



The Value of Enabling Teachers to Research Their Practice

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ABSTRACT

This paper reports a project in which teachers used small action-research projects to investigate how they were responding to the diversity of their students in terms of planning and teaching. The project, funded by the New Zealand Ministry of Education through the Teaching and Learning Research Initiative fund (TLRI), involved teachers investigating self-chosen issues related to the diversity within their own sphere of practice. They were mentored through the research process by experienced tertiary researchers and by their peers in a series of regular meetings and conversations. As a result of participating in this project, the teachers developed an awareness of themselves as practitioner-researchers and acquired a foundational, though still emergent, understanding of research paradigms and research processes. In this paper, we reflect on the process, the nature of the outcomes, the value of such collaborative research partnerships, and the experiential learning of the teachers.

INTRODUCTION

Developing a culture of practitioner research in New Zealand schools is a primary objective of the Teaching and Learning Research Initiative (TLRI). This paper reports on a project funded by the scheme, which sought to investigate secondary school teachers' responses to the diverse backgrounds and educational needs of their students. A full report of this project includes the teachers own reports (Conner, Greenwood, & Buyers, 2007) and describes each teacher's focus in depth.

The project was carried out as a single-site case study set in an urban, co-educational secondary school. Two experienced tertiary researchers, the authors of this paper, mentored a team of teachers within the school to conduct their own action research projects. Our aim was twofold: (i) to help teachers investigate the school's response to the diversity of students in multiple ways; and (ii) to enable teachers to develop their research understandings and capability and so be able to research their own practice as part of their professional development. This paper describes the context of the project, its development and outcomes, and offers reflections on the overall success of the project in terms of its aims. In particular, it explores the importance of experiential learning by teachers about the nature of the learning relationships within their classrooms.

The school has a student population of about 1,000. The students range from Years 9 to 13. The students come predominantly from the surrounding lower socioeconomic housing, but the zone from which the school draws its students also extends to parts of more affluent suburbs. The students are diverse in many ways: culture and race, academic ability, attitude to schooling, home socioeconomic status, personality, personal interests, and ability to cope with instructional English. In terms of ethnicity, the students are predominantly European New Zealanders, Māori and Pasifika, with smaller numbers from Asia, South and North America, Africa and Europe.

The school's written strategic vision and its policy statements demonstrate its commitment to embrace and celebrate aspects of diversity. However, staff identified at the end of 2004 that they frequently wrestled with what teachers often see as oppositional pressures of curriculum delivery, assessment requirements, and the fostering of meaningful learning for diverse learners. They therefore wanted to have some examples of how teachers might plan for addressing diversity in their classrooms.

DIVERSITY AND NEW ZEALAND CLASSROOMS

While not all New Zealand schools have similar degrees of internal diversity, the range is shared by the system as a whole (Ministry of Education, 2001) and is much wider than other OECD countries. In this context, diversity is described as encompassing "many characteristics including ethnicity, socio-economic background, home language, gender, special needs, disability, and giftedness" (Alton-Lee, 2003, p. v). According to this same author, "teaching that is responsive to student diversity can have a very positive impact on low and high achievers at the same time" (2003, p. v). This project took very seriously the idea that teachers need to actively plan and reflect on how they are catering for differences within the contextual specificities that each class presents (Shields, 2007).

Because of the wide range of diversity amongst the students in any one class, the New Zealand Ministry of Education considers that meeting the needs of the diverse range of individuals is imperative, but it has tended to direct initiatives towards specific groups, for example, the education of Māori, Pasifika and international students (Education Review Office, 2003; Ministry of Education, 2002a, 2002b) rather than considering how teachers might plan for multiple diversities both within and between these groups.

A large number of previous studies have focussed on the needs of culturally diverse students (for a review, see Biddulph, Biddulph, & Biddulph 2003); others have investigated the influence of gender (Bradford, 1996; Gorard, Rees, & Salisbury, 2001), ethnicity (Bishop, Berryman, & Richardson, 2001; Blair & Bourne, 1998), ability (Hallam & Toutouniji, 1997), and special needs (Richardson & Wood, 1999). However, there is still a need for qualitative studies that focus on teachers' practices (Carr et al., 2003) and in particular how planning and action influence student learning outcomes. It is becoming apparent that when teachers actively consider and reflect on the diverse needs of their students, they develop approaches and pedagogies that are more appropriate for the students they teach (Biddulph et al., 2003; Bishop, Berryman, Tiakiwai, & Richardson, 2003). Burton (2007, p. 16) stresses the

need for educators to “resist reductionist attempts to produce neat, digestible, commercialised chunks of pedagogy”, and to pursue approaches that are critical and enquiring. This approach rejects the idea of pre-packaged curricula/resources/recipes for teaching subjects at particular levels. Instead it requires teachers to consider the achievement levels, backgrounds, interests and strengths of individuals and figure out how to make the most effective use of “learning time”.

THE PROJECT

The aims of our project were targeted at two levels. The first was an examination by a group of teachers of how the school was responding to the diversity of its students. This involved an examination of school-wide systems and policies, of departmental strategies and of individual teachers’ responses to the diverse needs of students in their classes. The second was the building of capability within the school for staff to research their own practice, and thus build a research capability and capacity for change.

The project was initiated jointly by the school and the researchers following a sustained association in professional development. The principal invited all staff to participate in the study and a group of teachers volunteered. They came to the first school based meeting with (as evidenced by their comments) many reservations about doing research and fears that it might, as one teacher said, “get in the way of their real work.” Although only two of the teachers had been involved in post-graduate level research, all were very willing to participate. Individually or in pairs, they selected particular aspects of diversity that they felt were important to their work. The authors took the role of research mentors to guide the teachers in their readings and to develop their research skills.

The project was an intrinsic case study: that of the school as a learning community (Senge, 2000). It was also a series of embedded case studies (Scholz & Tietje, 2002), in that different parts of the project formed smaller projects in their own right, but still resided under the umbrella of the theme of responses to diversity. The overall approach to the study was that of action research, in which investigation, planning, action, and further investigation are integrated into multiple iterations of research and reflective action (Cardno, 2003; Stringer, 2004). The progress of the cycles was shaped by the teachers through a commitment to the principles of being participatory, critical and emancipatory (Wadsworth, 1998; Zuber-Skerritt, 1992). They wanted to effect change in their practices to enhance student outcomes.

As research mentors, we supported the teachers’ development of their investigations through a series of focus group and individual meetings that took place over approximately ten months. In these meetings, we discussed the purposes of research, and in particular action research approaches that are useful for teachers. We helped the teachers to match methodological approaches to their research questions and resources. We also helped them to develop research tools (such as data collection instruments) and guided them on how to analyse and write up their projects.

The leader of the school’s part of the project team was given specific time to co-ordinate the project. He undertook an analysis of the school’s written policies, surveyed heads of departments using an online open-ended

questionnaire, and held subsequent open-ended interviews with them that targeted how their department was addressing the diverse needs of its students.

Small groups of teachers identified a particular aspect of diversity that they wanted to investigate as action-research projects (after Kemmis & Wilkinson, 1998). In three departments (science, physical education, and integrated studies), the teachers identified what they wanted to focus on collaboratively. One teacher then took the lead role in developing the research focus for the group's department and was responsible for collating and reporting the findings.

Two teachers who taught English and social studies to the same class wanted to investigate how the students in this class responded to their respective initiatives. Each project was then developed through a consideration of existing literature, and through the strategies conceived by the teachers as being appropriate for addressing their particular concerns. Specific methods for each project are described in the following sections.

Policy analyses

The school's project leader analysed the school's policies on diversity and how these were being addressed at the overall-school and departmental levels by looking at relevant documents and conducting surveys of HODs and subsequent interviews. Both analyses showed a commitment to several diversities within the school, primarily those of culture, race, socioeconomic background, and educational needs. They also revealed that there was little in the school's policies to indicate how the school could use diversity for positive outcomes or how it could celebrate aspects of diversity. The survey of HODs and interviews with them showed an awareness of diversity in terms of subject ability and, to a lesser extent, an awareness of diversity in cultures. There was a wide variety of perceptions about diversity and how these identified dimensions could be targeted in teaching programmes or units of work.

The responses from departments also showed awareness of multiple diversities. There was a gap, however, between policies and processes to implement them. Therefore, a resulting recommendation from this project was that departments rewrite the school's policies to include strategic implementation plans, and that they consider further ways to address multiple aspects of diversity in their programme design and when planning for individual needs.

Science department study

For over a year prior to this study, the teachers in the science department had been developing a set of computer-based schemes they called "The Science Road Map". The intention, from the outset of this initiative, was to provide a system that would allow staff to communicate with one another on the content of their lessons and their teaching strategies. By the time of the present study, the initiative had grown from simply being a scheme of work with links to resources and columns for writing in objectives and resources to incorporate suggested vocational and cultural considerations, literacy and numeracy requirements, and the social-skills levels required of students for using particular strategies.

The science department study was conducted by a science teacher, who interviewed the rest of the science department staff about how the Road Map

had influenced their understanding and consideration of diversity when teaching. The group reported that they had expanded the Road Map so that the department's staff could consider multiple aspects of diversity and draw on the range of activities provided. They said they had willingly and actively modified the electronic resources to suit the needs of the students in their own classes. As one teacher commented:

Readily available shared resources and the instructions to go with them save planning time, and allow more attention to be put into them to make them appropriate to the class or individual students.

Individual teachers identified gaps in the Road Map, and the department selected some of these as a focus for development in the following year. Included in this development were further resources for gifted and talented education (GATE) students, particularly in terms of individual activities that would enable them to work independently, and group activities that the class as a whole could use. Another idea for development was that of "generic templates"—activities that teachers could adapt for a broad range of topics, with links to examples. Additional homework, starters and literacy activities as well as more information on ways to deliver particular activities (i.e., explicit philosophies/ pedagogies) and the inclusion of more culturally relevant activities, were also identified as aspects that could be enhanced.

At first, the department's staff primarily acknowledged diversity in terms of students' aptitude for a subject. The progress of this investigation itself caused staff to consider the idea of multiple diversities and to begin to plan in terms of more dimensions as they became aware of them.

Physical education department study

The staff of the physical education department decided as a group to evaluate the progress their department was making to develop learning situations that suited individual and diverse needs and aspirations. The department had already begun to look at the key skills they wanted students to have by the end of Year 9. They reviewed their units of work to determine not only how they could incorporate the skills of communication, collaboration, fair play/Olympic ideals and fundamental physical skills into a specifically designed Year 9 physical education work book (student resource) but also how they could further develop the resource further to enhance these skills.

The staff's deliberations on these matters resulted in a departmental action research cycle to revise the Year 9 programme. Students were asked to identify their own strengths and areas for development, so that they and their teachers could collaboratively adapt the course work to each student's own unique goals and needs. The department looked for ways to embrace differences rather than to see them as barriers to implementation of their preconceived lesson plans.

As a result of this project, the physical education teachers moved away from direct teaching approaches towards a focus on student-centred learning for both practical and workbook tasks. This change in focus allowed individuals within the eight year 9 classes to adapt the learning experiences to accommodate student interests. There was also more emphasis on teaching social and collaborative skills through physical activities rather than on teaching sports skills and performance. While practical skills development is still a major

part of the programme, the staff have reorganised their teaching to incorporate skills more holistically. The staff have observed that students are beginning to develop socially responsible attitudes with a broader appreciation of the extent of difference evident amongst the members of the class.

Integrated studies syndicate study

The Integrated Studies Syndicate within the school provides learning opportunities in a cross-curricular environment for students who have low literacy and numeracy abilities. When they entered this project, the three teachers in the syndicate affirmed their belief that, as they put in their report, "... addressing diversity is an ongoing and dynamic process." Students enter the syndicate programme because of an array of needs—learning, emotional and, at times physical—that make these students identifiably "different" from their peers in a mainstream class. The teachers in the syndicate, in contrast to what they see as the focus of most secondary teachers, concentrate on relationship building and on developing routines and set expectations within a context that recognises each student's individual needs.

The three teachers saw the project as an opportunity to examine their current practice. They identified that one of their biggest problems teaching the students in their programme was the students' lack of social skills. They also said that the students tended to find these skills difficult to learn. The teachers accordingly decided to ignore the Year 9 academic curriculum and focus on developing the students' social skills, which technically fitted into both the health and social studies curricula, and on adding relevant communication strategies from the English curriculum. Their approach here aligned with the draft recommended key competencies for schooling in New Zealand (Ministry of Education, 2005).

In putting their plan into action, the teachers started by asking their students about themselves, their hopes and ambitions and how they wanted to be treated. They then identified their expectations for behaviour in class, and the consequences of both good and bad behaviour. This approach enabled the students to see that while they had the right to be educated, they also had responsibilities. The teachers also asked their students to identify the responsibilities and to rank them in order of importance, from both their perspectives as individuals and from what they saw as the point of view of the class as a whole. The teachers noted that not only did this give students ownership of what they believed was acceptable and unacceptable, but that it also "reinforced for us (the teachers) how important ownership is in student performance." Eventually a collaborative class contract was developed by students and teachers.

A further cycle of the action research process undertaken by the syndicate teachers involved teaching their students how to deal with a problem. Staff collaboratively developed a range of activities that became "an anger toolbox", which gave students ways of processing their anger and calming down. The toolbox approach also led to the development of strategies for negotiation and problem resolution. The staff used the students' planning to move to a project looking at rights and responsibilities in wider cultural and historic contexts, focusing predominantly on the treatment of children throughout history to the present day.

The teachers further developed their project by asking questions they wanted to answer, such as how they might work with contributing primary schools to track social skills development. They also intend to consider how the draft curriculum's proposed key competencies of thinking, and of using languages, symbols and texts, can be introduced in a more clearly structured manner, so that they can teach the competencies to help prepare students for the curricula they will meet later in their education.

Gifted and talented students (GATE) study

Two teachers teaching the same Year 9 class for social studies and English respectively developed a collaborative study. They set out to investigate how the students, whom the school had identified as gifted and talented, responded to working in different kinds of groups and to what extent each type of group better addressed the students' needs and extended their learning. The teachers tracked the same ten volunteer students in both classes. For three weeks, the students kept a learning journal in which they wrote about how they felt about their experiences in the classes. They were then interviewed by the teachers.

Both teachers read widely in the relevant literature, especially that relating to methodology and learning style preferences. They also kept a reflective journal in which they recorded their observations of how students worked in groups and clearly identified their own assumptions, initial and progressive. Each teacher next wrote a separate report, detailing his methodological approach, the obstacles he encountered in the research, his findings, and the impact his findings made on his own awareness of teaching and learning, and how that new awareness might change his future practice.

One of the main conclusions that each teacher drew from his findings was that his original assumptions about what made a difference to student learning (such as the impact of interruptions and whom each student worked with) were not as important to the students as they had expected. For example, for the social studies teacher, the value of student choice emerged very strongly. This value was also evident in four themes that emerged, for both teachers, from the students' interview comments overall:

- Students' personal issues influenced their enjoyment of the content being studied
- Students preferred working in selected groups for short, sharp activities but not for high-stakes longer activities
- A majority of the students preferred working in self-selected groups rather than in randomly selected groups
- Students appeared to gain greater enjoyment and motivation from activities when they were ones that they had chosen for themselves from an array of choices.

There is evidence in the literature that GATE students find group situations uncomfortable. According to Gross, MacLeod, and Pretorius (2001, p. 10), for example, "gifted students may exhibit entelechy: extraordinary degrees of motivation and a singleness of purpose," qualities that the authors contend can make group work frustrating. Other GATE students might simply lack the interpersonal skills to work with others. Such students may be "bossy, stubborn, tactless . . . and attention seeking; they may be teased by others" (ibid).

The social studies teacher also drew attention in his report to another of his assumptions challenged by his findings. When documenting his students' responses to a graphic video he had shown during a particular unit of work, he noted that one student stated in her journal that she and her peer had already accessed the material they needed, and so considered watching the video was "wasting class time that could have been spent on doing our project." Another student pointed out that an absence of writing could not always be equated with an absence of learning: "I was taking down mental notes. So I think you've got to remember, it may not look like we're doing the work, but we're taking down mental notes."

The teacher wrote that he found both responses surprising and resolved to "approach students differently, with a concerned enquiry rather than a direct challenge to the behaviour they exhibit." In the conclusion of his report, he observed, "Perhaps the most important lesson in this for me was the most basic of all: assume nothing; check it out; and look and listen before you leap."

SUCCESS AND VALUE OF THE PROJECT

New knowledge

Shortly after completion of the project, all the participants shared their enthusiasm about not only having survived the initially intimidating research process but actually used it to gain better understandings of what happened in their classrooms. They were celebratory about the discoveries they had made. As research mentors, we felt very proud of the way the teams had worked with their investigations, had tackled the literature as well as their data collection and analysis, and had written their reports. A little over a year after the completion of the project, we ask ourselves again, with a little more detachment, how successful was the project?

One of the acknowledged goals of research is the creation of new knowledge. How much new knowledge was created through the research project about the nature of diversity and how to best address it in the classroom? The findings from the analysis of the policies carried out by the school's lead teacher indicate that schools should ask teachers about their practice because what is actually done may inform the policy development rather than maintain the common practice of first developing policies and then requiring teachers to find ways to implement them.

The developments in the science and physical education departments and in the integrated studies syndicate were exciting explorations of rich and effective pedagogy, but the staff who took part in the respective research projects had already begun these explorations before formalising them in the form of the action research projects. The projects gave the staff a framework for tracking and recording these developments, and in the process not only reinforcing and expanding on them but also widening their terms of reference to broader considerations of diversity.

In contrast to the work conducted by the integrated studies syndicate, the dual investigation of the GATE class was a new undertaking that took place entirely because of the research project, and it gave rise to significant insights for the two teachers who conducted it. If we were to itemise the actual new knowledge generated by the two groups of researchers, we might find it hard to

identify anything that has not already been written about in the literature of teaching and learning. However, the insights gained were transformational for the participants in how they viewed their practice and the value they attributed to participating in research on their own practice.

The building of capacity

The TLRI funding scheme is designed to enable the building of the capacity within schools for practitioner-researchers so that they can investigate and improve on their own practice. The partnership between the teachers and the academic researchers was successful in providing active mentorship for the teachers' emergent research understanding and for their navigation through methodological options. Through writing their own reports, the teachers had to immerse themselves in the detail of their findings and make sense of their results in terms of the literature.

One of the outcomes of the project that most excited us, the research mentors, was the way the teachers took on board the intricacies and complexities of the research process and in particular, the evolutionary nature of action research. One of the participating teachers wrote:

If diversity in the classroom proved to be a dynamic concept, the research process also proved to be more fluid than I anticipated. At the outset of this project, I expected that, with a research question devised and methodology decided upon, the research would naturally proceed on its predicted course. I had not expected that there would be such a need to adapt aspects of the process to the demands of time and place.

The most interesting lesson for me, however, was the importance of unexpected outcomes ... As a researcher, the two most significant lessons I have taken from the project are to follow a sound, appropriate, but adaptable methodology, and to have an open mind. Out of the tension produced by the unexpected can emerge the most valuable insights.

Developing emergent practitioner-researchers is an admirable goal, but developing a sustainable research community is quite another challenge. As the project progressed, the participants expressed considerable enthusiasm for the work. However, the workload commitments of the teachers, particularly providing documentation for an Education Review Office visit, report-writing and compliance with other school documentation, frequently slowed progress. Like all teachers, they were busy people and had to snatch small disconnected windows of opportunity to work on their projects, even though they were funded for some release from classes, especially to discuss milestones and to write up their reports.

Three of the staff involved in the project left at the end of the year, one winning a new job where his research skills might be put to good use. This in itself was a successful outcome at the personal level, but was a loss to the school of freshly acquired expertise. Such departures at the end of the school year are fairly normal, but they add to the difficulty of building a school research culture.

We look back at the project and realise that while one year might be enough to foster individual research expertise, it is not long enough to build a research culture. We needed at least another year to follow up on the findings and to support the new researchers in an induction of further groups of practitioner-researchers.

Rejuvenation, experiential learning and enabling awareness

The greatest gains from the project were in the area of personal professional development, and these are not easy to itemise, far less quantify. The teachers found the experience of actively researching their practice exciting and empowering. It is one thing to read the literature or be told by an inspirational speaker that students find choice motivating, but it is altogether a different kind of learning to make the discovery from one's own carefully conducted investigation. Similarly, in a group discussion before one of the milestones, when we asked, "What are the biggest things we are learning from this project in regard to how to address diversity?" a teacher suggested, "Recognising the mindsets that each of us brings to our work." The discovery seems very simple when put into words, but it held the truth of an "ah-ha" moment for many of the participants.

Those of us who are advocates or practitioners of experiential learning know the value of personal experiential processes for our students. Our project affirmed how important such processes are for teachers too. Most of the participants were experienced teachers with high credibility within the school. Some acknowledged that while they had grown increasingly confident in their teaching over the years, they had also come to rely on familiar practices and had stopped asking the kinds of questions about what was happening in their classrooms that they had asked when they first began teaching. The project allowed them to reflect on their practice and to open themselves to uncertainty. It allowed them to be humble without losing their sense of power.

Sometimes what the teachers reported as learning was something they might have thought they were aware of already. But re-learning through experience, is not simply a re-run of an old process: it is something that happens in the "now", in the mind and the spirit and it generates an energy that is useful in the "now", rather than as a package for prosperity.

The project enabled the participants to develop their individual awareness of what was happening in their classrooms and how they could be empowered to research their own areas of concern. The teachers are now more aware that they need to identify and challenge the assumptions they make and to base their ideas and beliefs about their students on evidence rather than on their initial perceptions. Previous studies have also indicated the importance of increasing teacher knowledge and awareness, especially when teachers have considered the implications of evidence of student outcomes/achievement for their teaching (Symes & Timperley, 2003; Timperley & Parr, 2004).

For the teachers, the impact of *doing* research that they found relevant probably had a far greater impact on them than if they had only read an academic paper about the same issues or been participants at a presentation that talked about these issues. Their experiences support Brookfield's (1995) assertion of the value of teachers incrementally questioning comfortable assumptions about their practice. The provision of experiential processes allowed the teachers to connect with the ideas by questioning and challenging

the assumptions that underlie what they choose to do in their classrooms. These processes also align with Bartlett and Burton's (2006) endorsement of the value of discourse within the professional network, the participatory nature of the process, and the critical questioning and appraisal that "participationers" (to use their word) can bring to their research projects.

Finally, this project provides an example of how the distinction that is still frequently drawn between educational research and professional development blurs when teachers are given opportunity to engage in relevant research on their own practice.

CONCLUSION

So, to return to our retrospective and reflective question: how useful was the project, really? We would like to be able to claim that it provided valuable information and detailed insights as to how planning at departmental levels can influence teacher delivery, how specific pedagogies address diversity, and how these are experienced by students. We would also like to assert that it is a successful example of how partnerships in research can provide ideas for addressing an identified need in school classrooms. And that the teachers we worked with realised that engaging with research helped to improve their practice and are continuing to build research capability within their school. And we can say that all those things did happen.

Perhaps a degree of marginality was tacitly built into the project, in terms of the teachers' workloads, the extent of funding, the turnover of staff, and the relentlessness of multiple pressures within the school. However, when it comes to the lived experience and discoveries of those involved in the research, we think the project was unequivocally successful and valuable both to the teachers and to their students. The value was in developing the human resource of teachers who were rejuvenated and newly attentive in their practice. This partnership enabled teachers to consider aspects of their practice through research and apply what they had learned to their teaching.

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My interests are in researching the teaching and learning of science, biology and biotechnology. In particular I have a strong interest in education related to bioethics and social issues associated with science education. I work on national and international contracts that support educators in socio-science areas.

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My research grows out of my work as a teacher and teacher educator and as an artist. Therefore it is based in a group of interconnected areas: education, theatre and the intercultural space where these take place. Research work in the fields of theatre, drama in education, critical literacies, education and cross-cultural perspectives have also lead to further examination of particular methodologies such as practitioner research, action research creative work, and to epistemological questions about the cultural locatedness of knowledge.