

## Sustaining professional development: rhetoric or reality?

Dr Jenny Poskitt      Massey University

Kerry Taylor        Private Consultant

Postal address      Graduate School of Education  
                                 College of Education  
                                 Massey University  
                                 Private Bag 11-222  
                                 Palmerston North

Phone                (06) 356 9099 ext 8635

email address for correspondence    [j.m.poskitt@massey.ac.nz](mailto:j.m.poskitt@massey.ac.nz) or  
[kerrytaylor@educationgroup.co.nz](mailto:kerrytaylor@educationgroup.co.nz)

Dr Jenny Poskitt is the Director of the Graduate School in the College of Education, Massey University, Palmerston North. Jenny can be contacted on [j.m.poskitt@massey.ac.nz](mailto:j.m.poskitt@massey.ac.nz). Kerry Taylor is a private educational consultant working in Auckland for The Education Group Ltd. Kerry can be contacted on [kerrytaylor@educationgroup.co.nz](mailto:kerrytaylor@educationgroup.co.nz)

The authors acknowledge research funding support from the Ministry of Education, without which this research would not be possible.

## ABSTRACT

Sustaining professional development (PD) is a challenge for schools due to unrelenting pressures for change, staff turnover and the high number of professional development opportunities available to schools creating pressure on schools to participate or 'miss out' on opportunities as they arise. This paper reports an exploratory case study of a sample of New Zealand schools, where professional development in assessment has been sustained up to five years since the initial development. Document and interview analysis reveals a number of key components that need to be in place in order to achieve educational sustainability: having an effective professional development model, understanding change processes, focusing on pedagogy (specifically teaching, learning and assessment), monitoring effects of professional development on teachers and students, recognising challenges, attending to theoretical and practical factors ensuring continuity, and resulting in efficacious and 'cutting edge' professional practice.

**KEYWORDS:** professional development, sustaining, New Zealand, assessment

## Sustaining professional development: rhetoric or reality?

### INTRODUCTION

Investing time and resources into professional development is based on the premise that an intervention will make an improvement and that the improvements will continue. Yet the implicit processes, that of change, improvement and sustainability, are complex and fraught with challenges. “Change in education is easy to propose, hard to implement, and extraordinarily difficult to sustain.” (Hargreaves & Fink, 2006, p.1) Social environments demand that professionals do more and more, embrace change and perform at higher levels with increasing levels of efficiency and effectiveness. Such demands cannot continue, indeed cannot be sustained, ad infinitum as they result in change-related chaos (continual states of upheaval), dissipation of effort and direction with compulsive obsession to “do everything”, ruthless competition, and movement away from key values. Maintaining key values is critical to sustaining development, but what is meant by sustainability?

The Collins Dictionary and Thesaurus defines sustain[able] as, “to hold up under; withstand; to maintain or prolong; to keep up the vitality or courage of.” While this definition seems a simple statement the application of the notion of sustainability in an educational setting is complex and problematic. For example, Burke, Elliott, Lucas and Stewart (1997, p.13) argue that “the notion of sustainable social development ... remains problematical... This is due to an inherent dilemma, namely that any intervention for change requires that an existing, relatively stable situation be thrown out of balance, but the change cannot be sustained if the professional situation is kept in constant turmoil.” There is a difficult tension between maintaining stability while being flexible and adaptive to change, or in other words, balancing the demands

between enabling and constraining conditions. Hargreaves and Fink (2006), argue that sustainability requires enrichment, preservation of richness and interconnectivity of all life and recognition that learning lies at the heart of high-quality life. Practitioners have a different perspective. For some participating schools in the current study, sustainability meant continuation of previously established practices, but continuity does not guarantee that the current or new practice is an improvement, that it has a positive effect on learning and teaching or that the school's capacity for renewal is enhanced. Providing insight, Hargreaves & Fink (2006, p. 17) define educational sustainability as, "improvement [that] preserves and develops deep learning for all that spreads and lasts, in ways that do no harm to and indeed create positive benefits for others around us, now and in the future." This paper develops the concept of sustainability further. In the authors' view, sustainability necessitates a process of questioning and reflecting on current knowledge and practice, ascertaining the value of current practices, monitoring the implementation of any changes, and the capacity to *adapt* practices to suit the culture of the organisation. Critical awareness of research and practices beyond the organisation is integral to the process of sustainability as effective, ongoing professional learning requires focus, coherence and resilience under pressure. This paper identifies key dimensions of professional development programme implementation that enables teacher learning to be sustained in schools.

## CONTEXT OF STUDY

The *Assess to Learn* (AToL) Professional Development Project is delivered across New Zealand by eight providers, including six Colleges of Education and two private providers. All providers have a director supported by a team of facilitators, some of

whom work part-time. Although there are some variations, the majority of participating schools respond to advertisements or invitations to be involved in the project and typically participate for two years. A range of schools are involved, covering the variables of decile, school size, rural and urban location, state and integrated, contributing and full primary, intermediate and secondary schools, albeit the highest proportion of schools are primary. The focus of the project is on professional development of teachers in assessment literacy, with four key outcomes, to: improve student learning and achievement; shift teachers' knowledge and assessment practice; develop coherence between assessment processes; practices and systems in classrooms and in schools so that they promote better learning; and demonstrate a culture of continuous school improvement.

## METHODOLOGY

AToL has been externally evaluated since 2003, using a combination of a responsive evaluative case study and action research design (Poskitt & Taylor, 2007). For this particular project on sustainability, a case study research design was utilised. A case study is an exploration of a bounded system, in which detailed data are collected. The case study was bounded by topic and time in that schools previously involved in an AToL contract were included. School lists from 2002 - 2005, previously supplied by AToL providers, were accessed. A purposive sampling technique was employed, ensuring a range of decile rating, regional location, school type, size and time since participation in AToL (i.e. from finishing in 2002 to end of 2005). A total of 36 primary schools chose to participate, including four schools per provider (previously nine providers). The context was exploration of sustainability of the project after the contract had ceased, with interest focused on the effects of the project across a range

of schools, so that the information could be used to illustrate the issue of sustainability; in effect an instrumental multi-sited case study (Creswell, 1998).

The main methodological tool used was that of expert interview, supported by document analysis; the preferred choice for several reasons. Given the pressures and demands on schools it was deemed least disruptive on principal or lead teacher time to use an interview schedule and likely to result in a higher response rate than a paper-based questionnaire. Secondly, an interview can be flexible to accommodate a variety of circumstances and yield deeper reflective response than a questionnaire, particularly when used in conjunction with document analysis. Guskey's (2002) study (as cited in Richards, 2005) argues that teachers' self-reports, supported by visits to the school and document analysis, are sources of potentially trustworthy information. An expert (either principal, member of senior management team or lead teacher) interview was required due to interest in effects on school-wide as well as classroom-based practices. Some flexibility was necessary as many schools had experienced changes in school personnel since involvement in AToL. Thirty of the interviews were conducted face-to-face on respective school sites, the remaining six of which were conducted by telephone due to timing and travel restrictions.

Content analysis of interview data, using a deductive approach, was conducted. Topic coding, labelling text according to its subject, and analytical coding (coding that leads to theory 'emergence' and theory affirmation) were used (Richards, 2005). Coding categories were derived predominantly from the data but also informed inductively from literature related to change management, professional development and leadership. Factors converged relating to continuation of professional development - a

process of developing ‘fuzzy generalisations’ for the emerging theory (Bassey, 1999). Bassey explains fuzzy generalisations as qualified generalisations that carry the idea of possibility but no certainty. To validate the emerging theory, the data were checked against negative theories. Popper (1963) argued the need for theoretical ideas to produce hypotheses that are falsifiable, that no theory can be proven but a single failure in the course of testing establishes its falsity. In the current study, where professional development was not sustained in schools, it became evident that ‘positive’ factors ensuring continuity were absent in these schools. For example, the presence of systematic documentation incorporated into appraisal systems was present (positive) in the schools where professional development was sustained, and non-existent in schools where development was not sustained. A similar pattern emerged with other factors discussed under the results section.

## RESULTS

Acknowledging that this is an exploratory study with limitations in sample size and research tools, there are nevertheless some tentative themes contributing towards understanding sustainable professional development: having an effective professional development (PD) model, focusing on pedagogy (specifically teaching, learning and assessment), understanding change processes, monitoring effects of PD on teachers and students, recognising challenges, attending to factors ensuring continuity and keeping up-to-date professionally. Each of these factors is discussed below.

### **Having an effective PD model**

What constitutes effective professional development and learning has been contested for many years as reflected in a range of transmission and training models. These

debates are acknowledged but in-depth discussion of them is beyond the scope of this paper. The challenge is in identifying professional learning opportunities that allow teachers to engage in effective teaching practices that result in raised achievement and student engagement in their learning. Timperley, Fung, Wilson and Barrar (2006) argue that any well constructed professional development experience should be designed to promote learning. While professional development has connotations of delivering some kind of information to teachers in order to influence practice, professional learning implies a more internal process through which individual teachers create and develop professional knowledge.

Speck and Knipe (2001, p. 4) succinctly define recent understanding of professional development, pertinent to discussion in this paper:

Professional development is a lifelong collaborative learning process that nourishes the growth of educators both as individuals and as team members to improve their skills and abilities. The focus of professional development must be on improving student learning. As fostered in a learner-centred environment, professional development is embedded in the daily work of educators; offers choices and levels of learning; builds on collaborative, shared knowledge; employs effective teaching and assessment strategies; expands teacher knowledge of learning and development and informs teacher's daily work. It is sustained and intensive, with opportunities for practice, collaborative application through problem-solving and action research, mastery, coaching and leadership. Professional development includes an evaluation of progress as it builds teacher and leadership capacity and as it affects student learning.

The elements identified by Speck and Knipe are incorporated, to varying degrees, in three broad types of PD model used in AToL. The most commonly used approach is referred to here as 'Model A'. Model A worked on a sequence of facilitator input through sharing of research and assessment practice in a staff meeting discussion, negotiation between facilitator and teachers of an aspect to trial in the classroom, teacher strategy implementation in the classroom, followed by another facilitator-led staff meeting/classroom visit in which teachers were observed (e.g., on learning intentions or success criteria) and provided with feedback from the facilitator. Typically at PD staff meetings teachers engaged in professional reading, sharing of practical ideas, trialled resources (e.g., layout of learning intentions/success criteria developed in other schools for adaptation by the implementing school) and future planning. The model is similar to that of Joyce and Showers (1995) which demonstrated the effectiveness of professional development practices that incorporated five elements: presentation of theory, demonstration, practice, feedback and follow-up coaching in classrooms.

'Model B' differed in being based on a lead teacher model where the facilitator worked with and through the principal and senior managers (each of whom were typically syndicate leaders). The facilitator's role was that of a coach to the lead teacher. This included training the lead teacher to carry out classroom observations and developing their own formative assessment practices so that they could then, in turn, support other teachers in the school. Each time the facilitator visited the school s/he visited a teacher from each syndicate so that s/he could provide each team with feedback, but this was more as a third party than as a party directly involved with the teaching staff. Professional readings were supplied to the lead assessment team who

read them, highlighted relevant sections for teachers and made recommendations as to which readings to share with the whole staff.

‘Model C’ (rarely used) involved collaboration and interaction between two facilitators (one leading AToL and the other leading another initiative such as literacy). The structure consisted of the facilitator working with the deputy principal and occasionally with the principal and with the other project facilitator (cross-collaboration); working with staff at staff meetings and occasionally in classrooms. There were less frequent visits in the second year because schools established the methodology in their schools and were virtually self-managing.

These models incorporated effective PD practice such as being adaptive to individual school culture (Poskitt, 2005), utilising effective coaching and mentoring practice (Joyce & Showers, 1995), focusing on what concerns teachers, combining professional research reading and practical strategies (Ingvarson, Meiers & Beavis, 2005), allocating time and resources to the development, and developing teacher collegiality through relevant professional discussions (Tollerico, 2005). Furthermore, the process of professional development enabled teachers the time, freedom and support from colleagues that is necessary for reflection on and developments in their practice, and provided them with practical strategies for the classroom (Lee, 2005). However, a key component of the models was the centrality of pedagogical improvement.

### **Focusing on pedagogy (teaching, learning and assessment)**

Black & Wiliam (2005) argue that talking about improving learning in classrooms is of high interest for teachers since it is central to their professional identities. Teachers want to be effective and to have a positive impact on student learning. “Our own review reported [24] studies all of which showed that innovations which include strengthening the practice of formative assessment produced significant, and often substantial, learning gains.” (Black& Wiliam, 2005, p.224) However, their research literature investigation showed *implementation* of formative assessment was limited, requiring changes in perception of the teacher’s role, students’ beliefs about themselves as learners and the learning process, the nature of the classroom dialogue (questions asked, responses given), feedback given in relation to reference (goal) and actual levels, and use of specific feedback to guide improvement. All of these elements impact on effective teacher use of formative assessment, particularly when teachers’ theoretical understanding of pedagogy and curriculum content is limited. A combination of theory and support in implementing practical strategies is essential for effective professional development, because improving educator’s knowledge and skills is a prerequisite to improved student performance (Speck & Knipe, 2001).

The AToL professional development programme focuses on improving student learning through the effective use of formative assessment in local school contexts and cultures. A particular focus is placed on specifying student learning goals, provision of feedback and the use of self and peer assessment within the context of specific curriculum areas (frequently written language). This process occurs alongside attention to teacher knowledge of assessment practices (inclusion of professional reading, reflection and critical discussion), deepening understanding of curriculum

content (through discussion and use of tools such as national curriculum exemplars and matrices, supplemented by professional reading) implementation of practice (observation of classroom practice), reflection on their practice (through analysis of teacher planning and classroom observational data, questioning and feedback from the facilitator), and formulation of individual professional plans in which specific strategies are identified for trial and implementation. Collection and analysis of student achievement data enables teachers to understand the need for change in their practice, to identify specific areas in need of attention and to co-construct with facilitators, strategies to address these needs.

Interviewees reflected on what had developed or had been sustained in the way of student learning and assessment practices since involvement in the AToL project, as the following extracts illustrate.

*“You would see children knowing what they are learning, why and where to go next (we had not reached that stage during the AToL project). The quality of their writing has really improved and children now think about words they are using in their writing.” (Principal 1)*

*“Using learning intentions and success criteria have helped student learning. Children have indicators written in their books and have next step learning there. Children can talk about what they are learning, why and where they are going. They have grown in assessing their own practice with support of the teacher, and children have increasingly taken responsibility for their own learning and assessment.” (Principals 2, 3, 4)*

### **Understanding change processes**

There is a vast literature on the processes and management of change, discussion of which is outside the scope of this paper. Nevertheless, there are some fundamental principles about the processes of change that are relevant to professional development and therefore mentioned here. Deep or meaningful change takes time, generally considerably longer than anticipated (Smith, Hofer, Gillespie, Solomon & Rowe,

2006; Guskey & Sparks, 1996). It takes time for people to become convinced of the need to change, the value of changing and to feel sufficiently safe to change. Fullan (1990) argued that there was an “implementation dip” when teachers tried new ideas before they fully understood it or integrated the practice into their teaching and such periods were ones of stress and anxiety for teachers. Furthermore, Senge, Kleiner, Roberts, Toss, Roth, & Smith, 1999 (p.250) argue that “learning, by definition, implies a willingness to be uncertain, and to figure things out as you go along.” Only in safety will people be willing to risk abandoning secure ways of doing things and learning new ways. A climate of trust and safety emerges when there are perceived opportunities for choice, openness, and sharing of responsibility. Effective professional development necessitates a prevailing culture of trust, collegiality and risk-taking; all within a climate of support (Smith et al., 2006). Change is not easy – “individual teacher change sometimes leads to new challenges unless teachers and administrators work together to discuss consistency of goals and curriculum across the programme” (Smith et al., 2006, p.23).

Principals and senior managers who were interviewed in this study provided the following reflective comments about the implementation of change:

*“You need a philosophy that staff change takes time. Take small steps. Be clear about the expectations and question whether it is what we want and communicate what is achieved. Teachers need to use their professional judgement. Don’t get rigid about new initiatives, move slowly and teachers will come on board. Develop a philosophy of issues being our problem and what we will do to solve it – not isolating the teacher with a problem. When things are down the teachers need to know the principal and Board of Trustees will support them and work through the issues.” (Principal 1)*

*“Teachers need time to share good practice and to talk about what is working. Celebrate successes. Timing has to be perfect to implement changes. AToL fitted well with changes to the NZ curriculum. Link the new initiative to something else to make the connections smoother. It is important to have release time. The principal released teachers to work on their ideas and gave teachers time to do it well, to talk and to finish things.” (Lead teacher 1)*

*“Successful implementation is dependent on the staff culture and the way the facilitator works. Teachers need to feel safe to try new things (whilst also giving some other teachers “a hurry along”). Subtle peer pressure is needed with teachers to implement the changes and if they have to report back at the next staff meeting they cannot avoid coming with samples of student work. It is a good strategy for those teachers who are tardy. It is easy to maintain momentum when people see value in the project. A formative assessment philosophy supports learning – it is such a sound theory. Another important component is developing a good relationship with the facilitator – helping to attune the facilitator to teachers who appear to agree but in the classroom do not put it into practice. Having a supportive facilitator helps the principal and gives the principal courage to persist with changes. The principal often loads the gun but takes the flack from teachers resisting change.” (Principal 25)*

### **Monitoring effects of professional development on teachers and students**

It is important to establish mechanisms for monitoring the effects of professional development on teachers and students for several reasons. Firstly, as Senge et al. (1999, p.47) state, “People’s enthusiasm and willingness to commit themselves naturally increase when they realize personal results from a change initiative; this in turn reinforces their investment and leads to further learning.”

Secondly, continuous improvement in schools must involve an ongoing cycle of inquiry that looks at data and the professional development programme to determine if progress is being made. Inquiry into what is working or not working in the PD programme encourages a process of ongoing feedback. Adjustments can be made to meet the needs of the teachers as they learn new skills and practice them in the classroom. Through the evaluation process, teachers learn to examine their teaching, reflect on practice, try new practices, and evaluate their results based on student achievement. (Speck & Knipe, 2001, p. 200).

Thirdly, assurance is needed that the time and effort devoted to trying new ways of operating are resulting in improved outcomes for students.

AToL schools that were monitoring effects of the professional development on teachers and students integrated the professional development into their school-wide data collection and analysis systems, included related teacher goals in their personal professional plans and appraisal systems (to ensure implementation), and supported these goals with curriculum folders, consistent classroom procedures, particular strategies and formats for reporting to parents, and creating student expectations in regard to assessment procedures and information. Such procedural techniques enabled principals to monitor changes, as indicated in the following interview extracts:

*“We saw increased effective teaching and learning (we compared samples of student work over time and the children could articulate how they got there); results from school-wide assessments and standardised tests showed increased achievement”. (Principal 21)*

*“We use the [national curriculum exemplar] matrix to report to the Board of Trustees and now have children operating at level three in writing (compared with no children operating at level three in 2002). We now have 16/117 children working above our expectations. The senior team have analysed deeper features in writing to focus their teaching and learning. We looked at the data and identified language features they needed to work on and have accordingly adjusted out planning and teaching”. (Principal 28)*

*“We have incorporated AToL into our appraisal systems to ensure that teachers keep focused on learning intentions and specific feedback. We incorporated learning intentions into all literacy, numeracy and topic areas and they are displayed on the whiteboard for children to view. Exemplars are used as an assessment method in each syndicate; all procedures, like highlighters and 2 stars/1 wish are used consistently throughout the school. We have provided more specific explanation to each parent and provided samples of work for them to view their child’s progress since the project.” (Lead Teacher 1)*

### **Recognising challenges**

Timing, pace and depth of change are dependent on receptivity to, and fertile conditions for, change as well as recognition of situational factors. The flexibility of the AToL project and its capacity to adapt to particular school conditions enabled it to

accommodate varying human needs and consequently to continue in most of the schools where researchers interviewed. For example, staff changes were experienced by many schools we visited, yet the majority of schools continued and renewed at least some AToL practices in their schools. Sustaining development was difficult however when the principal, lead teacher or sufficient proportions of staff left the school, particularly where documentation or systems were poorly developed. This was the case for a low proportion of schools, involved in AToL up to four years previously. In these schools the proportion of staff changes and curriculum demands were too great and they moved on to other projects.

*“Because the principal is the only person remaining at the school since the project finished, we have not continued much. The new teachers did not have ownership of AToL and we have focused our efforts on numeracy since then.” (Principal 16)*

Other challenges encountered related to a change of facilitator, ineffective relationship between the facilitator and principal or lead teacher, resistant staff culture, perceptions of work overload or perceptions of irrelevance of the project to teacher practice.

### **Attending to factors ensuring continuity and keeping up-to-date professionally**

Schools in which AToL continued, regardless of teacher turnover, had attended to staff culture and organisational systems. Folders of the curriculum development were distributed and could be referred to by all staff (particularly for sharing with new teachers to provide a background and rationale for existing practices), buddy systems’ whereby any teachers new to the school were paired with an ‘existing’ teacher who worked together to explain, model, observe and provide feedback about AToL, translation of AToL into other curriculum areas (many schools began with written language) but later incorporated formative assessment practices into areas such as

mathematics and topic work, periodic staff meetings where the focus was on AToL and sharing of teacher practice of continued development (particularly successful when utilising a ‘walk-around meeting’ – where the whole staff walk around each classroom and the teacher briefly shows and explains an aspect s/he has incorporated into the classroom programme). This ‘walk-around meeting’ process acknowledges ongoing efforts of staff and enables sharing of ideas and strategies as well as development of consistent practice in the school. Periodic communication with the facilitator or ‘cluster’ schools who were involved in the AToL project enabled a focus to be maintained and provision for sharing new ideas. Finally, following AToL with another professional development project to consolidate the principles of formative assessment contributed to sustainability. For example, many of the schools moved into the Information and Communication Technology (ICT) or literacy contract and found the continuity beneficial in terms of the focus on effective learning and teaching strategies

*“We have translated that learning into numeracy since that period, and with being in the ICT contract, all our records are now digitised into MUSAC Student Manager, using asTTle, PATs, and we triangulate the data. Classroom Manager was set up to answer questions we want answered and it is the source of information from which we write reports and allocate student rewards. We now have a one way report, evidence-based portfolios, three-way conferencing and are now working towards an integrated curriculum.” (Principal 15)*

*“School-wide, we have used AToL practices in all we do. Learning intentions are used in each curriculum area even though in the contract we did it only in specific language areas. I could see and hear teachers translating the principles to other curriculum areas. Through the school newsletter we outlined to the community how classroom practice was altering. We encouraged parents to ask their children what feedback they got from the teacher and what personally they were learning to do better. At the interviews we showed parents the assessment sheets (very detailed learning intentions and success criteria and children showed how their work met those goals.” (Principal 14)*

*“We reported to the BOT each year on our professional development in AToL and shared a powerpoint presentation with parents to inform them of changes in our assessment procedures. We informed them about the purpose and use of highlighters*

*on children's work, the greater emphasis on oral than written feedback to children and the feedback that we sought from parents about their children's work." (Lead teacher 1)*

*"We developed Curriculum Delivery Folders that explain and provide examples of expectations of learning intentions, success criteria and specific feedback for new teachers. Modelling by teachers such as sharing good examples of planning and what doing in classroom at our 'walk and talk' staff meetings when we walk around the classrooms for sharing time also helped new staff. Our intention in term 3 is to have all teachers using 2-3 strategies in the classroom – pick up ideas from other teachers and by term 4 all teachers will be using multiple strategies in AToL." (Principal 29)*

## IMPLICATIONS FOR SUSTAINING PROFESSIONAL DEVELOPMENT PROJECTS IN SCHOOLS

There are various interpretations and understandings in relation to sustaining change. Sustaining change assumes that change is embedded, yet many writers argue that deep change takes considerable time to embed (for example, Guskey & Sparks, 1996; Senge et al., 1999), a range of attributes need to be acquired, such as new knowledge, skills, attitudes and dispositions; and organisational culture, structures and processes need to evolve to support the changes otherwise people tend to revert to former ways of operating. Furthermore, to ensure the changes are sustained, conscious efforts are required to not only keep the new ways going but also to respond appropriately to stimulus to keep adapting. If an organisation continues the newly acquired practices in a rigid manner, then all the organisation has achieved is the adoption of another way of operating, without developing a culture of continuous improvement. Only in cultures of continuous improvement can deep, sustaining change occur. Further research is required to "test" the applicability of the proposed approach to sustainability, for example schools involved in other professional development initiatives such as curriculum-based projects, schools where their approach is school-based and not supported by external funding and in countries beyond New Zealand.

Nevertheless, from this exploratory study of New Zealand schools, it appears that sustainability of professional development in schools requires a coherent approach that uses an effective professional development model, focuses on pedagogy (teaching, learning, assessment), understands change processes, monitors effects of PD on teachers and students, recognises challenges, and attends to theoretical and practical factors contributing to continuity and keeping up-to-date professionally.

## References

- Bassey, M. (1999). *Case study research in educational settings*. Buckingham: Open University Press.
- Black, P. & Wiliam, D. (2005). Changing teaching through formative assessment: research and practice. The King's-Medway-Oxfordshire formative assessment project. (p.223-237) In *Formative assessment: improving learning in secondary classrooms*. Centre for Educational Research and Innovation. Paris: OECD Publication
- Burke, C., Elliott, R., Lucas, K., & D., Stewart. (1997) *Lessons for sustainable professional development. A model from a teacher education project in Papua New Guinea*. Canberra: Australian Agency for International Development.
- Creswell, J. (1998). *Qualitative inquiry and research design. Choosing among five traditions*. Thousand Oaks, CA: SAGE Publications Ltd.
- Fullan, M. (2005). *Leadership and sustainability: system thinkers in action*. Thousand Oaks, CA: Corwin Press
- Fullan, M.G. (1990). Staff development, innovation and institutional development. In B. Joyce(Ed.), *Changing school culture through staff development* (p.3-25). Alexandria, VA: Association for Supervision and Curriculum Development.
- Guskey, T.R., & Sparks, D. (1996). Exploring the relationship between staff

- development and improvements in student learning. *Journal of Staff Development, 17 (4)*, 34-38.
- Hargreaves, A., & Fink, D. (2006) *Sustainable leadership*. San Francisco: Jossey-Bass
- Ingvarson, L., Meiers, M., & Beavis, A. (2005). Factors affecting the impact of professional development programs on teachers' knowledge, practice, student outcomes & efficacy. *Education Policy Analysis Archives, 13 (10)*, 1-20.
- Jackson, D. (2000). *Becoming dynamic. Creating and sustaining the dynamic organisation*. New York: St Martin's Press.
- Joyce, B., & Showers, B. (1995). *Student achievement through staff development* (2<sup>nd</sup> ed.). White Plains, NY: Longman.
- Lee, C. & Wiliam, D. (2005). Studying changes in the practice of two teachers. *Teacher Development, 9 (2)*, 265-283.
- McLeod, W. (Ed.). (1987). *The new Collins dictionary and thesaurus in one volume*. Glasgow: William Collins Sons & Co Ltd.
- Popper, K. (1963). *Conjectures and refutations*. London: Routledge & Kegan Paul.
- Poskitt, J. (2005) Towards a model of New Zealand school-based teacher professional development. *Teachers' Work Journal Vol 2, Issue 2*, page 136-151
- Poskitt, J., & Taylor, K. (2007). *Evaluation of Assess to Learn professional development end of year report*. Palmerston North, New Zealand: Massey University
- Richards, L. (2005). *Handling qualitative data: a practical guide*. London: SAGE Publications Ltd.
- Senge, P., Kleiner, A., Roberts, C., Ross, R., Roth, G., & Smith, B. (1999). *The dance of change. The challenges of sustaining momentum in learning organisations*. New York: Doubleday.
- Speck, M., & Knipe, C. (2001). *Why can't we get it right? Professional development*

*in our schools*. Thousand Oaks, California: Corwin Press, Inc.

Smith, C., Hofer, J., Gillespie, M., Solomon, M., & Rowe, K. (2006). How teachers change: a study of professional development in adult education. In P.R. Villa (Ed.), *Teacher Change and Development* (pp.11-155). New York: Nova Science Publishers, Inc.

Timperley, H., Fung, I., Wilson, A., & Barrar, H. (2006) Professional learning and development: a best evidence synthesis of impact on student outcomes. Paper presented to the annual meeting of the American Educational Research Association, San Francisco, California. April, 2006.

Tollerico, M. (2005) *Supporting and sustaining teachers' professional development. A principal's guide*. Thousand Oaks, California: Corwin Press