

CHALLENGING THE BOUNDARIES: EVALUATING TEACHERS' PROFESSIONAL DEVELOPMENT IN THE LIGHT OF THE LEARNING OF THEIR STUDENTS

Bronwyn Stafford,

Senior Project Officer Monitoring and Evaluation,

Training and Development Directorate, NSW Department of Education and Training

The NSW Department of Education and Training (DET) has made a long-term commitment to evaluating the impact and effectiveness of teacher professional development. By investigating how changes in organisational and teaching practice resulting from training and development programs influence student learning outcomes, the DET is exposing a new dimension of teacher professional learning.

Evaluating the outcomes of teacher learning is an integral part of the work of the DET's Training and Development Directorate. It is providing valuable insights into the complex nature of teacher professional development and the conditions that influence the effectiveness of workplace learning. The results of this study are used to inform policy development and implementation practices in government schools in New South Wales.

This paper explores issues of integrating evaluation at systemic and local levels to gain an authentic view of continuing teacher professional development. It will outline the range of evaluation strategies used to evaluate the effectiveness of policy implementation and describe in some detail a four-year investigation into the relationship between teacher professional learning and student learning outcomes. This will be followed by a discussion of issues concerning evaluation in the school setting and the increasing profile of evaluation in response to systemic need for continual improvement.

This paper will be of interest to those who are concerned with conducting evaluations across multiple sites in organisations that serve the public interest.

The Context of the Evaluation

The NSW Department of Education and Training

In 1998 the Department of School Education combined with NSW Technical and Further Education (TAFE) to provide education and training services to over 880,000 students, becoming the NSW Department of Education and Training, the largest education provider in the Southern Hemisphere.

This paper is primarily concerned with the school sector of the DET and the education provided to over 760,000 students in 2,222 schools by 50,363 teachers. The DET's brief is to offer school students a high quality education relevant to their needs and aspirations whilst being responsive to community expectations, effective in its implementation, efficient in available resources and based on good discipline and effective learning. (NSW DET 1998 Annual Report) The DET is committed to providing equal opportunity to all students regardless of gender, race, religion, socio-economic circumstances, geographic location, and physical and intellectual ability. Schools deliver a curriculum that serves students' personal needs and the needs of society. The ability of students to communicate effectively, use mathematical processes competently, analyse situations critically and to develop the knowledge and skills necessary to participate in and contribute to society (NSW DET 1998 Annual Report) form the generic outcomes that guide all teaching and learning activities.

Systemic goals (published annually in the form of an "agenda") provide schools with more specific direction in terms of curriculum, welfare and pedagogy. Individual schools adapt this agenda to reflect local needs, using a range of resources developed centrally and locally.

The Role of Teacher Professional Development

Teacher professional development plays a key role in achieving changes in curriculum and pedagogy required to keep the education of NSW public school students comprehensive and reflective of our rapidly changing society. The significance of this role is recognised by the substantial contribution, both in financial and human terms, that the DET makes to staff professional development.

The training and development of teachers in the NSW public education system starts with pre-service internships and practicum placements followed by induction programs for newly-appointed teachers using an arrangement of mentors and workplace supervisors. Opportunities to retrain in other disciplines to meet labour market shortfall are extensive. Specific strategies to renew and revitalise educational leadership and management, initiate whole-school change and upskill teachers in the use of computer-based technologies are recognised nationally and internationally as cutting-edge programs. Most of these programs

utilise flexible delivery, self-paced learning and new and emerging technologies such as on-line discussion, web-based learning and videoconferencing to meet the diversity of learning needs of the NSW teaching service.

In 1996 training and development in the DET was reviewed and a model of workplace learning was implemented in all schools. A significant feature of this review was the expectation that there should be a connection between teacher learning and improvements in student learning outcomes. The previous model of inservice training and development, which had been in place for more than 20 years, had advocated attendance at courses external to the school. This approach did not make any connections between a teacher's learning and those of her students: neither did it place this learning within the context of the school's needs or an individual's development plan.

The philosophy underpinning teacher professional development in the DET is based on four principles of learning proposed by West (1994), that is, learning is of value; learning must be done deliberately rather than being left to chance; learning is a continuous process; and shared learning is easiest to sustain. This was further influenced by Peter Senge's theory of learning communities and its educational application by leading educators such as Michael Fullan and Geoff Southworth,

By positioning training and development within the workplace and sharpening the focus on improving student learning outcomes, the DET initiated a policy that challenged the purpose and role of teacher learning in the late 1990s.

Approaches to Evaluating Teacher Professional Development

The need to evaluate the effectiveness of teacher training and development has emerged as a system priority. Identifying and implementing appropriate evaluation methodologies is a complex task, given the size of the NSW teaching service; the number, type and geographical diversity of government schools; the complex nature of learning in general; and the nature of teaching. By establishing systematic and careful inquiry into practices and programs (Worthen, 1987), the DET is seeking continual improvement in its access to and use of dependable information.

Coordinated by a small unit within the DET's Training and Development Directorate, individual program evaluations, doctoral and post-graduate research, commissioned research, in-house investigations and practitioner research are drawn on to make judgments on the effectiveness of teacher professional development. These approaches are used to inform program development at state and local levels and to meet legislative and other accountability requirements.

A wide range of evaluation methodologies is used to gather information on the effectiveness of training and development. The methodologies aggregate data collected from individuals, schools, districts and program managers to form a statewide picture. Computer-based technology is used whenever possible to assist with the more routine input and output data in an attempt to leave school leaders more time to focus on the outcomes of their programs.

Surveys and questionnaires, learning journals, individual and focus group interviews, action research and action learning, monitoring and analysing content of on-line discussions and web-based learning environments, and reports from program facilitators are the most popular methods used to evaluate training and development programs. These strategies are used in concert and in isolation depending on program needs and available resources.

Practitioner research (Good & Brophy, 1978; Altricher & Posch, 1989; Hopkins, 1993) provides rich data for the processes of reflection and evaluation of teaching. This is used with increasing frequency as an evaluation method and as a training and development strategy (Grundy, 1995). Moreover, schools are reporting that using the processes of reflection and research as evaluation methodologies is proving effective in whole school change. There is also some evidence to support the assertion that long-term change occurs when these methodologies are part of collaborative activity (Webb, 1994).

Awareness of the value of student data in program evaluation is growing in NSW government schools. Schools have begun to incorporate student data, broadly categorised as cognitive and non-cognitive, into their evaluation repertoire. Cognitive data results from standardised and criterion-referenced tests, for example in literacy and numeracy, or locally-developed assessment based on syllabus outcomes. Attendance, use of software, patterns of library use, and welfare records are examples of non-cognitive student data. The Training and Development Directorate's research into the relationship between teacher learning and student learning has been influential in promoting student data as an evaluation method.

Issues in Evaluating Teacher Professional Development

A review of the literature on teacher learning and its correlation with student learning conducted in 1998 identified conditions that support effective teacher development whilst other studies revealed the key characteristics displayed by schools that produced significant

improvements in student learning outcomes. McGaw, Piper, Banks, & Evans (1992) identified a number of key characteristics of effective schools amongst which teacher professional development featured strongly. However, there were few investigations that connected the learning of teachers with those of their students.

Recent research by Hopkins and West (1998), however, concludes that teacher professional development is the bridge that links whole-school improvement with the changes in teaching practice that are fundamental to improved student learning. Similarly, Fullan (1994) cites evidence through case studies of improvements in student reading abilities caused by highly focused and carefully designed programs of staff development.

In the light of emerging evidence of a relationship between teacher learning and student learning the fundamental evaluation issue being addressed is: How and in what ways does teacher training and development contribute to improvements in student learning outcomes? This question raises significant issues and questions for the DET in its evaluation of teacher professional development.

Correlating teacher and student learning

How to connect improvements in student learning outcomes to teacher learning, given the range and complexity of variables at play is the most important issue.

Since the 1970s there has been a gradual and irreversible move away from the "sausage factory" school that poured information into students and assessed their ability by testing the accuracy of information they could reproduce. Education today is founded on the principle that learning is an active and engaged process of constructing knowledge that focuses on thinking skills (Savery and Duffy (1995) in Hedberg (1999)). In this context, correlating the learning of teachers to the learning of their students is not a simple task. Simply measuring student achievements in literacy and associating these with school-based training and development in teaching of text types does not, for example, accurately reflect the quality of the learning, the relationship between teacher and learner or the underlying social conditions influencing them.

Identifying, using and analysing data

The second issue is how data is identified, used and analysed at the local level in schools and aggregated at a system level. This exposes a point of tension between the role of evaluation as an accountability mechanism and its position in informing program development and implementation. It also identifies the breadth of raw data available in schools and how they use this data when reflecting on achievement and evaluating effectiveness.

Systematic collection of cognitive and non-cognitive data as an integral component of ongoing program development and evaluation is increasing in NSW government schools. Recent systemic developments in school self-evaluation and the introduction of annual reporting requirements have created an environment where schools are taking more responsibility for their own performance and finding new ways of improving student outcomes in a world of more demanding standards (Jamieson, 1999). It is within this context that schools are being encouraged to collect evidence that explores the relationship between school improvement, teacher learning and student outcomes.

A further challenge arises at a system level when the findings are used to create a statewide picture. It is accepted that quantitative data can be more easily aggregated than qualitative data and it often occurs that case studies are not as widely valued as percentages and standard deviations. Creating an accurate picture of the subtle nature of learning and teaching on a statewide level without becoming reductive and simplistic is a significant task.

Integrating evaluation

The third issue is the integration of evaluation into training and development program design in order to provide an improved service and an authentic and meaningful analysis of effectiveness. Evaluation is often developed at the end of a program or as a response to changed reporting requirements. Similarly, it may be used solely to identify program outcomes (Owen, 1993) and not to interrogate the processes undertaken to plan and implement the program. Time is often cited as the main reason for not evaluating or for not establishing evaluation processes. The apparent enormity and complexity of evaluation in the educational environment is also quoted as a reason. It would appear that the key to unpacking this issue is analysing the focus in light of clearly described and achievable outcomes. Stallings (1989); Joyce & Showers (1988); and Fullan (1991) agree that effective staff development occurs when a singular innovation is implemented. So it could follow that integrating evaluation into training and development program design may be more manageable if the focus of the program and its intended outcomes are clearly articulated in achievable terms.

Communication findings and maintaining integrity

The fourth issue is communicating the research processes and their findings to other schools in the system in a form that is readily accepted and easily absorbed. Using teacher's language,

theories and experiences of teaching has been found to be more appropriate and in some ways more transferable to other classroom settings within the school (Fenstermacher) and in other schools. This does not imply that the processes are transferable as a package. The demise of the school effectiveness movement of the 1980s clearly showed that there is no guarantee that what works in one school will work in another.

Providing quality case studies, models and resources that encourage schools to undertake their own research and evaluation by developing approaches to suit local needs without "reinventing the wheel" is an issue commonly found in training and development and curriculum implementation. Maintaining the integrity of the studies and, in many cases, preserving the school's anonymity whilst recognising the ownership of the evaluation further complicate this issue.

Case Studies in Evaluating Training and Development Effectiveness

Specific research being undertaken by the DET addresses these issues. To investigate the relationship between teacher learning and student learning, the Training and Development Directorate initiated a four-year project in 1996 working with 26 schools to design and conduct inquiry into their own training and development practices.

The project is designed to provide information on the ways in which schools plan, implement and evaluate their training and development programs; school-level training and development strategies effective in changing teaching/learning practices; the links between the school's training and development program, its commitment to whole school improvement, teaching/learning initiatives and improved student learning outcomes; and the support needed by schools to collect, analyse and interpret information about their training and development programs.

The study uses four instruments to collect information: school-level action research, focus group interviews, a school-based research coordinator survey and statewide system surveys.

Case Study 1 - Maintaining student achievement from primary school to high school

Located in rural NSW on the southern highlands, a high school and its neighbouring primary school devised a collaborative investigation into maintaining and improving student writing between Year 6 (last year of primary schooling) and Years 7 and 8 (first two years of secondary education). Using a range of training and development strategies, including collaborative programming, inter-school visits and targeted training in teaching writing, teachers tracked the development of student writing skills over three years.

The schools employed student results from a statewide test administered in Years 7 and 8 and teacher observation and school-level assessment based on syllabus outcomes in Year 6 as part of their evaluation repertoire. These results were then compared with teacher journals and reflections on the training and development program in which they had participated. The schools indicated that using student data as an evaluation strategy provided a new dimension to their respective training and development programs.

Case Study 2 - Teacher networking and changes in teaching practice

Four rural schools elected to form a collegial group to research the value of networking teachers isolated by geography and the highly specialised learning needs of their students.

These teachers work with students whose moderate to severe physical and intellectual disabilities require particular and individual teaching and learning processes. Using computer-based technology and telephony these teachers established a network through which teaching practices and management strategies were exchanged.

Analysis of email content, learning journals and discussions through regular teleconferences combined with observations by senior staff and principals are indicating that the participants are expanding their teaching repertoire and becoming more comfortable with sharing ideas and requesting assistance.

The nature of the teaching and the abilities of the students have created unusual demands on the student data collection aspect of this particular research. Early findings indicate some unforeseen outcomes; for example, creating new inter-school networks for students using telecommunications.

Emerging Findings

The majority of the schools participating in the research report that it is difficult to draw a direct cause and effect relationship between teacher development programs, changed teacher behaviour and enhanced student learning and achievement. The correlation of training and development programs with improved student learning outcomes needs to be measured in ways that are authentic and that more accurately represent the complex nature of the relationship.

Developing skills in selecting and analysing data and understanding the breadth of available evaluation methodologies is a common need (Stafford, 1998).

Findings from completed case studies tend to corroborate the key findings of the literature review. Teacher development can be correlated to changes in classroom practice and enhanced

student learning when the school links whole-school improvement to those changes in teaching/learning practices that are necessary to enhance student learning and performance (Fullan, 1991; Scheerens, 1992; Creemers, 1994; Joyce & Showers, 1995; Hopkins, Beresford & West, 1998). Fullan (1994); Hargreaves (1995), Hopkins, West & Beresford (1995); and Hopkins, Beresford & West (1998) agree that school improvement also occurs when schools establish and sustain critical reflection at both school and classroom levels. This, too, is being supported by early reports from schools. Furthermore there is evidence that school improvement strategies can create the conditions for teachers to develop a discourse about, and a language for teaching (Fenstermacher, 1994; Hopkins, Beresford & West, 1998) especially when a staff development strategy is carefully designed to implement a singular innovation (Stallings, 1989; Joyce & Showers, 1988; Fullan, 1991). Finally there is evidence that implementation of a professional development initiative fosters the development and integration of a number of aspects of teacher effectiveness, such as technical skill and development, critical reflection, inquiry and collaboration (Fullan, Bennett & Rolheiser-Bennett, 1990; Fullan & Connelly, 1990; Webb, 1997).

Conclusion

Exposing what good teachers know intuitively, that is, that teacher professional learning does make a difference to student learning, is central to this evaluation. Replacing the "feeling" and "believing" that teachers use to describe the outcomes of their learning with "knowing" supported by systematically collected evidence is the next step.

It is essential to communicate the subtlety of the teacher-student relationship and avoid comparisons between schools whilst providing multiple avenues to share strategies and learning. It is equally important to make the results of public expenditure and teacher commitment clearly transparent to a wide range of audiences without reducing the outcomes to simplistic and meaningless measures and overlooking the demands made of schools in the 1990s.

By seeking to accurately describe the conditions that surround teacher professional development, assisting schools to be more selective when focusing their training and development on student learning needs and evolving strategies used to change teaching practice, the DET is changing the perceptions of workplace learning held by teachers. There is an emerging acceptance that the quality of teacher professional learning will be reflected in the continuous improvement in quality education for students in NSW government schools.

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