project. Analyses using the design format showed that after two years, and after three years, students had statistically significantly higher achievement than what had been projected by the baseline in two of the three cohorts tracked.

When total school populations were analysed (which included new students entering and students leaving), a similar picture to that of previous analyses emerged. The overall level of achievement showed a variable but increasing trend over time, so that by the end of the intervention, the average stanine for 814 students was 3.67. A range of gains were made between schools and within schools across the three phases. Several factors

were suggested as contributing to these differences in gains, including degree of participation by schools and teachers, and transience.

Classroom instruction

Observations of classroom instruction were carried out systematically in both the first and the second years. Significant changes in types of teacher and student exchanges relating to the focus of the intervention were linked to the pattern of the gains over two years in the component tests. Further case studies of teachers showed that a high-gain teacher more often directed students' awareness to the requirements of activities, clarified her high expectations, pushed her students with complex tasks, introduced more complex and less familiar language including idiomatic uses, created a classroom community that enjoyed the use and study of oral and written language, exposed students regularly to rich and varied texts, and was able to incorporate student cultural and linguistic resources, as well as clarifying areas of confusion.

Conclusions

The present study replicated the processes and outcomes of the Mangere study almost exactly. With a similar process of intervention there were similar levels of achievement and the rates of gain in reading comprehension were nearly identical. At the beginning, similar teaching and achievement profiles were found and the instructional changes in the second study paralleled the changes in the first. The few differences between the studies suggest that differences in teacher instructional dominance might account for the slightly fewer students in the upper bands of achievement in the present study.

The conclusion from the Mangere study was that it is possible to develop more effective teaching that impacts directly on the reading comprehension achievement of Year 4–8 children in the culturally and linguistically diverse decile 1 schools of South Auckland. This second study, which added a further seven schools with approximately 1400 students, adds considerable weight to that conclusion. The level of gains overall in both studies were in the order of one year's gain in addition to nationally expected progress over three years. When these gains are considered in terms of the history of schooling in South Auckland, the educational significance of the gains, and the international literature on schooling improvement, they are seen to be substantial. Even when results for all the students present from the beginning to the end are considered, including those who subsequently left and those who subsequently entered the school, either from earlier levels or as new students from other schools, the levels of achievement at the schools have increased considerably. Given the quasiexperimental design of the study, with its additional strengths, these gains can be attributed with some confidence to the effects of the three-phase model adopted by the research and development programme.

Collaborative research–practice–policy partnerships

The analyses suggest that thinking about and critically discussing the evidence at a classroom, school, and cluster level led to a significant part of the overall gains in achievement, and that the professional learning communities had the capacity to use the evidence to make changes to existing practices. This is likely to be dependent on external support, in the form of collaborative research–practice–policy partnerships (for example, as described by Robinson & Lai, 2006). We need to consider how to foster such partnerships, both in terms of the kinds of partnerships being developed, and the infrastructure to support the development and sustainability of such partnerships.

Changes in aspects of instruction

The analyses of instruction show that specific aspects of instruction changed, including an increased focus on checking and detecting threats to gaining meaning in texts and boosting vocabulary acquisition, consistent with the focus of the programme and consistent with the gains that were made. But they indicated the need for caution in making assumptions about instructional and learning needs from the existing literature alone. They also indicated that effective instruction needs to be designed to fit the context-specific needs, as determined by past histories of schooling and contemporary profiles. Interestingly, gains on the decoding test also increased to about the same degree as gains in other areas, despite not being a direct target of the intervention.

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Woolf Fisher Research Centre worked together with participant schools in the TLRI reading clusters.