Teachers as Researchers: The impact of a partnership innovation

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Abstract

Over the last several decades the professional context within schools has changed (Hargreaves and Fullan 2012) compelling employers to provide professional learning and development programs that assist the school workforce to adjust accordingly (Leithwood 2006, Schleicher 2012). This paper provides a summary of an evaluation study that investigated the impact an innovative professional learning program had on teachers, the workplace and the state education system.

Montes, Moreno et al. (2005) found that workplace innovation supported by leadership and underpinned by teamwork promotes organisational learning and performance. Furthermore, organisational learning not only has the capacity to promote positive performance it can also lead to increased organisational innovation (Jiménez-Jiménez and Sanz-Valle 2011).

This paper refers to an innovative organisational learning and development program that was produced through an existing partnership between state schools, an education authority and a university (Ingvarson 2005, Allen, Butler-Mader et al. 2010). The program was designed to assist the education authority achieve its strategic objectives through the development of an agile and capable workforce. This aim, in turn, necessitated a change in the existing rationale and delivery of the learning and development programs delivered by that organisation.

Introduction

> 'I really embraced the opportunity to shape my learning to suit my
> professional context. It greatly enhanced my performance and growth'.
> MLM Graduate.

A partnership between the Queensland State Government's Education Department and an Australian university gave birth to the Noosa-Hub's *Master of Learning Management* (MLM). This post graduate coursework qualification was specifically designed to enhance workforce capability as a strategy to assist Education Queensland (EQ) achieve its strategic objectives (EQ 2000).

The MLM emerged from the enterprise that created the Bachelor of Learning Management (Smith 2003, Ingvarson 2005). Student intake commenced in March 2000 and by August 2006 an EQ commissioned evaluation into the Noosa Hub's MLM was completed. This paper is a summary of that unpublished evaluation (Sell 2006).

The study's main question aimed at evaluating how the MLM assisted in the development of EQ's workforce capability as perceived by MLM graduates, their learning managers and their workplace supervisors (mainly school principals).

The Context: A Changing world

The move from an emphasis on industrialisation towards knowledge production, as the means of creating economic wealth and social cohesion, has changed the professional context in schools (Smith 2003). In today's society an unprecedented growth in scientific knowledge has precipitated a technological revolution (Postman 1999) meaning schools are now facing new challenges (Carey 1999, Edgar 1999, Lamb 1999, EQ 2000, Van Yoder 2002). Prior to the advent of this recent technological revolution, as we know and feel it today, the concept of competence was the cornerstone of education policy (Lokan 2006).Yet research suggests, if schools are to be effective in this changing world, competency needs to be accompanied by expert skills and capability (Gibbons 1994, Bentley 1998, Seltzer 1999, ILO 2001, Hattie 2003).

Stephenson (1999) proposes competence alone is not enough. He claims:

'Competence is about delivering the present, based on past performances; capability is about imagining the future and bringing it about. Competence is about control; capability is about learning and development. Competence is about fitness for (usually other people's) purpose; capability is also about judging fitness of the purpose (p. 3)'.

In response to the shifting professional context in schools, EQ outlined a strategy to build workforce capability to deliver its reforms (EQ 2000). This strategy relied on the ability of the workforce to supplement competence with new knowledge and enabling skills (Hargreaves 1998, OECD 2000, Sparks 2004).

The Mode 1 Learning and Development programs of universities, designed under the competency policy and characterised by hegemonic expert to novice pedagogy and knowledge replication, are costly and ineffective (Newman 1992, Guskey 1995, Hargreaves 1995, Lieberman 1996, Wilson 1999, McRae 2000) . This point was not lost on the Australian Council of Deans of Education when they noted:

'In an era of rapid change, the need to promote autonomous learning is paramount… . Life-wide learning recognises the need for much greater flexibility and diversity of educational experiences; learning should occur… outside of Mode-1 learning institutions (Cope, 2000 p.4)'.

In 2000, the contribution by universities into teacher in-service learning and development in Australia was negligible. Only 7% of teachers had completed a master's qualification and a meagre 11.3% of teacher in-service programs were provided by universities (McRae 2000). Accordingly, for Australian universities to effectively participate in the in-service professional learning and development of teachers, innovation is required.

In comparison to Mode 1 programs, the literature shows that Mode-2 learning is likely to produce life wide learning and socially robust knowledge. Mode-2 knowledge is relational, interdependent and generated in the context of application through active engagement and negotiation (Gibbons 1994, Gibbons 2001, Nowotny 2003). Therefore, the methodology of Mode-2 knowledge production provides guidance for universities and education authorities to collaborate and build teacher in-service learning and development programs in partnership.

The Master of Learning Management as delivered through the Noosa Hub

> 'Change does not occur because someone has information about the change; change occurs because individuals think about the change in terms of what they already know and do. If we really want to support educational change we must therefore rethink the meaning and process of professional learning (Hannay 2004).'

In October 2001, EQ and an Australian university initiated a forum where representatives from education, health and local government conceptualised a postgraduate qualification to assist EQ's reform efforts (Sell 2001). The forum put forward the notion that professional learning and development are valuable when embedded in the learner's context and connected to the realities of everyday work. Supporting this view, Ingvarson (2003) reports that effective professional learning and development allows the participant to reflect on their practice, identify areas for development and test new practices.

The forum also proposed that teacher in-service learning and development programs must engender in its participants high levels of professionalism, sustained intellectual work and shared ownership of the reforms. It added that the program must account for the autonomous nature of learning and the prior skills and knowledge of the participant. Later, EQ (EQ 2004) identified "unlocking the skills of the workforce" as a key strategy to achieving its 2010 objectives.

The forum acknowledged how a university qualification provides recognition and has the capacity to raise professional standards; yet EQ employees are not likely to pursue a formal qualification because of at least two factors. First the university Mode 1 learning programs do not meet teacher needs and second there is no systemic incentive to continue formal study.

The forum concluded that a post graduate program based on a Mode 2 learning model is needed but warned it is likely to attract some criticisms regarding its intellectual rigour from vested interests within universities.

The Program
Key concepts and structure

The MLM, as a Mode 2 learning program, is underpinned by five key concepts (as outline below) and was designed to satisfied the requirements of the Australian Qualifications Framework (AQF; 1998).

Learner as unifying element

The learner as the unifying element is underpinned by the concepts of 'learner autonomy' and 'the learner as the mediator of the learning experiences'. Learner autonomy is when the learner takes responsibility for the decisions related to the 'purpose, direction and content of the learning' (Stephenson 1999). In the MLM, the graduate mediates the course of learning in collaboration with the learning manager (Smith 2003).

Industry partnership

When building an industry partnership, Stephenson (1999) suggests the parties consider:

> '… *the autonomous development of the learner is the unifying element, with the university supporting the learner's self-expressed development in the context of the employer's business. (p. 10).*

If industry partnerships are to be sustained then they need to balance and account for the institutionalised norms, perspectives and interests of each partner. (Goodlad 1988). Lynch, 2012; Lynch and Smith, 2012; Lynch and Smith, 2013; Lynch (2002) pronounces that in an education partnership the university's role is to provide: supervision and mentoring; access to research and an opportunity for accreditation, while the school system employer provides: the opportunity for contextualised learning; access to resources and access to learning networks.

Where similarities in practice overlap spaces for collaboration emerge (Slater 1995). In the MLM, the partnership assists teachers to become researchers allowing for both action and reflection. Creswell (2002) notes that teachers as researchers fill knowledge gaps, expand and test new knowledge in context and have the capacity to add new voices to the research. The MLM provides a space for collaboration between the partners where the perspectives of 'action' and 'reflection' are equally valued.

Co-active pedagogy

Co-active pedagogy is the antithesis of the pedagogy used in Mode 1 learning programs. By valuing the perspectives of action and reflection, it supports a pedagogy where the curiosity of object knowledge drives the learning dialogue in a quest to better comprehend the relationship between theory and practice (Freire 1970).

In other words, it is a pedagogy that is orientated by an interdependent, reciprocal and anticipatory learning relationship where the association between the learning manager (supervisor) and the learner (graduate) is characterised by:

- collaboration in the design of the course of study

- a mutual understanding of where the learning is going and why

- a joint responsibility to ensure the learning is intellectually rigorous

- shared judgements about the quality of the learning that is a true reflection the learner's achievement

Professional learning process

The MLM's professional learning process consists of three interrelated phases.

The contextual profile is the foundational and orientational learning phase in the MLM. Here the learner develops a deep understanding of the contextual features within their work place. This phase informs the design and performance phase. This second phase is where knowledge production and skill aAuisition becomes the learning focus. Here the aim is to develop new knowledge and understanding that is able to be transferred into action. In the final phase the learner, in collaboration with the learning manager, evaluates and reports on the production of new knowledge in action. Here the leaner is required to demonstrate the effectiveness, or otherwise, of transferring new knowledge into action in the workplace.

Professional learning in context

The MLM aims for the graduate to develop the confidence to use their learning in response to the changing workplace circumstances and to perform effectively under conditions of uncertainty. By using the MLM to formulate solutions to workplace problems, the graduate is expected to share ideas and learn with others. The MLM graduate is also expected to reflect on how their learning supported a change in their performance and the performance of others in the

workplace. The MLM is designed to enhance the learner's knowledge and understanding of how learning contributes and assists organisational change.

Purpose, Aim and Scope of the Evaluation

The purpose of this study is to evaluate the MLM in terms of its effectiveness to assist EQ to develop teacher capability.

Therefore the main research question was:

> Does the MLM, organised as a partnership with the education industry and underpinned by a "co-active pedagogical methodology" and a "professional learning framework," assist in the development of EQ's workforce capability?

The general aim of the study was to investigate and evaluate the impacts the MLM, as an innovative in-service professional development program, has had on building teacher capability to assist EQ in achieving its 2010 objectives.

The scope of the study was concerned with the merit of the MLM program for its first three years: 2002; 2003 and 2004.

Methodology

Sampling

Three categories of respondents took part in the study: graduates; learning managers and workplace supervisors from a diversity of EQ workplaces including schools, special education units and district offices. Respondents held positions as classroom teachers, school leaders or education advisors attached to schools. Their respective participation was:

    I. *MLM Graduates*: 21 EQ respondents (50%) of a population of 42
    II. *MLM Learning managers*: 5 respondents (50%) of a population of 10 EQ learning managers
    III. *Workspace supervisors*: 5 respondents (27.7%) of a population of 18 EQ workplace supervisors

Methods

Such a small population does not lend itself to the use of statistically testable analysis therefore a qualitative approach was chosen for gathering and analysing data. By using interpretative methods of inquiry (Bevir and Rhodes 2002, Denzin 2002), richer information was expected than using a primarily descriptive study.

Two main methods of inquiry were used: depth interviews and a survey by questionnaire. The interviews targeted each respondent category with a self-administered questionnaire sent to participants unable to be interviewed. The same questions, if worded differently, were put to each category of the sample to permit triangulation and thus allowing for key findings to be confirmed.

Design and Instruments

Prior to designing and administering the evaluation, a focus group was convened to discuss the nature and purpose of the study. Representatives from EQ and AU were asked to examine their perceptions of the impact the MLM study had on the graduates and their workplace. An analysis of the focus group data guided the framing of the interview schedule and questions.

A pilot study was then administered in each of the three respondent groups to confirm the ability of the questions to be understood in order to test for the type of information sought to meet the study's purposes. The pilot confirmed the effectiveness of the instruments and all pilot responses were included in the analysis.

The questions in both the interviews and the self-administered questionnaire were designed to collect data about the program's structure, workplace conditions, graduate motivation and workplace performance.

To ensure structural consistency in the collection of information an interview schedule was designed listing the significant questions for the interview and a self-administered questionnaire. The interviews and questionnaire were administered at the end of the 2004 school year. The interview schedule and the questionnaire were designed to include questions capable of measurement (Holstein 1997). In most cases, a Likert scale was used to help rate responses.

Analysis

Analysis

All interviews and written postal responses were transcribed for analysis with the most common themes identified and coded and then grouped by coded terms. Triangulation comparing the perspectives of the graduates, learning managers and workplace supervisors about the program was used to identify commonalities and discrepancies among respondents, and to check for significant contradictions.

Conceptual framework

The evaluation's conceptual framework is based on a review of the literature regarding the characteristics of capability (Stephenson 1999) and effective professional development programs (Guskey 1995, Hargreaves 1995, Hawley W. D. 1999, Supovitz 2001, Ingvarson 2003). Thus this evaluation is primarily concerned with understanding the relationship between the MLM program processes, mediating influences and the impact on workplace practices in relation to promoting teacher learning, knowledge and practice (Ingvarson 2003).

Limitations

This evaluation should be considered in light of limitations embedded in it. The findings and the implications of this study are restricted by the author's own perceptions, past experiences and knowledge of the MLM in theory and practice. As a key initiator of the Noosa Hub's MLM, and therefore likely to be known to some respondents, responses may have been inhibited. However, the study design included strategies to augment the reliability, validity and trustworthiness of the data and analysis.

The strength of interpretive research is the rich descriptive data that emerges. In order to obtain this richness of description it was necessary to limit the study to a small sample of participants. Consequently, the size of the "sample" and the extent to which findings can be generalised is limited.

Not including students who had enrolled but had not completed the MLM in the evaluation limited the study's capacity to examine the perceptions of all students associated with the program. Finally, the strength of the findings related to assisting student outcomes requires a deeper investigation to augment their validity.

Findings

Significant themes

In the analysis, five significant themes emerged. These related to:

- learner autonomy

- learning and teacher professionalism

- workplace learning assisting the delivery of EQ's 2010 strategic objectives

- learning that assists the improvement of student outcomes

- professional learning through industry partnership

There were issues of a second order significance related to the program's delivery, its costs, the administrative operations and perceptions of credibility and acceptance.

Learner Autonomy

All graduates considered learner autonomy as the principal reason for selecting the MLM. Links between learner autonomy, the relevance of the learning and teacher motivation were found. By far the majority of graduates believed the capacity to make their learning relevant to their professional working life was important. Statements like 'I wanted to do study in my own way - relevant to where I was at' and '(M)my focus ended up changing, so it was very important to be able to make my own choices' typified the general sentiment of graduates regarding the importance of learner autonomy and the relevance of learning. Graduates were able to target their learning to their workplace and their own learning needs. One graduate commented 'that my post-grad work tied directly into my work, i.e., had purpose, meaning and relevance'.

In terms of the links between learner autonomy, relevance of the learning and motivation to keep learning another graduate said, 'it (learner autonomy) did keep interest going when times were tough' and I 'wouldn't have stuck with the study if it didn't have relevance to where I am right now'. While another graduate, observed: '… (I) needed to ensure that my post - grad work tied directly into my work – that is, have purpose, meaning and relevance. I am a mother of three young boys and work fulltime in a leadership role … there are only so many hours in a day'.

When comparing the MLM to other forms of study the majority of graduates felt relevance and learner autonomy were two important differentiators: One commented, 'Yes (choice was important), because so much of current professional development work is a waste of time. Usually with little follow-up,' while another explained that they 'had tried a coursework Masters degree (M Ed) and found that the specified subjects did not all contribute to my workplace and the issues I was facing there'.

However, not all shared the enthusiasm for learner autonomy at first. For a few graduates the MLM program presented problems in the initial stages. Their concerns are best summed up as: 'frightening at the beginning'; in 'need (of) more direction at the start'; and 'I would have been happier with a prescriptive course in the initial stages' and although learner autonomy 'made the study easier … self-tailoring a course could mean you miss out on aspects that are important'.

Learning and Teacher Professionalism

Drawing from EQ's Professional Standards for Teachers Framework (EQ 2005) this evaluation defines the professional teacher as one who has the ability to: personalise professional learning; extend their intellectual acumen; apply new knowledge and collaborate with and lead peers to facilitate change.

All three groups of respondents indicated that the MLM effectively promoted attributes linked to teacher professionalism in the graduate. Interestingly, learning managers and workplace supervisors noticed greater professional growth than the graduates themselves. However, most graduates indicated they had gained confidence in acting as professionals as indicated by these comments: 'I … value myself more as a professional educator' and 'teachers can be seen as professional learners while still working in the classroom'.

Graduates identified that they had developed and/or enhanced their research, communication and interpersonal skills to influence others in the workplace. One workplace supervisor noted that as a result of a staff member completing the MLM, the school has 'made a huge step forward in areas of staff professionalism and staff attitudes towards change.'

One graduate specified that they 'wanted the MLM to benefit them personally and make them a better teacher' and another felt they were professionally 'doing a much better job- continually

checking with new reading, checking websites, etc'. Comments like: 'I know now how to research … where to go for the information and how to best utilize it to my advantage', and 'the MLM enabled me to target my research to my workplace and to my own learning needs' showed the MLM assisted graduates to use research to inform workplace solutions.

Most graduates understood how the skill of 'critical analysis' and 'critical thinking and data analyses' enhanced learning and lead to changes in performance. A learning manager noted the graduate accepted 'that critical analysis leads to effective practices' while another commented on how the graduate's professional learning within the school, had '…. put her (the graduate) in a position to be a very knowledgeable presenter when it came to talking about the new maths syllabus'.

To the majority of graduates their MLM study 'had to be useful - not just to me but to other people' The MLM allowed them 'to share benefits (of learning) with colleagues'. The graduates' willingness to share knowledge with colleagues was supported by workplace supervisors with one describing how a graduate influenced change in the workplace by providing 'a futures perspective and a research base orientation that is then passed on to the rest (staff). Our whole school looks at things in a different way'. Another stated the 'MLM became a practical, usable concept which provided lasting long term benefits for the individual and school'. While another initially believed 'the student took this on just to have a Masters -- but now I believe it has been more about improving his own learning and that of others around him'.

The MLM's capacity to engender ownership of workplace reform is best summed up this way by one workplace supervisor:

> '12 months ago we would have looked around for another school for a
> good spelling program and said right this is it. As a result of the MLM
> we had a pilot group that did all the research and at different stages we
> then brought everybody on board and people who came in just at the
> end are totally committed to it because we believe it can't be argued
> against. We are really confident we have now got the best approach to
> spelling based on what the research says and what serves the kids best.
> It was done in a way that everybody on staff was brought on board.

By requiring the graduate to enact new knowledge in the work place, the MLM distributed the sharing of leadership roles in the work place (Spillane 2001). Learning managers and workplace supervisors rated the graduates' capacity to influence workplace solutions higher than did the graduates themselves.

Workplace learning assisting the delivery of EQ's 2010 strategic objectives

All three respondent groups noted that the MLM learning process assisted the formulation of workplace solutions and programs linked to the 2010 objectives. One workplace supervisor, when speaking of the 8 MLM graduates studying at one school, summed up how the MLM assisted that school in achieving the 2010 objectives because:

> 'Each (graduate) chose to study within the programs each manages and these, in turn, are the systems we need to address'.

Furthermore, a link between EQ's objectives and the graduates' learning was realised through their study that included areas related to literacy; numeracy; curriculum planning; middle phase of learning; teacher professional standards; teacher mentoring to improve pedagogy; higher-order-thinking strategies for teachers; the interdependent nature of child learning; better ways to work with autism; visual-arts; language aAuisition and assisting school leaders with their strategic planning.

One learning manager pointed out that the 'nature of the (MLM) pedagogy, assessment and course content requires problem solving' with the majority of workplace supervisors and learning managers reporting that the graduates used a research approach to find shared solutions to workplace problems. Examples include one graduate using 'a research based approach' to underpin professional discussion in 'the regular professional development and planning meetings' while another was observed 'researching and formulating a strategy' and then putting 'the strategy into action'.

Learning that assists the Improvement of Student Outcomes

All graduates, except one, identified that their learning had an influence on student outcomes with one workplace supervisor observing that the MLM allowed graduates 'to focus on the areas of school management that impact on student outcomes'.

The findings that MLM had, in some capacity, supported an improvement in student outcomes were supported when a learning manager noted that 'data collection was (sic) used extensively by one graduate to substantiate improved outcomes' with another commenting that 'quantitative and qualitative data were used as a basis for graduates' judgement on improved learning outcomes'. The data used by graduates to formulate their conclusions about student outcomes included anecdotal records, peer validation, test results, benchmarks, reports, interviews, professional feedback, and observations of professional conversations.

Two workplace supervisors noted that, as a direct result of a graduate's MLM study, measurable improvements in student outcomes had occurred in spelling and numeracy; and in literacy respectively.

Professional Learning in Partnership

Overall, all three respondent groups saw that the partnership between EQ and AU had some benefit for each partner with one learning manager indicating that, 'graduates were able to forge a relationship between their studies and place of employment.'

The partnerships forged between the graduates and their learning manager; and the graduates and their workplace supervisors and peers were highly valued by the majority of respondents. The graduates noted the strengths of the partnership between themselves and learning manager as: 'accessibility; our learning manager was a principal, so understood our situation and sometimes came to us at school.'

Conversely, one graduate raised concern with having a 'learning manager too close to their context because they (the graduates) may not be exposed to different ways of thinking and new knowledge, and were therefore likely to be less critical'. On the other hand one graduate believed 'EQ was giving the whole degree more credibility.'

One strength of the partnership was the creation of a network of learning managers in schools with one learning manager noting: 'Both (EQ and AU) should be clear that over time - say 5 years - the MLM will significantly enhance the workforce capability.' But for this partnership to be sustained and grow one workplace supervisor stated that universities needed to 'come and

talk to those directly involved and find out exactly what is required' while another suggested 'universities need to listen'.

On balance, the MLM accounted for the perspectives of the partners (EQ, AU and schools) and in general the participants made more positive than negative comments about the nature and usefulness of the partnerships however, approximately half the graduates found the partnership inadequate in relation to the MLM's administration.

Secondary themes

From the analysis four secondary themes can be inferred. These were the contextual features affecting program delivery, the administrative operations and credibility and acceptance.

It was noted that the pedagogical, interpretative and leadership abilities of the learning manager impacted on the delivery of the program. Although a few graduates felt more structure would have been useful the majority appreciated the flexibility in terms of setting completion dates for assignments, adjusting the workload to suit circumstances and the ability to choose subjects of their interest. The majority of graduates, learning managers and workplace supervisors indicated, throughout the study, that the learning process, with its flexibility and self-direction, was important to effective delivery and completion of the program. Of particular note was 'the individual practical application of the course - it had direct benefits.'

Whilst not a major concern, a small minority of graduates, learning managers and workplace supervisors flagged the possible perception that the MLM did not have the rigour associated with the traditional post graduate qualification which may impact on its credibility. In contrast, one graduate noted, the influence of peer collaboration and of the learning process inherent in the MLM heightened its credibility. Another graduate pointed out that the 'partnership was good; as EQ was giving the whole degree more credibility (by) accepting that this was a worthwhile thing to do.' And another graduate noted that the 'establishment of a network of learning managers (in schools) would enhance credibility'.

Conclusions

This evaluation investigated whether, and in what way, the Noosa Hub's MLM program assisted EQ's to develop workforce capability. In doing so, it explored the perceptions of the participants regarding how the MLM assisted in building teacher professionalism and capability.

This evaluation is important because it provides insight into how a Mode 2 professional learning program, conceptualised and implemented through an industry partnership, impacted on the individual and collective capacity within the workplace. This evaluation is timely as it contributes to the discourse on teacher professionalism and development, continuous professional learning and school leadership.

On balance it is reasonable to conclude that the graduate had developed a heightened sense of professionalism as a result of completing the MLM and that the MLM had a constructive influence in assisting leaders to implement changes in their workplace.

A positive and in some ways unexpected outcome of the MLM was the development of distributed leadership in schools. The MLM learning process enabled graduates to collaborate with and lead peers in professional learning that, in turn, strengthened the knowledge base at the school to support programs designed to meet local and systemic imperatives. When the workplace supervisors and learning managers were engaged in the graduate's learning process they shared the responsibility of designing and implementing reform strategies. This collective responsibility led to greater individual and collective ownership of the reforms.

Noticeably, the MLM played a part in revitalizing the graduates' perspective about learning and its relationship to assisting in the change process. The MLM intuitively guided the graduates towards becoming researchers. Because teachers are driven by a concern to fix something straightaway there is an immediacy that underpins their research methodology compared to their contemporaries in universities. MLM research that fills knowledge gaps relevant to a localised context and circumstance in the work place is no less authentic or valuable. This means MLM type research has a place in universities if they accept that knowledge developed through industry partnerships is both legitimate and informative.

Because collaboration within the MLM supports organisational learning the opportunities to develop innovative programs and practices emerge. When supported by leadership and

teamwork, school based innovations have the capacity to change individual and collective performance. In turn, the collective capacity of the workplace is enhanced as the graduate's capability for professional leadership grows.

Overall, it is rational to conclude that the MLM assisted EQ in its endeavours to build workforce capability.

Recommendations

The foundations making the MLM at Noosa Hub unique, innovative and effective provide an example for all educational authorities with a viable means to create localised professional learning and development programs for its workforce to assist in enacting reforms. If another authority was to facilitate a Mode 2 learning program in partnership the following recommendations may be inferred from the evaluation.

It is recommended that in partnership the education authority:

➢ educate respective personnel involved in workforce professional learning and development about the capacity of the Noosa Hub model to build workforce capability

➢ trial professional learning and development programs using the principles of this MLM for delivering system, district and school priorities

➢ resource and develop school and district-based structures to support the implementation of the Noosa Hub model of the MLM.

➢ negotiate with universities to develop protocols that redefine the roles and responsibilities within partnership arrangements that enable professional learning and development based on the Noosa Hub MLM principles.

References

Allen, J. M., C. Butler-Mader and R. A. Smith (2010). "A fundamental partnership: the experiences of practising teachers as lecturers in a pre-service teacher education programme." Teachers and Teaching 16(5): 615-632.

AQF; (1998). Australian Qualifications Framework: Implementation Handbook A. Q. A. Board. Victoria, Australian Government

Bentley, T. (1998). Learning Beyond the Classroom: Educating for a Changing World. London, Routledge.

Bevir, M. and R. Rhodes (2002). Interpretive theory. Theory and methods in political science. D. Marsh, Stoker,G. London:, Palgrave,: 131-152.

Carey, D. (1999). Coping with population aging in Australia. Economics Department Working Papers. Paris, OECD. 217.

Creswell, J. (2002). Educational research: Planning, conducting and evaluating quantitative and qualitative research. Upper Saddle Creek, NJ., Pearson Education.

Denzin, N. K. (2002). Interpretive Interactionism. London, Sage.

Edgar, D. (1999). Learning to live with complexity: Social trends and their impact on Queensalnd Education. Discussion paper for 2010 Queensland State Education. Brisbane:, Education Queensland Printer.

EQ (2000). Queensland State Eduction 2010: A Future Strategy,. Brisbane., Education Queensland. Strategic Directions, Policy and Research.

EQ (2004). EQ Workforce Strategy. Brisbane.

EQ (2005). Professional Standards for Teachers. Guidelines for Professional Practice. Q. Government. Australia.

Freire, P. (1970). Pedagogy of the Oppressed New York Continuum International Publishing Group.

Gibbons, M., Limoges,C., Notwotny, H., Schartzman, S., Scott, P. and Trow, M. (1994). The New Production of Knowledge. London, Sage.

Gibbons, M., Scott,P., Nowotny,H. (2001). Re-Thinking Science: From Reliable Knowledge to Socially Robust Knowledge. Oxford University, Blackwell Press.

Goodlad, J. (1988). School - University Partnerships for educational renewal: Rationale and concepts. School-university partnerships in action: Concepts, cases and concerns. K. Sirotnik, Goodlad, J. New York, Teachers College Press: 3-31.

Guskey, T. R., Huberman, M. (1995). Professional Development in Education. New Paradigms and Practices. New York, Teachers College Press

Hannay, L. (2004). Rethinking professional learning: Engaging the little grey cells. Canada, Ontario Institute for Studies in Education. University of Toronto.

Hargreaves, A. (1995). The Limits and the Potential of Professional Development. Professional Development in Education. New Paradigms and Practices. H. Guskey T., M. . New York, Teachers College Press.

Hargreaves, A. and M. Fullan (2012). Professional Capital: Transforming teaching in every school:. Toronto, Teachers College Press.

Hargreaves, D. (1998). The Argument in Creative Professional: The Role of Teachers in the Knowledge Society. London, DEMOS: 13-26.

Hattie, J. (2003). Teachers make a difference: What is the resercah evidence? Building Teacher Quality Melbourne, Australian Council of Educational Research

Hawley W. D., V., L. (1999). The essentials of professional development: a new consensus. Teaching as the learning professionHandbook of theory and practice. L. D.-H. G. Sykes. San Francisco, CA., Jossey-Bass.

Holstein, J. G. (1997). Active Interviewing. Qualitative Research: Theory, Method and Practice. D. silverman. London, SAGE Publication.

ILO (2001). Life at Work in the Information Economy. Geneva:, International Labour Organisation.

Ingvarson, L., Meier, M., Beavis, A. (2003). Evaluating the quality and impact of professional development programs. Building Teacher Quality. Melbourne, Australian Council for Educational Research.

Ingvarson, L., Meier,M., Beavis, A. (2003). Evaluating the quality and impact of professional development programs. Building Teacher Quality. Research Conference Proceeding, Melbourne, Australian Council for Educational Research.

Ingvarson, L. B, A; Danielson, C; Ellis, L; Elliott, A, (2005) An Evaluation of the Bachelor of Learning Management at An Autsralian university . Melbourne, Australian Council of Educational Resercah.

Jiménez-Jiménez, D. and R. Sanz-Valle (2011). Innovation, organisational learning, and performance. Journal of Business Research 64(4): 408-417.

Lamb, S. B., K. (1999). Curriculum and Careers: The Education and labour Market consequences for Year 12 subjct choice. Australian Council for Educational Research p.iv.: 4.

Leithwood, K. (2006). Teacher Working Conditions That Matter: Evidence for Change. Toronto, Ontario, Elementary Teachers' Federation of Ontario.

Lieberman, A. (1996). Practices that support teacher development: Transforming conceptions of professional learning. Teacher Learning: New Policies, New Practices. . M. McLauglin. New York, Teachers College Press.

Lokan, J. (2006) Literacy And The Competencies.Canberaa, Australian Department of Education and Science and Training

Lynch, D., (2012). Preparing Teachers in Times of Change: Teaching schools, standards, new content and evidence. Primrose Hall: Brisbane.

Lynch, D.,& Smith, R. (2012). Teacher Education Partnerships: An Australian Research-Based Perspective. *Australian Journal of Teacher Education, 37*(11).
 http://dx.doi.org/10.14221/ajte.2012v37n11.7

Lynch and Smith, (2013) Teachers for the Future: An unmet need. International Journal of Innovation, Creativity and Change. Vol. 1 Iss. 1, March, located at http://www.ijicc.net/images/issue1volume1/lynch%20and%20smith%20v1i1%20final.pdf

Lynch, D., Smith, R. (2002) Australian schooling: What Future. Unicorn on-line 17.

McRae, D. G. G., R.; Rowland, M.; Zbar, V. (2000). PD 2000 Australia: A National Mapping of School Teacher Professional Development. Canberra Commonwealth Department of Education , Training and Youth Affairs.

Montes, J. L., A. R. Moreno and V. G. Morales (2005). Influence of support leadership and teamwork cohesion on organisational learning, innovation and performance: an empirical examination. Technovation 25(10): 1159-1172.

Newman, M. (1992). The Third Contract. NSW, Australia, Stewart Victor Publishing.

Nowotny, H. S., P. Gibbons, M. (2003). Mode 2 Revisited: The New Production of Knowledge. Minerva Netherlands. 41: 179-194.

OECD (2000). Knowledge Management in the Learning Society. Education and Skills. Publications Service, France., OECD.

Postman, N. (1999). Building Bridges to the Eighteenth Century. How the Past Can Improve Our Future. . Australia, Scribe Publications.

Schleicher, A. (2012). "Preparing Teachers and Developing School Leaders for the 21st Centrury: Lessons from around the World."

Sell, K. (2001). Partnership Forum. Pomona, Queensland, Education Queensland and an Australin university .

Sell, K. (2006). Evaluation: Noosa Hub's Master of Learning Management. Unpublished Education Queensland.

Seltzer, B. (1999). Th Creative Age: Knowldege and Skills for the New Economy. London, DEMOS.

Slater, J. (1995). Anatomy of a collaboration: Study of college educational public school partnership. New York, Garland Publishing Inc.

Smith, R., Lynch., D. Mienczakowski, J. (2003). "The Bachelor of Learning Management (BLM) and Education Capability: Why we don't prepare 'Teachers' anymore." Change: Transformations in Education 6(2): 23-38.

Sparks, D. (2004). "A call to Creativity: It's time for us to take the lead in creating change." JSD 25(1): 54-62.

Spillane, J., Halveson, R., & Diamond, J. (2001). "Investigating school leadership practice: A distributed perspective." Educational Researcher 30(3): 23-28.

Stephenson, J. (1999). Corporate capability: implications for the style and direction of work-based learning. Formal public lecture, Sydney, University of Technology.

Supovitz, J. (2001). Translating teaching practice into improved student achievement. . From the capitol to the classroom. Standards-based reforms in the states. . S. Fuhrman. Chicago, University of Chicago Press: 81-98.

Van Yoder, S. (2002). "Coping with the graying workforce." Financial Executive 18(1): 26-29.

Wilson, S. M., Berne, J. (1999). Teacher Learning and the AAuisition of Professional Knowledge: An Examination of Research on Contemporary Professional Development. Review of Research in Education. . A. Iran-Nejad, Pearson, P.D. Washington, DC, American Educational Research Association.