

Building the capacity for professional learning: A key component of the knowledge of effective school leaders in the Twenty-first Century

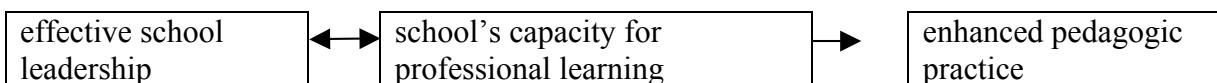
John Munro¹

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Synopsis

This paper proposes that a key function of effective school leadership is developing in a school the capacity for professional learning. It argues that (1) effective leadership cannot be seen in isolation from the school's pedagogic practice and (2) the pedagogic practice implemented in each classroom is related to the school's capacity to learn professionally.

It sees the relationship between a capacity for professional learning in a school and effective leadership as reciprocal; just as effective leadership fosters the capacity for professional learning, so a well developed capacity for professional learning can enhance school leadership.



It proposes that effective school leadership includes building into a school community the capacity to learn to modify its pedagogic provision. The school needs to be able to learn professionally. Its aim is to provide school leaders with the knowledge necessary to be leaders of learning generally and of professional learning in particular. Through this knowledge they can influence and improve the quality of learning that takes place in the school and to build a potential or capacity for improved professional learning from the intellectual capital in the school.

This paper unpacks this concept of a professional learning capacity and operationalises it, particularly from a learning perspective. It asks the question : What would a school be doing when it is learning professionally ? What would it look like ?

The framework is based on an explicit theory of learning. This theory identifies the key actions necessary for systematic knowledge enhancement. It is used to generate a model of professional learning that is then used to provide a framework for professional learning in learning communities.

This paper develops the issue in the following way:

- (1) The key assumptions underpinning building a capacity for professional learning are introduced
- (2) A scenario to illustrate the issue is described. This relates to a school leader who aims to improve the quality of teaching in his school by basing it more on how students learn in the 21st century.
- (3) The nexus between leading for change and building a professional learning capacity for improved pedagogy :
 - (1) school leaders as 'leaders of learning' ,

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- (2) the need to differentiate professional learning within a school to take account of the range of areas of professional responsibility and knowledge and
 - (3) the need to map new professional knowledge into explicit pedagogic practice.
- (4) This study : It investigates whether school leaders in the English education context would benefit for an in depth knowledge of how to build a professional learning capacity in their schools.
- (5) The concepts that underpin the model of professional learning are examined. These are
- (1) the context for professional learning; this is the professional learning team, operating as a part of a learning community.
 - (2) the theory of learning that is used to scaffold professional knowledge enhancement. It describes what learners need to do to learn; the set of key learning interactions.
 - (3) the application of the theory of learning in a professional learning community. To put in place the optimal conditions and climate, school leadership teams can consider how professional learning
 - (1) is influenced by various cultural factors in the school.
 - (2) is student referenced.
 - (3) Follows a path that is necessarily chaotic.
 - (4) involves professional collaboration.
 - (5) requires a systematic set of professional learning opportunities.
 - (6) involves distilling past professional experiences.
 - (7) involves thinking innovatively about possibilities and options.
 - (8) involves identifying and collating a group knowledge.
 - (9) involves reviewing, enhancing knowledge / practice and continuing the professional learning.
 - (10) involves identifying how to learn professionally.
 - (11) requires professional trust.
 - (12) needs to be guided and fostered in practical ways: middle level leaders of learning. The recommended knowledge base for this leadership is described.
- (6) What a community will do to learn:
- (1) how professional learning can be differentiated to account for at least three professional functions; the school leadership function, the classroom implementation function and the professional team function. Each function learns different outcomes.
 - (2) each interaction in the learning theory is applied to each professional function to develop a professional learning framework. This shows what the community can actually do to learn professionally. An additional function, middle level leading of learning for each professional learning team, is included.
 - (3) Ways of using the learning framework to deal with problems and difficulties that often arise in a school during efforts to enhance professional learning are described.

- (4) How the framework meets the core principles for school improvement and facilitates innovation are discussed.
- (7) The school leadership team needs to balance and integrate the professional learning, both across the areas of the school and in a longitudinal way as the school increases its capacity for self directed professional learning. This section examines
 - (1) school contexts that have guided professional learning and those with more autonomous learning.
 - (2) balancing leader-directed versus self-directed professional learning.
 - (3) interaction between the school leadership team and the middle level leadership.
- (8) A case study shows how the framework for developing a professional learning capacity has been implemented in a Australian school. The implementation has been linked with significant and sustained literacy improvement that is much higher than average over the period.
- (9) What a school community with a well developed professional learning capacity looks like.
- (10) The relevance of the professional learning framework for the UK context is examined in two ways.
 - (1) by examining the extent to which it consistent with current beliefs about preferred knowledge for effective school leadership; and
 - (2) by having school leaders and staff evaluate the model in terms of its relevance to educational provision in the UK on a range of criteria by
 - (1) program managers of LftM and head teacher leadership programs;
 - (2) Head teachers of primary and secondary schools, some of whom had completed either the National Professional Qualification for Headship or the Leadership programme for Serving Head teachers;
 - (3) Middle level leaders, some who were completing the LftM program.
 - (4) Members of the e-learning facilitator group

These educators rated as highly desirable the knowledge of professional learning capacity developed in this research. Outcomes of the clinical interviews and the anecdotal comments of head teachers, program leaders and middle level leaders show in practical ways how this knowledge could contribute to the further enhancement of pedagogic provision.

- (11) Possible future applications and implications of this research for the UK context. These include
 - (1) its contribution to future leadership programs,
 - (2) the development of tool school leaders can use to enhance the professional learning capacity of their school and
 - (3) future research that examines aspects of the association between a professional learning capacity, various levels and types of leadership functions and school effectiveness.

For whom is this paper intended ?

This paper is relevant to the work of

- school leadership teams interested in improving the capacity of their school to learn professionally to improve its teaching practice,
- middle level leaders interested in leading a group or individual staff to improve teaching practice in particular strategic ways and to foster self directing professional learning teams in their schools,
- professional educators aspiring to these roles,
- those developing continuing professional development programs intended to foster leadership knowledge and skills in schools
- those interested in assisting schools to improve their professional practice and the provision of optimal student learning opportunities and
- those involved in researching, evaluating or developing policy in these areas.

More generally, it findings are relevant to all professionals involved or interested in facilitating organisational change through professional learning.

Key assumptions : Building the capacity for professional learning

A key issue faced by many school leadership teams is how to improve or modify the quality of teaching or other educational practices in their schools, in order to enhance student learning opportunities. While the leadership team may decide that a particular innovation or change is necessary, the school may not necessarily move in the intended direction. Leadership learning by itself is insufficient to achieve this. It requires as well changed or improved pedagogic practice. This in turn requires the capacity for professional learning. This problem arises both when the trigger for the change comes externally and from within the school.

Every school has a knowledge of teaching practice. This is its pedagogic capital (Munro 2003b, 2002b). Part of this capital may be explicit knowledge (propositions and policy about teaching, skills, attitudes and experiential knowledge) and part may be implicit. The aim of the leadership may be to enhance this capital.

Enhancement requires a capacity for professional learning. Schools that seek to enhance student learning outcomes may need to learn more appropriate pedagogic practice. Underachieving schools, for example, in part may need to ‘learn’ their way out of underachievement.

Professional learning involves both individual and group learning components. It synthesizes individual and collaborative learning. It includes trialling novel teaching procedures in classrooms and reflecting both on past experiences and ‘dry runs’ of possible future activities both individually and in professional teams or groups.

To achieve the purpose of professional learning, it sees a school as a learning community that can be organised into smaller groups, each group with the potential to operate as a professional learning team (PLT). PLTs operate at the interface between the school leadership team and individual classroom practice. Each PLT draws together the individual and collaborative learning activities. A conceptualisation of the functions of the PLTs relative to the school leadership functions and classroom teaching functions are shown in Figure 1.

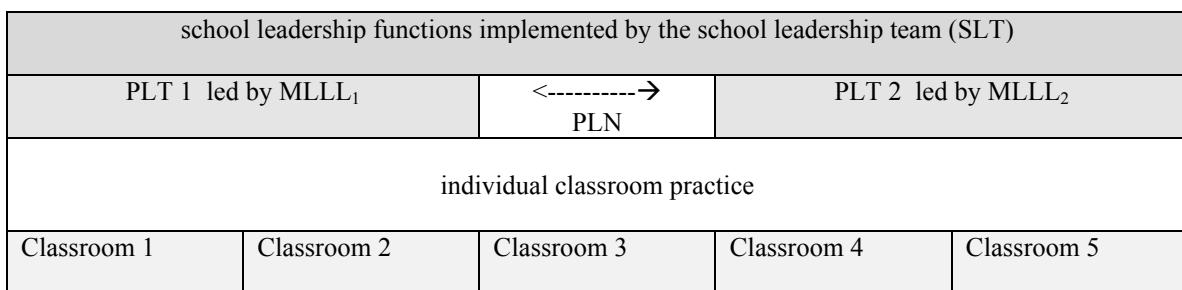


Figure 1 : The professional learning capacity in a school

To understand how the community might learn professionally, the project begins with an explicit model of learning as knowledge change. Key learning interactions are identified. These are mapped into the professional practice at the school leadership level (SLT), the professional learning team level and the individual classroom teaching level.

The learning activity of each PLT is led by a middle level leader of learning (MLL). The MLLsL are ‘leaders of learning and leaders in learning’. They lead, foster and support staff learning, both at the group and individual levels, for each team. Their function in the PLT matches that of metacognition in the self managed and self directed learning of individuals. They catalyse

and guide the PLT in its planning, recognizing when particular knowledge and action is necessary, reviewing and consolidating what has been learnt, deciding and selecting what is most appropriate.

Many schools have a professional development co-ordinator or manager. The purpose of this role is to improve the school's pedagogic practice through enhanced professional knowledge. The work of the co-ordinator could facilitate in practical ways the work of the PLTs, synthesise the outcomes from the various PLTs and lead their articulation into the enhanced code of pedagogy that informed teaching in the school.

In summary, this project proposes that effective school leadership builds in its community a capacity to learn professionally in order to enhance pedagogy. School leaders are more able to do this when they understand the variables and factors that influence this learning. This includes an operational knowledge of the following propositions:

- A school has the capacity to learn professionally when it can easily and efficiently modify its teaching practice in particular ways to lead to enhanced student learning opportunities. The catalyst for the change can be both within or external to the school. It can, for example, take a policy initiative and convert it into validated teaching practice.
- The unit for effective professional learning is the professional learning team (PLT).
- The learning activity of the PLTs and team members is more consistent, systematic and successful when it is underpinned by an explicit model of professional learning.
- The PLTs assist enhanced teacher knowledge to be mapped into pedagogic practice that is used strategically.
- The learning activity of each PLT focuses on particular domains and contexts of knowledge that are determined by the functions of team members ; the context for SL functions is at the cultural level, for individual teacher functions is the classroom and for the team functions is the shared context of the group. The application of the model of professional learning, that is, its contextualising or embedding for each PLT will vary, depending on the functions of members of the team.
- The learning of each PLT can be enhanced by middle level leaders of learning.
- An aspect of the SL function involves maintaining a balance between transformational and transactional activities. The actions it takes are seen more as cultural learning enhancement rather than heroic. Leadership of professional learning is distributed both within and beyond the professional learning community.
- A SLT can appraise its school's capacity and culture for professional learning by estimating factors such as (1) its relevant knowledge, skills and attitudinal dispositions to learning, (its preparedness to learn or change) and (2) the level of knowledge it would need to scaffold and support the change.
- The set of PLTs can form a professional learning network (PLN). The PLN, as well, needs a means for managing and directing the learning, negotiating goals and purposes, reviewing and collating knowledge at various times and developing enhanced pedagogy.

This paper unpacks this concept of a professional learning capacity and operationalises it, particularly from a learning perspective. It asks the question : What would a school be doing when it is learning professionally ? What would it look like ?

A motivation to improve the quality of learning provision in schools can come from a range of sources both within the school and external to it. A SLT may be dissatisfied with student achievement in the school. It may evaluate as conceptually reasonable and advantageous the ideas presented in a blueprint intended to lead to improved future provision such as *Learning to lead* (NCSL, 2004). However, it may not know how to embed the general design proposals in their context, how to map the recommendations for improvement into pedagogic practice in their school or to convince their staff of the value of pedagogic change.

A scenario : Leading a school to change its pedagogy

Bob is a school leader. He is the headmaster of a large coeducational school. He knows he manages it well. His style of management is effective. The school has a clear vision of what its purpose and the processes implemented by Bob's leadership team maintain this. The outcomes of his students match those in similar schools. They reflect effective curriculum provision and implementation.

His relationship with his teaching staff, based on mutual respect, works well. Staff are generally positive about the management processes and workload. Performance management is systematic and effective, rigorous and beneficial. The school is committed to their professional development. Recruitment reflects the dominant staff profile of the school. The school manages its financial resources wisely to help it achieve its educational priorities.

Bob's agenda, is student learning. His passion is that all students in his school have the opportunity to learn optimally. A series of incidents, each small in itself, led him to believe that the quality of teaching in the school could be improved. There was the issue of boys not being interested in learning, a disengagement by some students, literacy and numeracy results that seemed to resist improvement, cases where outcomes were substantially below expectations.

In informal discussions with some of the disaffected students, Bob began to form the impression that the teaching that was being provided did not match how contemporary students learnt. This was confirmed when some of the teachers mentioned in passing that their teaching hadn't deteriorated, it was just that many of the current students just didn't want to learn. Bob saw the problem as one in which the teaching practice made particular assumptions about student learning that were not currently valid.

Bob was aware that the mismatch problem could be solved in part by improving the teaching that was provided. From his days as a teacher he realised the value of good teaching practice as a means for improving student achievement. There are classes in his school that could have a stronger focus on explicit student outcomes. Some of his staff could improve how they teach literacy. Some classes could engage some of the disaffected students better.

As Bob thought through the problem of leading his school to improve the quality of the pedagogy, he conceptualized the problem of one that involved his staff learning. He believed he could lead but he was not as sure whether his staff were ready to be led in this direction. The measuring stick for his leadership to judge successful was enhanced student learning outcomes. For this Bob needed to lead his staff into the domain of improved teaching. He also needed to lead his students to enhanced attitudes and goals for learning.

Bob knew that improved teaching practice in his school required his teachers to learn. They needed the opportunity to reflect on and evaluate their practice, identify where it could be improved and to make the necessary changes. He saw that some staff were trying to improve the quality of their teaching in their own ways and he attempted to support them.

Bob was aware that not all of his staff would be equally motivated to engage in the change he wanted to introduce. Some would not see the need for it. Others may not trust either themselves that genuine change could be achieved or the school leadership team to support and value genuine innovation. Some may believe that they could achieve improved teaching or that their students would accept it.

He could not, personally, lead all of his staff to make the improvements he saw as necessary. There were some areas in which he knew that he wanted as outcomes but had no idea what the most effective, validated pedagogy would be to achieve it. The school was simply too large for him, or the leadership team, to do all of the training. As well, he recognised that he did not know the best way of having his teachers learn so that their pedagogic practice would actually be improved in a permanent way.

Bob had, in the past, wanted to lead his school to improve in other areas but with only limited success. On those occasions he had discussed his goals with his leadership team and had passed the initiatives on to committees of middle level leaders for implementation. While these committees had met and discussed the particular issues, little had changed practically. Bob had formed the impression that while the leaders may have accepted the need for the improvements on those occasions, they lacked a knowledge of how to bring them about practically.

Bob wanted to avoid a repeat of this. He realised that he needed to build into his school community a capacity for systematic, on-going professional learning. This learning needed to be focused on his goals and his vision for the enhanced school. The goals and the vision, while his at this time, needed to be negotiated with the staff and ultimately accepted as theirs as well. The staff learning, as well as being specific to particular areas, needed to be integrated with the direction in which he was wanting to lead the school.

To allow this to happen, Bob decided that he needed, within the school organisation, a number of staff members who could lead the professional learning of the school community. He envisaged staff learning in small professional learning teams. Each team would be led by a leader of learning, who possessed the necessary knowledge, skills and attitudes to foster and lead the learning of each member of the group and of the group as a whole. He could see that knowledge gains by each member could become the enriched knowledge of each group and how the knowledge of each group could become the knowledge of the school as a whole. He could see the panel of leaders of learning being a critical source of knowledge for the school leadership team and for the school.

Bob had not yet thought through the knowledge the leaders of learning would need, to do their job or how they would be trained. He was not sure precisely how their work would fit with the work of the leadership team. He was not clear on how the school-wide professional learning program would be implemented. But he felt that he had started.

The need for schools to evaluate and modify their approach to curriculum and pedagogy from the perspective of changes in how students learn is not unique to Bob. Hopkins (2003) notes the belief shared by many educators that "...we require a qualitatively different approach to teaching in the 21st century. This is because both the demands on young people and the demands of young people are changing. These challenges mean that teaching in the 21st century should embrace not only the transmission of knowledge, but also learning how to learn" (page 13).

Leading for change = leading professional learning towards improved pedagogy

This "qualitatively different approach to teaching" means that successful schools in the 21st century will have the ability to change and adapt. Hill (2003) is not alone in his observation that "Learning how to make ongoing school improvement happen systematically is the journey modern school systems must take" (Hill, 2003, page 13). In company with other educational leaders, (for example, Barber, 2002; Hopkins, 2003) he goes on to note that schools need to 'build high capacity' so that "all students achieve high standards. The present research project offers one possibility for how this might be done practically.

The core business of a school is the facilitation of student learning. Bob had led his school in its maintenance of curriculum and pedagogy provision. He had been a leader by virtue of his controlling or managing role in the school. He took ultimate responsibility for what happened in his school.

He became aware, however, of the need to take on an additional, perhaps different leadership function; to lead his school to a different location in terms of its provision of pedagogy. He believed he could guide or lead his school to change. He was not sure whether he sufficient

knowledge of the area into which he wanted to lead his school, but he was confident that he could access the necessary knowledge.

Many school leadership teams have a similar improvement agenda. They aim to improve student learning outcomes in terms of specific policy criteria and parameters. Commonly occurring areas in which they aim to do this are shown in Figure 2.

Figure 2 : Issues on which a school may improve its knowledge or practice.

How to improve the literacy or numeracy outcomes of your school ?	How to improve the community's capacity to deal with the discipline problems that are causing a headache and are getting harder to handle ?	How to increase the teaching effectiveness of staff who you think could be contributing more successfully to the school program ?	How to implement activities that show your school is contributing actively to the current innovation and creativity policy ?
How you can improve school attendance rates ?	Some possible knowledge	areas for improvement	How far down the e-learning pathway you should go ?
How to assist KLAs that are holding back the academic profile of your school ?	How to develop procedures for identifying program innovations that are most worthy of resource support ?	How to up-date your Middle Years program; it has a high drop out level and achievement levels have plateaued. ?	How to respond to pressure from the school community to introduce lap-tops ?

The means for facilitating improvement in any area are suggested in the attributes of successful school improvement programs. The contention of the present research is that features such as teachers learning to manage change in their schools, to focus on student learning and achievement data with the goal of improving them, to be enquiry driven and to use by research -validated strategies that take account of the specific context of their schools (Hopkins 2003) can be operationalised and mapped into teaching practice through a professional learning capacity in the school.

The school leader is seen as a 'leader of learning'

Bob knew that the professional school community he led needed to learn, in order to move down the intended path. Professional learning already had a role in the school. His staff had learnt, for example, to adjust to various changed conditions. The improvement he was contemplating required a broader learning base. The school needed to learn new ways of thinking about student learning and to match this with changed teaching.

Bob knew that each staff member had their personal impression of his capacity as a manager and as a leader; the aspects of school community life that he valued, his leadership style and generally what he 'stood for'. He now hoped they would see him as a leader interested in leading them to optimise the extent to which pedagogy in the school took account of contemporary student learning. He needed to be seen now as a 'leader of learning'.

Generally, leadership is also more likely to be effective when it facilitates the growth of the community in the direction of the goals or vision it has framed. To be a 'leader of professional learning', Bob needs to use and foster a dialogue in the school associated with professional learning. He could, for example, describe the change or improvement and the path to be followed

by the school in learning terms. To use this dialogue most effectively, his leaders need a clear understanding of the learning process and how it can be applied in his learning community.

Leading the learning involves differentiated professional learning Schools are complex learning communities. The professional knowledge that needs to be acquired by a school as a whole is often made up of knowledge from different areas or groups within the school.

Consider a primary school being led to improve its literacy. The enhanced literacy knowledge of the school will include literacy knowledge relevant to the early years, the middle primary years and the later primary years. These areas vary, with groups at each level following slightly different learning pathways to achieve the same outcome. Students at different levels of the school may differ in their beliefs about the relevance and value of literacy to their lives. The professional learning will be contextualised in different ways in different areas of the school community's work.

In a secondary school that pursues a similar goal, the teaching that enhances literacy in history may differ from that used in art or mathematics. For optimal learning, each group may need to follow a slightly different learning pathway. The knowledge that the school as a whole has about a topic is made of components that may have both generic and domain-specific aspects. The leadership of the school needs to recognise this and provide the opportunity for differentiated professional learning by different groups.

Professional learning for enhanced pedagogic practice The goal of the professional learning by a school is enhanced pedagogic practice, both in particular areas and at a school level. The teachers in Bob's school would need to translate their enhanced knowledge of contemporary adolescent learning into specific teaching procedures to use to teach subjects such as history, mathematics or physical education. They would need to use the teaching procedures in a selective way, deciding when each will be most useful. In other words, their new pedagogic knowledge would include an improved understanding of what to teach, how, when and why to teach it.

The intentions of many school leadership teams would be to lead their schools to improved pedagogic practice. Like Bob, they would aim for enhanced teaching procedures that were long lasting and endured independently of particular staff members. The teaching procedures would characterise the teaching culture in the school.

Bob's past unsuccessful attempts at leading his school to improve its pedagogic practice in particular areas will be familiar to many school leadership teams. As in Bob's school, these leadership teams would have noted a commitment to improvement but little change at a practical pedagogic level. This inertia to enhanced practice leads to a sense of impotence at a professional level, low self confidence in the school that improvement can be achieved and the belief in the community that the status quo cannot be changed.

To achieve improved pedagogy, school leaders need to be seen by the community as 'leaders of improved pedagogy'. Steps that communicate this include on-going constructive dialogue about the implementation of pedagogy in individual classes and subject areas, as well as a focus on ways of fostering a validated school wide 'code of teaching practice'. Students would be aware of the interest in the school on improving the learning opportunities provided and their roles in it.

A range of factors influence the extent to which improved teacher knowledge is translated into thoughtful, reflective teaching practice (King & Kitchener, 1994). These include (1) the explicit communication of the expectation that pedagogic practice will improve and (2) practical opportunities for professional learning that include (i) fostering and validating a community of pedagogic enquiry, (ii) encouraging professional learning teams that have shared goals and

purposes, (iii) action plans for orienting the learning, (iv) indicators of progress, (v) a valuing of individual and group knowledge, and (vi) opportunities to trial and evaluate novel practices.

The present study

The present study investigates whether school leaders in the English education context (1) believe that an in depth knowledge of how to build a professional learning capacity in their schools would contribute to their effectiveness as leaders and (2) could assist their schools to improve pedagogy.

The proposed model for building a professional learning capacity is described in this paper. It is evaluated in terms of the following criteria:

- (1) the extent to which it is judged to be an essential aspect of the knowledge of educators implementing both middle level leaders and school leadership functions.
- (2) the extent to which it fits with existing provisions for educating and preparing leaders for both middle level and school leadership functions. The purpose here is to make links between the model and existing matching programs and to identify ways in which the model can be enhanced.
- (3) the contribution it could make to middle and school leadership training and work on a number of dimensions:
 - (1) how it could assist school improvement,
 - (2) the potential problems in school improvement it would assist in solving, the aspects/areas in which it would be useful for problem solution, its comparative value relative to existing provisions for solving these problems,
 - (3) the ease with which it could be implemented, the barriers that could restrict its implementation,
 - (4) the aspects that would need to be modified for achieving particular goals and outcomes,
 - (5) processes and structures that should, but are not, be included in the model.
 - (6) areas / aspects of school improvement where MLLL would be most effective for leading to enhanced outcomes.

The proposed model was evaluated by relevant educationalists such as head teachers and members of SLTs, middle level leaders of learning (faculty and department heads) and teaching staff.

The concepts that underpin the model of professional learning

The three key concepts underpin a school building a capacity to learn professionally:

- (1) the context for professional learning is the professional community, the professional learning team as a learning organisation or community.
- (2) an explicit, systematic theory of learning scaffolds knowledge enhancement.
- (3) factors that influence applying the theory of learning in a professional learning community.

They are shown in Figure 4.

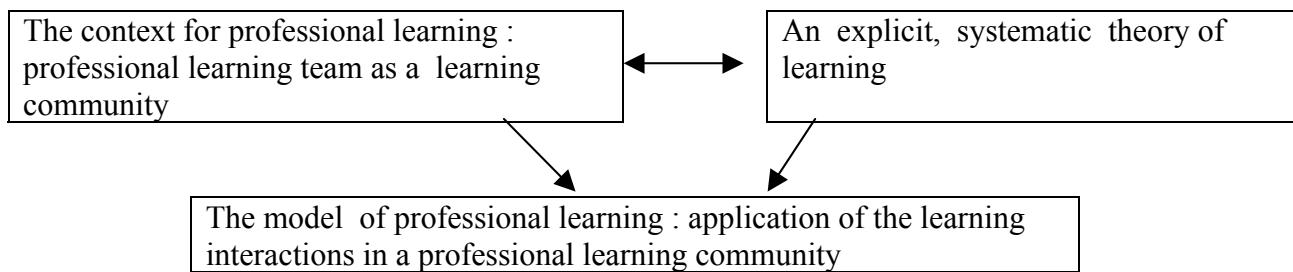


Figure 4 : The key concepts that underpin the model of professional learning.

The context for professional learning : professional learning team as a learning community

The professional learning team as a learning community Learning communities have been conceptualised in a range of ways. Most identify a shared commitment to the goals of the community and shared learning among the community members. Learning is achieved through ongoing collaboration and communication between them. My preferred definition (Munro, 2001) is as follows:

It is a community that is learning. It is increasing its knowledge about particular topics or issues. It is not simply a group of individuals who each pursue her or his learning goals. The 'community' focus suggests, in addition, shared knowledge and goals. While learners in the community may be pursuing their own goals, they are also contributing to the changing knowledge of the community and to the community goals for learning.

This is consistent with the four components of a professional learning community proposed by DuFour and Eaker (1998) as shared mission, vision, values and goals. Fullan (1999: 15–16) proposes a similar definition :

The secret to living companies, complex adaptive systems, learning communities or whatever we wish to use, is that they consist of intricate, embedded interaction inside and outside the organization which converts tacit knowledge to explicit knowledge on an ongoing basis.

The concept of a learning community differs from other communities in various ways:

- what it sees as the sources and nature of knowledge,
- its orientation to knowledge change, that is, learning, the actions necessary for this and the extent to which this has been achieved

- how the new knowledge is used within the community and
- the ways in which power relationships are implemented in the community to maximize the likelihood of learning.

Not all communities are learning communities. A group in which individuals are pursuing their own learning agendas but that does not have a group learning purpose or goal could be a community of learners but not a learning community. Similarly, a group of learners that does not, during learning, attempt to synthesise and collate what individuals have learnt, could be called a community of learners but not a learning community in terms of the particular criteria above.

The unit for professional learning : the professional learning team What is the unit for professional learning in a community such as a school ? The present project sees it as the professional learning team (PLT). A PLT is itself a learning community in the sense that it has the goal of enhancing its knowledge in particular areas. It may be enhanced pedagogic knowledge to foster literacy learning or to account for the learning characteristics of gifted and talented. It may examine possibilities relating to e-learning or for meeting the needs of males.

Depending on the purposes for learning, the size and nature of the school, the team can be a level or part thereof in a primary school (for example, staff teaching in the infant years, those teaching in the middle primary years and those teaching in the upper primary years) or a department of faculty or again part thereof in a secondary school. It should be noted that earlier writers have recommended the department of faculty in a secondary school (for example, see Brown, Rutherford & Boyle, 2000).

Professional learning is assumed to involve both individual and group learning components. The PLT provides the means for synthesizing learning individually by (1) trialing novel teaching procedures in classrooms and (2) by engaging in reflective activity both for past experiences and ‘dry runs’ of possible future activities and learning collaboratively, in professional teams or groups.

The PLTs operate at the interface between the school leadership team and individual classroom practice. The professional learning team draws together the individual and collaborative learning activities. A conceptualisation of the functions of the professional learning teams relative to the school leadership functions and classroom teaching functions are shown in Figure 1.

Members of the team may differ in their goals and purposes in other areas of their professional lives. Their goal congruence and commitment to community knowledge enhancement may be only for the purposes for which the community exists. This is consistent with the concept of team learning proposed by Senge (Senge, Cambron-McCabe, Lucas, Smith, Dutton & Kleiner, 2000).

Knowledge in many communities is seen as absolute and fixed. Indeed, communities can be described in terms of the knowledge that defines and characterises membership. In learning communities, on the other hand, particular domains of knowledge are seen as available to be questioned and changed if necessary. Knowledge is seen as the best social interpretation or representation of reality at that time and is learnt in part through mutual collaboration.

Power relationships are implemented in communities in a range of ways. In learning communities the locus of control is within the community. The purpose of the control is to facilitate knowledge change, to co-ordinate, manage and direct the focus of learning. In individual learning processes, the management and direction is via metacognitive processes. Learning communities require corresponding processes to implement self managed team learning.

If Bob is to implement professional learning teams in his school, he may need to evaluate the extent to which a professional learning community already exists. To do this he may need to identify effective indicators of professional collaboration, staff preparedness to engage in this approach to professional learning and steps the leadership team might take to fostering this process.

An explicit, systematic theory of learning

An explicit, systematic theory of learning scaffolds knowledge enhancement This paper proposes that a successful learning community will be underpinned by an explicit theory of learning that maps into decision-making, practice and policy. This theory needs to scaffold knowledge enhancement for individual community members and for groups in the community.

Prioritising an explicit theory of learning that can be applied across all domains of learning is based on the belief that teachers are educators who foster knowledge enhancement. The domain of the knowledge may be at various levels, as in primary schools, or in particular subject areas, as in secondary schools.

There are many learning theories. Some are not teaching-friendly and are not used in regular teaching. The approach here focuses on what learners need to do to learn. These are learning interactions. Teaching will be most effective when it fosters these interactions. The focus is on the quality of these interactions and the extent to which they lead to knowledge enhancement.

Learning occurs in context, with learners interacting with information from teachers, on-line learning programs, books or peers. Because it is an interactive process, it is necessary to take account of the context, situations, community or culture in which the interactions occur. The information to which the learner is exposed is determined by what the community or culture values. These values will also be indicated in the feedback learners receive.

To learn successfully, learners interact with the teaching information in various ways; they need to use various 'learning functions' (Munro, 2003a, 2003c, 2003d, 2002a, 1999a). These are as follows:

1. ***A purpose or reason for learning*** Learners frame up and explicate their purpose or reason for learning the ideas. They are 'challenged' to learn, are in a state of 'cognitive conflict' (Lowenstein, 1994). This can range from a largely emotional drive to satisfy one's interest of curiosity to an explicit challenge or question to be answered. The reason for learning is to solve a problem or to deal with an issue; learning in this context is seen as problem based and solution focused.
2. ***The desired outcomes of the learning*** Learners visualize the intended outcomes of the learning. They develop an impression of where they will end up, what they will know, be able to do or what they may believe or feel. They 'see' the goals as personal experiences or episodes (Locke & Latham, 1990; Pintrich & Garcia, 1991).

On many occasions the visualised outcome may be speculative, a possible solution. The learner intuits that a possible state may solve a problem or deal with an issue. The purpose of the learning is to see whether the outcome is the desired.

3. ***Using what they know*** Learners make links with and use what they know about the topic. There are several aspects of this; they recall

- what they know about the topic; their abstract, imagery and experiential and action knowledge of it (learning styles, for example, Riding & Cheema, 1991; cognitive style, for example, Munro & Howes, 1996a; multiple intelligences, for example, Gardner, 1995, 1999; dual coding theory, for example Paivio, 1991),
- what they know about how to learn it, how to think through the topic (spectrum of approaches to learning, for example, Biggs, 1987; Davidson & Sternberg, 1998; Jausovec, 1994),
- what they believe about themselves as learners of the ideas, how they value the ideas, whether they believe they can learn the topic successfully (their self-efficacy) (Nichols & Utesch, 1998; Pajares, 1996),
- what they don't know about the topic, their unanswered questions about the topic.

They may recode what they know about the topic to a form that they believe will match the teaching. A learner who, for example, believes that the teaching information will largely require the use of imagery may recode an abstract understanding of a topic to a set of images or episodes.

4. ***A pathway to the outcome*** Learners construct or "see" a possible pathway to their goal. While the pathway may change direction during the learning activity, at any time it assists in orienting the learning.
5. ***Learning the new ideas in specific contexts*** Learners learn the new ideas in specific contexts in limited, supported, 'scaffolded' ways. Their new knowledge is in the form of experiences. They may learn aspects or components of the ideas at any time, learn the ideas in particular formats (as actions, as imagery, in language) explore and trial particular components. They may, for example, intuit or speculate about a new idea in particular situations and then trial it.
6. ***Deepening the new understanding.*** Learners abstract or "decontextualize" it, and link it more broadly with what they know. They review the new knowledge, integrate various aspects of it, consolidate it with what they knew, re-prioritize their knowledge and identify a range of contexts in which they can use it.
7. ***Investing positive emotion in the new knowledge*** Learners link emotion with the new knowledge. For effective future learning in a related area, it is advantageous for students to invest positive emotion in the new knowledge. They are more likely to do this when they see the new ideas as interesting, have a value or use, that is was their mental activity that learned the ideas and that they managed and directed aspects of the learning (Zimmerman, Bandura & Martinez-Pons, 1992).
8. ***The learning actions that helped them*** Learners identify how they learnt, what they did that helped them to learn. They reflect on and review the actions they used to learn (Munro, 1996b, 1993).
9. ***Storing what they have learnt in memory*** Learners store what they have learnt in memory and practise remembering it. They say briefly what they have learnt, link it with what they know, build memory "icons" for it and practise recalling it (Baddeley, 1990).

10. ***Seeing themselves make progress*** Learners see themselves making progress. They implement their own indicators of learning and use these to map and to monitor their progress.
11. ***Automatising what they have learnt*** Learners automatise aspects of what they have learnt so it can be used more easily to build further learning. They do this by automatizing links between ideas and organizing what they know into larger "chunks".
12. ***Transferring and generalising the new knowledge***. They transfer and generalise the new knowledge. They explore and analyse the new understanding from a range of perspectives, for example, use Bloom's levels of questioning, de Bono's Six Thinking Hats, Taylor's Multiple Talents Model. They explore the extent to which they can transfer the ideas (near and far transfer) and use the knowledge in open-ended creative problem solving.
- 13 ***Organising what they have learnt for assessment*** They organise what they have learnt for assessment purposes. They reflect on the context in which they need to display and apply the knowledge, how they can align the knowledge with various assessment contexts (Munro, 1999).

Learners do not use the interactions in the sequence shown. Instead, at any time they can potentially use more than one at once. During the early phase of learning, they use aspects of interactions 1-4, to orient their existing knowledge to the problem or focus of the learning. They switch dynamically between their purpose for learning, what the outcome might be like and what they know. They may revise what they think the outcome will be, re-shape the challenge and modify their proposed learning pathway.

During the knowledge change phase learners switch between interactions 5-8. They learn experiential, conceptual, attitudinal and thinking aspects of the ideas. In many situations they learn new ideas in specific contexts in 'scaffolded' ways at first and then generalise these. They may, for example, trial their intuitions or possibilities in particular situations and then more generally. Even when new ideas are introduced in an abstract way, students often try to make sense of them by imagining them in particular contexts. Once they have begun to abstract an idea, they switch to particular contexts to explore and test their comprehension. In problem based learning they find that a solution works in some situations and then investigate its efficacy more generally.

They link emotion in the new knowledge across this phase. They can also reflect on and review the actions they used to learn across this phase. They may also revisit what they knew earlier as they make links with the new knowledge.

The third phase of knowledge change is when the learners review and consolidate what they have learnt. They identify what they know now that they didn't know earlier, link it with what they knew, build memory "icons" for it and practise recalling it. They see their learning progress and may automatise aspects of what they have learnt so it can be used more easily to build further learning.

They can now generalise the new understanding more widely and think more creatively about it. They explore and analyse it from a range of perspectives, see how far they can transfer it (near and far transfer) and use the knowledge in open-ended creative problem solving. As well, they can organise it for assessment purposes. They reflect on the contexts in which they need to display the knowledge and how they can align it with various assessment criteria.

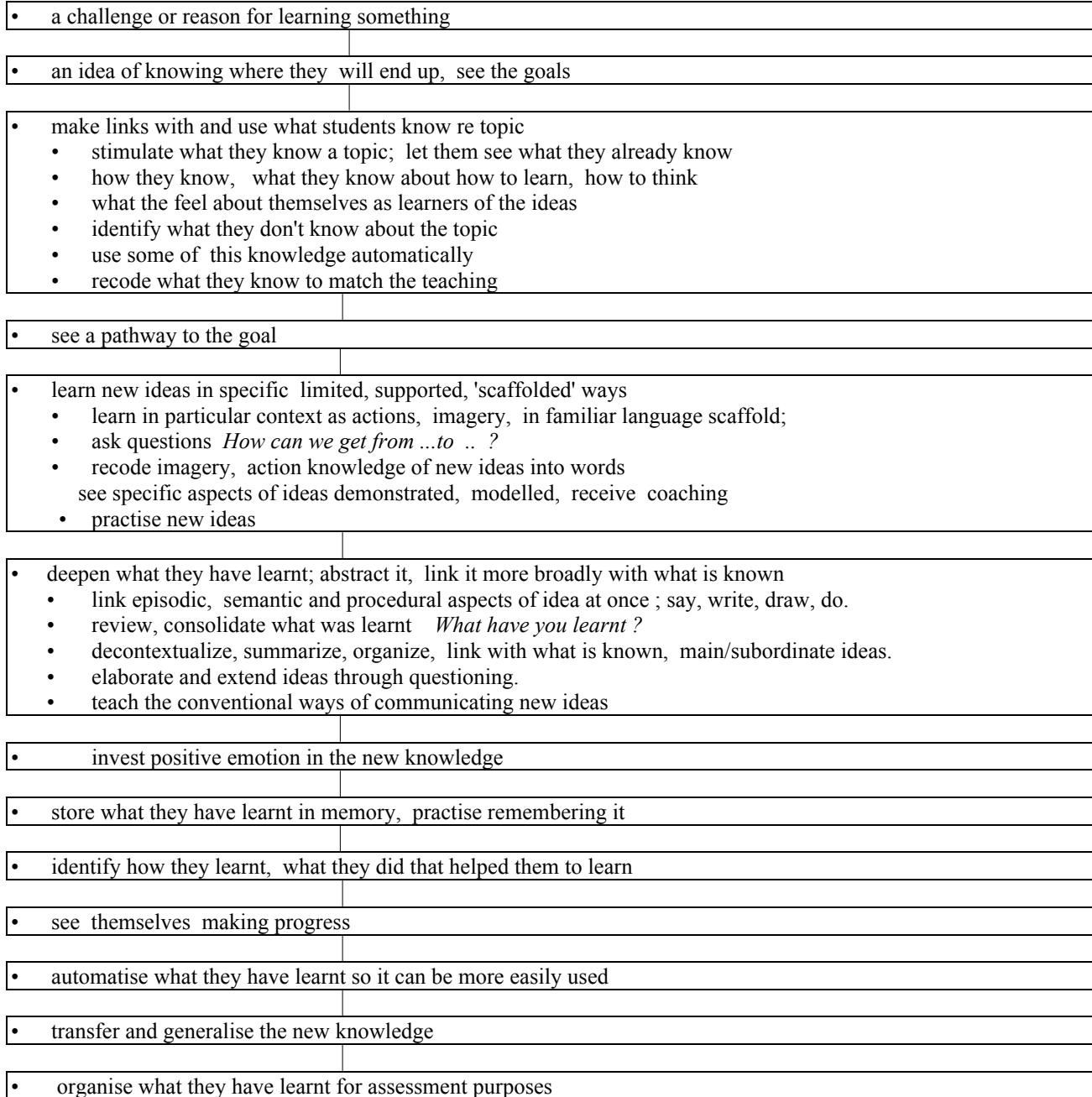
Even though several interactions are potentially available at any time during learning, one or some dominate. Learners direct or manage how they use these actions (their metacognitive knowledge, Schraw & Moshman, 1995). How learners balance their use of these actions depends on several factors, including their beliefs about what it is they are learning and whether they can learn the topic successfully (Malpass & O'Neil, 1996; Pajares, 1996), how well they have learnt related ideas in the past and about the particular learning context and how it will allow them to learn (Zimmerman, 2000).

The belief that the goal of a particular learning activity is to discover a new way of solving a problem will lead to learners engaging a different set of learning and thinking actions from when they believe the goal is to learn to apply an established solution procedure (Biggs, 1987; Ramsden, 1984). As well, the amount of control learners believe they have over the conditions for learning influences the learning strategies they use (Biggs, 1989; Morgan, Dingsdag and Saenger, 1998; Volet, Renshaw, and Tietzel, 1994). Time constraints, needing to meet external criteria and a need to learn and memorize the ideas in an unquestioning way for later reproduction lead to restricted knowledge enhancement.

Learners can use the interactions spontaneously or be cued to use them. Learners who use them mainly when instructed or cued to are more dependent and externally managed learners. Learners who use them autonomously and spontaneously in a strategic, selective way are more self managing and directing learners (Ablard & Lipschultz, 1998; Boekarets, 1997; Pintrich, 1995). The use of the interactions in a self managing and directed way depends on the content or subject being learnt. A learner may be more autonomous and self managing in some areas of knowledge than in others.

The set of learner interactions is shown in the Figure 4.

Figure 4 : The set of learner interactions.



The set of interactions has both generic and subject specific aspects. Each is linked with a set of teaching procedures that we have been researching over the past decade. Together they provide a framework for developing a dialogue for focusing on the ideas being learnt.

The set of interactions fits well with the contemporary focus on knowledge enhancement. Each interaction is a strategy that individuals can use to modify or enhance their knowledge. The set of strategies provides a systematic framework for transforming knowledge.

The application of the theory of learning in a professional learning community.

When the set of learning interactions is implemented in a professional learning community, it leads to the a number of questions about the learning. Some of these are shown in Figure 5.

What ? What knowledge and skills is the community learning ?	How ? What does the community need to do to learn ?	Goals ? What are the goals / intended outcomes of learning the community holds?
From where ? What does the community already know about the topics it is learning ?	A learning community learning	Pedagogy ? What are the teaching procedures, information sources and used by the community to learn ?
Progress ? What are indicators of the community learning ?	Why ? What are the sources of motivation for the community to learn ?	Show what it has learnt ? How will the community show what it has learnt ?

Figure 5 : The types of questions that guide a community learning.

Each of these questions leads to an aspect of the community activity that may be operationalised for genuine learning to occur. The present paper examines some of these. Three key aspects of the learning interactions in a learning community are examined here :

- How the culture affects the interactions,
- How can professional learning be fostered, including the distillation from past professional experiences and
- How professional learning can be guided or led : middle level leaders of learning.

School leadership teams need to consider these to identify the optimal conditions for professional learning and to foster a positive climate for professional learning.

How the culture affects the interactions The learning interactions operate within the culture of any school. School cultures differ in a range of ways that affect how the learning interactions will be actually ‘done’. A number of factors within any learning community affect how each of the interactions is operationalised. These include

- personnel factors, such as the staff availability to implement the learning agenda, their relevant knowledge and commitment to learning, their beliefs and metaphors about learning and the conditions most likely to favour it.
- curriculum factors, such as the curriculum orientation and preferences of members of the community, the extent to which the curriculum in each area can be modified to accommodate the change curriculum. Schools differ in the types of curricula they value.
- sociological factors, including the values that dominate in the community, the extent to which the culture of the school can scaffold the change, power differentials within the community and a range of demographic factors relating to community members.
- pedagogic factors, such as teachers’ beliefs and knowledge about effective and preferred pedagogy, the extent to which teaching can be modified or ‘fine tuned’ and the perceived power of pedagogy.
- economic factors such as the extent to which the change in pedagogy can be resourced financially.
- management factors, such as the extent to which management processes support staff professional learning, the balance between management and leadership processes.

The community needs to recognise how these factors impact on the processes and outcomes of professional learning. Bob's leadership team could use the following chart to examine each of these factors on his change agenda.

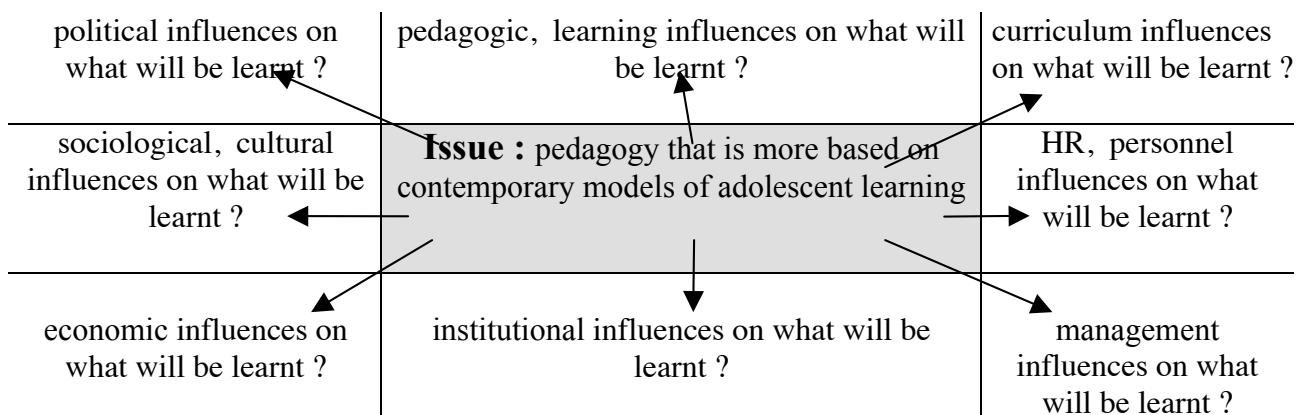


Figure 6 : Cultural factors that influence a community learning.

The focus of this project is on professional learning in communities in which these factors operate. It applies a model of individual learning to professional groups learning collaboratively in professional learning networks (PLNs) and professional learning teams (PLTs). The professional learning activity bridges between the school leadership team (SLT) and individual classroom practice.

When a school leadership team decides to foster or enhance the professional learning capacity in its school, it needs to consider the influence of each of the cultural factors identified in Figure 5 on the learning activity.

Professional learning is student referenced. The goal of professional learning is enhanced provision of student learning opportunity. The 'student voice' is an important component of professional learning. The professional learning activity at any time needs to have clear links with and be informed by on-going student learning activities and student learning outcomes. Ways in which this can be done include :

- (1) Student evaluation of the pedagogy implemented at any time in terms of the extent to which it fosters or accounts for student learning provides invaluable feedback for subsequent improvement of pedagogy. The student perspective and evaluation of pedagogic practice can assist staff to direct the professional learning activity. Where teachers are using action research procedures to evaluate and monitor novel teaching procedures, procedures for collecting student evaluation and feedback can assist in shaping the professional learning activity.
- (2) Monitoring of student achievement levels provides essential data for informing the effectiveness of the pedagogy. Students can be encouraged to see summative assessment procedures as indicators of how 'they are travelling along their pathway' through a topic or subject. Staff can discuss with students the outcomes of summative assessment procedures such as marked tests or essays how the outcomes might be interpreted and the messages they are conveying. These discussions as well can provide staff with feedback that can inform the professional learning.

- (3) Collection of parent feedback re the extent to which curriculum provision is valued. Parents can, for example, comment on their perceptions of the Academic Rigour, Teaching Quality, and Student Reporting procedures in the school. Instances of parent opinion surveys are provided on <http://www.sofweb.vic.edu.au/standards/publicat/bench.htm>.
- (4) Student attitudes to the improvements to be targeted by the school can influence the success of the professional learning. A school may, for example, plan to improve its literacy instruction. If the students do not generally value literacy skills, don't believe they can learn literacy or don't see literacy knowledge working for them or enhancing their lives, then the level of student literacy improvement may be lower than if the students had a more positive disposition to literacy. The professional learning program may need to include a consideration of relevant student variables and the actions that may be taken to optimise positive student dispositions and attitudes to the areas targeted by the professional learning.
- (5) Linked with students' attitudes to the professional learning activity are the changed expectations of students' learning and outcomes as a consequence of it. The leadership team, PLTs and teachers need to give consideration to how they will communicate the changed expectations to students in positive, constructive ways.

The professional learning knowledge at any time needs to be informed directly in a variety of ways by aspects of student learning. Students need to see that they are key players in the professional learning. School leaders, PLTs and individual teachers need to decide

- (1) the range of student data they see as relevant to particular professional learning activities at any time, the procedures they will use to collect authentic student, parent and community data and the procedures they will use to obtain feedback for the professional knowledge generated.
- (2) how they will collect and show a valuing of student knowledge re the innovation.
- (3) how they will involve students in the professional learning program and how they will communicate its outcomes to the student body.

Professional learning can follow a chaotic path Bob is embarking on an interesting journey with his school. The learning outcomes he wants his school to achieve are not as clear-cut as the learning outcomes his teachers wanted in their teaching. His Mathematics staff saw learning to solve quadratic equations as an outcome, his English staff taught the students how human emotions were portrayed in different types of texts, his physical education staff taught the students how to stretch effectively before engaging in strenuous physical activity. These outcomes were clear and easily seen. The outcomes of the professional learning, the improved ways of teaching were not as obvious.

One of the key differences Bob saw between the academic teaching his staff did and the professional learning course was the extent to which the learning activity could (or should) be planned, managed and controlled. In the academic teaching context, his teachers knew that there were well established pathways or blue prints that they could follow. There were steps they could take to make the learning easier (or harder). There were intermediate outcomes along the way that they would build on to get further learning. They had some idea of the parts of the learning journey in each case that were more difficult. They could estimate the time the learning would take.

The pathway for the professional learning was less clear. Bob knew there would be hurdles and barriers to it that he had not foreseen. He expected that it might go in directions that were not, in

the long run, useful. He also knew that some staff would learn very rapidly and ‘take to it like ducks to water’ while other staff would resist the need to change. He believed he could tell which staff would ‘fly’, which ones would ‘walk’, which would ‘meander’ and which would ‘remain still’ but would not want to bet on his decisions; he had been wrong in the past.

While Bob had a clear idea of what he wanted for the school and believed he would be able to tell when the school was approaching the goal, the possibility of the unforeseen diversions made him less sure of the actual learning pathway the school would follow. He knew that some staff would prefer a more open-ended approach to the change, while others would prefer much more structure and direction imposed externally. Some would want to know exactly what they were required to do, while others would value being given the opportunity and permission to see what did work best. Some would be moving in small steps and would need lots of feedback from him and the leadership team while others would make greater leaps in knowledge.

Some investigators have recommended that we understand the change process in organisations, and therefore professional learning, in terms of chaos theory (Hannay, Erb & Ross, 2001). This interpretation sees significant change associated with the characteristics of randomness, uncertainty and unpredictability, surprise, ambiguity, rapid change, and confusion (Caine & Caine, 1997; Daft, 1998). These characteristics suggest that the outcomes of professional learning cannot be unambiguously identified, planned for and controlled or managed. The theory does, however, assist in understanding the learning process.

The most commonly used metaphor or analogy used to illustrate chaos theory is how the beating of a butterfly’s wings influencing air conditions elsewhere (Hannay, Erb & Ross, 2001). The movement does not cause the eventual effects. Instead, this action can affect act on another part of the system that, in turn, affects another part of the system and eventually leads to far wider influences than those anticipated initially (Garmston & Wellman 1995; Morgan 1997; Daft 1998; Morrison 1998).

This metaphor can be applied to a community engaged in professional learning. I observed an example of this recently in a classroom in which a teacher, without initially intending to, improved students’ ability to listen strategically and ability to manage their own learning by teaching phonological knowledge. The teacher’s goal was to enhance students’ literacy knowledge. She chanced to hear about novel teaching procedures used by a colleague to improve students’ phonological knowledge. She trialed these in her class and observed that they helped several of the underachievers to read and spell more accurately. She also observed that the students seemed to improve their ability to learn and to study independently. She received positive feedback from some the children’s parents and was motivated to continue with the innovative teaching. She spent several hours reflecting on the changes in the students’ learning behaviours and gradually became aware that encouraging the students to listen to sound patterns cued them to listen to the instructions she was giving. The students converted these to self instructions, applied them and received positive feedback from her. They began to experience academic success in small tasks and continued to listen further.

This outcome was chaotic in the sense that it was unpredicted. The teaching was intended to improve literacy. As well, it was due to several small changes, each having an outcome and each occurring either simultaneously or very closely in time so that the smaller outcomes influence the overall outcome. The teacher had the students do short tasks for which they received positive feedback. Being surprised at their increased ability to attend to the short tasks, the teacher again gave them positive feedback and highlighted their unexpected academic successes. Their parents noted the small changes in their increased focus and attention and mentioned it to the teacher.

While the unpredicted or unexpected outcome of improved strategic listening and self managed learning ability was at one level random and certainly met the criterion of being ‘chaotic’, it didn’t happen entirely accidentally. The teacher, at the outset, was trialing new teaching procedures to respond to the challenge to improve her students’ literacy knowledge. She actively monitored and evaluated the effect of the novel teaching and reflected on how it was working. She linked the novel teaching with changes she observed in her students’ listening ability and to use what she said. She was intrinsically motivated to pursue the innovation further. While the outcome may have been unexpected, the teacher’s behaviours were not random; they were the result of professional decision making based on careful reflection and an active search for increased understanding.

The important message here for school leaders intending to improve their schools is that while they cannot control or totally plan for the change process, they can put in place the conditions most likely to foster the necessary professional learning and recognise and analyse the outcomes in terms of their intended goals, what the outcomes actually add to the goals and how they add value to the quality of education in the school. Conditions that assist learning communities to deal with apparently chaotic change include (Hannay, Erb & Ross, 2001):

- (1) putting in place procedures that support, encourage and value change and continual organisational learning, such as tolerating or being receptive to divergent perspectives;
- (2) encouraging professional collaboration and teamwork as a key means of operating (Gunter 1995);
- (3) involving those affected by decisions in the decision making (Garmston & Wellman 1995; Goff, 1998); and implementing flexible organisational structures and holistic processes that lead to cohesion and identity and that facilitate adapting to contextual needs rather than isolated tasks (Hammer 1997; Seller 1999).

As well as recognising and acknowledging that they cannot totally plan for or control the outcomes of building a professional learning capacity, the school leadership team can assist their staff at any time to see in context and to make sense of the uncertainty and apparent ambiguity. These impressions, if not handled functionally, can seriously restrict a school’s professional learning activity and improvement.

The uncertainty, confusion and lack of resolution associated with professional learning are frequently temporary, related to specific events and conditions at particular times. With more time or minor changes, things fall into place and seem less chaotic. Staff immersed in the change process often do not see this and may react negatively to the chaotic intermediate outcomes. The school leadership team may need to use dialogue that assists staff to understand the disconcerting outcomes, see the positive aspects of the outcomes and the parts that are in place, that these types of outcomes are not unusual in open-ended learning and that the process of learning is in place and under control.

This latter point is important for school leaders. While aspects of the outcomes may be chaotic, the learning framework can help school leaders to continue to guide the professional learning process. They can also use the framework in a diagnostic- intervention way to identify aspects of learning that may, at that time, assist in reducing chaos and offer options for future activity.

School leaders need to decide the extent to which they will encourage a professional learning capacity to evolve. They need to judge the readiness of their staff to engage in an activity that may involve professional learning chaos and over which they may have less management and direction. They need to be aware of their level of comfort with this and decide how they might deal with

unexpected events and outcomes.

They may decide on a developmental pathway where the plan to gradually allocate greater opportunity for self directed and managed professional learning to their staff as the capacity of the teams for professional learning increases. If a school is judged to be already either in a chaotic state, or not achieving at a satisfactory level, the leadership may judge that the professional learning activity needs to be initially more organized, structured and directed. An example is a school in which student outcomes are not strategically linked with teaching practice, that is, ones in which student achievement was comparatively low and the staff didn't know the appropriate pedagogy for improving this.

The school leadership team needs to judge the ‘breadth of chaos’ (randomness, uncertainty and unpredictability, ambiguity, rapid change, confusion) their school can carry at any time. They need to balance this against the aspects of their core activity that they do have in place and under control at that time.

Professional learning involves collaboration It has already been noted that the recommended unit for professional learning is the professional learning team or PLT. The team provides the context for both collaborative and individual learning. It is useful at this point to examine some of the conditions for fostering this collaboration.

The importance of collaboration in learning is indicated in Vygotsky’s theory of learning, with the associated notion of the zone of proximal development (ZPD) (Smargorinsky, 1995), “... the distance between actual developmental level of the child as determined by independent problem solving [lower limit], and the level of potential development as determined by the problem solving under adult guidance or in collaboration with more capable peers [upper limit]” (Vygotsky, 1978, p.86).

Scaffolding learning in the social learning context helps learners to appropriate and internalise the knowledge so that it becomes their own (McInerney & McInerney, 2002; Murphy & Messer, 2000), and can be used for independent problem-solving (Reid, 1998). Learning is more effective when learners interact with peers and with more competent others in scaffolded situations. (Stone, 1998; McInerney & McInerney, 2002). In the context of professional learning, colleagues can provide scaffolding through activities such as reciprocal teaching (Stone, 1998)..

A second aspect of the collaboration is peer coaching, used successfully to enhance professional learning. Peer coaching allows staff to engage in a strategic analysis of their teaching in an interactive, reciprocal relationship with peers (Showers, 1985). Activities include preconferencing, observation and postconferencing (Glickman, Gordon, & Ross-Gordon, 2001).

Teachers working in isolation have a restricted range of opportunities for discussing, reviewing and evaluating the teaching they implement. Peer-coaching provides the opportunity for teachers to investigate their practice and to research possible ways of changing it, in the context of scaffolded support in the work place (Sparks & Hirsh, 1997). School leaders can foster learning communities by encouraging talk among peers in parallel with increased self-reflection and analysis on the part of individual teachers (Zepeda, 1999).

This leads to a more fundamental issue that school leaders need to consider in fostering this aspect of professional learning. To be successful the collaboration requires staff to have a positive disposition to collaborating, to working in teams and to share their knowledge with peers. In other words, they need a mindset that has a level of valuing of learning together. Staff who have not had a lot experience in these activities and whose work has largely focused on teaching in their classes

may not have experienced the positive outcomes of collaborating. Past attempts may have left them cynical and they may lack confidence in their ability to learn professionally (that is, a low self efficacy as professional learners). Their response to collaboration with peers may be “just tell me what you want me to do and then leave me alone to do it”.

School leaders may need to give consideration to how they will provide staff the opportunity to build their confidence and self efficacy as professional learners and how they will help their staff to learn professional respect and valuing for the knowledge of colleagues. Some staff may need to learn how to behave in ways that show respect for the knowledge of others. School leaders may need to model these behaviours in their on-going interactions with staff as an aspect of their instructional leadership. Linked with this is professional trust. This is examined in a later section.

Arnau, Kahrs & Kruskamp (2004) report a case study of the use of peer coaching in which experienced secondary school teachers improved substantially the quality of their teaching. The participants became involved in the peer-coaching on a voluntary basis. They reported that the program provided (1) meaningful feedback for their teaching practice; (2) motivation to direct their learning; (3) increased levels of trust and morale among themselves; and (4) justification to do more work.

School leaders need to have the knowledge skills and attitudinal dispositions that equip them to establish the opportunity for professional learning collaboration, in which teachers can engage in professional discussion that reviews and evaluates teaching and learning.

Professional learning requires a systematic set of learning opportunities. For a school community to learn professionally, it needs to enhance aspects of its knowledge in particular ways, by applying the sequence of learning interactions. Bob realised that his staff would need a carefully sequenced set of professional learning activities:

- First, they would need to see a reason for engaging in the learning; they would need to be challenged to change their pedagogic practice. Bob was aware that some staff would need to see that there would be gains for them as a consequence of their learning activity. One gain could come from the staff seeing that the new knowledge they gains actually helped them deal with current problems and hurdles in their teaching and would make their future teaching easier. Having them experience some small gains or ‘wins’ would, he felt, motivate them to seek further challenges. He knew that for many of his staff, the drive to question and challenge their current practice would develop slowly and needed to be fostered.
- Second, they would need to learn about contemporary theories of adolescent learning, to see these as providing possible options or ways of meeting the challenge.
- Third, they would need to identify what these theories meant for teaching, what they would look like in teaching the knowledge for which they were responsible.
- Fourth, they would need to see that they were expected to innovate and fine tune their teaching, and to believe that they could do this successfully.
- Fifth, they would need to apply in the context of their classes some of the novel teaching procedures that came from the theories. He knew that every school has specific features that influence how teaching practice can be changed. The leadership team needed to ensure, for example, that the teaching staff did not ‘overstretch’ their teaching resources at any time

and that staff were assisted to trial and practise new procedures in manageable steps at a time.

He knew that many staff would need various levels of assistance or guidance before they would use the novel teaching procedures independently in their classes. Some would need to see the novel demonstrated in their classes so that they could contextualise them more easily and see how they could fit in and some would probably benefit from being coached to apply them. Having staff in a particular teaching area discuss how they could apply particular novel procedures for the topics they would teach in the next few weeks and what they might expect as novel student outcomes could also assist implementation. These areas of scaffolding should assist in building staff self confidence to implement and practice the new procedures. He noted as well the need for supportive dialogue from the leadership team.

- Sixth, when staff felt confident about using some of the procedures more independently in their teaching, they would need to trial and evaluate specific teaching procedures to see which ones they would retain long term. Bob knew that he needed to build the trust of his teachers both in their capacity to trial new teaching and to let them see that the school trusted them and supported them in this endeavour.

He wanted staff to learn from each other and the school to develop a group knowledge that related to improved pedagogy. Staff would need the opportunity to collate their new knowledge, to synthesize and evaluate it.

- Seventh, they would need to identify which new teaching procedures they would implement as part of their regular teaching at any time. He somehow needed to maximise the likelihood that his staff would continue to use the improved teaching strategies permanently, if they were shown to be better than the matching ones his staff currently used. From this he was keen to draw out a code of teaching practice that was referenced on the new knowledge and that was a foundation for teaching and learning in the school.

Bob drew the sequence of professional learning activities in the following flow diagram in Figure 3.

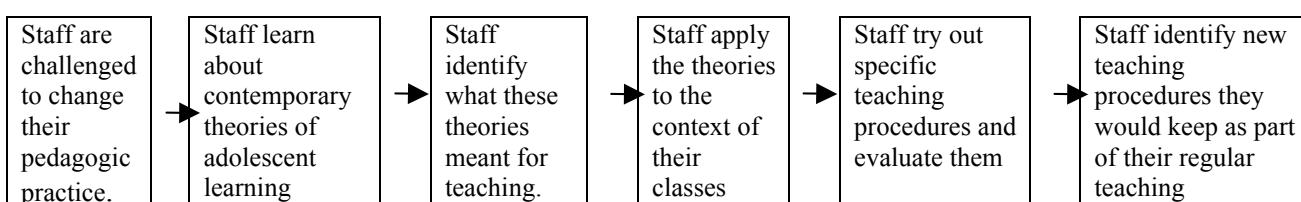


Figure 3 : the sequence of professional learning activities drawn by Bob.

Staff need the opportunity to build a professional learning capacity. In many schools this includes ‘learning how to learn professionally’. A sequence of learning activities in which staff can

- (1) learn options for describing problems and challenges in their teaching,
- (2) identify what they know about the issue, see that what they know is relevant, valued and provides a base for further learning,
- (3) become aware of possible options or solutions,
- (4) embed these as possibilities in their teaching, imagine what the new ideas might ‘look like’ in their classes,
- (5) be guided to convert the possibilities as teaching procedures in their classrooms, ‘do them’ initially with support if necessary and have the opportunity to practise them,

- (6) trial and evaluate the novel teaching procedures,
- (7) share the outcomes of the evaluation with peers, collate a group knowledge that is evaluated in terms of a code of teaching practice for the area,
- (8) contribute to a school wide code of teaching practice and
- (9) continue the sequence for further learning.

More generally, one approach to providing a systematic set of professional learning activities is to apply the sequence of learning interactions described early. One key professional learning activity has provided teachers with the applied action research skills necessary to research and modify particular teaching procedures. Engaging in student data collection during action research can help teachers see that they can have an effect on student learning. Many believe that for some students, they can't. Involvement in the action research activity provides them with a student observation mindset and data collection procedures. It 'tunes them in' so that they know 'what to look for' and are more able to see that their pedagogic actions can have a positive effect on student learning. The outcomes of this for professional development in literacy enhancement is described in Munro (2003).

More detailed sequences and types of professional learning activities are described in Munro (2003b, 2002b, 2002c, 2000b). Key aspects of the professional learning sequence are discussed in the following sections.

Professional learning involves distilling past professional experiences During their professional careers, school leaders and teachers store in their memories a bank of professional experiences or 'episodes'. Each of these episodes is a record of an experience that occurred in a particular space at a particular time. It includes the participants in the experience, the actions that were taken, the emotions that were implicated and the learning outcomes. This knowledge, referred to as 'episodic memory', has been studied extensively (Tulving, 2002).

Teachers and school leaders use the formative sets of episodes they have stored in memory to inform their subsequent practice. The use of episodic or experiential knowledge is very efficient as long as the contexts to which they are applied remain the same in essential ways. Using episodes allow professionals to act strategically and effectively in a range of related contexts and to make optimal use of their past experiences.

Experiential knowledge is less useful when particular parameters in a context or situation change. In Bob's school, students no longer learn in the ways in which they learnt twenty years earlier. The set of experiences the teachers in his school had learnt no longer matched the changes in how the students learnt and therefore did not work.

You hear repeatedly of cases in which a leader, either at the senior leadership level or at the middle level, was extremely successful in one context but unsuccessful in a second context, although the leader attempted to apply the same leadership procedures. The leadership procedures were unsuccessful in the second context because they did not lead to the same level of successful change (that is, professional learning) as they did in the first context. Learning and leadership to learn are context specific. A context needs to 'be ready' for particular leadership and learning strategies.

Effective professional learning involves staff reflecting on and analysing their relevant experiential knowledge (both successful and unsuccessful) and extracting or distilling' from these episodes the features that are shared by or common to either successful or unsuccessful experiences. This is necessary for professionals to make explicit for themselves and to become aware of the beliefs that underpin their practice.

In particular, they can analyse their experiences in terms of what these say about the actions that lead to effective learning and the conditions that lead to it. This can help them recognise what they know about the features of effective learning actions.

Staff can analyse their experiences both in terms of how students learn and staff learn. These features can be described in operational statements that are more general than specific episodes and that can be applied to new situations. Professionals may generate ‘self-statements’ about their discoveries. This allows staff to align their knowledge about learning with the set of learning interactions.

The sequence for professional staff learning is shown in Figure 7.

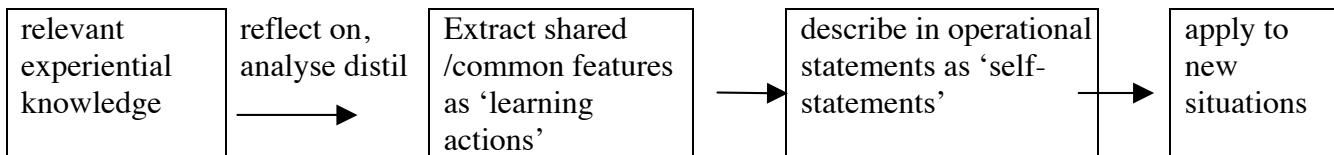


Figure 7 : The transformation of knowledge during professional learning

In summary, a key aspect of effective professional learning involves learners being encouraged to reflect on or to ‘distil’ their experiences. This allows their professional knowledge to be recognised, valued and interrogated for further learning. It also allows individual staff to contribute their unique experiences to the group or community professional knowledge of a topic or issue, thus providing additional options for colleagues. Third, they can trial and evaluate the distilled outcomes of their personal professional experiences and map these into novel possibilities or up-dated ‘virtual experiences’ or scenarios for their improved professional practice.

School leaders need to be aware of the importance of the evaluation and analysis of professional experiences in continuous professional education and ensure that sufficient opportunities exist for it.

Professional learning involves thinking innovatively in terms of possibilities and options. To achieve the goal of improved pedagogy, professional learning frequently involves ‘possibilistic thinking’, reviewing and questioning the elements that make up teaching and learning events.

Thinking innovatively for pedagogic improvement involves a number of key conditions (Munro, 2001) organised into two dimensions; the individual learner and the context. The five conditions relating to individual professional learners are :

- The knowledge condition for innovative thinking. Thinkers need to have a sufficient knowledge of the topic, issue or domain to support thinking strategically or innovatively. As well, they need to perceive this knowledge not as absolute or ‘set in concrete’ but rather available to questioned and potentially to be changed. It is sometimes necessary for staff to be guided to ‘get their existing knowledge ready’ for professional learning.
- The how to think innovatively condition. Strategic thinking involves being able to think both creatively and critically or evaluatively in a balanced way. Looking for ‘the big picture’, visualising learning-teaching events now and how they might be by changing elements in the imagery, using actions to explore possibilities, visualising ideas in novel contexts, using multiple perspectives thinking strategies, using critical thinking to investigate, trial and test novel ideas. Some staff may need to learn how to think innovatively about their professional knowledge; they may have had little previous thinking experience in this area.

- Why think strategically : The motivational, drive condition. Innovative outcomes are a product of individuals' self motivated thinking. Staff need to see that there are reasons for them engaging in innovative thinking about pedagogy, to be positively disposed to possible changes and to take personal ownership of aspects of them. Conditions that foster intrinsically motivated thinking need to be in place.
- Will the culture let me think innovatively ? The personal mindset about how to think in that context can have a profound influence on thinking. The professional learning context needs to show that it values a questioning and inquiry of current pedagogy and novel possibilities.
- Displaying the outcomes of innovative thinking. Innovative outcomes are frequently not valued by colleagues for a number of reasons; they are perceived as requiring un-necessary change, they disrupt the present ways of operating, they are too different or novel. Individuals will be less prepared to display them if they elicit negative feedback from peers. Consideration needs to be given to how novel possibilities will be communicated.

A similar set of conditions in the thinker's environment or context can either facilitate or inhibit innovative thinking about pedagogy.

Professional learning acknowledges that professionals differ in how they learn. The area of learning style has been very well canvassed in recent years. Differences in style can be displayed for each interaction in the explicit theory of learning described in Figure 4. These will not be elaborated here.

There are, in addition, other aspects of learning style that arise in the context of professional learning that are frequently neglected. These include:

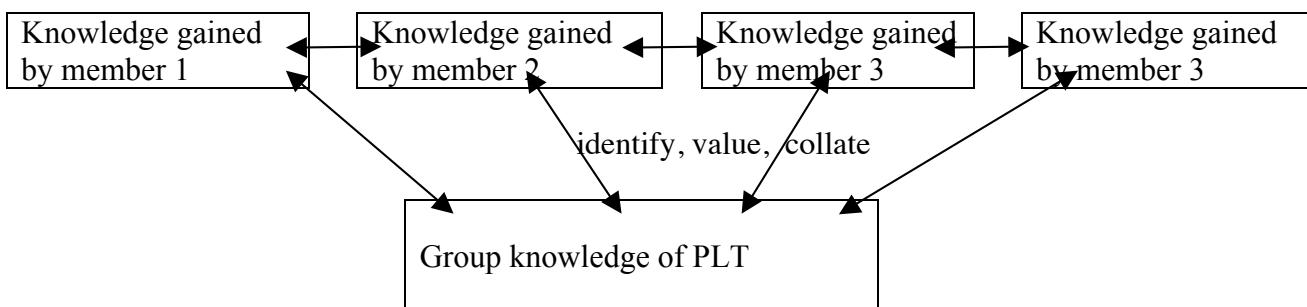
- (1) whether a professional at any time prefers to learn in a self-directing and managing way or prefers to learn in a scaffolded, externally directed way. The learning preference here is related to the individual's motivational orientation for professional learning. School leaders need to recognise that their staff at any time differ in their preference here and need to have the appropriate learning opportunity. It is not reasonable to expect that all staff members will learn best either by being structured externally or by initiating the learning themselves.

School leaders also need to acknowledge that the balance between extrinsic and intrinsic motivation to engage in professional learning can change. Their expectations of learning by any staff member needs to take account of this.

- (2) whether a professional at any time prefers to learn and to teach explicitly or implicitly. Some professionals find it comparatively easy to learn to fine tune their pedagogic practice by observing peers demonstrate novel procedures. Others need to develop their own procedures that they believe match those observed.
- (3) how a professional prefers to demonstrate a change in professional knowledge, in this case, a change in pedagogic knowledge.
- (4) The ease with which professionals engage in reflective practice.
- (5) The ease with which professionals map their conceptual knowledge into procedures.

School leaders need to be aware of these differences and to recognise and accommodate them in their leadership of professional learning programs in their school. The implicit assumption that all staff learn in the same ways will undoubtedly be detrimental to overall school enhancement and to individual learning progress. A valuing and fostering of multiple, diverse ways of staff learning is likely to lead to enhanced professional learning outcomes.

Professional learning involves building and drawing on the relevant group knowledge of the community A key aspect of professional learning involves identifying, collating and valuing the knowledge gained by each member of the community. (O'Donnell, & O'Kelly 1994). This becomes the knowledge of the group at that time. In contexts in which teachers trial and evaluate novel teaching procedures, each teacher can report the outcomes of novel teaching procedure they trialled. At the same time, each member of the community draws on this knowledge and uses it to learn professionally.



The knowledge gained by each teacher or team can become group knowledge by being shared with other members of the professional learning team, department or faculty and with the school community. A key characteristic of a community learning is how it shares, assembles or collates, recognizes and values what it has learnt at various times during learning. Fullan (2002) notes the importance of professional knowledge sharing for school effectiveness. What has been learnt by each individual or team now becomes the knowledge of the group or community. These are the outcomes of the community learning.

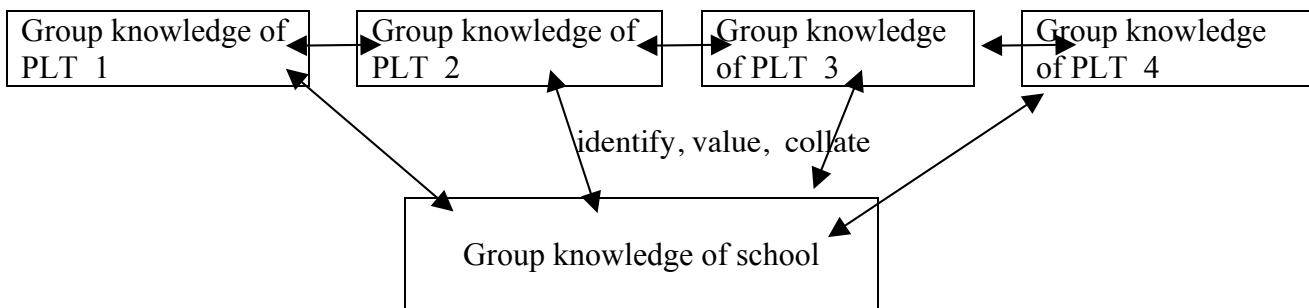
The group knowledge is synthesised from the network of members. Each member is a node in the professional learning network, generating professional knowledge that is influenced in turn by the specific context for the professional learning and the knowledge shared by colleagues, both formally and informally. Processes for synthesising the knowledge can also be both formal and informal.

This phase of the community learning involves two aspects of reflection on practice; members :

- (1) reflect evaluatively on what has been learnt and reported by colleagues and identify valuable outcomes of the learning by others for their practice, and use the learning of others to evaluate their practice.
- (2) reflect 'into the future, contemplating possible directions for future learning.'

The distillation of experiences described earlier is one aspect of reflect evaluatively on one's past professional experiences.

In a similar way, the group knowledge gained by each PLT can be pooled to form the group knowledge of a faculty or department and ultimately the knowledge of the school community.



This activity serves several purposes in relation to professional learning. It communicates the expectation in a tangible way that each teacher and each group will engage actively in professional learning and that their learning outcomes are potentially of value to the community. It allows the learning community to see where it is along its pathway to its purposes or reasons for learning. It also allows the teaching group to examine how the new knowledge might enhance its work more broadly and inform a code to teaching practice for the group.

Professional learning involves reviewing, enhancing knowledge / practice and continuing the professional learning As well as collating what has been learnt, the professional community reviews and evaluates the outcomes of the learning. Professional learning here involves drawing out or abstracting from one's own professional learning in particular contexts, at that of colleagues. Innovative teaching procedures are evaluated in terms of their relevance for enhanced pedagogy and an understanding of learning at the faculty or department level. Staff identify how they could incorporate these into their teaching and to develop them further. The relevance of the strategies for other faculties or departments are discussed.

A unifying focus here can be on how the new knowledge contributes to a code of teaching practice. Each teacher can identify how the new knowledge contributes to her / his code of teaching practice. At the PLT level or the faculty or department level, the group can draw out what the new knowledge means for improved pedagogy for that area of study. In Bob's school, for example, the history staff and the mathematics staff may each identify how teaching history and mathematics may be improved by particular reported outcomes. At the school level the implications of outcomes for the school's code of teaching are identified. Schools can identify the extent to which the learning has assisted them to achieve aspects of their community goals or visions.

The community also plans and learns further. Schools can identify how they can re-orient their goals or visions and how they might approach the next aspect of their vision. The school identifies new priorities or goals for its learning and implements the next phase of the learning agenda.

Professional learning involves identifying what it has learnt about how to learn professionally One of the key learner interactions is reflection of how the learning occurred, what was done to learn, the key learning actions or strategies. Individuals can reflect on how they and others learnt. As well, the PLT and the community can discuss what it has learnt about how to learn, the values of learning collaboratively and individually, the procedures used to evaluate particular teaching innovations in terms of student responses, the learning actions used by individuals and groups. As part of its recorded ways of learning (This is how we learn) and its dialogue, gradually the community can build a knowledge about how to learn and how to move towards being a self managing and directing learning community.

The recorded knowledge about how the community can learn can assist in subsequent problem solving. The community can also reflect on how it sees knowledge and how its understanding of knowledge is changing, for example, that knowledge is not 'set in concrete' but our best understanding at any time.

An explicit focus on how to learn professionally increases the likelihood that members will engage these learning strategies in the future. The PLT and the school community come to see that professional learning is manageable and frequently motivational professionally. The focus on ‘learning how to learn professionally’ provides a basis for a positive disposition to ‘life long professional learning’ and fosters in the PLT and the school community a preparedness to engage in this activity long term. It can lead also reduce the influence of the departure of individual members who have been strong learners and on whom the community has relied for learning outcomes.

Professional learning involves trust Trust is a key aspect of school leadership for developing and sustaining a capacity for professional learning (Youngs & King, 2002). Indeed, professional learning occurs in a network of trust. Teachers trust the community to allow them to trial and evaluate possible teaching procedures, to take risks and to possibly make mistakes. They trust themselves; they believe they can learn successfully new teaching procedures (they have a level of professional ‘self efficacy’), that they can have confidence in what they know and in their capacity to learn and through this, to solve problems in their teaching. They believe or trust that what they are learning will be relevant to their goals for engaging in the learning.

They trust their fellow team members to accept them as professional learners, to support them in a range of ways where necessary and to allow them to operate as learners. They trust their leaders to allow them to operate as professional learners and to support them as learners.

School leaders need to trust their staff. Through their interactions they need to show that they have confidence in the knowledge of their staff and belief that they can bring about change. They also need to indicate a trust in the change process, that it can facilitate progress to the desired outcomes.

School leaders need to understand the role of trust in the professional learning community and the actions by leaders that can either strengthen or reduce it. It, along with commitment and perceived organizational support, is a condition necessary for developing a learning community and is fostered through effective communication (Barker & Camarata, 1998). Successful professional learning in many school communities has been limited through a lack of trust among the staff.

Individuals indicate their level of trust for others through their interactions; the things they do and say. Professional trust is to some extent domain or subject-specific. Individuals are more likely to trust others in some contexts more than others. Indicators of trust include the quality of valuing perceived by each staff member in their relationship with the organization, the extent of empowerment experienced by each staff member, the extent to which staff ownership of and responsibility for professional knowledge and practice are encouraged (Barker & Camarata, 1998).

Leaders and peers need to ‘do professional trusting’. The level of trust in a professional learning community can change. It may be necessary that initially the leaders display professional trust and use a dialogue that supports it.

Trust among staff to participate authentically in professional learning can be fostered by a school leadership team. Arnau, Kahrs & Kruskamp (2004), showed that the extent to which veteran secondary school teachers trusted peers influenced the extent to which peer coaching improved the quality of their teaching. These teachers had worked for many years in the solo context of their own classrooms. In order to engage successfully, one would expect that they would need to learn to trust colleagues on professional learning activities. The investigators reported that this did happen.

There is a clear message for school leaders whose intention is to improve the learning capacity of their staff. Many of the staff may have worked in contexts in which they have not learnt to build professional trust. If this learning requires teachers to evaluate, review and fine tune their teaching, they may need the opportunity to improve their self confidence and trust to do this. Leaders may need to provide avenues for a range of collegiate activities such as professional discussion (Eaker, DuFour & Burnette, 2002), working co-operatively and sharing their expertise (Burke, 2000).

Leading professional learning teams : middle level leaders of learning

It has already been noted that the professional learning team is the preferred format for professional learning. One means of building this learning capacity is to have the learning of individuals and groups facilitated by ‘middle level leaders of learning (MLLsL). This concept derives from the mechanisms implicated in the learning of individuals.

In order to manage and direct their own learning, individual learners need to be able to plan how they will learn, monitor how effectively their learning is progressing, change direction if necessary, use selectively the actions judged to be most effective, integrate, review and consolidate their new knowledge. This is their metacognition (Schraw & Moshman, 1995). It is the means by which an individual’s learning activity is directed and managed. It allows the learner to make decisions about the learning activity at any time.

Each professional learning team needs a corresponding function. The work of the MLLsL matches that of metacognition in individual learning. They ‘cue’ or guide the team to use metacognition at a group level. Initially the MLLsL are responsible for the team’s planning, recognizing when particular knowledge and action is necessary, reviewing and consolidating what has been learnt, deciding and selecting what is most appropriate. They help the group to learn how to implement metacognition at a team level. They build in each team a capacity to ‘be led’. They are ‘leaders of learning and leaders in learning’. They lead, foster and support staff learning, both at the group and individual levels, for each team.

This, then raises the issue of which staff within a school are best equipped to be lead professional learning activities. Teacher leadership is recognized as a means for building capacity for change and for professional growth (Leithwood & Menzies, 1998). A recent innovation in school improvement has been the function of the ‘middle level manager’. Middle level managers in primary schools are the section or level managers or co-ordinators. In the secondary school context they may be faculty heads, co-ordinators, year level heads and subject heads.

What do middle level managers know and believe about leading professional learning ? To what extent are middle level managers either equipped to lead professional learning or have an expectation that their role involves them building this? Recent investigations of the roles and expectations of middle managers in secondary schools (Brown, Rutherford & Boyle, 2000; Wise & Bush, 1999) suggest that middle level managers have either little expectation that their role involves them building this capacity in their department, faculty or level or have little knowledge of how it can be done. Of 12 areas of work and responsibility performed by middle level managers in the UK, that ranged from developing a school-wide curriculum to monitoring resources and maintaining facilities, the leadership or enhancement of professional learning was not mentioned (Wise & Bush, 1999). Out of a second list of 16 tasks, the middle level managers rated developing their staff’s professional abilities as 9th in priority of expected responsibilities.

The ratings of the Heads of Department were compared with those of school leaders from some of their schools. The school leaders differed from their middle level managers by rating this area of responsibility as equal second in priority. Obviously a discrepancy exists between the expectations of the school leaders and the middle level leaders in terms of the expectation that the middle level leaders will, as part of their roles, facilitate the professional learning of their staff.

Brown, Rutherford & Boyle (2000) examined, among other factors, initiatives Heads of Department in secondary schools in the UK had taken to improve the quality of teaching and student achievement and the barriers they saw to this. The Heads categorised the progress they saw their departments making (the culture of the departments) and the links between this and the quality

of the school leadership. Categories of progress ranged from ‘stuck’ to ‘moving’. The Heads suggested various possible ways of improving the quality of teaching in their departments that included ‘more praise for good work’ and ‘more time for classroom observations and reflections’ (page 246) but reference to a systematic building of professional learning was not reported. The obstacles that the Heads noted were ‘a need for more co-operation, lack of planning time, need extra members of staff, too many national changes and smaller taching groups’ (page 247). Again. the Heads did not see lacking a professional learning capacity as a barrier to improved pedagogy.

In summing up their research, Brown, Rutherford & Boyle noted that there was ‘much uncertainty about the range of possibilities for professional development’ (page 250) and more support for departmental training days than for activities co-ordinated at a whole-school level. The Heads of Department reported a lack of quality vision and little opportunity for them to contribute to it. They also reported lack of communication as a major concern.

The investigators noted the need for teachers in each department to collaborate to develop a coherent approach to teaching and learning. They also noted the need for activities of the various departments to be synthesised into an overall school approach. These observations are consistent with the model of the professional learning community proposed in this paper.

The term MLLL is used in the present research in a functional rather than in an organisational sense. It is defined in terms of the domain of knowledge that is targeted during professional learning; the MLLL leads and guides learning for a body of knowledge that is part of the total knowledge base of the school. In Bob’s school, one MLLL may lead a PLT that targets history while a second targets technology. In a primary school one MLLL may lead a PLT that targets literacy enhancement in the early years while a second works in the grade 3 to 4 range.

Whether the function of MLLsL are implemented by middle level managers such as Heads of Department , subject heads, level leaders, year level co-ordinators or by other staff members is a decision to be made by school leadership teams. My experience is that the middle level managers in a primary or secondary school have the authority and standing to be seen as MLLsL. They are already seen as leaders by their colleagues.

The research reviewed above has a clear message for school leaders. If their school needs leaders who can lead the development of a culture of professional learning, they will need to put in place the conditions necessary for this to be fostered. Their middle level managers may not believe that this is part of their function and may not possess the skills necessary to foster this knowledge. According to the research studies, the middle level managers had perspectives on professional development that indicated a fragmented and limited perspective at best.

If the future success of their school depends on improved pedagogic practice, the school leadership will need to provide their staff with access to leaders who can foster professional learning effectively. In a secondary school intending to improve its literacy teaching procedures, a panel of ‘leaders of literacy learning’ may be needed to assist staff to enhance their professional knowledge of literacy teaching in the various subject areas. A school that intends to improve its education of students who are gifted learners may implement a panel of ‘leaders of gifted learning’ to lead staff to enhanced pedagogic practice for students who are gifted.

MLLsL work at the interface between the SLT and individual classroom activity. They have an in-depth knowledge of the focus of the learning and how to facilitate professional learning.

The knowledge necessary for MLLsL In order to perform their work, the MLLsL need knowledge (including attitudes and skills) in a range of areas (Munro, 2003). This includes those shown in Figure 8.

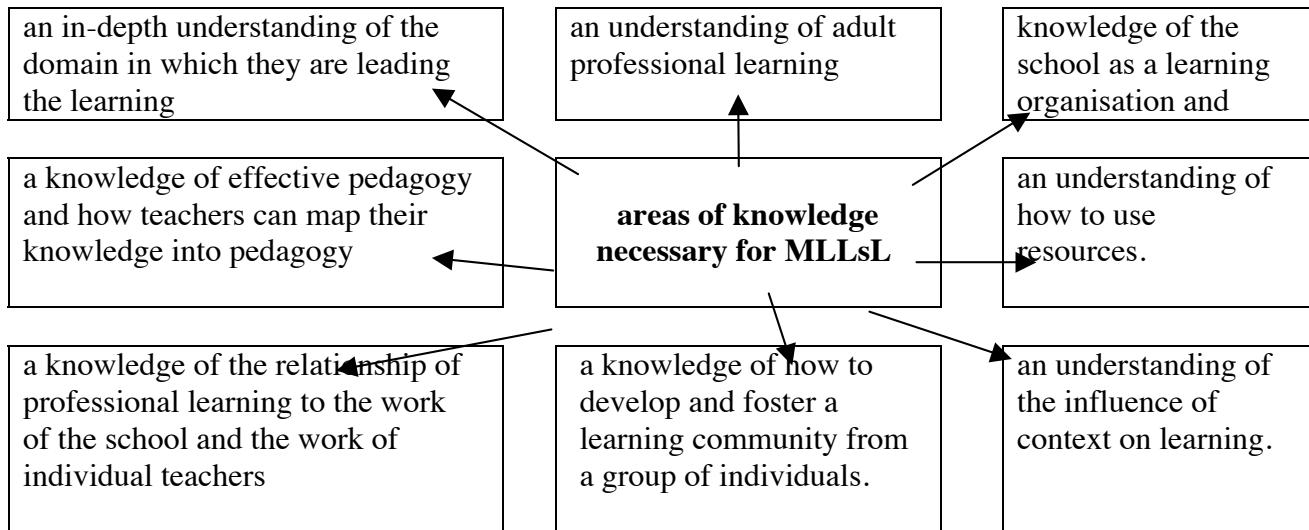


Figure 8 : The range of areas of MLLL knowledge.

School and middle level leaders need to be aware of these areas of knowledge and provide the opportunity for the leaders of the school's professional learning capacity to acquire it. The areas of knowledge are described in the following:

- ***an in-depth understanding of the domain in which they are leading the learning.*** To lead a PLT to improve its pedagogic practice in literacy learning, for example, the MLLL needs to have a sufficient knowledge of learning to scaffold the professional learning of the group. It may be necessary for the MLLsL in a school to have the opportunity to acquire an in-depth knowledge of the topic in which they will lead the learning before they begin to work with the PLT on the topic.

Linked with an understanding of the domain is an understanding of student learning in the area. The MLLsL need to understand how students learn in the area, what successful student learning in the area would 'look like', how to identify when it is occurring and to organise student learning progress on a pathway, the conditions under which student learning is enhanced and how to analyse the goals of both the school and the PLT in terms of gains in student learning.

Bob acknowledged that he, and the SLT, did not have a well developed knowledge of specific aspects of contemporary adolescent learning. He recognised that the MLLsL in Bob's school would need an in-depth understanding of this topic. They needed to convince the PLTs they would lead that they could deal with the queries and issues that members might have about learning and so win the confidence of the PLT. They would need, for example, sufficient knowledge of the topic to help each PLT to understand problems in their teaching from a learning perspective. The MLLsL would need time and resources to acquire this knowledge.

- ***an understanding of adult professional learning*** (in both group and individual learning contexts). They need to know, for example, the conditions necessary for the group to learn and the procedures necessary to foster PLTs in a community. This may include
 - ○ how to lead the implementation of group learning enhancement action plans,
 - how to facilitate on-going group and individual learning, recognising and handling multiple ways of learning in the group (Lemahieu, Roy & Foss, 1997).
 - how to coach and mentor interventions for improved teaching for individuals and groups. MLLsL can guide the scaffolding of professional learning, encouraging sharing learning outcomes, graduated assistance gradually shifting responsibility to the team members (Biemiller & Meichenbaum, 1998; Stone, 1998). Mercer (1994) and Hammond (2001) provide various practical recommendations for implementing scaffolding. Reciprocal teaching is a useful procedure (Stone, 1998).
 - being aware of the types of dialogue scripts that encourage teachers to reflect critically on their learning and professional practice (Blasé, 1999, 2000). These include: (1) purposeful, appropriate, non threatening suggestions characterized by listening, sharing experiences, using examples and demonstrations, giving teachers choice, encouraging risk taking, recognizing teachers' strengths, and maintaining a focus on improving instruction; (2) feedback that targets observed classroom behaviour, is specific, expresses caring and interest, praises, establishes a problem-solving orientation, responds to concerns about students, and stresses access to follow-up talk; (3) modelling and demonstrating teaching techniques in classrooms and positive interactions with students; (4) using inquiry and solicited teachers' advice about instructional matters; (5) giving praise that focuses on specific and concrete teaching behaviours; (6) strategies that foster professional growth .

They may need time to decide how they will guide the professional learning of the PLT, for example, the activities they may offer the PLT, what professional learning action plans in the area might look like, how they might deal with potential hurdles the PLT might face.

The MLLsL in Bob's school may need to decide how they will introduce the new content to their teams and how they will help them learn the various aspects. They need to develop activities for helping their PLTs collate what they already know about contemporary adolescent learning and to develop action plans for their learning. They also need to decide how they will 'bring on board' all members of the PLTs and provide positive feedback that strengthens the learning of the group.

- ***a knowledge of how to foster ‘change’ or ‘improvement’ thinking.*** In addition to the above, the MLLsL frequently need to catalyze and guide thinking that leads colleagues to question aspects of pedagogy, their conceptual knowledge of effective learning and teaching and their attitudes to it.

This may require an understanding of the thinking strategies that make up 'change' or 'improvement' thinking, for example, 'big picture imagery' thinking, 'changing elements imagery', 'action exploration' thinking, far transfer, probabilistic thinking, using multiple perspectives thinking strategies, analogistic thinking and using critical thinking to investigate, trial and test novel ideas. As noted earlier, some staff may need to learn how

to think innovatively about their professional knowledge; they may have had little previous thinking experience in this area.

In Bob's school, for example, a PLT that comprises history teachers may be cued by its MLLL to visualise how students may be learning differently in five years time, the ways in which a lesson may be structured differently, how history classrooms may look different. It may then be engaged in changing elements imagery, with the MLLL introducing novel items to the imagery.

In addition to the 'how to think' for change, the MLLsL may need to assist some staff to see the personal value in engagement for them and to take steps to foster intrinsically motivated innovative thinking about pedagogy. They may also need to assist some staff to communicate their novel ideas to colleagues in ways that 'bring the group along' with them and do not threaten or alienate themselves or their ideas.

- ***a knowledge of effective pedagogy and how teachers can map their skills, conceptual knowledge and attitudes into pedagogy.*** The MLLsL need to assist their colleagues to convert their new conceptual and attitudinal knowledge into teaching procedures that they can trial and evaluate in their teaching and then use their outcomes to add to their repertoire of effective teaching procedures. The MLLsL may need to demonstrate, model and coach their peers to develop new teaching procedures. They need to be able to form an impression of what effective pedagogy would 'look like' when the desired changes have been put into practice.

The MLLsL in Bob's school may need to help their colleagues translate their new knowledge about how adolescents learn into teaching procedures. Their colleagues may bring to meetings topics they intend to teach in the next few weeks and the MLLsL lead discussion about how the topics may be taught using the newly gained knowledge. They may demonstrate possible options for new teaching procedures and encourage PLT members to offer additional options. They may lead PLT members to suggest how they would contextualise the new procedures in topics to be taught and how they could evaluate the effectiveness of the new procedures.

- ***knowledge of the school as a learning organisation and the relationship of professional learning to the work of the school and the work of individual teachers.*** The MLLsL need to reflect on how they, both individually and as a team, will link the work of their PLTs with the SLT. They will, in all probability, have a stronger knowledge of the learning and pedagogic aspects of the focus of the leadership than the SLT. They may need, for example, to guide and coach the SLT to operationalise and contextualise the improvement focus in the work of the school.

They need to decide how they will communicate both their knowledge of the topic and the progress made by their PLTs to the SLT and to the school community. They need to put in place procedures for allowing their area to develop as a learning community (for example, see Gordon, 1997) aimed at enhancing professional knowledge and skills. Similarly, they need to identify how they will learn of, and apply in their area, the knowledge gained by other PLTs. They also need to be able to take policy passed to them by the SLT and examine both its relevance for the community (for example, the extent to which the policy links with current practice in their school) and what it would like in practice in the context of their school. They need to know how to link the learning outcomes of their group with the school's outcomes and to negotiate the school's goals with those of the PLT.

As well, the MLLsL need to ensure that they have firm working relationship with the classroom practice of each member of their PLT. A professional trust relationship needs to be developed between each MLLL and each team member, such that individual teachers' knowledge and individual classroom practice influences and is influenced by the knowledge of the PLT.

The MLLsL need to implement effective instructional leadership. This includes transformational leadership, participative leadership, and the decentralisation of decision making describe this transition (Hallinger & Heck, 1996). They need to put in place supportive environments that lead to area-wide action plans for growth and that facilitate teachers' thinking about practice, inquiry-focused activities that involve a critical analysis of classroom interactions (Reitzug & Cross, 1993; Smyth, 1997) collaborative learning

The establishment of this working relationship can frequently be potentially difficult in real life school contexts. A young MLLL, with few years of teaching, may be required to lead a PLT that includes staff who have been teaching for 30 years. The MLLL needs to have strategies for valuing the experiential knowledge of more experienced teachers, for leading the group to value this knowledge and assisting them to display the breadth of what they know. MLLsL who are 'young emotionally' may need to reflect on strategies for building trust with more emotionally mature staff members.

Bob was keen for the panel of MLLsL on contemporary adolescent learning to inform, guide and educate the work of the SLT. He was keen for his school to develop an explicit code of teaching practice that was firmly referenced on adolescent learning. He wanted the panel of MLLsL to inform him of how this could be achieved, the processes and procedures that needed to be in place, and the pathway the school needed to follow. He wanted all community members (staff, students and parents) to be aware of the body of knowledge that would be informing its practice. He acknowledged that different groups in the community would understand it in different ways.

Bob could see that it was to the advantage of his school to have in place a set of professional learning processes that would allow the school to map future policies into classroom practice effectively and easily. Processes that allowed new policy to evolve or develop, to be evaluated, contextualised, trialed and that led to enhanced teaching would be invaluable for the school. He was very keen, therefore, to develop a firm professional learning capacity in the school that was independent of particular individuals.

Bob also recognised that enhanced classroom practice depended on individual teachers both being committed to the need for modified teaching and learning new teaching procedures. For this to occur, in addition to the professional learning processes the SLT would put in place, there needed to be a firm working relationship that was based on mutual professional trust between each MLLL, each team member and the SLT. This, too, would need to be fostered.

- ***a knowledge of how to develop and foster a learning community from a group of individuals.*** In addition to knowing how to foster adult professional learning, MLLsL need to know how to foster a group learning ethos and to facilitate the learning of a group or a community. This would include knowing how to help a group of individuals to learn how to operate as a community, to learn the actions that learners in a community actually 'do', to build 'goal congruence', to help a group of individuals to develop purposes and reasons for being a learning community (developing an identified focus, negotiating and accepting a

purpose or goal), developing a set of attitudes that define the learning community, to build trust in the community by letting individuals in the community need to see that they are trusted with aspects of the community's work. The aim here is the MLLsL put in place the conditions necessary for the group to learn and the procedures necessary to foster PLTs in a community.

Bob could see several advantages in his teaching staff operating more effectively as a genuine learning community. While many worked at a very high level professionally as individuals, he was aware that there was frequently little sharing of professional knowledge. For the area into which he wanted to lead them, he wanted pedagogic practice informed by a group knowledge base. He believed that if his staff worked collaboratively to develop this knowledge, they would be more likely to have ownership of it and build it into their long term practice. He believed that group learning would assist in developing more positive attitudes or dispositions to the new ideas. As well, he valued the unique contribution that he believed every staff member could make.

- ***an understanding of the influence of context on learning.*** MLLsL need to understand how context influences both students learning and professional learning. Teaching procedures and learning strategies cannot be simply transferred from one context to another. Instead, they need to be 'contextualised'. A set of teaching procedures may simply not be appropriate for some contexts. Other contexts may need to be prepared or 'got ready' to accommodate them.

I noted earlier that one frequently hears of instances in which a leader, either at the senior leadership level or at the middle level, was successful in one context but unsuccessful in a subsequent one, when the leader used the leadership procedures that had been successful in the earlier situation. The leadership procedures were less successful in the second context; they did not lead to the same level of successful change (that is, professional learning) as they did in the first context.

Learning and leadership to learn are context specific. A context needs to 'be ready' for particular leadership and learning strategies.

MLLsL need to be able to decide the extent of match between particular teaching outcomes and the contextual readiness for them. They need to decide 'how ready' a particular context is for the arenas into which it will be led. To do this they need to know how to 'read the context; and interpret signs from it'. As leaders, they also need to know how to help the context of the learning community to 'become more ready'.

One key aspect of the role of the middle level leader of learning in this context is to lead the staff to reflect on and analyse their relevant experiential knowledge (both successful and unsuccessful), to 'distil' it to identify features that are shared or common to both successful and unsuccessful episodes, to see that their existing experiential knowledge is valued and relevant, to generate 'self-statements' about effective pedagogic practice and to map these into up-dated 'virtual experiences' or scenarios.

It may be necessary that the MLLsL indicate to the SLT the readiness of the learning community and the PLT to make particular gains by learning specific pedagogic knowledge.

- ***an understanding of how to use resources.*** MLLsL need to understand how to make optimal use of the resources available. These include time, space, teaching materials, human and technology resources. A range of resources are frequently available in the

broader community, but are not always readily visible to the MLLsL. An action plan for collating a catalogue of the resources available and for using these most efficiently may be important for MLLsL.

These leaders guide professional learning in ways that provides optimal personalised learning options, that took account of individual learning preferences and the monitoring of individual and group learning. In the context of a secondary school seeking to improve aspects of its pedagogic practice, professional learning teams are clusters of colleagues focused on achieving a particular pedagogic goal.

In summary, then, the key tools used by effective middle level leaders of learning include

- Dialogue; instructional dialogue that will foster further professional learning. As well as engaging in dialogue that fosters professional learning, the middle level leader of learning also encourages, models and fosters positive dialogue about learning in the team. A key aspect of the work of the leader is to shape discussions about learning and to facilitate communication networks. The communication networks use language to empower learners, focus on substantive dialogue, provide several opportunities for accessing and demonstrating learning and encourage communication between the professionals and other community members.
- Professional enquiry ; the middle level leader of learning encourages a problem-solution based approach to professional learning, and may teach the skills of action research, questioning and investigation of pedagogy and the conditions most likely to optimise learning. Risk-taking, learning by trial and error are encouraged.
- Linking the professional learning activities with the on-going realities of teachers' work and their workplace. The goals of the professional learning are aligned with goals in teachers' classrooms.
- Reflection; both retro-actively on earlier practice for evaluation purposes and affirmation and pro-actively to speculate about possibilities and options.
- Modelling and demonstration, both of pedagogy and of effective professional learning practice.
- Goal setting, both for individuals and for the professional learning teams and the capacity to operationalise these into group action plans and learning pathways. The middle level leader of learning assists both individuals and the team to construct and plot their professional learning journeys and pathways. The team pathways have multiple entry points.
- Monitoring of the professional learning both of individual teachers and of professional learning teams.
- Strategic listening, again both for the professional learning team and for individuals.
- Problem solving; the middle level leader of learning both fosters an active problem solving climate in the team and suggests both to the team and individuals options and possibilities for solving problems. As well, the leader encourages the analysis and sharing of solutions to problems.

- Collaboration; the middle level leader of learning needs to implement and foster contexts for professional collaboration in learning, to encourage goal congruence and focus for particular issues and to collate the group outcomes of this collaboration. The middle level leader of learning fosters a commitment to teamwork, the evolution of a shared vision or purpose, models skills of working effectively and collaborating with peers and an attitude of shared responsibility and teamwork principles.
- Building positive collegial relationships, encouraging a commitment both to the goals for the group and for effective collaboration and teamwork and the positive involvement and improvement of members.
- Mentoring has been identified as a key tool in individual and organizational learning and change (McBain, 1998). Three aspects of mentoring have been identified; psychosocial support, career development, and role modelling. Trust is a key factor in determining the success of a mentoring program and trust in turn is determined by the quality of organizational culture. Mentoring is more likely to be effective in a supportive cultural climate.

The focus here is on equipping the school with the capacity to respond practically in systematic and functional ways to leadership initiatives, that is, the concept of followership;. Both leadership and followership are used to define processes in a learning organisation. Indeed, the two concepts are assumed to be complementary in a professional learning context. Members of the school leadership team may (and it all probability will) engage in followership when needing to learn about aspects of the target of the leadership.

This section targets the knowledge likely to enhance the leadership of professional learning at the middle level. Corresponding knowledge may be expected to enhance professional learning at the school leadership level. Distinctions between learning activity at the two levels are examined in the following section.

Summary and follow-up actions for school leaders. By way of a summary of the climate and conditions for a professional learning capacity, the key points raised can be mapped into a checklist that the school leadership can use.

	Specific issues the SLT will examine
Awareness of how the various cultural influences in your school community will influence the development of a professional learning capacity ?	Procedures to ascertain / audit how the various influences in the culture of your school community influence the professional learning activity and the development of a professional learning capacity
What processes are in place for optimising the influence of students on the professional learning activity ?	
How will the development of the professional learning capacity account of the fact that its direction and path is sometimes chaotic ?	How prepared is the SLT to accept the chaotic nature of professional learning ? How ready is the school for this ? How will the SLT and the community be assisted to understand and accept the chaotic nature of professional learning and use it to greatest advantage ? How will the school be guided to increased self directed professional learning ?
What steps will the SLT take to allow the professional learning to involve optimal collaboration ?	What opportunities exist for collaboration for professional learning ? What processes, structures and knowledge of how to collaborate professionally exist in the school ? What is the school's history in this area ?

What types of professional learning opportunities will be provided and how will they be sequenced ?	
What procedures will be put in place for staff to reflect on and learn from their earlier pedagogic experiences ?	What opportunities exist for staff reflection of professional activities and for learning the dialogue that values and supports this ?
How will staff be encouraged to think innovatively during professional learning ?	
What processes will be used to assist staff to identify, collate and value the knowledge gained by each member of the professional learning community ?	
What processes will be used to assist staff to review and enhance their professional knowledge / and practice ?	
What processes will be used to assist staff to identify what they learnt about how to learn professionally ?	
What is the level of trust for engaging in professional learning activities in the community ?	What is the level of trust for professional learning in the community ? What processes will be used to ascertain the level of trust staff have for engaging in professional learning activities ? What steps will be taken to build professional learning trust ?
What steps will be taken to equip a group of staff to operate as middle level leaders of learning ?	

What will the community do to learn ? The professional learning processes

The need for schools to build capacity is well acknowledged (for example, see Harris & Lambert, 2003). The present research focuses on how a school can build the potential to improve its pedagogy by optimising its professional capacity. This section examines one model for how this can be done. The focus is on the actions it can take to build this capacity. The actions it uses is the set of learning interactions shown in Figure 4.

A school will be a learning community when the learning of all members of the community is directed towards the same general goal or outcome, even though different members of the community may follow different pathways and learn different knowledge and pursue various aspects of the general goal.

In Bob's school, the focus of professional learning was on developing teaching that matched how contemporary adolescents learn. Each department or faculty needed to explore it from their perspective and enhance its approach to pedagogic practice. The History faculty needed to examine how modern ways of learning influenced the teaching of history, the Mathematics faculty how it affected teaching mathematics and the Physical Education faculty how it impacted on teaching.

Within each faculty, teachers would enhance their personal approach to pedagogy in ways that was consistent with their faculty's perspective. They would have the opportunity to trial novel and evaluate novel practices and use the outcomes to improve their knowledge of pedagogy. Their faculty would guide and scaffold this learning. Aspects of their improved teaching would be shared across the professional learning team, while other aspects would be unique to each practitioner.

Bob was also aware that the work, thinking and decision making of his leadership team needed to take account of how contemporary adolescents learn. Their roles would be improved by an understanding that was, in many ways, different from that of the faculties. They needed to see the relevance of this knowledge from the perspective of the whole school and how the school related to the community and other community agencies.

Different community members learn different outcomes In a complex organisation such as a school learning to fine tune its pedagogy, there are probably the three main domains of learning that Bob noted. These are the three main areas in which professional learning needs to be differentiated. This distinguishes between the professional learning that occurs in teams and the learning that occurs as part of one's teaching.

Professional learning in the context of the PLTT is insufficient for pedagogic improvement; teachers need to transfer the new knowledge to their classrooms. They may need to research new pedagogy both in the PLT context and in their classroom. School leaders need to be aware of the need to distinguish between the two contexts.

These domains are illustrated using the concept of 'creating the future', frequently associated with effective professional change. Each is defined by functions in the school community.

- The school leadership (SL) function. The professional learning here is at the global level. The domain is whole school learning, learning in relation to other schools and community bodies, interprets policy at the community level. The learning looks beyond and outside of the school as well as 'into and across the school' in relation to any learning goal.

'Creating the future' is frequently associated with leadership learning (NCSL, 2004). At the school leadership level this involves reflecting upon the school's likely position in

relation to its community in the future. Bob's SLT could model, through imagery, the school achieving its core goals in 10 years time. It could visualise how the school may be similar and different from its present, what it might be valuing, doing and believing differently. It may also visualise aspects of the pathways it may follow to achieve this future.

- the implementation function. This is the level at which the new knowledge is put into practice. It may be put into enhanced or improved pedagogic procedures in classrooms. It may lead to changed student or parent practise.

'Creating the future' is equally as relevant at the implementation level. Teachers in Bob's school could visualise what their classroom practice might look like in 10 years time, how it might be similar and different, what student learning activity might look like.

- professional team learning level. As noted earlier, professional learning involves both individual and group collaborative learning in professional teams. The PLTs are characterised by a domain of knowledge (including beliefs) that is shared and negotiated. In a school that comprises several PLTs, each PLT may be defined by a unique domain of knowledge.

In Bob's school, the PLTs were based on faculties or areas of study. One group of PLTs was responsible for science teaching. The shared knowledge of this group would include the topics usually taught in secondary science programs and the philosophy that underpins science teaching at this level. A second group of PLTs would include the teaching of history and had a corresponding knowledge.

The PLTs in Bob's school could visualise what future teaching in the area of study might look like. They could organise their group thinking into possible future 'codes of teaching practice' for each area of learning.

The PLTs operate at the interface between the school leadership team and individual classroom practice. Each PLT operates as a mini learning community.

The notion of examining the building of a professional learning capacity at various functional levels is recognised in the NCSL's capacity building model (NCSL, 2004). The present research restricts itself to an elaboration of two of the levels in the NCSL model.

Knowledge change at each functional level is examined in the following section.

How does the community learn professionally ? The professional learning framework

What does the community actually do to learn ? Given that learning is about knowledge enhancement and involves actions within and on a network of ideas and that each PLT in a school may be defined by a characteristic domain of knowledge, what are useful actions for each section of the community to do?

It should be noted that an assumption of the present project is that while the school leadership cannot build a professional learning capacity in a school, that it can, through its strategic behaviour, foster this development and put in place the conditions for it to develop. The present project sees action at the various functional levels of a learning community necessary for the growth of this capacity.

The set of learning interactions shown in Figure 4 can be applied to the various functions in a learning community. This leads to a 'how to learn' model for a learning community. The interactions can be applied to professional learning for the three functions noted earlier. There is, in addition, a fourth function, that of the MLLsL, the leaders of each professional learning team.

The focus of professional learning in this paper is towards improved pedagogic practice. As well as those who have a professional responsibility for pedagogy, members of the school community, such as students, parents, administrators and community members may inform the learning process. Indeed, one would expect that effective professional learning teams would have a strategic plan for learning from other community members.

For each type of function in the school community we can identify the types of activities will could be used to learn by applying each learning interaction to the relevant domain. Examples of the types of questions that each functional level could ask for each learning interaction are shown in Table 1. Each question identifies various types of activities in which each participant can engage and leads to specific outcomes that contribute to the overall learning outcomes of the community. The question format is used so that a sense of enquiry is fostered and contextual variations between school communities can be recognised and respected. The acronym KLA is used to refer to 'key learning area'. This is the domain of knowledge that each PLT will work on.

Table 1. The professional learning framework : The questions that each level of function would ask for each learning interaction.

	leaders of school	MLLL	PLT	teacher
a challenge or reason for learning	Why does the school need to change? What challenges / expectations does it / might it need to meet that it currently isn't meeting /couldn't meet? What will school leaders do to frame up a challenge for themselves and for the school?	Why does the KLA need to change? What challenges / expectations does it / might it need to meet that it currently isn't meeting /couldn't meet? What will MLLL do to frame up a challenge for themselves and for the KLA?	How does the KLA group comprehend / respond to the challenge? What challenge does it frame up?	What is the personal challenge framed up by each staff member?
vision of the outcomes of learning, the goals	What will be the outcomes for the school given the change? How will its core activity look different ? What will students and staff being doing differently for what they are doing now? How will the leader negotiate the vision with groups in the school and allocate parts of it to school members ?	What will be the outcomes of the KLA given the change? What will students and staff being doing differently for what they are doing now? How will the MLLL communicate the vision to the KLA group and allocate members so that ownership of it is taken?	What is the vision of the PLT re the change? What does the PLT visualise as possible outcomes ? What does it see students and staff being doing differently from what they are doing now? What is the role of each staff member in the vision?	What is the personal goal of each staff member re the change? What images does the teacher have of her / classroom with the novel outcome in place ?
use existing knowledge	What level of knowledge (abstract, experiential) does the school have at present about the change? To what extent is the school's current knowledge sufficient? What are the school's attitude to and confidence in changing?	How will the leader collate KLA knowledge that is relevant to the change? What procedures / techniques will be used to collate this knowledge? How will the MLLL put in place processes to increase KLA knowledge and to	What does the KLA know (abstract, experiential) at present that is relevant to the change? What are the KLA's attitude to and confidence in changing ? What processes exist in the school to allow the change to occur? What does the	What does each staff member know that is relevant to the change? How prepared is each staff member to share that knowledge? What are the staff member's attitude to and

	What processes exist in the school to allow the change to occur? What does the school know about how to manage, direct and monitor the change process ?	facilitate collegiate learning? What does the KLA leader know about how to lead group learning? How will the MLLL coach attitude change?	KLA group know about how to manage, direct and monitor the change process? What are the questions to which the KLA currently doesn't have answers?	confidence re the change?
see a pathway to the goal	What does the SLT see as a pathway to the visualised outcome for the school? What does the school see as steps to the goal? What are indicators or measures of learning?	How will the leader assist the KLA to develop and implement an action plan? How will the leader lead the group to identify indicators of success? What processes will the leader recommend to monitor progress?	What steps will the KLA take to achieve the goal? What is its explicit action plan? What are indicators of its success? How will it monitor and review progress?	What does the staff member see as a pathway to the visualised outcome ? What is the explicit action plan of each teacher ? What are indicators of its success? How will each teacher monitor progress?
learn new ideas in specific contexts	How will/did the school learn about the topic in specific instances? For a school learning to enhance literacy learning, for example, what did it learn by having an author in residence or by having a writing festival ?	How will the MLLL put in place an opportunity for staff to learn new ideas, to proceduralise these as innovative teaching procedures and to trial these in specific contexts, perhaps using action research? How will the leader coach staff in specific aspects of this?	How have KLA staff, in PLTs, trialed and learnt about innovative teaching procedures in particular contexts ?	What teaching innovation did each teacher plan, implement, research and monitor as a small scale teaching project ? What did each teacher learn about enhanced instances of teaching practice?.
abstract, decontextualise what they have learnt	How do the range of innovative activities in the school inform its code of teaching practice ? How do the set of professional learning experiences contribute to enhancing the school's policy in the area and its relationship with the broader community? How is the school's identity and standing in the community enhanced by the professional learning activities?	How will the MLLL assist staff to generalise what various PLTs have learnt about innovative practice ? How will the MLLL lead the KLA to improve its code of teaching practice by adding the range of innovative activities, its policy in the area and its relationship with the broader community ? How is the school's identity and standing in the community enhanced by the professional learning activities?	What has the KLA learnt about innovative teaching procedures ? What is the changed / enhanced group knowledge of the PLT and KLA? How has its code of teaching practice been enhanced by the learning?	What new teaching procedures did each teacher learn ? What are the conditions necessary for the novel teaching procedures to be implemented?
invest positive emotion in the new knowledge	How does the SLT encourage staff to value and celebrate the gains in professional knowledge and take ownership for them?	How will the MLLL lead the PLTs to value what they have learnt and to remain motivated to engage in further professional learning?	How did the PLTs and the KLA celebrate their learning success? How does the group give positive feedback to its members and encourage group ownership of the new knowledge?	What processes will be used to assist each teacher to value positively the new knowledge and to implement it in teaching ?
store what they have learnt in	What steps does the SLT take to help the staff store in the memory of the	How will the MLLL lead the PLTs to store in the group memory what they	What steps do the PLTs / KLA put in place to store the new practices in the	What steps will each teacher take to remember the new

memory, practise remembering it	school the enhanced practices, for example, add them explicitly to the school's code of teaching practice, identify them as part of the pedagogic knowledge that characterizes practice in the school, communicates them to new teachers, etc.?	have learnt ?	'group memory' of the KLA, for example, (1) identify how they will use the new teaching in topics they will teach in the future; (2) represent the key ideas as an acronym.	teaching procedures and to apply them in their teaching, for example, use a cue card for applying the key ideas in their teaching.
identify how they learnt, what they did that helped them to learn	What has the SLT learnt about how to guide school level learning? What key learning actions seemed to foster school wide learning best?	What have the MLLsL learnt about how to manage, guide and direct the professional learning of groups? What were useful learning actions? What procedures will be used to assist each group to reflect on and identify how it learnt?	What have the PLTs / KLA learnt about how to learn professionally as a group? What group learning actions might be used in the future?	What did each teacher learn about how to learn professionally to improve pedagogy? What actions worked best? How will these be used in the future?
see progress being made	What evidence is there that there has been learning success at the school level? How does the school recognise and value the progress made by each PLT and by individual teachers?	How did the MLLsL assist the PLTs /KLA to see themselves making progress in their learning? What were useful indicators of progress?	What indicators showed that the PLTs /KLA were making progress in their learning? What do the PLTs know now that they didn't know earlier? What problems / obstacles can the group now solve? How was progress on the action plan indicated?	What indicators did each teacher use to see progress in professional learning being made : progress in (1) improved student outcomes; (2) pedagogy that solves problems; (3) improved confidence to enhance teaching.
automatise what they have learnt	What aspects of the new knowledge gained will become 'automatic' parts of the pedagogic knowledge of the school?	How will MLLsL guide the PLTs and the KLA to automatise aspects of the new knowledge?	How will the KLAs and PLTs automatise useful parts of the new knowledge so that they are used as a matter of course? What practice opportunities will be available to achieve this?	How will each teacher automatise aspects of the new knowledge in her / his regular teaching?
transfer, apply and generalise the new knowledge	To what problems / issues at a school level can the new knowledge be transferred / generalised?	How will the MLLL lead the PLT to explore the range of applicability of the new knowledge? How will the PLT members be encouraged to trial their new knowledge?	How broadly can the PLT apply the new knowledge? How far can it be transferred? What additional problems might it solve?	To what other content areas / topics could the new teaching procedures be applied? Where else would they be useful?

* This refers to the unit of change in the school, that is, the area of responsibility or domain in which the change will occur.

The activity by each function of the community for each learner interaction leads to particular outcomes. The school leadership team can use the outcomes for each interaction as indicators of the learning progress of the organisation.

Ways of using the learning framework to enhance professional learning

Implementing a professional learning program can frequently encounter hurdles and difficulties. The learning framework has been used to underpin continuing professional learning of staff in schools in a range of ways (Munro, 2003c, 2002d, 2000b) and to target some of the barriers that can arise. It has assisted school leadership teams and middle level leaders in guiding professional learning towards enhanced pedagogy.

(1) ***To signal the types of questions and issues to be pursued at each phase of professional knowledge transformation.*** Schools have used the framework to unpack areas in which they would like to improve their practice, to identify key steps in the professional learning program and to develop explicit action learning plans for components of the school. As an example, consider again Creating the future, one the areas of leadership learning identified in the NCSL's Strategy for Leadership Learning (NCSL 2004). Suppose that a school decided to use an examination of this issue to improve its pedagogy. At the school leadership level application of the first three interactions could lead to pursuit of the following issues:

Key learning interaction	Guiding questions at the school leadership level
Frame up a challenge or reason for learning	<ul style="list-style-type: none"> • what school level problems will this solve ? • how will it facilitate interactions with broader community? • what does school need to do to support the learning ? • what challenges / expectations school might need to meet in learning this ?
Form a vision of the outcomes of learning, the goals	<ul style="list-style-type: none"> • What will be school / students and staff being doing differently for what they are doing now when outcomes have been achieved ? • How will the vision be communicated to various bodies in the school ? • how will the vision be mapped operationally, parts of it allocate to school members?
Identify, use and value relevant existing knowledge	<p>What is already known (abstract, experientially) at school leadership level about the topic ? What procedures will it put in place for gathering this ?</p> <ul style="list-style-type: none"> • How sufficient is this knowledge to support change ? • What is school's attitude to and confidence in changing, its preparedness to learn in this area ? What procedures will it implement to identify this ? • What is the school's level of commitment to learning and changing in this area ? • What processes in the school will allow the change to occur ? What does the school know about how to manage, direct and monitor the change ?

(2) ***To suggest possible learning outcomes for each phase of professional knowledge transformation.*** The questions for each interaction suggest the types of outcomes that might be expected from the learning activity. The new knowledge gained at each phase of transformation provides the basis for the next phase. The collation of group knowledge at each phase is a key aspect of the model. As well, integration across the various functional areas for each phase is also important.

(3) **To coach and mentor colleagues** The framework has been used extensively to coach colleagues to enhance their professional learning ability. The approach to coaching and the techniques used are described in Munro (2000b). The coach and the teacher or PLT identify the learning interactions already effectively in place and those that could be improved. They collaborate to use the framework to design the coaching program.

(4) **To provide a practical means for implementing distributed leadership.** The framework facilitates distributed leadership for professional learning. Through the MLLL function the activities assist teachers to identify the key aspects involved in leading a peer group learning. MLLsL can use the activities to begin their leadership and then modify them to suit their personal leadership styles.

(5) **To collect feedback from students** Student voice is increasingly recognized as an important indicator of the effectiveness of pedagogy. This in turn can be linked to staff professional learning. The framework has been used to develop an approach to sampling student perceptions of the extent to which teaching fosters each aspect of learning. Questionnaires to collect student feedback in relation to how the teaching helps them learn have been designed and implemented (Munro 2003c).

(6) **To develop a repertoire of teaching procedures for each learning function.** The set of learning interactions has been mapped into an extensive set of teaching procedures that have been used in two ways to enhance professional learning in schools:

- To provide teachers with options for improving their classroom teaching and
- To provide options for implementing pedagogy for professional learning.

In the context of classroom teaching, teachers and PLTs can evaluate this set of teaching procedures in terms of the extent to which (1) they can be implemented in their area/s of teaching and (2) they are already being implemented. In the context of professional learning, the leadership team and the PLTs can use the teaching procedures to select those that are most appropriate at any time.

The framework has also been used to devise and evaluate instructional and curriculum units for professional learning that match the various learning functions. The framework provides a set of criteria for evaluating teaching units and programs from a learning perspective and indicates types of features that may be included in designing teaching units

(7) **To help professional learning teams to be self managing and regulating** The set of learner interactions describe the activities learners implement to be self managing and regulating. Schools and PLTs have used the set of interactions to foster corresponding learning, so that the PLTs move gradually from being directed by the leadership team to managing and directing their learning. The PLTs used the MLLT function to guide the self managing and directing processes.

(8) **To cater for multiple ways in which professionals learn** As with any group of learners, professionals learn in multiple ways. The learning interactions framework takes account of this. Members of PLTs can, for example, frame up goals and collate their existing knowledge in a range of ways. Similarly, PLTs differ in how they implement each interaction.

(9) **To analyze, evaluate (and diagnose if necessary) professional learning** The framework has been used to analyze and evaluate the readiness or preparedness of PLTs to engage in professional learning. Teams differ in their ability to frame up goals, collate what they know or

even have goal congruence. The framework draws attention to the preparedness of a team to implement each component of learning.

Each component has been linked with key indicators that describe what the component would look like in practice. The extent to which a professional learning team frames up a realistic goal for learning, for example, is evaluated in terms of the extent to which (1) the novel professional and student learning outcomes are clearly specified; (2) the extent to which the novel professional and student learning outcomes are likely to be attained given such factors as the level of resourcing likely to be available; and (3) the extent to which the novel professional and student learning outcomes flow from the current position and knowledge of the team.

Where a professional learning team has confronted barriers to its learning, the framework has been used to identify the learning processes and activities that the team has in place and those that may be restricting further learning progress. The barrier as well can be analysed in terms of its learning demands and remedial learning procedures implemented.

The extent to which the framework meets the core principles for school improvement. The framework accommodates the six core principles for school improvement noted by Hopkins (2003). The focus on each team group framing up its challenges for improved pedagogy and integrating these with the challenge identified by the school and the collation, sharing and evaluation of group knowledge facilitate building collective ownership, focusing on the teaching and learning priorities and embedding the improvement throughout the school's practices. The gradual evolution of a code of teaching practice for each teacher, for each area of learning and for the school as a whole is one aspect of this.

The focus on monitoring student and staff learning outcomes, again at an individual teacher level, at the team or learning area level and at the school level, allow all improvement to be evidence based. The framework asks individual teachers, teams and the school to decide the measures it will use and the behaviours that will be seen as indicators of progress.

The extent to which the framework facilitates innovation The need for schools to have the capacity to transform their practice is increasingly recognized. The 2001 Education White Paper in England notes that schools achieving success are innovative and based on a sound knowledge base. Hargreaves (2003) defines transformation as a ‘..profound or fundamental change, a metamorphosis that involves some radical innovation, not just incremental innovation.’ (Hargreaves, 2003, page 3). Incremental innovation involves beginning with the present and extending into the future, while radical innovation involves beginning at a future point and working backwards to the present.

Radical innovation involves thinking strategies usually associated with creativity such as inferring aspects of the future, thinking divergently, engaging in possibilistic thinking, multiple perspectives thinking, speculating and engaging in far transfer. These are the types of thinking described earlier in terms of a knowledge of how to foster ‘change’ or ‘improvement’ thinking.

Contemporary models of creativity (for example, Amabile, 1996; Cropley & Cropley, 2000; Cropley & Urban, 2000; Urban, 1995) identify four conditions for fostering creative outcomes:

- (1) a body of knowledge that is relevant to the creative outcome that is sufficiently extensive to scaffold the creativity.

- (2) a set thinking skills that can generate creative outcomes (Urban, 1995) : the thinking strategies noted earlier and ways managing this thinking and knowing its value, using the strategies selectively, planning, evaluating and to synthesising.
- (3) the motivation to be creative (Cropley & Urban, 2000).
- (4) a positive attitude or disposition to creativity (Urban, 1995), for example, tolerance or valuing of unusual or unexpected ideas, acceptance of ambiguity, preparedness to take risks, a positive engagement with a challenge and positive task commitment.

The focus in the framework on staff speculating and visualising possible outcomes for a problem or solution, planning pathways, thinking about the ideas in a range of ways, collating the new knowledge of the group and then engaging in systematic far or remote transfer assist in meeting the criteria for radical innovation.

This examination indicates how schools, as learning communities can learn and enhance their core work using an explicit model of learning. It shows what a professional community can do to learn and how the learning of professional learning groups can be operationalised. School leaders can use it to lead a learning community and to guide professional learning.

Synthesising these areas of learning : Integrative leadership

Successful learning involves more than knowing how learn. In any learning situation, the activity that is used to learn needs to be contextualized. It is insufficient to identify the learning actions that learners can employ. It is necessary as well to examine how they are used in particular contexts. The learning actions need to be used in ways that take account of the particular contexts in which the learning is occurring.

There are several aspects of contextualising professional learning activity. One aspect relates to how the learning activity relates to what is already known. What is learnt needs to be seen in the context of what is already known. The existing knowledge of the learner or learning group provides the foundation for the learning. All learning begins with what a learner knows. It is this knowledge that is changed during learning. The quality of this knowledge relative to what is learnt, has an important influence. The leadership team needs to estimate the degree of scaffolding necessary for professional learning.

Not only does one's existing knowledge provide a starting point for learning. It is also used to interpret and to link with the new knowledge. The new knowledge may either confirm, extend or negate existing knowledge. Learners need the opportunity to relate the known and the novel. In professional learning this allows learners to embed the new knowledge in the existing context and to see what it would mean for their practice.

An institution such as a school needs to remain an integrated system during the change that comes from effective professional learning. For this to occur, change in part of the system needs to occur in balance or equilibrium with stability in other parts. Said another way, learning occurs in balance or equilibrium with what is known. While parts of the learner's existing knowledge change during learning, other parts remain unchanged. In the context of professional learning, the leadership team needs to ensure that the balance or equilibrium is in place and is visible to all learners.

A second aspect relates to the extent to which the context facilitates professional learning that is self directed versus guided, community directed learning. A key concept in contemporary theories of learning is that of the autonomous self managing and self directing learner. They recognise the need for learners to learn gradually to be autonomously self managing and directing (Ablard & Lipschultz, 1998; Boekarets, 1997; Pintrich, 1995). As well, a particular learner at any time may be more autonomous and self managing in some areas of knowledge than in others.

In some cases the professional learning activity will need to be guided and scaffolded. In other cases, the activity will set its own direction and agenda. The school leadership team needs to put in place the conditions most favourable to the professional learning activity at any time.

Effective learning is influenced by the nexus between existing and novel knowledge of a topic and by the extent to which learners can operate in a self managing way. From a school leadership perspective, these aspects can be described as (1) a balance between the known and the new and (2) a synthesis between the known and the new. At any time the professional activity needs to be balanced and integrated. The school leadership team needs to provide the opportunity for the integration and balance. Without it the professional learning may be less effective and can potentially have a negative effect long term. This section proposes that the school leadership team needs to implement the process necessary for this.

These aspects can be applied to PLTs and individual teachers building a capacity to learn professionally. They learn to manage and direct the learning activity gradually. Anecdotally one would expect that schools, individual staff and PLTs differ in the extent to which they engage in self managed and directed professional learning autonomously and spontaneously. Some may need to learn how to do this across an increasingly broad range of domains.

At any time the school leadership team provides the balance between guided and autonomous, self directed learning here. This balance is longitudinal in the sense that the professional learning journey or path of the PLT, school or teacher is evidence of the trend to autonomy and self direction. It depends on a range of factors, including the content of the learning and its purpose or goal.



School leaders need to recognise the importance of fostering self managed and directed professional learning and to put in place the conditions necessary for it. They need to allow it to occur gradually, in steps that are manageable for the learners.

The work of the leadership team here can be shown in particular examples.

The school leadership team directs the school's learning In some situations the improved pedagogy that a school needs to implement to enhance the learning outcomes of its students is well established generally but is not being implemented in the school. The school leadership team knows what their school needs to learn. Examples of this could include

- (1) a school in which student literacy achievement is at a low level.
- (2) a school that has student management and discipline problems.
- (3) a school that has been formed from the amalgamation of two previously unsuccessful schools.

In these cases, teaching practices that could improve student outcomes are well established. The teaching staff may not implement them for a number of reasons, for example

- (1) staff may believe that the students in the school would be unlikely to benefit from the teaching and are not challenged professionally to improve their pedagogy.
- (2) staff have become unfamiliar with the more effective teaching procedures and lack the knowledge and skills necessary to implement them in their teaching.
- (3) staff morale and beliefs that they can be successful may be low; they have low self efficacy.
- (4) staff believe that implementing the established practice would be more difficult than the practice they currently implement; individual staff may have tried alternative procedures in the past but found them unsuccessful.
- (5) staff believe that the SLT is satisfied with the status quo and the current level of student achievement.

Each of these reasons needs to be confronted in constructive ways by the professional learning programme. Staff need to be assisted to frame up higher expectations for the students, be assisted to learn or re-learn how to implement the more effective teaching procedures in the particular context and become aware that they are expected to implement them. Collaborative professional support is likely to assist this implementation. In these situations the school leadership team, at least initially, directs the professional learning agenda.

Anne's school provides a scenario is one that will be familiar to many leadership teams. It is, in the English context, a 'fresh start' school. Two neighbouring schools had each been judged to be underachieving to the extent that neither could, by itself, grow into an achieving school. Both had extreme levels of behavioural problems and very low levels of student achievement. Both schools were closed and a new school was opened to replace them.

Ann was the head teacher of the new school. Her school inherited many of the teachers and the students from the two earlier schools. She had approximately a year to show that her school was growing towards satisfactory progress. With her leadership team, she devised an approach to pedagogy that the team believed would start the school on the road to progress. She judged that her teaching staff needed to learn how to operate as a professional learning community. To allow this to happen in the context of the school at that time, the team decided that the approach to teaching would be implemented by all teachers. Alternative approaches to teaching, or individual modifications to the pedagogic approach were to be discouraged.

One year on, Ann's school was showing considerable improvement. During the year the leadership team exerted considerable effort in coaching and demonstrating the teaching procedures in all classrooms. Student learning and achievement were monitored on a regular basis.

The consistent and systematic approach to pedagogy and student management paralleled substantial gains in student learning outcomes, a reduction in behavioural problems and the evolution of an increasingly positive learning culture in the school. The school had evolved an explicit code of pedagogy that underpinned the work in all classrooms. Staff saw that their teaching was having a direct influence on student achievement.

Once this had been achieved, the leadership team encouraged evaluation of the teaching and curriculum provision by staff. Staff suggested ways in which they could be improved and an action plan for modification was designed and implemented.

In Ann's school, the leadership team gradually fostered and guided a professional learning capacity. As this grew, the team encouraged an increased focus on self managed professional learning.

The school leadership team does not know what their school needs to learn In other situations the school leadership team has an impression of what it wants to achieve as outcomes but is not as clear about the teaching procedures necessary to deliver them in the context of the school. This was the situation in Bob's school. Bob and his leadership team believed that the school has the capacity to trial and evaluate possible teaching approaches.

The outcomes of the professional learning in these cases, the improved ways of teaching, are not obvious. The staff may need to experiment with and evaluate possible teaching options, perhaps using action research procedures. The consequences of the improved ways of teaching are clear. The school may want to improve the literacy outcomes of its students, take account of contemporary ways of learning (as in Bob's school) or reduce student management and discipline problems. The teaching procedures necessary to deliver these outcomes in the specific context of

the school are not well established. The leadership decides that the professional learning capacity of the school is such that the staff could largely self manage its learning to identify the most appropriate procedures.

Balancing leader directed versus self directed professional learning The difference in self directed professional learning between Bob's and Ann's schools illustrate an aspect of the balance that school leadership teams need to implement. In the first type of situation, the leadership team exerts a greater managerial and directive style than in the second. In the second, the leadership team trusts the PLTs in the school to experiment with, trial and evaluate various procedures and to up-date their practice accordingly. In the first context, the leadership team needed to explicate a set of goals pathway indicators and action plans. They needed to identify what individual staff know and orient this in the direction of the desired changes.

It is this type of balance, between direction and self managed and directed learning, that the leadership team will implement in professional learning. In the first type of situation, open-ended freedom to implement the established procedures was seen as inappropriate; outcomes were improved when they are implemented. In the second type of situation, inappropriate control, management and direction imposed by the leadership team may limit the breadth and depth of the outcomes achieved through the exploratory activity of the professional learning teams.

The extent of balance is dynamic and would be expected to change. It is one aspect of the integrative leadership of professional learning. A second aspect relates to the balance between the learning activity at each of the functional levels of the school noted earlier. Integrative leadership involves the synthesis of the professional learning outcomes of various functions and the balance between directed management and self-managed autonomous learning to change. Effective school leaders need to be able to identify the various outcomes and indicators of extent of balance and to take steps to allow it to adjust.

As part of the leadership process, the school leadership team needs to

- (1) recognize the complexity of the knowledge the community needs to learn,
- (2) identify the staff learning outcomes necessary for genuine improvement and
- (3) develop a content plan that involves 'un-packing' the content to be learnt so that it is organised into 'digestible' units.

The Middle Level Leaders of Learning need to do this for each professional learning team.

The trend towards more autonomous direction of professional learning is, in some ways, similar to trends in the direction and control of educational provision in England over the past two decades. Barber (2002) and Hopkins (2003) note a trend from self management of educational provision by schools in the 1970s to central government control in the 1980s that was not evidence or knowledge based (uninformed prescription) to central control that was largely data or knowledge based (informed prescription) to greater self management by schools that is knowledge and data based. To allow the knowledge-informed self management to evolve, a number of conditions were seen as necessary. These include decreasing non-teaching demands on the roles of teachers, providing more time for teachers' professional learning and improving accountability.

The trend towards self directed professional learning within a school may be similarly based on the display of explicit knowledge that informs the learning. To estimate the extent of autonomous

learning potential for any PLT the school leadership team may look for a range of indicators to do with knowledge enhancement. These include indicators of the use of processes for knowledge enhancement, measures for monitoring group knowledge and procedures for identifying and framing up challenges. More generally, a set of indicators can be drawn using the set of learning interactions.

The interaction between the school leadership team and the MLLsL. A key aspect of the professional learning capacity in a school community is the regular collation and integration of new knowledge across the community, the alignment of the learning action plans of the PLTs with the learning action plan for the community as a whole and re-negotiation and alignment of the vision of each PLT with the vision of the school. The quality of professional learning will be influenced by the quality of the reciprocal relationship between the MLLsL and the school leadership team.

The MLLsL need a functional relationship with the school leadership team that allows professional learning to proceed most effectively. In some schools, some MLLsL will also be members of the leadership team. While earlier studies have not examined this relationship for MLLsL specifically, the relationship for teacher leaders generally has attracted attention. Anderson (2004) identifies three main categories of the relationship between teacher leaders and school leaders:

- (1) the ‘Buffered Model’, in which the teacher leaders formed a ‘protective barrier’ around the school leader, insulating the school leader from relating effectively from other staff.
- (2) the ‘Interactive Model’, in which the school leader interacts with all staff and distributes decision-making extensively, leading to a greater breadth of influences on the school’s decision making.
- (3) the ‘Contested Model’, in which the school leader, in terms of school decision making and influence, is opposed or effectively rejected by the teacher leaders.

School leaders need to be aware of how the relationship can be most functional. Obviously, the potential for developing a professional learning capacity would be influenced by the quality of this relationship. One could speculate on the influence of each type on the level of trust versus threat and conflict necessary for professional learning in case, and on the readiness and ‘health’ of each community as a context for initiating learning.

The effective selection of key teacher leaders, both formally and informally, and their involvement in the change processes of a school has been shown to be an indicator of the effectiveness of school leadership (Anderson, 2004; Whitaker 1995). School leaders who do not understand the selection process may be less likely to utilize a potentially valuable contribution to their improvement. A similar relationship would probably exist for the strategic selection and involvement of MLLsL.

Literacy improvement in a primary school : A case study

This case study shows how the framework for developing a professional learning capacity was implemented on a whole school basis in an Australian primary school (Munro 2004, 2003b) with the goal of improving its literacy education provision. The implementation has been linked with significant and sustained literacy improvement that is much higher than average over the period.

The school, in metropolitan Melbourne had had comparatively low levels of literacy success for several years. State wide assessment indicated that in 1996 80 % of its 250 students in the school below state literacy benchmarks and 84 % of the Preps were judged to be at risk of severe literacy underachievement.

These data worried the newly appointed school leader. They did not, however, concern the teaching staff. The school had a strong ‘whole language’ approach to literacy education. That these procedures had not enhanced students’ literacy knowledge was attributed to factors such as the students’ backgrounds and their lack of motivation to read. The teachers believed that it was unreasonable to ‘expect the students to change’. In terms of the model of professional learning, the staff did not perceive a student learning problem. They were not convinced by the data showing low literacy levels. As well, the parents had low level of expectation of their children’s ability to learn successfully at school.

The school leader saw the need to change these beliefs. He did not accept the prognosis that students in his school were unable to learn literacy. He recognised that he needed to broaden his teachers’ understanding of the factors that influence early literacy learning and the literacy teaching procedures they were using.

He worked with a consultant in literacy education to develop a strategy for implementing an enhancement program. The consultant provided a model of literacy learning and education (the content of the professional learning) and a model for implementing the professional learning. The school leader mapped these into a whole school enhancement program. These were seen as providing a starting point for the improvement. The partnership had many of the characteristic of successful intervention strategies reported by Timperley & Robinson (2003).

In this case the starting point for the content to be learnt by the staff and the means for learning it were determined externally to the school. The school leader saw this as necessary based on the existing staff knowledge, attitudes and pedagogic practice. The model of professional learning saw these as important for several reasons:

First, it would involve a small change in professional learning activity, with explicit outcomes; the staff would learn to implement some novel literacy teaching procedures that were quite different from what they were doing at the time.

Second, it would allow staff with the opportunity to see an improvement in students’ literacy outcomes and to link this with their changed teaching. There was a need for the staff to see that they could be instrumental in helping the students to improve their literacy.

Third, it would allow the school to build a professional learning culture. By focusing on specific literacy teaching procedures, a professional learning dialogue could emerge that could in the longer term change the professional learning culture in the school.

Fourth, it would allow him to guide and direct the professional learning activity and to fine-tune, modify or re-direct the professional activity if necessary. In other words, a small change initially would be more manageable practically.

As noted earlier it was expected that the external management and direction of the professional learning would gradually be replaced with self management and direction.

It was also recognised by the model that the novel pedagogic practice would be the first step in a multi-step program aimed at improving student outcomes. The novel literacy teaching procedures did not take account of variation in student learning capacities. A second step would involve both the novel literacy teaching procedures and teaching procedures that cued students to learn more effectively. A third step involved the students learning to manage and direct the use of the literacy learning strategies themselves. These three phases in teaching are shown in Figure 9.

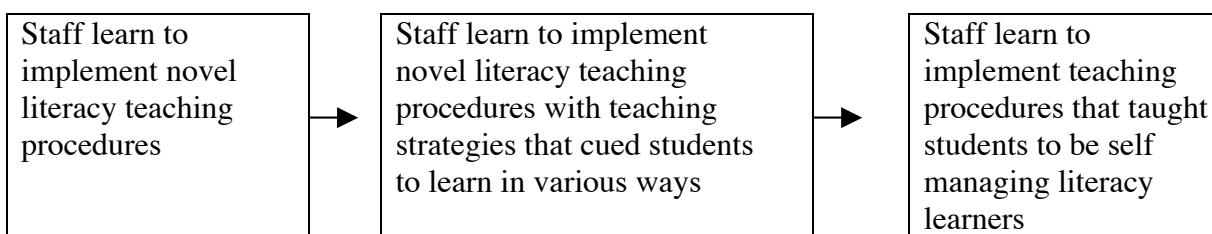


Figure 9: The three phase trend in teaching to self managed learning in a domain

Implementing the innovation

Bringing the leadership team ‘on board’ The change program for the leadership team involved following key steps :

- The leadership team was challenged to improve the literacy knowledge of the school. It framed and explicated a vision of what literacy learning could be like in the school. To do this the leadership team described explicitly and in operational ways what they ‘saw’ the students and teachers doing and what the school community was fostering in three years time when the goal had been achieved.

The leader shared with the team his underpinning beliefs and expectations that (1) all students in the school to learn to be literate and that all staff in the school could teach them to achieve this, (2) that both learning and teaching needed to be explicit, systematic and consistent, (3) that relevant existing knowledge, both students’ and teachers’, provided the starting point for any change, (4) that professional learning required leadership, collaboration, the opportunity to contextualise, trial and evaluate novel practice and needed to be data-based at any time, with the opportunity to see that this practice is leading to improved learning outcomes. The leadership team agreed to base its work on these beliefs.

- The leadership team, led by the consultant, reviewed recent research on literacy learning and pedagogy and used this to identify the students’ literacy learning needs and the types of teaching strategies most likely to target these. The team planned an intervention program at all grade levels that targeted initially phonological and phonemic knowledge. When students had made gains here, the focus would be moved to higher order literacy knowledge.

This led the leadership team to consider the gradual development of a 'code of literacy teaching practice' that would encapsulate the approach to literacy learning and teaching in the school. The program would allow the school and teachers to see at any time the literacy knowledge that was in place and what might be targeted next.

- The leadership team unpacked the vision with staff, negotiated and allocated parts of it with individual members of staff and groups. These staff were responsible for operationalising each component of the vision. Some aspects of the goal were not negotiable, for example, the belief that all of the students could be able readers.
- The roles of different professionals in the learning community were identified. The school leadership team needed to learn how to lead the school's literacy learning focus, for example, how to use effective instructional leadership, how to develop and implement a leadership team's literacy plan and how to put in place conditions for optimising effective literacy pedagogy. Classroom teachers needed to improve their knowledge how to implement effective literacy teaching procedures in their classes. A key aspect of this involved teachers learning collaboratively to trial and evaluate these. Leaders of literacy learning needed to be trained to foster, lead and support individual teacher growth.
- The school identified and collated existing staff knowledge about literacy learning and relevant teaching procedures. It was seen as important that existing staff knowledge be identified, acknowledged and valued. Whole school change can be more problematic than individual change. Teachers differ in their attitudes to literacy innovations, what they know or believe about literacy and how it can be most effectively taught and their commitment to such as innovation. The innovation, to be successful, needed to take account of these.
- The school developed a broad action plan for professional learning about literacy. The plan synthesised: (1) the vision or goal; (2) the means by which the goal would be attained ; and (3) the collation of what staff knew of effective literacy learning and teaching and the resources available for the literacy initiative.

The content to be learnt by the staff. The content to be learnt by the staff was identified explicitly and organised into 'teacher friendly digestible chunks'. A criterion here was the rate at which teachers could be expected to modify their teaching in authentic ways and to observe the outcomes of these changes while needing to do regular classroom teaching. This is a key aspect of any professional learning program. The leadership team needs to have a clear and explicit impression of what the staff will be expected to learn.

As well, the content to be learnt needed to be 'un-packed' in terms of what the staff will learn and how components of the program will be integrated with the total work load of staff members. Many initially promising professional learning innovations fail because the new knowledge load is too great for the staff to manage along with their existing work commitments. The leadership team working with the consultant unpacked the content initially. This schedule was presented to the staff and modified in terms of the feedback they provided.

The content to be learnt by the staff in each year is outlined below. Each area of content was introduced to staff as providing possible options for dealing with literacy problems displayed by students. The relevant teaching procedures for enhancing literacy learning identified. The content areas were as follows:

- In 1997 improved teaching procedures that targeted word reading knowledge, phonemic and phonological development were presented as options for dealing with current literacy problems
- In 1998 school wide literacy teaching in phonological and phonemic knowledge was implemented.
- In 1999 school wide literacy teaching in the areas of oral language and strategic listening that included vocabulary development, listening comprehension, story schemas was implemented at each year level.
- In 2000-1 school wide literacy teaching at the sentence, conceptual and topic levels of written text associated with literal, inferential and evaluative literacy comprehension was implemented, with teaching that cued students to use various linguistic functions.

Each area included a set of explicit instructional procedures and explicit student learning outcomes at all year levels. A focus was on teaching students how to use their existing knowledge when they read.

How the professional community learnt The leadership team also recognised the need for a teaching program by which staff would have time to explore and implement aspects of improved literacy teaching and to consolidate their knowledge about 'best practice literacy pedagogy'. Their aim was that all staff, as active members of the community, would target literacy learning and teaching explicitly and systematically, within a model of professional learning and enhancement.

Staff learnt to modify their instruction, through involvement in 'professional learning teams' in which the focus was on collaborative teamwork, demonstration lessons and individual teacher coaching. Each team was led by a 'leader of literacy learning'. Within each team the staff pursued action research projects that involved trialing and evaluating particular literacy teaching procedures. They reported the outcomes of their research to colleagues and to the school. The sequence of professional learning is shown in the following.

An operational plan was developed both for at the school level and for each PLT. This included (1) the systematic mapping of the action plan into a set of professional learning activities and (2) indicators for monitoring progress in student achievement, outcomes for teaching staff, leaders of literacy learning, the school leadership team and other school community members.

Teaching staff

- (1) identified current problems in literacy learning as a need for change and possible reasons for students having literacy learning difficulties. Each teacher framed up goals for enhanced student literacy outcomes.
- (2) collated what they knew about how students learn literacy, reflected on their beliefs about literacy learning and identified what they didn't know but would like to know about literacy learning.
- (3) were introduced to aspects of the content as options or possibilities for improving literacy learning and saw how each could unpack literacy difficulties. They used the literacy framework to analyse the problems they noted in (1) above.
- (4) contextualised the new ideas by mapping them into teaching procedures. In each PLT the teachers imagined what the new ideas would 'look like' in their teaching and what they and

their students would be doing. They evaluated their teaching to see options for fine-tuning how they teach.

- (5) saw the novel teaching procedures demonstrated and modelled in their classes and were coached to implement the procedures.
- (6) worked in small professional learning teams to trial and evaluate the new teaching procedures in action research projects in their teaching and add them to their repertoire of literacy pedagogy, improve / fine-tune their teaching.
- (7) reported the outcomes of their action research to their PLT team and to the school in a staff meeting. Each staff member did this using a poster format that showed how the procedure trialed influenced students' literacy outcomes, engagement and interest, what students learnt about how to be literate and their attitudes to literacy.
- (8) collated an improved 'group knowledge' of literacy teaching. The knowledge gained by each teacher was shared with colleagues and with the school community so that individual knowledge gains became group knowledge. The professional learning community reflected (1) evaluatively on what has been learnt about effective literacy pedagogy and identified valuable outcomes of the learning and (2) 'into the future', identifying how they could incorporate the novel effective procedures into their teaching and develop them further.

The staff reviewed and evaluated what they had learnt and identified the outcomes to enhance literacy pedagogy. These were used to inform an enhanced 'code of literacy teaching' that characterised the school's core approach to pedagogy in the school. The outcomes of the professional learning were identified and shared with the community of professional learners. The staff up-dated their teaching to benefit from the new literacy teaching knowledge and examined how it could become part of regular teaching practice. At the school level, ways of improving the school's code of teaching were identified.

- (9) The professional body identified and planned the next part of the literacy enhancement path.

Skilling the leaders of literacy learning Staff learning was led and supported by a literacy leadership team that had a sufficiently high level of literacy learning and of instructional leadership to foster and guide the staff learning process. Areas in which the leaders of literacy learning were trained and activities that they led in their teams included

- (1) leading the dialogue about literacy learning, for example, assist staff to unpack students' literacy difficulties from a developmental learning perspective, lead staff to see options in their literacy teaching,
- (2) developing procedures for identifying students' entry level literacy knowledge,
- (3) leading professional learning teams, assisting colleagues to plan, implement and evaluate action research activities,
- (4) developing action plans for enhancing teaching at the team level and the individual teacher level and
- (5) coaching individual staff to implement more effective teaching, using effective instructional leadership procedures.

Trends in student outcomes Over the period during which the professional learning program was implemented, students' literacy outcomes were monitored. The innovation was associated with improved student outcomes (Munro 2004). In terms of literacy achievement, in 1996, 80 % of the students in the school performed below state literacy benchmarks. In 2001, 90 % of the students were at or above them and in 2002 this has rose to 94 %. In 1996 84 % of Preps were judged to be at risk of severe literacy underachievement. This fell to 44 % in 1998 to 0 in 2001 and 2002.

Trends in some of the indicators of student literacy learning progress are shown in Table 1. State wide reading assessments in the Prep to Grade 2 year range describe reading performance in terms of accuracy. Trends in reading accuracy for the bench mark levels of text complexity are shown in Table 2 (School System Development Division, 2004). As well, the mean performance of the school on various grade levels of Reading Progress Tests (de Lemos, M. 2000; Vincent, Crumper & de la Mare, 1997) are shown. The Reading Progress Tests were not used to monitor reading performance prior to 1997.

Table 2 : Trends in some of the indicators of student literacy learning progress for the school.

	1997	1998	1999	2000	2001	2002	2003
Preps reading level 1 text with > 90 % accuracy	56	76	85	100	96	99	
Grade 1 reading level 15 text with > 90 % accuracy	66	82	84	94	94	100	
Prep reading scores on Reading Progress Test	99	96	98		110	116	
Grade 2 reading scores on Reading Progress Test	91	96	94		105	115	
Grade 4 reading scores on Reading Progress Test	93	90	93		93	106	
Grade 6 reading scores on Reading Progress Test	93	87	91		103	107	
Whole school reading scores on Reading Progress Test : Standard score (mean = 100)	93	94	95	107	113	104	111

These trends show that over the period during which the professional learning program was implemented, students' literacy outcomes improved significantly. The average school performance in 2003 was approximately 1 standard deviation higher than the performance in 1997 – 1999. In 2001- 2003 the literacy was greater than like school benchmarks.

Trends in staff evaluation of the implementation of the professional learning culture. Staff in all state schools in Victoria communicate annually their opinions of the school in which they teach on a number of dimensions: their evaluation of the morale in the school, the level of supportive leadership, the level of goal congruence among staff members, the quality of professional interaction and the opportunities for professional growth in the school. These measures provide an indirect evaluation of the professional learning climate in a school.

The ratings are on a 5-point scale with a rating of 5 being the highest positive value. From 1998 the school achieved staff rating either at or above the state benchmark ratings (School System Development Division, 2004). The average rating for each two year period with the corresponding state bench marks are shown in Table 3.

Table 3 : Trends in staff evaluation of the professional learning climate.

	1997-8		1999-2000		2001-2		2003	
	school	SB	school	SB	school	SB	school	SB
Morale	4.4	3.96	4.8	4.0	4.7	4.0	4.9	4.0
Supportive Leadership	4.5	4.05	4.5	4.1	4.8	4.1	4.8	4.1
Goal Congruence	4.6	4.09	4.9	4.1	4.9	4.1	4.9	4.2
Professional Interaction	4.4	4.07	4.8	4.1	4.6	4.1	4.7	4.1

SB : state benchmark for primary schools.

These data show that over the period of targeted professional learning, while trends fluctuated slightly, staff evaluated the morale in the school, the level of supportive leadership, the level of goal congruence among staff members, the quality of professional interaction and the opportunities for professional growth in the school at above the state bench marks for primary schools. Although the ratings were positive in 1997-8 they rose to approach the ceiling values in 2003.

In summary, over the period during with the professional learning capacity of the school to learn enhanced literacy teaching practice was targeted, the available longitudinal data showed that students' literacy knowledge improved significantly and staff evaluation of aspects of the professional learning climate of the school was consistently above matching school averages.

Continuing professional learning Taken together, the implementation of the professional learning program targeting student literacy, the improvement in student literacy outcomes and the improvement in staff evaluation of the professional learning climate in the school indicate the continuing success of the professional learning program.

The literacy innovation at the school is continuing. Not surprisingly, the school is recognised as having exemplary literacy teaching practice. As with any innovative practice, its evolution moves in unexpected directions that usually yield additional insights into effective literacy pedagogy. The regular collection of this knowledge by the school ensures that few new discoveries are evaluated in terms of their potential contribution to its code of teaching practice. The school sees itself as a dynamic learning community in terms of literacy pedagogy.

What does a school community with a well developed professional learning capacity look like ?

From the work done in a range of schools at the primary and secondary levels in Australia (Munro 2002d, 1996c), it is possible to identify the characteristics of a school with a demonstrated learning capacity. Characteristics / indicators include the following:

Knowledge and learning are valued for their contribution to the community.	The school community is continually growing and evolving, forming new relationships. It expects to re-create itself through the learning. It implements explicit learning or knowledge enhancement activities systematically; it does learning . Its dialogue is about the learning process and it believes it can learn. Knowledge enhancement is seen as the pathway to the future. The leadership team deals with issues and looks to the future from an explicit learning perspective. The leaders are seen as 'leaders of learning' and 'leaders in learning'.
The school is aware of its knowledge at any time in particular areas.	It is aware of what it knows about specific issues because it has in place procedures for 'harvesting' and collating the knowledge of its members. It is also aware of how it knows, the actions it has implemented to learn, its attitudes to the knowledge and the context of the learning.
The school acts as a learning community	It acts as a learning community (for example, it negotiates goals, distributes the learning activity, it trusts its members, it values their knowledge). It develops a capacity for the professional learning to be guided, directed, fostered, scaffolded (MLLsL). The MLLsL catalyze the learning of professional learning teams in the school. It (1) expects, identifies and values knowledge gains from members and PLTs; (2) regularly collates and shares group knowledge with the community of learners; (3) reviews, evaluates the outcomes of the learning, uses relevant outcomes into enhanced knowledge / practice and modifies the community's code of pedagogic practice; (4) regularly collates what it learns about how to learn as a community and talks about its attitudes to learning and knowledge; (5) implements actions that involve further planning and learning.
Ideas are discussed and evaluated on the basis of their intrinsic worth	A range of influences, for example, political, cultural, economic or institutional influences can restrict the sharing of ideas within a community. An organisation with a strong learning base, recognises and, where appropriate, them. Ideas are transacted with these influences reduced.
Learner-centred teaching is the focus.	It understands student learning and uses this as a goal for professional learning; it can recognise student learning, implement the conditions for learning, can monitor student learning. Multiple ways of learning rather than homogeneity are encouraged. The focus is on understanding a world of interdependency and change rather than memorizing 'correct' knowledge.
Explicit indicators of learning	The school has in place explicit indicators of learning and uses these to chart the progress / growth of the community. It develops broad, explicit action plans for learning. .

A focus on improving teaching practice	The school aims to improve pedagogic practice and sees it as a key route to enhanced performance and achievement. It provides an integrated, systematic professional teaching framework. It has a clear and explicit focus on building pedagogic capital as an explicit goal. Pedagogy has a high priority when the school reflects on its progress and plans for its future.
A knowledge of learning is valued	The school has a strong focus on the value of a knowledge of learning and how this can contribute to the work of the community. It identifies what the school cohort / community knows about learning and attitudes to learning at any time. This is shown in the focus on collaborative professional development within the school.
Students and staff take leadership roles in learning and teaching.	Students and staff are encouraged to take leadership responsibilities for aspects of the core work of learning and teaching. Students' perceptions of the world have a key role in the learning. Their passion for learning, their imaginations and ways of seeing things are valued. The school helps staff to learn how to be leaders in areas of pedagogy, leaders of learning, to coach colleagues, etc.
Teachers have time for self evaluation and reflection	The school allocates time for teachers to engage in on-going self evaluation and reflection of self learning and pedagogy and provides opportunity for analysis of teaching practice at the PLT, faculty, department or learning area level. The school expects its staff to engage in this practice.
High quality learning outcomes are valued	High quality learning outcomes are obviously valued, recognized and celebrated. These are not necessarily high scoring outcomes but show high levels of creativity and innovation. The school displays a valuing of knowledge outcomes and encourage knowledge to be displayed.
Dialogue about learning and pedagogy is valued	The school values a high level of functional dialogue, debate and discussion about learning and pedagogic issues. This is initiated and guided by school leaders.
Pedagogic leadership is explicit and systematic	Pedagogic leadership at various levels of the school is explicit and systematic. Responsibility for leadership in various areas of pedagogy is elaborated and clear.
The school is confident in its capacity to learn	The school displays a belief in its capacity to learn, to innovate and to adapt to change. The school sees its processes and structures at any time as relevant to its purposes and challenges at that time. It is not 'fazed' by the challenge to modify its practice in particular ways.
Each unit has an explicit, plan for enhancing teaching.	Each PLT, faculty, department or learning area has an explicit, forward looking plan for instructional enhancement, is aware of a range of teaching options and uses them selectively.
The school is organised in terms of knowledge	The school organises its classes, instructional delivery, teaching times, in terms of what is known about effective knowledge change and focuses on 'knowledge enhancement'.

Reviews of the attributes of effective school improvement programs (for example, Hopkins, 2003) are consistent with this set of characteristics. School leaders can lists such as this to generate indicators for describing their own school at any time and for directing its future progress.

The relevance of the research for UK context

The relevance of the research for UK context was examined in two ways : (1) by examining the extent to which teacher friendly models of learning and a framework for professional learning are consistent with current beliefs about preferred knowledge for effective school leadership; and (2) by having leaders in schools and school staff evaluate the model in terms of its relevance to educational provision in the UK.

Two key concepts brought together by this research are: (1) practice that is informed by explicit theories of learning; and (2) levels of school leadership, both school and middle levels. Both are reflected in a number of initiatives currently undertaken in the UK.

- The relevance of learning as an essential area of knowledge for the practice of school leaders is shown in current initiatives such as learning centred leadership.
- The concept of MLLL to school and leadership effectiveness is encapsulated in such concepts as distributed leadership, leading from the middle, middle level leadership, team leadership.

The development of a professional learning capacity in schools has direct implications for contemporary educational provision in the UK. At the time of this research, many educators in the UK referred to a perceived focus in public education on learning outcomes. They noted that the approach evaluated in this paper involved a focus on the processes and procedures for enhancing student outcomes. They believed that this approach provided a means for more sustained learning and a validated, systematic means for obtaining these.

Relevance to current educational initiatives in the UK.

The development of a professional learning capacity is consistent with current educational initiatives in the UK. Its relevance to some of these initiatives is shown in the following brief review.

Relevance to NPQH and LPSH programs A knowledge of teacher friendly models of learning and of the development of a professional learning capacity is consistent with the orientations of the National Professional Qualification for Headship (NPQH) and the Leadership programme for Serving Head teachers (LPSH). Several head teachers who had completed these programs and who were invited to comment on the model expressed the belief that it would be very useful knowledge for school leaders.

They justified their beliefs with a range of reasons. Without a robust understanding of learning and the conditions for fostering it, school leaders are limited in the effectiveness with which they can lead learning in their school. Several saw a link between their school's capacity to improve and the capacity of their staff to fine tune and to modify their teaching practice. With an understanding of professional learning and the processes affecting it, they believed that they would be more able to have their school 'move' with them. Some school leaders also believed that their work as a leader could be enhanced by an increased understanding of professional learning that they could apply in their work.

Developing the Capacity for Sustained Improvement (DCSI) One would expect that the innovative programme Developing the Capacity for Sustained Improvement (DCSI), with its focus on medium to long-term thinking and planning, building intellectual capital through the learning school, social capital and organisational capacity and leadership capacity would require, for its

successful implementation, consideration of the factors associated with building a professional learning capacity. Without this it is unlikely that intellectual capital will be built in a sustained way.

Leading from the Middle An understanding of the processes involved in professional learning and the conditions under which it can be optimised are consistent with and relevant to the *Leading from the Middle* professional development programme. As is shown in the following evaluation of the proposed professional learning model, graduates of the *Leading from the Middle* program in mid-2004 made this assessment.

Several commented on the potential value of the model for enhancing both their understanding of learning and change and of their function in leading teaching and learning. Others noted that it facilitated building team capacity through identifying key learning processes that could be implemented systematically.

Learning and leadership Several recent NCSL publications have a focus on learning and leadership. These include *Learning to Lead*, NCSL's strategy for leadership learning and *Learning-centred leadership*, a set of materials intended to assist schools to improve learning and teaching. *Learning-centred leadership* show how leaders can influence the quality of learning and teaching through processes such as professional dialogue, examine primary and secondary case studies, review a range of development tools school leaders can use to enhance the practice of learning centred leaders and review various perspectives on learning. *Learning to Lead* identifies six areas of leadership learning.

The learning framework presented in this paper is consistent with the approaches to both professional learning and student learning assumed in these publications and provides a conduit for implementing the principles raised in these publications. What it attempts to do is to provide a teaching-friendly way of understanding learning that has come from the distillation of a range of public domain theories of learning. Rather than contrasting various theories of learning as suggested by Colin Connor, it asks "What can school leaders or teachers learn from each theory of learning ?" The assumption made is that human learning is a very complex process and that different theories assist in providing different perspectives on it. It is proposed here that leaders can develop a more broadly based understanding of learning by examining how each theory can make a unique contribution to one's synthesized understanding.

The focus on distributed leadership. distributed leadership relates to sharing out or distributing leadership across an organisation. The present project has examined several aspects of distributed leadership.

One is the concept of distributed leadership from a learning community or organisation perspective. The model of professional learning developed in this paper is predicated on the notion of a school community as a knowledge enhancing organisation. It proposes various tiers of professional learning, each with a distinctive learning agenda and focus. A focus is on what a distributed leadership network may do to actually learn.

A second is the concept of the middle level leader of learning, a function that involves both content or conceptual leadership in the domain in which the professional learning will occur and the actual leadership of the professional learning teams. Each middle level leader of learning may have a greater knowledge of the domain in which the leadership function is exercised than members either of the school leadership team or other members of the professional community. The distribution of leadership is referenced on the knowledge needs of the community at any time.

The learning framework explicated in Table 1 provides a basis for building distributed leadership potential by providing learning options for learning activities. The case study presented earlier provides evidence about how it works in practice to enhance pedagogic practice in particular domains and student outcomes. Without distributed leadership it is unlikely that the extent of gain would have been realised. Both the learning framework and the aspects of professional learning noted in the case study provide tools to assist schools to evaluate and implement a distributed leadership function.

Conference 2005 The challenge of how school leaders can drive change and improve quality and effectiveness both within schools and across education systems is frequently raised. The publicity for Conference 2005 asks the question : *What strategies and tools will they need to respond to new expectations of accountability built on self-evaluation, collaboration designed to improve learning – for students, leaders, and the system – and self-improvement driven from within?*

Obviously, one key aspect in responding to this challenge is equip school leaders with the knowledge, skills and attitudes necessary for fostering a professional learning capacity in their schools. Without this, the capacity of the leader to ‘drive change and improve quality and effectiveness’ will be seriously restricted. Policy development, as all educators know, is insufficient. It is the capacity to map the policy development into pedagogy that leads to improved student outcomes that will make a difference.

Evaluation of the proposed model by school leaders in the UK

The proposed model was evaluated in terms of its relevance for building pedagogic capital through professional learning in UK. It was evaluated by school leaders in the UK in terms of current and emerging trends. Representatives of various roles provided evaluations :

- (12) Program managers: leaders of LftM and head teacher leadership programs,
- (13) Panels of Head teachers of primary and secondary schools and individual head teachers,
- (14) Middle level leaders who were completing the LftM program.
- (15) Middle level leaders who have not yet received LftM training.
- (16) Head teachers who had completed either the National Professional Qualification for Headship or the Leadership programme for Serving Head teachers.
- (17) The e-learning facilitator group

In all cases the participants were provided with a brief description of the conceptual framework and typical activity in each aspect of the model. Clinical interview procedures were used in individual discussions. The proposed model was evaluated in various ways :

- (1) the extent to which it is judged to be an essential aspect of the knowledge of both middle level leaders and school leadership teams.
- (2) the extent to which it fits with existing provisions for educating and preparing both middle level leaders and school leadership teams. The purpose here is to make links between the model and existing matching programs and to identify ways in which the model can be enhanced.

- (3) the contribution it could make to middle and school leadership training and work on a number of dimensions:
- (1) how it could assist school improvement.
 - (2) the potential problems in school improvement it would assist in solving, the aspects/areas in which it would be useful for problem solution, its comparative value relative to existing provisions for solving these problems.
 - (3) the ease with which it could be implemented, the barriers that could restrict its implementation.
 - (4) the aspects that would need to be modified for achieving particular goals and outcomes.
 - (5) processes, procedures and structures that should, but are not, be included in the model.
 - (6) areas / aspects of school improvement where MLLL would be most useful / effective for leading to enhanced outcomes.

The questions shown in Table 4 were used to guide both the clinical interviews and the group quantitative data collection. The questions relate to the model of professional learning community model described earlier.

Table 4 : The questions used to guide both the clinical interviews and the group quantitative data collection.

criterion	low high	Comment
How well do you think the model could contribute to a school's improvement capacity ?	1 2 3 4 5	
What problems in school improvement would it assist in solving, the areas in which it would be most useful ?	1 2 3 4 5	
How practical, useable is it ?	1 2 3 4 5	
How easily could it be implemented, what barriers might restrict its implementation ?	1 2 3 4 5	
To what extent does it add to existing provisions for solving particular problems and add value to existing processes ?	1 2 3 4 5	
What additional procedures and structures should be included in the model ?	1 2 3 4 5	
How useful is the concept of the middle level leader of learning to school improvement ? To what extent could MLLsL assist a school to improve its pedagogy ?		
In what areas / aspects of school improvement would you see MLLL being most useful / effective for leading to enhanced outcomes ?	1 2 3 4 5	
How important do you think it is for school leaders to have a firm understanding of the model of building a professional learning capacity ?	1 2 3 4 5	
How important do you think it is for middle level leaders to have a firm understanding of the model of building a professional learning capacity ?	1 2 3 4 5	

Evaluations collected

Average ratings of the evaluations of the model of professional learning capacity The ratings by three leadership categories on each of the dimensions shown in Table were collated. The leadership categories were : (1) head teachers of primary and secondary schools who had completed either the national professional qualification for headship or the leadership programme for serving head teachers (n = 27); (2) middle level leaders who were completing the LftM program (n = 23); and (3) middle level leaders who have not yet received LftM training (n = 26). The ratings were on a 5-point scale with a rating of 5 being the highest positive value. The average rating for each leadership category are shown in Table 5.

Table 5 : Ratings by the three leadership categories on each criterion of the model of professional learning capacity

criterion	Category of leader		
	1	2	3
How well do you think the model could contribute to a school's improvement capacity ?	4.7	4.8	4.7
How practical, useable is it ?	4.5	4.8	4.6
How easily could it be implemented ?	4.8	4.5	4.7
To what extent does it add to existing provisions for solving particular problems and add value to existing processes ?	4.6	4.7	4.5
To what extent could MLLsL assist a school to improve its pedagogy ?	4.8	4.8	4.6
How important do you think it is for school leaders to have a firm understanding of how to build a professional learning capacity ?	4.5	4.9	4.8
How important do you think it is for middle level leaders to have a firm understanding of how to build a professional learning capacity ?	4.8	4.8	4.9

These data suggest that the various categories of school leadership rated highly a knowledge of professional learning capacity in terms of its potential to improve educational outcomes and the concept of middle level leaders of learning as a function to assist school to improve pedagogic practice.

Outcomes of the clinical interviews The first set of clinical outcomes are reported in terms of the role of professional educator providing the report.

- (1) *Head teacher of secondary school* : The focus on learning in ML training is useful in that indicates what ML leaders can actually do in their schools. It provides them with options for action.
- (2) *Head teacher of secondary school* : The learning focus allows the outcomes of the LftM program to be more easily contextualised in an individual school's work and is more relevant to the work of the school. It shows how the outcomes of LftM training can lead directly to a school's improvement.
- (3) *Head teacher of secondary school* : model shows how middle level training can be actually made available to a school and by used by a school to enhance its teaching.
- (4) *Head teacher of primary school* : an explicit learning focus would allow the outcomes of LM to be more easily contextualised in the work of an individual school and be shown to be more relevant to the work of the school.
- (5) *Head teacher of primary school* : some teachers who complete LM experience tensions re their role with that of the SLT – the head teacher, for example, doesn't know best how to use them in the school. Using a model in which the SLT needs to reflect on how ML will fit within school program, how they would be using their enhanced leadership knowledge and skills would provide continuity with their training and school program

- (6) *Teacher finishing LftM* : Some teachers who complete LftM experience tensions re their role and that of the leadership team. Using a model in which SLT needs to reflect on how MLLL will be used in a school, what they will be doing, would provide necessary continuity and reduce the tension occurring.
- (7) *Teacher finishing LftM* : The course did not really help us to understand how to distribute leadership. The learning model shows how to distribute leadership in learning groups.
- (8) *Teacher finishing LftM* : The learning model shows how a team learns, how well it can learn and what it needs to do to learn. These could be developed more in the course. Leading from the middle requires teachers to manage and lead teams, run the teams, collect data about the team, deal with challenging members and deal with personal staff issues. All of these can be assisted by building your personal theory of learning.
- (9) *Teacher finishing LftM* : The learning model can help a middle level leader grow into the role of being a middle level leader- you can learn your way into the role. It also gives you strategies for solving problems with colleagues.
- (10) *Teacher finishing LftM* : It tells us that we need to make time to practise our leadership skills and also the skills we can practise at any time. MLLsL need to make the opportunity to review their work and practise the skills. You need to make time for reflection and the learning model helps you see what to reflect about.

Anecdotal comments of head teachers, program leaders and middle level leaders The following points summarize the anecdotal comments of head teachers, program leaders and middle level leaders;

- (1) ***Comments that evaluate the framework and model in terms of its potential to contribute to the leadership professional education programs generally.***
- The current programs could benefit from the focus on building explicitly a culture for professional learning.
 - An explicit theory of learning like this is not used to underpin models of professional learning in the leadership programs. Inclusion in head teacher leadership programmes would equip school leaders to monitor student learning more effectively, to engage in more effective dialogue about student learning and outcomes with their staff and to assist their staff to learn professionally. Some school leaders lack confidence in their capacity to engage in professional discussion about the factors that influence student learning. Studying the learning framework would renew their self confidence. The leadership programs probably need a stronger learning theory base.
 - The model fits well with the concept of ‘Learning-centred leadership’ that is evolving in the UK. However, it goes further because it shows how the learning centred leadership can actually be done in a school community. It shows how schools can establish team and individual teacher responsibility for an issue. Allocating aspects of the learning to various sections of the community is very useful in providing senior and middle leaders with ways of doing this.
 - The learning framework can assist participants in the current leadership programmes to understand how they learn. We know that as teachers we are learners, but sometimes we don’t think about the processes involved in our own learning. This should be an essential part of leadership and other teacher CPD. I hope the framework will be considered seriously by NCSL as another element in our leadership development work with teachers.

- The NPQH LPSH and LftM programs would seem to be based on the individual leader. The model shows how the emphasis can be broadened to include the see the leader leading the team's learning in specific areas within the self managed team learning model.
- (2) *Comments that evaluate the framework and model in terms of its potential to contribute to the Leading from the Middle course***
- LftM focuses on the individual middle leader and their team leadership and tends to define their role more as a manager of the team rather than as a leader of learning within the team. The use of professional learning teams could add to the present focus.
 - The focus on describing the outcomes of the leading activity of Middle Leaders in terms of learning functions was identified as valuable with the potential to contribute to current middle leadership developments. This comment noted that the learning description assisted leaders to understand the role more clearly, to see what they needed to do to make it work, to monitor how effectively it was being implemented at any time and to take consequent diagnostic action.
 - One aspect of the learning model, the thorough audit at the start of work on any middle leadership issue may have been omitted from current leadership training content. Much of our work is going to be based on a gut reaction to the situation 'now' rather than analysing the reality. Sufficient research before the start of any project will provide both depth and direction as well as desirable outcomes. Collecting useful information by auditing the area at different levels, asking the question 'Where we are now?', analysing and identifying the learning/change, a key aspect of the model, could greatly assist leadership for enhanced teaching and learning.
 - The areas of knowledge identified by the model as needed by the middle leaders would be useful in LftM. The LftM programme talks a little about change and the emotional impact of change on teams. The applied learning focus would provide challenge and stimulation to our middle leaders.
 - the importance of reflecting on and evaluating the impact of learning after periods of time, and the focus on shared learning and evaluation being part of the process for professional learning for teachers is important. This should probably be built more into LftM.
 - The model shows how middle level leaders can have impact on capacity building in schools. LftM probably needs to increase the detail of planning for change within the process to show how this can be done.
- (3) *Comments that evaluate the framework and model in terms of its potential to contribute to school effectiveness generally.***
- The model shows in concrete ways how multiple ways of learning can be accounted for both in professional learning and in classroom learning. For each aspect you can have different strands operating in parallel. There are, for example, several pathways for getting to the goal and several methods of deepening the learning.
 - The focus on professional networks that are learning by linking was seen as having the potential to contribute to the functions carried out currently by the NCSL online communities. This comment was later explained in terms of the PLN performing a number of key learning functions such as collating its 'group' of 'network' knowledge re a particular issue at any time, negotiating its learning focus or goal, the learning pathways particular components of the network would

follow. The collated group knowledge was seen as being a valuable learning resource for all teachers.

- Much of the ‘big picture’ work on educational designs for the future, remodelling and school transformation seems to believe either that the processes to ‘make these happen’ in schools are in place and ready to ‘fly into action’ or that it is not necessary to examine them and that they don’t matter. Schools need ways and options for making them happen. The framework gives schools one clear practical way.
- The National Remodelling work just assumes that all schools know how to remodel. This couldn’t be further from the truth. The learning framework shows how to ‘remodel’ - how to build learning into a team and how to lead a team learning.
- The model shows how work with and by professionals with community members can be done; how the learning community can be extended beyond the classroom.
- The framework shows how an explicit model of learning can inform middle level leadership, By focusing on what to do when your learn, it assists teachers to think about how they learn and gives them an insight into how they can help others to learn.
- The focus on a community learning provides useful information about how a school can operate as a learning community: (1) how it can have a reason for being a community learning, that it has an identified focus; (2) that it can have beliefs or attitudes about how to be a community and can be trained to work as a community; (3) that it can learn how to act or operate as a learning community, focus on the things that learning communities do; (4) how a learning community can deal effectively with imposed administrative structures; (5) that parts of the community are ‘trusted’ with parts of the vision.
- The learning model helps school and middle level leaders learn how to work with colleagues (and ‘handle people’) in a professional learning based way in which the group or community benefits.
- The model shows how leaders can ‘grow into the role’ of being leaders of learning; it shows actions they can take to learn and to assist the groups they are leading to do.
- Middle level leaders are often encouraged to review and improve their management and investment of time in professional work. The learning model helps middle level leaders see the activities in which they can most profitably invest their time.
- The use of ‘clear visual action plans and pathways’ that show how the goals of professional learning can be achieved on a term by term basis for both pupil achievement and staff outcomes would be useful to measure progress and impact of initiatives and developments.
- The plan for operationalising the group learning activity of teachers in PLTs could be very useful; a clear knowledge of the activities and outcomes is likely to sustain the work over time.
- The model shows how schools can develop collaborative relationships that are purpose – driven. A school can collaborate with other schools and with community agencies at different levels for different purposes and to achieve different aims.

- The language of learning communities is being used increasingly in England. The model shows how a learning community can move gradually to a self managed team learning focus.
- The concept of middle leaders being seen as ‘leaders of learning and leaders in learning’ would help to explain middle leadership development to head teachers and senior leaders in schools. This would further empower the middle leaders to develop their leadership role.
- The indicators of strong learning focus in a community provided in the model with the very clear characteristics would be useful in the leadership programmes.
- The learning model can help senior school leaders and middle leaders understand the importance of capacity building and how this might be achieved.
- We hear a lot about distributed leadership. The models shows what the distributed leadership might actually do to improve the school leadership.

Aspirant LftM teachers As well as collating evaluative feedback from leaders who had completed professional development, a second possible validation of the model of professional learning could come from asking aspirant leaders and leaders who had not yet received training to identify the issues they confront as leaders and in which they want assistance.

A group of aspirant LftM leaders identified the issues they needed to resolve as middle level leaders. The issues identified were categorized in terms of those that would or would not benefit from an explicit learning perspective. The issues identified by one group of aspirant LftM teachers were the following

- Implement a positive outlook on student learning
- Ensure continuity of learning focus on student assessment and the marking of student outcomes
- Behaviour in classrooms
- The roles of subject teachers
- Leading the school through specific topics
- Developing a leadership culture among middle leaders
- Skills in managing colleagues *
- Support staff in co-ordinating subjects
- Support in observing lessons in terms of relevant learning and teaching criteria
- The role of middle leaders within the SLT
- How to lead and manage staff: what are reasonable expectations ?
- How to become a leader of learning ?
- How to reduce behaviour problems.
- Mentoring students and pastoral problems
- Team dynamics, getting the best out of students
- Making the role positive for you and colleagues
- Focus on teaching styles
- Developing listening skills.

Each of these areas can be informed in part by a model of explicit learning.

Application and implications of this research for the UK context.

Contribution to current leadership programs The evaluation above indicates that school leaders in the UK judged the pedagogic-friendly learning framework and the model of professional learning as useful knowledge for both school and middle level leaders. They believed that the current leadership programs could benefit from the focus on building explicitly a culture for professional learning. The model is relevant to the work of

- school leadership teams interested in improving the capacity of their school to learn professional to improve its teaching practice.
- middle level leaders interested in leading a group or individual staff to improve teaching practice.
- professionals aspiring to the roles of either school leader or middle level leader.
- those developing continuing professional development programs intended to foster leadership knowledge and skills in schools. The evaluation of the model by leaders at various levels of schools indicate a strong belief that these concepts be included in the continuing professional development of these functions.
- those interested in assisting schools to improve their professional practice.
- those involved in researching, evaluating or developing policy in these areas.

More generally, it findings are relevant to all professionals involved or interested in facilitating organisational change through professional learning.

Tools school leaders can use to enhance the professional learning capacity of their school The evaluation supports the proposition in this project that the functions of school and middle leaders are enhanced when they understand in an operational way the developmental processes associated with professional learning. The model for professional learning provides various useful tools for school leaders include tools to assist them in this:

- To identify the readiness of their school to engage in professional learning, that is, the preparedness of their staff to engage in improvement in teaching practice or pedagogic capital. As well, the school leadership may need to diagnose the professional learning readiness to identify those aspects of professional learning that need immediate enhancement. One type of tool useful here is described in Munro (2001a).
- to put in place indicators for ascertaining the level of professional learning in teams in the school and for monitoring its gradual development in their school (that is, indicators with the phases through which professional learning develops) and implement the activities associated with it.
- to put in place the conditions likely to foster professional learning. One type of tool here for literacy enhancement is described in Munro (2004).
- To ascertain teachers' pedagogic knowledge in terms of the extent to which their teaching fosters the various aspects of learning.
- To ascertain students' perceptions of the teaching provision from a learning perspective.

Future research

The findings of the present research provide anecdotal support for the inclusion of a consideration of an explicit learning framework for professional learning capacity building in the leadership courses for middle leaders and head teachers. The findings can be tested further by examining

- (1) the extent of association between a professional learning capacity and school effectiveness, particularly in terms of its potential to improve (that is, to learn, re-model, change positively, evolve or transform);
- (2) the association between learning profile characteristics of school and middle leaders and the development of a professional learning capacity;
- (3) indicators of the growth of a professional learning capacity;
- (4) the factors and learning variables that influence a professional learning capacity;
- (5) the ‘big picture’ professional learning relationships frequently presented in leadership strategy statements such as Learning to Lead (NCSL, 2004). The propositions in these statements frequently require empirical validation for the operationalisation, for example, those that link aspects of learning, leadership and student outcomes. They could be translated into research questions that could be investigated systematically.

This research would permit an analysis of the factors that influence a school’s capacity to learn professionally and its association with various levels and types of leadership functions. The use of a design that integrate qualitative and quantitative would permit the development of a dynamic model. Path analysis and clustering-discriminant analysis procedures could be used to test the model longitudinally in various typical school contexts.

This research would involve the development of various measures that, following validation, would have practical application in schools:

- indicators of the professional learning capacity of an organisation
- Measures that describe what graduate leaders know, the knowledge of senior leadership teams re fostering professional learning and change
- staff evaluation measures of the climate for professional learning in schools
- measures of student voice re the effectiveness of pedagogy
- Perception of staff re the processes in place to support professional learning
- Staff knowledge and perceptions of professional learning, what it entails, implicit metaphors for professional learning

This type of research could lead to the development of a range of useful tools that could be validated as part of the research. These would include

- (1) Indicators of a school’s professional learning capacity, that is, its ‘professional learning readiness’, described in terms of the adult learning and contextual variables that influence this construct,
- (2) Validated procedures for assisting a school to improve its capacity to learn professionally,
- (3) Validated procedures for describing a school’s professional learning growth,
- (4) Procedures for profiling the knowledge and skills necessary for leading professional learning for both middle leaders and school leaders,

Possible aspects of this future research could include the following:

(1) ***To identify the developmental processes associated with professional learning.*** This research could investigate

- the phases through which professional learning develops, the link between leadership style and the trend to self managing and self directed professional learning, indicators of the gradual development of a professional learning capacity.
- The learning variables and factors that influence the quality of professional learning, how learning outcomes can be optimised, factors relating to the optimal influence of MLLsL on professional learning outcomes. Earlier research examining middle level leaders' perceptions of this role could provide a starting point.
- The conditions in a school likely to optimise and restrict the mapping of professional conceptual knowledge into strategic pedagogic knowledge.
- To investigate the factors that influence PLT activity,

This research would in turn contribute to and inform a range of areas of knowledge:

- the means for ascertaining the level of professional learning capacity in a school at any time,
- the types of knowledge school leaders need in order to foster a professional learning capacity in their school, the conditions likely to foster professional learning and
- validation of indicators of the professional learning capacity of a school.

(2) ***To investigate the influence of school leader / middle leader knowledge of learning on the development of a professional learning capacity.*** This research could investigate

- The leadership knowledge profiles most / least likely to facilitate subsequent professional learning and pedagogic enhancement in their schools. Measures could associate graduate leader knowledge displayed at the end of leadership education programmes with subsequent trends in the development of a professional learning capacity in their school. Measures of staff evaluation of climate for professional learning, the processes used to foster professional learning, student voice could be associated with the knowledge of senior leadership team.
- The relation between the knowledge of school leaders and middle leaders in fostering a professional learning capacity and student learning outcomes. Research in this area could develop further the design used in the case study in relation to the effect of a professional learning capacity on literacy outcomes (Munro 2004, 2003a).

This research would in turn contribute to and inform a range of areas of knowledge:

- the types of knowledge school leaders need in order to foster a professional learning capacity in their school.
- diagnostic procedures that school leaders could use to enhance the professional learning capacity in their school.
- validation for the knowledge, skills and attitudes fostered in the school leadership professional development programs.

(3) *To compare the effectiveness of leadership courses that include an explicit study of professional learning on a range of leadership factors with courses that do not include this aspect.* This would permit a clearer analysis of those aspects of the work of school leaders and middle level leaders more likely to be enhanced by an analysis of professional learning capacity.

The range of assessment procedures used in the present head teacher leadership courses could be modified to quantify the comparative effectiveness of graduates of leadership courses. Courses that include an explicit study of explicit professional learning community learning can be compared on a range of leadership factors with courses that do not include this aspect. This would permit a clearer analysis of those aspects of the work of school level and middle level leaders more likely to be enhanced by an analysis of professional learning capacity.

Conclusion

This purpose of this research project was to evaluate a framework that schools can use to improve their capacity to learn professionally to improve their pedagogy. The evaluation showed that school leaders in England evaluated the framework as highly valuable and a knowledge of its implementation and use as highly desirable. They valued particularly the explicit learning foundation and the continuity between individual learning and professional learning.

The report has identified possible future applications and implications of this research for the UK context. These include

- (1) its contribution to future leadership programs,
- (2) the development of tools school leaders can use to enhance the professional learning capacity of their school and
- (3) future research that examines aspects of the association between a professional learning capacity, various levels and types of leadership functions and school effectiveness.

Our current and future students live in an information rich world. Effective learning in this context involves the efficient conversion of information to knowledge, enhancement of that knowledge, its operationalisation and its display as information (Munro, 2002b). Educational policy makers recognise that the ways in which students learn today differ in significant ways from how they learnt a decade ago. Schools need to examine the assumptions they make about effective pedagogy and their provision of student learning opportunity. The need for schools to develop a professional learning capacity has never been greater.

We can expect rapid changes in the ways student learn in the 21st century and in conceptions of classrooms and schools in the future. Who else but the school leaders can take their school community to the edge of learning and maintain the learning edge? It is important for the entire community that school leaders take on and build their roles as leaders of learning and knowledge enhancement and leaders in this process.

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