An exploration of an in-service programme as a means of the professional development of teachers – a case study

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Abstract

This study examined a two-week in-service training agenda as an aspect of teachers’ professional development using a two-stage case study design. The case study site was a private school in Lebanon. Lebanon is involved in educational reform and therefore the examination of the entrenched two-week in-service agenda was timely and enlightening. The case study identified factors that contribute to meaningful professional development and identified the parameters within which professional development can function. The study employed a multi-method design in which key constructs were examined using more than one methodology. The multiple methods included ethnographic observation of the in-service programme, semi-structured observation of a purposive sample of teachers teaching, semi-structured interviews of all senior management personnel, as well as a purposive maximum variation sample of teachers, a purposive convenient sample of two student groups and review of relevant documents. This rigorous approach addressed validity issues often associated with case study design as well as enabled the findings of this study to potentially be utilised in policy formulation or used to establish theoretical insight. A constant comparison method of data analysis was employed to categorise the data and generate themes. Specifically, the study asserts that for an in-service agenda to function as meaningful professional development it must be embedded into the school routine, incorporate ways in which adult learners learn best; be practical, transparent, include new and relevant content, be on-going and include follow-up and critical reflection. The study also discovered that the management of the process is critical and that leadership attributes of a transformational and distributive nature facilitate the process. Finally, the study also asserts that the organisational structure of the school plays a vital role in the on-going, embedded professional growth of teachers. The study maintains that organisational structures should be conceived with the goals and vision of the institution in mind and not adopted for habitual or traditional reasons.
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Chapter 1

In-service Training as an Aspect of the Professional Development of Teachers

A two-week in-service programme prior to the first day of school is a widespread agenda for schools in Lebanon. A two-stage study was designed to contribute to the understanding of an in-service programme as an aspect of teachers' professional development. Stage one of this study aimed to explore the success of one school's programme and stage two of the study set out to consider if this conventional agenda could serve to sustain teachers' professional development. Although what occurs during this two week period is unique to each school, this study intends to shed light on one school's approach and thereby offer valuable insights that could serve to enlighten policy at this school and other schools.

A brief historical perspective

Staff development “came of age” in the 1980s (Sparks and Loucks-Horsley, 1989: 40) and research from this decade primarily focused on what constitutes effective teacher training (Sparks and Loucks-Horsley, 1989; Joyce & Showers, 1980, 1982; McLaughlin, & Marsh, D.D.,1978). The start of the next decade saw teacher training initiatives more commonly labelled as staff or professional development and focused on professional development and its relationship to school reforms (Hixson & Tinzmann, 1990; Little, 1993; Blase & Blase, 1994; Newman, 1994). During the latter half of the 1990s an interest in the professional development for teachers around the world surfaced (Walsh & Gamage, 2003) as researchers began equating teachers' professional growth with successful educational reform (Levine, 1994; Bernerth, 2004; Bolam, 2002; Butler, 2001; Fullan, 1999; Abdal-Haqq, 1996; Hopkins & MacGilchrist, 1998).

A major failure of past school reforms has been attributed to a lack of high-quality professional development (Sparks and Hirsh, 2000), given that it is a central component for improving education (Guskey, 2002). Without sufficient support and training to address the demands of new standard-based curricula, teachers naturally gravitate to the
methods and strategies they remember from their years as students (Sparks & Hirsh, 2000; Ho et. al., 2001). Since researchers have been asserting that school reform and professional development are integrally related it is time to explore the policy and practise of professional development (Novick, 1996; Sykes, 1996; Hopkins & Reynolds, 2001). Researchers have been reporting that traditional top-down approaches stifle meaningful development leaving teachers out of the reform process (Little, 1993; Novick, 1996; Richardson, 2003; Burbank & Kauchak, 2003) and prohibits authentic approaches to teaching and learning from developing (Blase & Blase, 1994).

Essentially, at the core of all professional development efforts is a belief that it can produce school improvement (Stout, 1996). Furthermore, in research on effective schools Hargreaves and Hopkins (1996) offer a list of eight organisation factors that are characteristic of effective schools. The list cites on-going professional development and in-service training. Levine (1994) also reports that in schools that are unusually effective, in-service training and on-site professional development are on-going and focused on practical considerations.

In other research from the mid 1990s, Joyce and Calhoun (1995) offer a theory of school renewal as connected to professional development. Their formula for teacher training begins to look like embedded professional development in their focus on continuous development and schools as learning communities for faculty as well as students. They refer to Schaefer’s 1967 work with his vision of “school as a centre of inquiry” as a structural design for teachers’ embedded, continuous learning.

Strategies which link professional development to school improvement must fulfil two essential criteria: “first, they need to relate to and enhance on-going practise in the school, and second, they should link to and strengthen other internal features of the school’s organisation.” (ibid. p. 113). This work-embedded approach to professional development is acquiring support (Walsh & Gamage, 2003; Hopkins & Reynolds, 2001; USDE/NCES, 2001; Stoll, 1999), suggesting that the learning be on-going,
developmental and not restricted to problems currently being faced (Hopkins et al., 1994).

At the beginning of the 21st century, research begins to centre around at least three important ideas. First, the idea of constructivism and how it applies to adult learning as well as younger people's learning is becoming a widely accepted learning theory (Sandholtz, 2002; Browell, 2000; Cochran-Smith, 2001; Richardson, 2003; Darling-Hammond, 2005). These researchers advocate that a new paradigm of professional development should be oriented to a constructivist approach.

The second idea is the proposal of a learning community or learning organisation as a structural and cultural condition for continuous learning. Educational reform movements since the last decade of the previous century have called for school restructuring to better serve existing purposes (Fullan, 1991; Dimmock, 2000; Busher, 2005). In response, schools have turned toward the business literature and the work of Senge (1990) and others which emphasise the importance of culture in the workplace as well as nurturing and valuing the work of the individuals in the workplace. Through research of this nature, attention has begun to focus on the influence of the work setting on the worker.

The third important idea focuses on results and the role of the manager or principal as the primary catalyst for the desired results. Research is beginning to inform that the type of manager a principal is will have direct impact on the school's culture and therefore the teachers' professional development (Harris, 2004; Earley, 2004; Hargreaves & Fink; 2003; Leithwood & Riehl, 2003).

This thesis takes all three of these research ideas and creates a conceptual framework within which the professional development of teachers can flourish.
Purpose and significance of the study

Educational reform is a worldwide phenomenon that is largely connected to the technological advances of recent years and the impact that has had on how people work and what people need to know (Lumby, 2001; Elkind, 2004). Lebanon is also affected by this movement but is dealing with additional unique circumstances principally as a result of the long and destructive years of war. A few years after the official end of hostilities the Ministry of Education in Lebanon recognised the need for education reform. In response to this need an education reform package was endorsed and issued in May of 1997. The new framework called for a conversion to more formative curricula than had previously been employed which includes the promotion of group work and discovery learning in the classroom (Decree 10227).

This is a radical change in educational philosophy from the existing educational model which therefore requires a different pedagogical approach. Teacher training sessions for public school teachers were initiated (Abouchedid, et al., 2002) but private schools were left to their own devices. In the absence of substantial professional development teachers naturally gravitate to the familiar methods and cultural norms of their own schooling. This being the case, professional development of teachers in Lebanon’s schools must come to the forefront of Lebanon’s education reform efforts in both the private and public sectors.

Based on this premise as well as the recent global interest in teachers’ professional development, a two-stage inquiry was undertaken using the method of case study. Stage one evaluated the success of the in-service programme as professional development; and stage-two considered the programme’s ability to serve as an aspect of teachers’ professional development. Through a case study approach, a multi-sided view could emerge that would enlighten the views of the educational community with regard to the professional development of the teachers specifically. It is the learning-level focus that is key to contemporary school improvement according to Hopkins and Reynolds (2001). A focus on teachers’ practice and knowledge base provides the ability to enhance student
learning while building the capacity for sustained learning throughout the school (see pp. 468-469). Therefore, the following aims and objectives steered this study.

To discern whether or not

1. the in-service programme at the target school met the instructional objectives as set by the administration;
2. the in-service programme met the expectations of the teachers;
3. the objectives are compatible with those of the teachers;
4. the programme is being managed effectively.

Through the analysis of the data that answered the questions generated from the above objectives, recommendations were developed that, if adopted, could potentially improve the professional activities of the teachers at the target school as well as other schools having commonality with the target school. Finally, a window into this school’s in-service practices will add essential knowledge to the body of literature concerned with teacher training in Lebanon.

**Background on the target school**

The target school is located in an affluent area in the country of Lebanon. The school is one of four that are operated by an educational consultant group. The consultancy group is an international educational services firm and is based in Lebanon with locations in Dubai, Qatar and Tunisia. It was founded in 1992 and offers educational services ranging from upgrading existing schools to fully planning, mobilizing and starting new schools.

The target school, which opened in September, 1996, was the first of four schools to be opened in Lebanon by this consultancy group. This school was chosen as the location for this study primarily because it is known as a leader in the areas of a constructivist approach to education (which will be discussed in chapter two) with an in-service teacher training programme that is initiated at the start of each academic year.
Through the in-service programme, all the schools operated under this consultancy boast the best trained teachers in Lebanon. The Mission Statement for the target school published in the school’s brochure declares, “We provide an interactive educational community where students, teachers and parents from diverse cultural, ethnic, religious, social, and academic backgrounds can grow together and realise their full potential.”

Moreover, their Vision Statement, published in the same brochure, professes to “inspire learners to engage the future and reach their potential in a creative and supportive learning organisation... We will empower our students to compete and excel in a global community by providing them with quality teaching, meaningful use of technology, ... and a learner-centred environment.”.

All the schools in this group use English as their language of instruction. As a private school, the target school has some flexibility with regard to curriculum design. The school offers both an American high school programme which prepares students for the SAT I and SAT II exams and offers the Lebanese curriculum leading to the official Lebanese Baccalaureate exams. There is an emphasis on the use of technology as a teaching and learning tool and on the acquisition of additional languages, Arabic and French in particular.

At the time of the case study, the target school consisted of 41 fulltime faculty members and additional part-time instructors. The school contains all compulsory grade levels up to grade 12 and includes a pre-school level. This is the structure of most schools in Lebanon, public and private. Commonly, the schools begin with a preparatory or kindergarten stage that is not compulsory but is identified as cycle one and given the classification of ‘KG’. Compulsory cycles begin with cycle two, which consists of six years starting with grade one of primary or elementary school. Intermediate or Middle School is cycle three and lasts for three years. Cycle four is three years of secondary school culminating in the official Lebanese Baccalaureate exams (Sedgwick, 2000).
**Teacher training and multiculturalism/interculturalism**

A dimension to this case study that is necessary to consider, is its multicultural context. According to Constantine (1995: 114), Lebanon can be described as a “multi-cultural, multi-linguistic, multi-religious, and multi-ethnic country.” However, the Lebanese State, and the Lebanese people, “consider the Lebanese people to be one, multi-sectarian but not multi-cultural.” (ibid: 118). Yet, as it concerns this case study it should be acknowledged that there does exist cultural plurality in Lebanon with the diversity of foreign cultures and the strong association with Western cultures, French and Anglo-Saxon in particular. As a result it seems important for schools’ teacher training initiatives to have a global perspective on training strategies, and an awareness of multicultural and intercultural concerns as they impact on the community and the business of learning.

Zouqqan (1995:106) suggests that “multicultural and intercultural education requires the use of training methods based on interaction, communication, exchange, listening and dialogue, as well as accepting and respecting others and trusting their ideas and cultures.”

In research conducted in several different countries, Beare (1991) identified several common themes as having influence on professional development schemes. They include: school-based management; the economic imperative influencing education; and restructurings being driven by political rather than educational considerations. Certainly these themes apply to the Lebanese educational system, although Lebanon was not one of the countries included in Beare’s report. School-based management is the norm in private schools in Lebanon. Therefore professional development programmes are school-based in private schools. Additionally, there exists an economic crisis of some degree in the country and the most recent educational reform agenda is largely politically driven.

Education in Lebanon is at a critical juncture. Political events paralyzed educational progress for many years including teacher development. With the advent of political stability, the Ministry of Education proposed major changes to the educational system issuing Decree 10227 in 1997. The Decree affects the Lebanese educational system in
several areas: curriculum content and objectives, evaluation methods, and decisively, teaching methods.

Along with the proposed reform adopted by the Ministry of Education, the economic imperative, as cited by Beare (1991), is contributing to the complex challenges taking place in Lebanon. The many demands on individual schools, and specifically the teachers in these schools, to strive for excellence in order to compete with the growing number of private schools and to once again enjoy an international reputation for excellence in education, are significant.

The roles of knowledge and skill update are critical for progress in any part of the world. However, they are particularly crucial in endeavours vital to economic growth, development of resources and establishing good government in a country such as Lebanon as it strives to recover and thus rejoin the world community (LAES, 2002). In order for change to manifest, dimensions of a school’s capacity must be addressed including the professional community and individual teachers’ skill (Newmann et. al., 2000). Fullan (1991) notes that teachers’ capacity to implement change of any kind must be assisted, particularly through and by professional development. This case study will begin to look at whether or not some of the challenges are being met at one private school in Lebanon.

The Lebanese context

No doubt the educational reforms in Lebanon have made important strides in both content and teaching methodology (Abouchedid et. al, 2002); however, the government led initiative is concerned with the public school sector only. The government’s responsibility for the supervision and inspection of private schools put in place by the French Mandate were expunged by 1959. Since that time the government has maintained only a nominal administrative authority over private schools (ibid). Training of teachers working in private schools has long been the purview of the individual schools. In addition, rapid changes in technological areas spawning an explosion of information
combined with "the complexity of relations between religious, cultural or ethnic-groups" in Lebanon, indicate that the process of training teachers is still "virgin territory" in that country (Constantine, 1995: 114). Although self-managing private schools have quite a bit of autonomy in terms of their organisational structure and teacher training programmes, they are nonetheless influenced by and predisposed to the environment.

The influencing environment includes hierarchical, bureaucratic organisational structures that inform the educational sector as well as the government. "In short, Lebanon has been strongly influenced by the form of bureaucracy found in modern Western nations", with a particularly strong French influence on formal structures (Kisirwani & Parle, 1987: 3). The highly centralised and bureaucratic policies embraced by French administrative models is an inappropriate choice for Lebanon given the diverse character of Lebanese society which encompasses often conflicting cultural traditions (Kisirwani & Parle, 1987; Villegas-Reimers & Reimers, 2000). Nevertheless, the model is engrained in most educational institutions and is a contributing factor to the successful, or lack of successful, implementation of reforms.

An organisational chart of the target school, common to many Lebanese schools, is illustrated in Table 1.1.

**Table 1.1: Organisational structure at the target school**
Conclusion

Since Lebanon is in the throws of educational reform, a discussion of the role that professional development plays in reforms is found in chapter two. In chapter two the thesis develops a conceptual framework within which the professional development of teachers is promoted. The model examines three influential aspects on the learning process of teachers. Literature commonly looks at teachers' professional development from one of these three points of view. This thesis promotes the position that all three aspects must be considered for meaningful teacher learning to happen. Therefore, the model discusses the role of principal in a change process as well as the role the organisational structure plays in the process along with information concerning the way adults learn best. Chapter three will explain the research methodology used for this study and how issues of trustworthiness and data analysis were addressed. Chapter four reports on the findings and the themes the findings generated. Chapter five discusses the findings and the subsequent insight gained through the analysis of the data. The thesis concludes with chapter six where a discussion of further recommendations can be found as well as a discussion of the import of this study and its inherent limitations.
Chapter Two
Developing a model of Teachers' Professional Learning

Introduction

A look at the labels: staff development, professional development, in-service training

Teachers make a difference not only in terms of student learning but in all areas of school reform (Viadero, 2005; Darling-Hammond, 2005; McLaughlin, 2002; Cochran-Smith, 2001; Hopkins & Reynolds, 2001; Abdal-Haqq, 2000; Croll & Hastings, 1997; Darling-Hammond, 1997; Hopkins & Stern, 1996; Freeman, 1991). However, not only do they make a difference, but research is suggesting that teachers make the difference (Harris, 2000; Sykes, 1996). Sparks and Hirsh (2000) report that a growing body of research supports a link between students' achievement and the quality of teaching and teacher behaviour. Butler (2001: 15) reports that it is a general belief that professional development does have an effect on student achievement. Focusing on teachers, linking content knowledge to pedagogy as well as establishing an environment of continuous learning is a finding supported by many researchers as the most effective way to increase student achievement and to create a dynamic learning environment for all (Cameron, 2005; Walsh & Gamage, 2003; Sparks and Hirsh, 2000; Harris, 2000; Darling-Hammond, 1998; Hopkins & MacGilchrist, 1998; Sykes, 1996; Novick, 1996).

"Historically, teacher change has been directly linked with planned professional development activities" (Clarke and Hollingsworth, 2002: 949). Throughout the 1980s a proliferation of research on the development of teachers emerged. The research from this era revealed that training programmes often implied that a deficit existed in teachers' knowledge and skill and the programme was intended to correct the deficit (Guskey, 1986; Joyce and Showers, 1980; Wood and Thompson, 1980; Brown & McIntyre, 1993 in Haggarty & Postlethwaite, 2003).
Reports from the 1980s also consistently refer to the training programmes under scrutiny as “staff development” or training initiatives. In everyday usage the terms ‘staff development’, ‘in-service training’ and ‘professional development’ are often interchangeable. Whatever the label, for at least the last 25 years, in-service teacher training has been heavily relied on as the primary means by which teachers gain new knowledge and skills.

Education has long been based on the acquisition of necessary skills for life. However, in Lebanon, thinking about education and best teaching practices is in the midst of a change to a model which focuses on problem solving and the development of cognitive abilities and therefore different requirements for teachers as well as the organisations for which they work are evolving. Dealing with this shift requires approaching it as a change process which in turn looks to professional development as a way to provide deeper levels of knowledge and practice (Keller, 2004; Fullan, 1993; Sparks, 1994).

Professional development differs from training in that it has the added dimension of ongoing, continuous learning. Traditional in-service training is characterised by one-shot presentations, which are unproductive if not counterproductive (Levine, 1994: 38; Loucks-Horsley & Matsumoto, 1999; Angelides, 2002). Wiggins and McTighe (2006) state that many in-service programmes tend to operate within this type of model and fail to personalize learning or to focus on teachers’ needs that would generate learning that transfers to the classroom. Professional development, on the other hand, has been defined as those processes designed to enhance the professional knowledge, skills and attitudes of educators so that they may improve the learning of students (Guskey and Huberman, 1995; Angelides, 2002; Toomey et al., 2005). In addition to being ongoing, professional development is also intentional and systematic (Guskey, 2000). Furthermore, recent models of professional development are recognizing that persuasive professional development models are executed in organisations that are set up as centres of learning (see Bezzina & Camilleri, 2001; Wiggins & McTighe, 2006).
A specific goal-oriented training agenda, executed with a top-down strategy, is not a catalyst for fundamental change. Furthermore, attempts to affect teacher change through a deficit-training-mastery model are based on the concept that change is something that is done to teachers (Clarke and Hollingsworth, 2002; Sandholtz, 2002). A body of research into the change process reports that change is a complex process that involves learning (Fullan, 1991, 1993; Guskey, 1986), and professional development is perceived as an effective means for implementing change in education (Bradshaw, 2002). Once the desired change has been identified, there must be a match between the method and the purpose (Craft, 2000). If student learning is to be affected the strategy should be linked to daily classroom practice (Guskey, 2000; Haggarty & Postlethwaite, 2003).

The narrow view of teacher learning that the word training denotes is now largely recognised as inadequate to the major tasks of teaching and school reform (Cochran-Smith, 2001:8; Darling-Hammond & McLaughlin, 1995; Butler, 2001; Ho, et al., 2001; Little, 1993; Wiggins & McTighe, 2006). The terms staff development and professional development appear to be synonymous in most of the literature sited above. Both labels refer to teacher learning agendas that have the added dimensions of being tied to the daily life of the school and classroom and are grounded in questions of concerns of teachers enriched by critical reflection (Novick, 1996; Darling-Hammond & McLaughlin, 1995; Little, 1993; Garet, et al., 2001; Haggarty & Postlethwaite, 2003). The label of choice for the model proposed in this thesis is ‘professional development’. The connotation of the word ‘professional’ serves to elevate the status of the teachers giving them a position of importance in reform efforts as well as in their daily work. In recent years more and more authors seem to be choosing this label as well (Gusky, 2000; Hea-Jin, 2001; Burbank & Kauchak, 2003; Grodsky, & Gamoran, 2003; Darling-Hammond, 2005; Wiggins & McTighe, 2006).

Consequently, in order for an in-service training agenda to function as a means of professional development the goals need to be clear and connected to teachers’ concerns as well as the school’s needs with a bridge established between the concepts and the strategies of use (Sparks & Hirsh, 2000). An in-service model can evolve into a
professional development paradigm as some research suggests that bridging theory and practice can happen at a later time provided the subjects have an opportunity to reflect on their experiences (Willis, 2004).

**Professional development and educational reforms**

In research that addresses the notion of systemic reform, the professional development of teachers is often the focus (Floden et al., 1995; Garet, et al., 2001). Fullan (1991) also cites the continuous development of teachers as a cornerstone for improvement and reform. Moreover, improving the quality and effectiveness of teachers' professional learning is essential to raising standards, implementing new ideas about teaching and learning and managing change (Wood & Bennett, 2000; Hopkins & Reynolds, 2001; Darling-Hammond, 2005; Toomey et al., 2005). Fink and Stoll (1997: 188) coincide saying, “if we expect to change student learning, effective schools must attend to and invest in teacher learning.”

This vital ingredient to educational reform is articulated by Hargreaves (1992) when he writes that teaching strategies are not only the result of the immediate context but arise from the “cultures of teaching: from beliefs, values, habits and assumed ways of doing things among communities of teachers. Culture carries the community’s shared solutions to its new and inexperienced membership.” (p. 217). Therefore, cultural, as well as economic and social factors are often constraints upon effective change (Guthrie, 1980); as well as the customary failure of the teaching craft to justify teaching methods, course designs or assessments against any recognised set of learning principles (Wiggins & McTighe, 2006: 28). Ingrained ways of teaching and approaching the business of learning is a problem for school managers the world over (Bolam, 2002).

Nevertheless, though it seems clear that a sustained, informed effort to promote teacher learning is a crucial element of school reform and results in better student learning, this approach has yet to emerge (Sykes, 1996; Garet et al., 2001;
Darling-Hammond, 2005). According to Beeby (1966) the amount of training teachers receive directly influences the progress of growth through which all schools evolve when implementing reforms. It is not enough for teachers to use time efficiently, master classroom management or even be responsive to students' learning styles; rather teachers must be secure in the content they teach as well as have pedagogical skills that guide students toward knowing and developing quality work (Killion, 1999: ix). Inherent in this argument is also the idea of approaching the business of teaching in a more facilitative, constructivist way.

**Approaches to teacher development**

Although training is often thought of as synonymous with professional development (Sparks & Loucks-Horsley, 1989; Guskey, 2000; Sergiovanni, 1996) this traditional model is criticized often in the literature as being reductionist in approach, often viewed as a composite of skills and bits of information dispensed separately and hopefully put into a meaningful whole (Hixson and Tinzmann, 1990; Sandholtz, 2002; Darling-Hammond, 2005). This deficit approach is also criticized by Little (1993) who points out its tendency towards standardised solutions rather than addressing context specific reform initiatives. The professional development of teachers should reflect the complex relationships and interdependency among all aspects of the educational process coinciding with constructivist thinking to renewal as a way of conceiving professional development (Sergiovanni, 1996).

This vision of professional development is the antithesis of conventional in-service training characterised by one-shot workshops conducted by 'experts' either from outside or from within the school community and not connected to the classroom. Moreover, workshops of this nature are often not relevant to the teacher's personal needs or the school context in which the teacher works. Finally, research is informing that teacher learning takes place over time and not in isolated moments in time (Cochran-Smith, 2001; Toomey et al., 2005).
The usual notions of in-service training must be restructured or replaced by possibilities for knowledge-sharing anchored in problems of practice if new structures of individual and organisational learning are going to take place (Darling-Hammond and McLaughlin, 1995). "To serve teachers' needs, professional development must embrace a range of opportunities that allow teachers to share what they know and what they want to learn and to connect their learning to the contexts of their teaching. Professional development activities must allow teachers to engage actively in cooperative experiences that are sustained over time and to reflect on the process as well as on the content of what they are learning." (ibid. p. 601). Initiatives should be included that go beyond the basic skills of the trade to catapult teachers to a higher level of professionalism through inquiry, collaboration and reflection within a community of learners (Haggarty & Postlethwaite, 2003; Wiggins & McTighe, 2006). Initiatives of this class are bounded by the mission, vision and objectives of the school (Cheung & Cheng, 1997).

Furthermore, as accountability demands increase, so does the importance of providing teachers with instructional strategies that support learning for all students (Little & Houston, 2003; Guskey, 1998) as well as strategies that support the goals identified by the schools. Comprehensive professional development is a necessary component of a reform agenda in this climate of educational reform (Fullan, 1993; 1999; Darling-Hammond, 2005). Once a school has recognised its unique situation and the forces that contribute to its uniqueness then the model of professional development that best addresses the needs can be identified.

This thesis will now discuss three powerful ideas, constructivism, system thinking and results-driven education, which for at least the past ten years have been influencing professional development agendas in schools (Sparks, 1994; 1997). The thesis promotes the idea that the three aspects must concurrently work together in order to meaningfully influence the professional development of teachers.
**Constructivism and teachers as learners**

In the first half of the 20th century learning was modelled around behavioural philosophy emphasising automatic and expected responses (Ali, 2004). By the middle of the century cognitive theories began to assert themselves and have influence over instructional design (Mergel, 1998). Cognitive theory rejects the model that learning takes place only when observable behaviour exists. Rather, this theory understands learning as consisting of changes in mental constructs and processes (Tusting & Barton, 2006; Ali, 2004).

The educational theory of “constructivism builds upon behaviourism and cognitivism in the sense that learning is a personal interpretation of the world.” (Mergel, 1998: 13). However, constructivists’ view of learning see learning as taking place when new information is added onto an individual’s current knowledge structures. Although, “the origins of the constructivist view of learning have their roots in the work of Piaget” (Pritchard, 2005: 30), it was the work of Vygotsky and others who added the social dimension to this learning philosophy. The social dimension manifests with the technique of scaffolding; which is the process of giving support to the learner at the appropriate time and level of sophistication and also in working collaboratively (see Pritchard, 2005; Gillespie, 2002; Munro, 1999).

The learning theory of constructivism is largely based on Vygotsky’s theoretical contributions to the development of curricula and teaching strategies (Jaramillo, 1996; Tusting & Barton, 2006), but also reflected in the work of Piaget (1950) and Dewey (1938). Specifically, the learning theory is based on Vygotsky’s concept of proximal development that claims to help children perform tasks normally beyond their ability with the aid of an adult (Dimmock, 2000; Dean, 2000). The zone of proximal development according to Vygotsky (1978: 86) is the distance a child can go with help from another person, either an adult or sometimes another child. It is the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.
The nature of the adult role is reflected in this zone of proximal development. The teacher clearly becomes facilitator with Vygotsky’s stress on experiential learning. The facilitator must design the interplay of cognitive, emotional and external interactions. “The surrounding social nature of learning encompasses the student’s interactions with other peers and the instructor.” (Jaramillo, 1996: 4). Jaramillo explains that teachers activate the proximal development zone when they teach students concepts that are just above their current skills and knowledge level motivating and prompting the students to attain additional skills to reach the zone. Activities and manipulatives are employed to learn concepts.

Generally a constructivist philosophy of education asserts that learners build knowledge structures rather than merely receive them from teachers (Sparks, 1994; Jaramillo, 1996; Ali, 2004). The theory states that individuals create their own understandings based on their experience and the interactions of what they know and believe (Richardson, 2003). An instructor’s role would be to facilitate students’ discovery of principles by themselves. Cochran-Smith (2001) maintains that a new paradigm and consensus in the professional development of teachers should be oriented towards a constructivist approach rather than transmission oriented for the new tasks of teaching and learning in re-structured schools.

Two essential understandings are present in this discussion. First, teachers must be oriented to a different view of classroom processes with students being more active and engaged in the learning process. Therefore, teachers need to become more acquainted with the instructional resources and strategies needed to create a constructivist environment. Studies are demonstrating that students prefer learning environments that incorporate constructivist opportunities (Tsai, 2000). For teachers coming from limited or out-of-date teacher preparation schools this will require professional development programmes to attend to this fundamental requirement.
Second, teachers' ability to modify their teaching practice is linked to a theory of learning that incorporates the distinctions of adult learners which are constructivist in nature. The nature of the adult learning process requires that professional development activities consider teachers' definitions, beliefs and attitudes towards learning. Additionally, there must be awareness of variations in the ways in which learners learn and the implications of these for effective teaching. Finally, knowledge of the process by which learners show what they know must be implicit (see Munro, 1999: 154). The active, hands-on method required of constructivist learning theory requires time as well as certain organisational structures according to Darling-Hammond (2005), along with innovations and technology.

Increasingly, researchers and educators are linking constructivism, technology and learning (Nanjappa & Grant, 2003; Dimmock, 2000). A technology enhanced classroom utilises constructivist strategies. For example, computer-based learning environments such as the use of E-mail, Usenet groups, and of the World Wide Web provide contexts and authentic 'worlds' that students can explore and experience virtually. These learning environments naturally provide strong support for the principles of constructivist philosophy. Other computer-based projects can provide students with rich learning experiences and problem solving opportunities provided the teacher knows how to make use of these sophisticated cognitive tools.

A constructivist context requires diverse competencies from the teacher, technological proficiency being one. Witfelt (2000 in Nanjappa & Grant, 2003) lists some competencies for a teacher in a constructivist context, some of which are not traditionally associated with the role of teacher. They include:

- Supervisor qualifications
- Supporter and facilitator of students' work
- Advisor and subject-matter expert
- Inspirer and encourager
- Arbiter of group discussions
- Mobilizing greater effort when objectives are not being met, and
• Evaluator to improve general learning capacities of students.

Constructivist professional development agendas become a critical strategy for acquiring these necessary competencies.

Traditionally students in a Lebanese classroom are arranged in a homogeneous group with the teacher dealing with the group in standardised ways. However, this arrangement is not conducive to a constructivist approach to the learning process. It becomes imperative for teachers to become acquainted with the philosophical foundation of constructivism as well as strategies of execution. For students to achieve success in tasks such as problem solving, critical analysis, higher-order thinking along with a flexible understanding of academic subjects as opposed to basic-skill achievement that has dominated educational methodology for so long (see Talbert et. al., 1993 in Kickbusch, 1996), teachers, themselves, must be educated in and educated by these educational strategies.

What students need to know and how teachers should meet those needs is an area that professional development can address through informing and modelling a constructivist approach to education. A reason as to why this educational philosophy has failed to take hold in many schools is offered by Elkind (2004) and can be applied to the Lebanese situation. Simply, there exists a failure of readiness. “Readiness is more than understanding the change, readiness is more than believing in the change, readiness is a collection of thoughts and intentions toward the specific change effort” (Bernerth, 2004: 40) generating knowledge of how to implement.

Not only did Lebanese teachers as students experience that coverage of the text, in a behavioural sense, was all important but the curriculum was designed to prepare students exclusively for the official government baccalaureate exams and no time was left for deviation from that objective. This behaviourist approach to education centred on students’ efforts to accumulate knowledge and teachers’ efforts to transmit it. This model of the learning/teaching process stands in stark contrast to a constructivist perspective which focuses more on activities and less on goals.
Within a behaviourist theoretical approach to education the teacher is the ultimate authority figure. On the other end of the spectrum, a constructivist framework for education would give the role of the authority figure at least two important components. First, new ideas and tools would be introduced where necessary as well as providing support and guidance for students to make sense of the tools for themselves. Second, the teacher or authority figure would listen and diagnose the ways in which the instructional activities were being interpreted to inform further action (Driver et al., 1994: 11). In order for teachers to successfully execute this shift, their prior conception of teaching must be modified to one of facilitating and guiding the process of student learning before specific student-centred strategies can eventually be adopted (Ho et al., 2001).

Addressing teacher readiness requires that teachers become learners and learning from teaching should be regarded as a primary task across a teacher's professional life span (Cochran-Smith & Lytle, 1992; Toomey et al., 2005). Research indicates that a critical component for the acceptance of change is how change is introduced and understood by teachers (Fullan, 1991; Hopkins et al., 1996). Therefore, theories that inform adult learning, which are compatible with a constructivist view of learning, must be understood. In fact, studies into adult instruction are concluding that there must be a change in the role of the instructor as content giver to that of learning manager and facilitator with a commitment to individualising instruction whenever possible (Sisco, 1997).

“A key idea within the field of adult learning theory is the model of the adult as a self-directed or autonomous learner” (Tusting & Barton, 2006: 4). This idea distinguishes adult learners from their younger counterparts. Tusting and Barton (2006) report that any relationship between self-direction in learning and any particular demographic remains undiscovered (p. 27). However, in Lebanon without a robust knowledge of the adult learning process in general and the self-directed aspect in particular any attempt at changing teacher practice will be compromised. As in many other contexts, dominant
theories of the past continue to drive the professional learning agendas of Lebanese teachers affecting current practice and perspectives (Shepard, 2000).

Additionally, adult learners want learning opportunities that are meaningful and practical, offer immediate pay-off, involve reflection and include social, active learning (Glathorn, 1990 in Sandholtz, 2002: 3). In addition, research into adult learning theories suggests some optimum conditions for adult learning to take place:

- Adult learners desire to have input into what, why and how they learn; want input into the selection of content, activities, and assessment of in-service programmes;
- content and processes have a meaningful relationship to past experience;
- content is related to the individual’s development changes and life’s tasks;
- the amount of autonomy exercised by the learner is congruent with the method utilised;
- the learning climate minimises anxiety and encourages experimentation;

Moreover, constructivist learning theory says that cultural perspectives, personal identity, and disposition all influence learning as well (Shepard, 2000). Therefore, teacher change can be conceptualised not as acquiring a fixed set of skills or learning how to implement a particular programme but rather teachers changing in a way that allows for continued growth and problem solving (Franke et al., 1998). In fact, any attempt at teaching expertise is flawed because novice-type behaviour is an essential part of the process of acquiring expertise (Tusting & Barton, 2006). Cochran-Smith (2003) advocates that teacher education be framed around a stance of inquiry which entails both learning new knowledge and practices and at the same time abandoning some long-held beliefs and practices which are often difficult to uproot.

**Constructivist models of professional development**

There are several approaches to professional development for teachers that are constructivist in nature, attend to the non-linear aspect of growth, and are adaptable to the
individual school context, and school culture. Following is a discussion of eight such models: inquiry/action research, self-management as professional development, collaboration as professional development, study groups, lesson study, peer observation and coaching, networks as professional development and mentoring.

Inquiry/Action research

An inquiry model of professional development is grounded in the constructivist theory of learning. The work of Joyce and Showers (1982) supports a constructivist view of ongoing teacher training by showing how inquiry projects can create growth and change in schools. Also known as action research (Guskey, 2000), disciplined inquiry is a powerful vehicle for change according to Cohen et al. (2000) and difficult to typify because of its complex and multifaceted nature. Cohen and Manion (1994: 186) define it as “a small scale intervention in the functioning of the real world and a close examination of the effects of such an intervention.” “Action research is a form of inquiry that addresses the essential characteristics of effective professional development” (Burbank & Kauchak, 2003: 500), which include examining complex classroom processes through analysis and reflective inquiry.

An inquiry approach to professional development employs all the characteristics that research has consistently identified as necessary for effective professional development (Richardson, 2003; Burbank & Kauchak, 2003). The research-based characteristics include:

- be school wide;
- be long-term with follow-up;
- encourage collegiality;
- foster agreement among participants on goals and vision;
- have a supportive administration;
- have access to adequate funds for materials, and outside speakers;
- develop buy-in among participants;
• acknowledge participants’ existing beliefs and practices (Richardson, 2003: 401).

In order to be able to adapt particular practice teachers must be trained in inquiry so as to be able to investigate the effects of their teaching on student learning (Darling-Hammond, 1998; Franke et al., 1998). Quality professional development is ultimately concerned with evaluating instructional practices through practical and transparent methods. An action research framework as a means of development is particularly useful because the basis for the inquiry is the here and now; it is practical and relevant and provides a direct link between research and practice (see Haggarty & Postlethwaite, 2003). Importantly, “it is now evident that when teachers concentrate on their own teaching practices they are more likely to obtain gains in student achievement” (Harris, 2000: 6).

Inquiry is an embedded professional development practice. Its constructivist nature gives this approach to professional development a flexibility that guarantees its success in a variety of educational situations. Guskey (2000) articulates five steps he attributes to Calhoun (1994) that are common to most versions of action research/inquiry:

1. select a problem or question of selective interest;
2. collect, organise, and interpret information related to the problem;
3. study the relevant professional literature and research;
4. determine possible actions that are likely to achieve commonly valued goals;
5. take action and document results (p. 26).

The focus of this model is on the concerns of the individual teacher but the possibility exists in the model for peer support and collaborative learning (Craft, 2000). The model is participatory in that teachers work towards an improvement and it is collaborative in that it involves those responsible for action (Cohen et al., 2000). Little (1993: 133) subscribes to the claim that “the most promising forms of professional development engage teachers in the pursuit of genuine questions, problems, and curiosities, over time, in ways that leave a mark on perspectives, policy and practice.”
Barnes (2001) reports on how an approach to inquiry worked at a small urban public school in Manhattan. The key criteria for the inquiry project at this school were twofold. One, the participants had to formulate a question that was deep and broad enough to sustain rigorous inquiry over time with the potential to improve practice throughout their school. Two, a significant number of teachers had to be involved in order to ensure a truly school based research.

"Constructing professional development activities in tandem with teacher research added a layer of intellectual work as teachers' ideas and observations are taken seriously and questioned seriously by their colleagues" (Barnes, 2001: 42). The participatory action research produced concrete results and contributed to the creation of a collaborative community. The visible changes gave teachers a significant sense of ownership and accomplishment.

"By learning from teaching, it is meant that inquiry is taken to be integral to teaching, and hence every classroom is regarded as a site for inquiry and a source of knowledge most effectively accessed when teachers collaboratively question and enrich their theories of practice." (Cochran-Smith & Lytle, 1992: 105). Cochran-Smith and Lytle conclude that cultural diversity (in reference to U.S. schools with their ever increasing diversity but equally applicable to the Lebanese situation) demands that every teacher "thoughtfully examine the meanings of disparities between home and school, community and school system, and teacher and student and then take responsible action to improve the education and life chances of their own students” (p. 113).

Of the many benefits of the inquiry method, the most beneficial is the refining of teachers' thinking processes. The inquiry process provides a means for proactive behaviour by modifying the historically reactive role of teachers (McCarthy and Riner, 1996). Teachers are often the recipients of other people's decisions. Empowerment that results from informed inquiry can have the effect of renewing motivation and re-establishing the value of the educational endeavour (ibid.). Furthermore, Yendol-Silva and Dana's (2004) ethnographic study of teachers furthering their professional growth
through inquiry concluded that teachers must first have the space to develop their voices as decision makers and teacher educators if reform-oriented teaching is going to occur.

_Self-management as professional development_

Self-development can be viewed as professional development according to Blandford (2000). She explains that contemplating on educational theory through reflection may transform the outlook of the practitioner. “Providing individuals with new concepts is a means by which to offer them awareness of how they function professionally.” (p. 183). Cheung and Cheng (1997) offer a self-management model that is constructivist in nature. Their model of professional development places the teacher in charge of their own self-learning and development. The framework of their model contains implications for school-based in-service programmes. The model can work within the boundaries created by the school’s mission and vision statements and financial and physical limitations.

The framework is comprised of two self-propelling cycles, a major and a support cycle. The process is iterative with stages of the cycles consisting of: environmental analysis, planning, networking with colleagues, developing, implementing, evaluating and monitoring. Competence and renewal are achieved through the process and teachers become more aware of their strengths and weaknesses in providing quality education to their students. The process is practical and embedded.

A distinguishing strength of this model is that it can be argued that everything that goes on in school presents an opportunity for professional development (Darling-Hammond & McLaughlin, 1995) and it is up to the individual to identify what will best address their personal growth. However, Bubb (2005) warns that some teachers do not take responsibility for their development and this could be an indication that the school in which they work has not provided the necessary impetus.
Collaboration as professional development

Another way to involve teachers in their own professional development is collaborative action research. This model "combines groups of teachers in the design, implementation, and evaluation of action research projects, and provides a mechanism for professional development that addresses the needs of teachers in contemporary classrooms" (Burbank & Kauchak, 2003: 499). McCarthy and Riner (1996) define collaborative inquiry as a systematic process for decision-making that is data-driven and on-going. The regular collegial exchange that provides teachers with opportunities to learn through sharing knowledge is important throughout teachers' careers (Darling-Hammond, 1998).

A study conducted by Burbank and Kauchak (2003) reports on the success of collaborative action research as a vehicle to improve teaching and a vehicle for professional development. The study included 10 teams of one pre-service and one in-service teacher each. It was conducted in the United States and illustrates a strategy for encouraging and formalising teacher collaboration in the pursuit of school change. The findings of the study suggest that collaborative action research teaming enhances the professional development of in-service, as well as pre-service, teachers. They recommend that schools establish mechanisms that institutionalise the process and offer support in systematic and sustained ways to ensure long-term viability of collaborative action research.

Replacing traditional lecture/demonstration formats with collaborative learning groups with a problem solving component connected to other aspects of school change is a shift from the traditional in-service model. A "model in which teachers confront research and theory directly, are regularly engaged in evaluating their practice and use their colleagues for mutual assistance" (Darling-Hammond, 1998: 11) is a mechanism that cultivates embedded learning. Teachers' practice is more likely to change when professional development is organised around collective participation combining teachers from the same school, department or grade levels (Desimone et al., 2002).
Collaboration as a professional development strategy extends to collaborative planning as a feature of effective professional development. The idea of collaborative planning or the value of teacher input into the professional development agenda is a recurring theme in the research (Sparks and Hirsh 2000; Sandholtz, 1999; Hixson and Tinzmann, 1990; Burbank and Kauchak, 2003; Smylie, 1995). When teachers have input into their study agenda they are more likely to invest the necessary time and effort into on-going learning (Robb, 2000).

**Study groups**

Study groups are a form of collaboration as professional development which involves the entire school in finding solutions to common problems (Guskey, 2000). It has been reported that schools that respond successfully to school improvement efforts create systems that maximize teachers' expertise such as study groups that focus on policy development and monitoring policy as well as employing strategies that improve teachers' skills in the classroom (Hopkins & MacGilchrist, 1998). Wiggins and McTighe (2006) maintain that meetings of all sub-groups in a school should focus on pedagogical questions, selection of instructional materials and persistent achievement problems through a lens of agreed upon learning principles. They suggest that the list of learning principles be understood and accepted by all before significant reform or growth can occur.

Some research reports that teachers felt that professional development occurred through the participation in study groups involved in curriculum development (Keiffer-Barone et al., 1999). These groups are an effective means of bringing about changes in teacher behaviour and in providing follow-up (Crowther, 1998). In addition, study groups emphasise the continuous, on-going nature of professional development.

Joyce et al. (1989) discovered that when teachers were organised into study groups to help them learn new teaching strategies, their students' achievement and behaviour improved markedly. Their study included three schools in an economically disadvantaged
region of the state of Georgia in the United States. Teachers were arranged in study groups using a peer-coaching process. The content of the training focused on teaching strategies that increase student learning such as cooperative learning, mnemonics, inductive reasoning and concept attainment. This professional development approach is responsible for the success of teachers' ability to acquire the teaching strategies.

Ultimately, the success of a study group depends largely on the leadership of teachers and the groups should be organised around this advantage. Research reported by Ruiz and Pares (1997) concludes that placing teachers with a clearer vision in different study groups may lead groups to cooperate more effectively and more quickly. In addition, giving support to groups has a powerful effect on their effectiveness (ibid.). One additional conclusion drawn in their report is the size of the group can impact on its effectiveness. Optimally, the groups should be small in number. The greater the number, the more difficult it is to achieve cooperation and the greater the chance of conflict.

Lesson study

One of the best developed models of teacher collaboration designed to improve practice is the lesson-study groups used in Japan as a primary means of professional development (Wagner, 2004). Teachers in Japan regularly participate in collaborative study groups referred to as lesson-study meetings and teachers in the United States are increasingly adopting the practice (Chokshi & Fernandez, 2004). It has also been reported that schools in Australia have incorporated this work-embedded technique to advantage (Walsh & Gamage, 2003). This professional development technique involves teachers developing and pilot-testing lessons to meet particular needs (Viadero, 2004).

The lesson-study approach stresses the importance of proactively identifying what needs to be done before a unit is taught (Walsh & Gamage, 2003). The goal of this professional development strategy is to improve the effectiveness and quality of the learning experiences that the teachers provide to their students. It is a strategy for planned change.
that can also renovate teacher/administration relations by requiring them to work together cooperatively (Wilms, 2003).

Lesson study offers teachers many opportunities to examine all aspects of their teaching (Watanabe, 2002). In fact, Viadero (2004) reports that reflection is the primary purpose rather than creating perfect lessons, citing that teachers will still learn and grow from the process even if mediocre lessons are the result. Watanabe (2002) lists the following recommendations for teachers from other countries interested in adopting this collaborative approach to professional development:

- Develop a culture of collective participation where teachers can gradually become comfortable sharing a lesson with their colleagues;
- Develop the habit of writing an instruction plan for others that is detailed in its instruction plans. These plans are not only for the teacher who teaches the lesson but also for the observers. Through the construction process there are opportunities to reflect deeply about the subject, students and instructional approaches.
- Develop a unit perspective with a long-term perspective that enables teachers to be critical about what is important in the lesson.
- Anticipate students’ thinking which is important in developing appropriate instructional plans. This part of the process is considered one of the main activities of a research lesson.
- Learn to observe is one of the most important skills in a research lesson.
- Give teachers a central role in developing these practices. Although principals and other members of the line management can and should play leadership roles in sustaining the activity, teachers must have the authority to decide how these practises should continue and what issues to focus on. (pp. 38-39).

The problem-solving orientation of lesson study can generate high quality school improvement (Hopkins & Reynolds, 2001) through teacher development. This
professional development strategy has been instrumental in Japan in orchestrating the shift in teaching philosophy from ‘teaching as giving information’ to ‘teaching as providing opportunities for students to build their own knowledge’ (Lewis, 2002).

**Peer observation & coaching**

Peer observation is an essential component of the Japanese Lesson Study model and it is itself a model of a collaborative nature often discussed in the literature (Lam, et al., 2002; Angelides, 2002; Darling-Hammond, 2005; Toomey, et al., 2005). Observation strategies for professional development involve coaching and therefore coaching is often discussed along with peer observation. Garmston (1987 in Showers & Joyce, 1996) identifies several types of coaching including: technical coaching, collegial coaching, challenge coaching and peer coaching as well as the traditional supervisory mode of pre-conference/observation/post-conference (p. 14). Showers and Joyce (1996) say there is a distinction between types of coaching that are used for teacher evaluation and coaching that is a professional development strategy.

Showers and Joyce (1996; 1982) discovered that successful peer coaching teams developed skills in collaboration which ultimately led to successful implementation of new content introduced to teachers. Although peer coaching can be a powerful professional development model, the idea of observing a colleague or coaching a colleague is often associated with evaluation and criticism in the minds of many teachers (Sparks & Loucks-Horsley, 1989). It is ideal when a mutually respectful relationship is fostered and threat of criticism is minimised. Research has shown that the modelling component has been proven to be an effective means for teachers to keep pace with the constant changes and demands of the profession (Crowther, 1998).

Finally, the provision of in-classroom support provides a key element to capacity building enabling teachers to expand their repertoire of teaching skills (Hopkins & Reynolds, 2001). It is emphasised that peer coaching as a professional development model helps in breaking down the isolation of teaching and often provides benefits for
both the observer and the one being observed (Showers & Joyce, 1996; Hopkins et al., 1994).

Networks as professional development

Collaboration that extends to the idea of networking within schools and externally as well is cited as an important component of professional development for teacher learning to occur (King and Newmann, 2001; Holmes & Johns-Shepherd, 2006). In fact, Bubb (2005: 83) asserts that “collaboration within and between schools will be the name of the game”. It is reported that opportunities for networking with professional peers is valued for the opportunity it provides for learning about good and bad practice (Bolam & McMahon, 1995) by providing mechanisms to learn from peers and to develop effective and innovative practice (Fullan, 2004 in Holmes & Johns-Shepherd, 2006; Keiffer-Barone, et al., 1999). Networking with teachers from other schools is also considered an important means of avoiding the possibility of parochialism and insularity (Helsby, 1999; Hopkins & Reynolds, 2001; Holmes & Johns-Shepherd, 2006).

“A school which is a learning school will seek out best practice elsewhere and use outside support to discover alternative teaching practices and initiate networks” (Hopkins, et al., 1997: 409). Networks outside the school community have been suggested as a viable strategy for achieving improvement and are effective opportunities for adult learning (Holmes & Johns-Shepherd, 2006). Hopkins and Reynolds (2001) promote networks as a means of generating capacity and facilitating innovation. They provide more creative and responsive structures for working with and between schools and become increasingly important when adopting change and innovative approaches to the teaching/learning process. Networks can supply necessary linkages by harnessing the interactive capability of systemic forces (see pp. 470-471).

These linkages increase accountability by spanning leadership and teaching boundaries (Spillane & Timperley, 2004). “Successful networks have demonstrated that leadership within the network may not necessarily come from the places it has traditionally been
found in the past" (Holmes & Johns-Shepherd, 2006: 9). Networks are inherently more flexible than traditional organisational structures challenging traditional hierarchical system structures, aiding in overcoming isolation and offering support structures for schools (Hopkins & Reynolds, 2001).

"Networks offer people membership in a constructive community: a group of professionals engaged in a common struggle to educate themselves so that they can better educate their students." (Lieberman, 1996: 52; Holmes & Johns-Shepherd, 2006). Networks are fundamentally a constructivist view of learning where the learning opportunities teachers encounter build on one another and teachers can move in and out of these networks to adapt to their changing levels of knowledge, interest and enthusiasm (Floden et al., 1995). Networks serve to build the capacity of the school through building the capacity of the individuals (Hopkins & Reynolds, 2001).

**Mentoring**

Mentoring as a learning strategy is an interactive dynamic process. Its constructive nature contrasts with a transmission approach to learning increasing the successful transfer of training into practice (Mathews, 2003). "Mentoring has also been described in the literature as a process that mitigates teacher isolation, promotes the concept of an educative workplace and leads to the creation or understanding of consensual norms in a school, faculty or grade team" (Carter & Francis, 2000: 1).

The mentoring model typically involves pairing an experienced, successful educator with a less experienced colleague (Guskey, 2000; Toomey, et al., 2005). However, it has been suggested that focusing on mentoring as a relationship rather than a role with a set of preconceived duties should be a central feature (Awaya, et al., 2003). Acknowledging that most definitions of mentoring emphasise the professional development of the mentee, Bush et al., (1996:121) go on to say that "mentoring is a multi-faceted concept incorporating personal support and the more rigorous notion of professional development leading to enhanced competence" having professional benefits for both of the individuals.
involved (Guskey, 2000; Bush et al., 1996; Carter & Francis, 2000; Toliver, 1999; Bolam & McMahon, 1995; Fish, 1995).

This equality of relationship advocated by many researchers is difficult to establish but Awaya et al., (2003) propose that a mentor’s authority is derived from experience and wisdom and not from rank. Although mentoring offers a highly individualised approach to professional development, the school also benefits from a successful mentor relationship through the collaborative models of working that result and the enhanced competence of the staff (Bush et al., 1996; Brightman, 2005).

Mentoring is a legitimate professional learning strategy and at the same time a cost effective solution in the training and development of teachers (Carter & Francis, 2000; Owen & Solomon, 2006). However, Bush et al. (1996) cite the following factors that can potentially limit the success of a mentoring program:

1. the quality of the match between mentor and protégé. Where there is compatibility the potential for substantial growth is enormous but where there are disparities the benefits will be limited.
2. limited time; a cursory approach is likely to negate any potential benefit.
3. emphasis on hierarchy (pp. 122-123).

A compatible relationship between mentor and protégé is paramount to a successful mentoring process according to other researchers as well (Mathews, 2003; Bolam & McMahon, 1995; NSW DET, 2002). Additionally, an Australian case study which involved four schools in Australia also discovered that central to the success of the strategy was the individuals’ conceptions of what constituted professional learning (NSW DET, 2002).

The Australian case study also corroborated the issue of time, reporting that time needed to be allocated to the task either in the form of release from classroom teaching duties or in the commitment of personal time. One additional finding of this study worth noting that corroborates the assertions above and of Awaya et al. (2003) is that mentoring
relationships were strongest where there was a separation of mentoring and supervision roles. Some additional characteristics for successful mentoring corroborated by studies are the ideas of a mentor as a facilitator or ‘sounding board’; the mentor needing the necessary experience and know-how to guide the process; and the mentor being supportive (Fish, 1995; Bolam and McMahon, 1995).

There exists an intrinsic challenge of professional development strategies which is the transfer of knowledge and/or skill to one’s practice. Professional development should be a catalyst for change, inspiring and motivating teachers towards more creative and effective techniques. But what often happens is relying on comfortable practice or the inability to cast a technique to one’s own practice. A case study (Toliver, 1999; see also McIntyre, 1988) into a mentoring programme in a bilingual teaching situation conveyed the notion that mentoring was shown to facilitate and encourage the adoption of new procedures.

Finally, Brightman (2005) also maintains that attrition of junior-level faculty is diminished through mentoring. Additionally, a mentoring relationship can prevent senior-level faculty from experiencing boredom. Most importantly he claims that mentoring improves teaching which results in improved student learning, the ultimate goal of teachers’ professional learning.

**Reflection as a necessary component of professional development**

Reflection is a critical dimension of all the professional development models discussed and could be the key to on-going, continuous learning that moves teachers beyond being mere technicians. From a constructivist perspective, learning is not a stimulus-response phenomenon but rather requires reflection for the building of conceptual structures (Von Glaserfeld, 1995). Therefore, since it is teachers’ deeply rooted conceptions and attitudes toward teaching and the learning process that can obstruct the acquisition of the necessary capacity to teach to the individual (Gagliardi, 1995), reflection is required to
alter engrained conceptual structures. Moreover, reflection, as well as inquiry, is commonly found to be central to school improvement (Stoll, 1999).

How teachers can be supported in developing a practice of reflection becomes a critical issue for professional development programmes since conditions of service and organisation cultures, such as in most Lebanese schools, do not allow for professional dialogue that moves beyond the anecdotal or the trading of techniques (Day, 1995). Day also points out that conscious reflection in the classroom is limited for most teachers who have developed strategies and routines on an implicit level. Dewey (1938) advocated that true reflective practice takes place only when there is a real problem to solve and the teacher seeks to resolve the problem in a rational manner. Also, importantly, reflection that is used inappropriately or unsystematically can undermine a learner’s practice and distort understanding (Fish, 1995: 173; McIntyre & Hagger, 1996: 193).

Inquiry models of professional development, such as are being proposed here, nurture reflective practice. For example, action research, as discussed above, is centred on reflection that is meant to urge teachers beyond merely being attentive to what they are doing (Clark, 2001). Simple reflection on instructional practice does not bring about change. Rather, it is the sound justification for modifying particular aspects of teaching that brought about some change, according to some studies (Sharp, 2003: 247). Through social forums for reflection along with teachers collaboratively working on common problems provides a new vision of professional development (Zambo, 2005).

Furthermore, it has been suggested that it is important to differentiate between ‘reflection’ and ‘reflective practice’ (Leitch & Day, 2000). Leitch and Day explain that reflection is central to developing practice but is associated with learning ‘how’ rather than learning ‘about’ or ‘what’ (see p. 180). On the other hand, Schon (1983) developed two models of reflective thinking that he called ‘reflection-on-action’ and ‘reflection-in-action’. Reflection-in-action accepts the unconscious, tacit thought processes that guide an action. Reflection-on-action is viewed as thoughtful consideration and retrospective
analysis of performance in order to learn from the experience. Schon maintains that the two processes together create a reflective practitioner.

When contemplating the professional development models previously discussed it becomes apparent that reflection-on-action is a necessary ingredient for effective implementation. “Part of the process of reflection on action involves exposing one’s ‘noticing’ to other professionals” (Harrison, et al., 2005: 270). All the models discussed previously contain elements of transparency and collaboration and thus satisfy the requirement of both reflection and action as critical components of a reflective teacher (see Harrison, et al., 2005). Reflection is ultimately the catalyst that brings tacit knowledge to a conscious level and bridges theory and practice (Spiilkova, 2001).

It has been suggested that learning is more likely to occur through the construction of networks of collected thinking and distributed intelligence rather than a product of individual reflection (Ruiz and Pares, 1997: 242). Literature is beginning to inform the need to provide a social forum for teachers’ reflection (Zeichner, 1994; Zambo, 2005). Supervised reflective practice and follow-up should be featured in all models of professional development (Fullan, 1991). Ultimately, critical reflection is said to promote teacher empowerment and shared governance through mutual problem solving (Blase & Blase, 1994: 60).

Final thoughts on constructivist models of professional development

The models discussed above are all examples of embedded professional development activities. This discussion does not intend to negate workshops on specific strategies or guest consultants sharing new twists to old ideas. However, these special content workshops or one-day in-service programmes dealing with some kind of mandatory training should be organised in such a way as to occur during the school day and be incorporated into the daily routine (Walsh & Gamage, 2003). Rather this discussion intends to promote the importance and necessity of contextually relevant development strategies embedded in the daily life of a teacher in addition to workshops of a special
nature. Embedding strategies in teachers' daily schedules means that it takes place regularly and that the school is organised in ways that promote the kind of collaborative professional problem solving that is the hallmark of effective growth (Jackson & Davis, 2000: 120).

All models of professional development need to take into account critical variables. Villegas-Reimers and Reimers (2000) when comparing literature on professional development with an international perspective cite seven such variables.

1. Teachers' stage in their careers
2. Teachers' cognitive development stage
3. Stage of the schools in their institutional development
4. Characteristics of students and communities
5. Socio-cultural factors impinging upon the institutional life of the school and upon the social construction of the role of teachers.
6. Time to engage in professional development activities
7. Financial support for teachers and programmes. (p. 49).

Embedded models of professional development are most successful when practised in schools that are 'centres of inquiry' where teachers and administrators pose questions, pinpoint problems, study, reflect and collaborate on the possible answers (Robb, 2000). In 1967 Schaefer articulated a vision of a “school as a centre of inquiry” where teachers cease to be technicians but rather continuously examine and improve teaching and learning. Furthermore, an inquiry-driven school recognises that a decision taken at one stage may no longer address the situation as it has evolved and that it threatens to dissipate entirely if not kept alive through re-evaluation. This way of conceptualising a learning institution augments the discussion of the organisational structure of schools.

**System Thinking**

The second powerful idea asserting itself on the business of education is system thinking (Sparks, 1994; 1997). Through system thinking Schaefer’s school as a centre of inquiry
(1967) can be conceived. The synthesis of an explicit, systematic theory of learning with a school’s cultural factors that influence how the learning is embedded are two key concepts that influence all models of professional learning capacity (Munro, 2005: 7). According to Munro, the context of the school community is an additional key factor.

Sparks (1997) explains that system thinking recognises the complex, interdependent relationships among the various parts of a system. “When the parts of a system come together they form something that is bigger and more complex than the individual parts.” (p. 4). Senge (1990: 7) describes system thinking as realising that all “business or human endeavours are bound by invisible fabrics of interrelated actions.”

An important principle of system thinking is that change within a system is continuous as a result of even minor changes or fluctuations in one part of the system having significant repercussions on other parts of the system (Sparks, 1994; 1997). Another principle of system thinking is the concept of congruence which refers to the idea that an organism continually strives to find the best fit between itself and its surroundings (Roche, 2003).

**A learning organisation as a structure for embedded professional development**

Growth or change in a system cannot be stifled with the influx of new information (Arbuckle, 1997). In this climate schools become self-renewing marked by continual change as opposed to equilibrium. “A successful learning community will be underpinned by an explicit theory of learning that maps into decision-making, practice and policy” (Munro, 2005: 8). Arbuckle (1997: 182) maintains that the “old watchdogs of consistency and stability curtail learning” to the point that the traditional focus on stability in school systems has prevented them from becoming vital places of learning. In a country, such as Lebanon, rich in tradition and proud of its past accomplishments in the field of education, this verdict has significant meaning.

Continual change and the influx of new information extend to embracing new ways of organising and systemising processes. Technology emerges as a modern tool useful in
system organisation and the process of teaching and learning. It is cited as part of the process of transforming a traditional organisation into a learner-centred, learning organisation (Sallis & Jones, 2002). Dimmock (2000) states that technology is an essential aspect of a learner-centred school and should be infused into all school activity.

Congruently, Bubb (2005) cites uses of technology as a main characteristic of continuing professional development. Essentially, technology is a powerful tool that supports inquiry-based learning that is constructivist in nature (Grant, 1996; Desimone, et. al, 2002). However, teachers need to be trained in project-based, technology supported inquisitive learning to expand their understanding of a learner-centred approach to the classroom (Wall, 1997).

Central to school improvement is a collaborative culture that a learning organisation promotes (Bush, 2005; Hopkins & MacGilchrist, 1998). Newman (1994) offers a rationale for viewing a school as a community since all involved in the school take “collective responsibility for achieving a shared educational purpose, and collaborate with one another to achieve that purpose.” (p. 3). Of the three reasons he offers for the necessity of a community within schools, the fact that teaching is complicated and difficult is the most cogent for this study. Teaching, he argues, “requires expertise, information and support far beyond the resources available to the individual teacher working alone in an isolated classroom” (p. 3).

As community relationships become established, issues of control shift from those of traditional organisational structures. The traditional model based on the business world’s pyramid theory has one person take responsibility by providing directions and close supervision with management burdens being delegated to other members of the line management as the need arises (Sergiovanni, 1996: 10). This model de-professionalises teaching by removing decision making and undervaluing professional development.

Furthermore, a study in Malta into the influence of the school macro-level on individual teacher’s professional development proposes that the rigid, hierarchical, centralised and
bureaucratic educational system in that country has a negative impact on the professional development initiatives intended there (Bezzina & Camilleri, 2001). As a small state, Malta can be seen as having some commonality with Lebanon and therefore, the assertions of this study have particular significance. Basically, the authors assert that a belief in continuous professional development for teachers is inadequate without properly addressing the organisational context in which the agenda is to be practised, and that the contextual climate should be a site of inquiry and reflective practice.

Learning communities are necessary for school renewal and must not be impeded by entrenched organisational obstacles. The concept requires that teachers engage in school-wide collegial activities and professional efforts that inform their practice. The model involves investing in teacher preparation and their professional development as well as permitting greater autonomy and decision making for teachers (Hood, 1997).

Communities rely on purposes, values, collegiality and natural interdependence and these connections substitute for formal systems of authority and formal systems of professional development (Sergiovanni, 1996: 48). Part of the momentum that is linking the idea of a learning organisation to education is the recognition that traditional professional development does not answer the needs of school reform initiatives and the growing realisation that a communal approach to teacher development is effectual (Lumby, 1997; Joyce & Calhoun, 1995; Hopkins et al., 1994; Angelides, 2002; Haggarty & Postlethwaite, 2003; Wiggins & McTighe, 2006).

Among other characteristics, a learning-centred school supports “systematic and on-going professional development for teachers which addresses the skills in curriculum, teaching, technology and classroom management necessary to implement the programme.” (Dimmock, 2000: 276). “Powerful collaboration that characterises learning communities is a systematic process in which teachers work together to analyse and improve their classroom practice.” (DuFour, 2004: 9). Self-evaluation is fundamental to a learning organisation (Briggs, 2002).
A professional learning community in fact can refer to the whole school or the classroom or even at the level of a specific subject department (Bush, 2005), creating networks within the community as discussed earlier. These sub communities can also be organised along departmental lines, grade level, pedagogical styles, or students (Grodsky and Gamoran, 2003; Desimone et al., 2002; Hood, 1997). A powerful form of teacher learning can come from belonging to these kinds of professional communities by legitimizing dialogue and supporting risk-taking, a necessary part of any process of significant change (Darling-Hammond & McLaughlin, 1995).

Loucks-Horsley and Matsumoto (1999) cite research into a school in New York that revealed a high performance learning community and the success of this community is largely attributed to good teaching practice fashioned through the breakdown of teacher isolation by opening classroom doors and teachers working together on a number of instructionally related tasks. This particular school developed “nested” communities (Elmore & Burney, 1997 in Loucks-Horsley & Matsumoto, 1999: 266) at every level throughout the school, concluding that schools are places of learning for both students and teachers, where continuous learning and improvement are the norm.

Shared values and vision focusing on student learning is a key characteristic of a professional learning community (Stoll et al., 2005), requiring that teachers’ role in the community be re-evaluated in order for teacher influence to be realised. Teachers in this context share responsibility for organisational and instructional coherence. They must share responsibility for enacting the vision of the school through embedded activities and ensuring consistency (see Spillane & Timperley, 2004).

Fullan (1993) asserts that learning organisations are a necessary condition for the complex, nonlinear dimensions of change such as professional development initiatives and therein creates a paradox. Learning organisations are necessary for authentic professional development to manifest and a methodology for a more collaborative and constructivist process of change is needed to develop a learning organisation (Wagner, 1998; Bolam, 2002). Lumby (1997) offers that insufficient professional development as

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well as a lack of understanding the paradigm that underlies teacher development are
critical reasons why schools are unable to successfully implement the shift to a learning
community.

In summary, two critical elements stand out in a school that is a learning organisation.
First, the school must nurture a collective focus on student learning and the promotion of
a collaborative environment where teachers are encouraged to work together to share
understandings of students, curriculum and instructional policy. Second, the school must
provide the economic resources such as materials, buildings, books, computers and
human resources in the form of teachers' ability to instruct. (Grodsky & Gamoran, 2003:
5; DuFour, 2004). The professional development models discussed previously all
contribute to the formation and sustainability of a learning organisation.

Learning Organisations and Human and Social Capital

Decisively, a learning community offers a structure whereby teachers can study teaching
on a continuous basis. This type of continual development leads to an increase in the
human capital of an organisation. Grodsky and Gamoran (2003) add that by enhancing
the human capital of participating teachers, professional development can also contribute
to the social capital of the school organisation (p. 7).

The concepts of human capital and social capital are important ideas in the understanding
of the conceptual framework being developed here. Both Bourdieu (1986) and Coleman
(1988) have theorised the link between social capital and education. Bourdieu (1986)
defines social capital as resources that are gained from institutionalised relationships, a
focus on networks. Coleman (1988) is primarily concerned with how the adult-child
relationship contributes to educational outcomes. Coleman says that these relationships
convert the human capital of adults into the human capital of children.

Although human capital is said to focus on the accumulation of knowledge and skills that
allow individuals to increase their productivity and their earnings (OECD, 1998), it is
stressed by Coleman (1988) that the role of social capital is the creation of human capital. Education clearly contributes to higher levels of human capital by providing people with skills and knowledge that are used in the marketplace. However, social capital acquired during the schooling process or continual learning process for teachers, plays a role in the acquisition of social rewards (Buerkle & Guseva, 2002) and higher levels of human capital. Schools create networks that are a consequence of human capital. Therefore, by increasing the human capital of the teaching staff, the social capital of the organisation increases and vice versa.

These concepts apply to the professional development of teachers and ultimately to education reform and they offer an alternative approach to the conventional view of teacher training as well as teacher position within the school structure. The conventional stratification suggests that education, as traditionally practised, contributes to inequality by endowing people with different amounts of human capital thus impacting on social capital as well. Grodsky and Gamoran (2003) stress that the underlying role of professional development is to enhance student learning through its effects on teaching practices, or in other words, through the enhancement of the human and social capital of the teaching staff.

A conception of professional development in which teachers as learners assume new roles in transforming schools into learning organisations will cause lasting and significant change in teachers and consequently throughout the school community (Lieberman, 1995 in LaPlant, 1997: 52). Fullan (1997) also offers a conceptual model for teachers as leaders in which individual and small-group action are a main impetus for institutional change suggesting that the pursuit of learning is not a piece of content that can be taught but rather it is a value that teachers can and should model (Haberman, 2004).

The new roles required to transform schools from places of teaching to places of learning include not only the role of teachers but all involved including the principal (LaPlant, 1997). Management is ultimately responsible for the challenge of creating an environment that can develop the human capital of the teaching staff and a learning
community is a framework within which the social capital can impact on the human capital (Coleman, 1988).

**Results-driven education**

Results-driven education is the third powerful idea identified by Sparks (1994; 1997) that is contributing to altering the shape of schools and the professional development that occurs within them. Importantly, “results-driven education for students will require results-driven professional development for teachers” (Sparks, 1997: 4). Researchers are looking more closely at the particular characteristics of schools and the professional development that takes place in them as accountability increases (Loucks-Horsley & Matsumoto, 1999). This research is starting to inform that a model of professional development that does make a difference in student learning is results-based professional development (Sparks in Killion, 1999).

The rising emphasis on accountability has moved the quality of teaching and learning to centre stage worldwide (Ho et al., 2001), and the phenomenon has placed increasing demands on professional development efforts. Loucks-Horsley and Matsumoto (1999) report that quality professional development is receiving close scrutiny as a result of the demands of accountability and this scrutiny is uncovering a new conceptualisation of the role of principal as facilitator, community-builder, leader of teacher-leaders and leader of learners (LaPlant, 1997).

**Management of professional development in a learning organisation**

Leader roles and leadership traits can and do exist in many positions throughout a school community as leadership is really a function more than a role (Bush, 1999; Leithwood & Riehl, 2003; Quick & Normore, 2004; Gunter, 2004; Simkins, 2005; Crowther & Olsen, 1997). It is widely believed that the leader in a learning organisation is ultimately responsible for the learning and should put learning at the centre of all activities (Senge, 1990; Hargreaves & Fink, 2003; Lumby, 1997). It is often cited as a
leader's function to create and advocate the infrastructures and methods to promote teacher learning and to maintain the momentum of the learning (Arbuckle, 1997; Marsh, 1997; Harris et al., 2003). For teacher learning to take place there is a need to develop effective management processes. These processes should include less control over the collective behaviour of the staff and more focus on developing the human and social capital of the school. The new leadership approach needs to be built on the mission of the school and on cultivating the people to carry out the vision.

As the above discussion on learning communities exposed, at the essence of this type of organisation is a change in culture as well as structure. Within this transformation the principal’s role is pivotal requiring an interface between management support and educational reform (Marsh, 1997). Earley (2004) reports on research out of the United Kingdom that makes the claim that leadership teams played a significant role in effective schools. One of the conclusions of the research claims that schools operating with a greater use of distributed leadership have greater success with the technical complexities of educational innovations making it imperative that traditional management responsibilities and procedures be reconsidered (p. 109).

Research conducted in New Zealand into the in-service training of teachers (Anon., 1995 updated 2002) reports that part of the principal’s major tasks includes the responsibility for guidance in how to provide the best learning opportunities for students. The principal’s responsibility is to provide development programmes for teachers that are purposeful and research based establishing a conscious effort to change practises and beliefs and rooted in the goals and vision of the school (DuFour & Berkey, 1995).

This type of conceptualisation requires a shift in thinking from the idea that people are expendable to a focus of managing that is geared toward the human resources of the community (Argyris, 2002). Harris (2000) reports that successful school improvement efforts focus on the classroom and not only on wider organisational concerns. She states that research informs that variables at the classroom level account for greater variation in student outcomes than do variables at the school level (p. 9). Lessons from research also
inform that an extended view of leadership is required for school improvement efforts. This re-conceptualisation of leadership says that teachers and managers need to engage in shared decision making (Harris, 2000; Earley, 2004). A sharing of power ignites latent resources in an organisation. The process gives teachers a greater sense of efficacy, responsibility and control (Murphy, 1968).

This change in concept demands a change in leadership style from the traditional authoritarian approach to a more collegial strategy that involves all members of the school to participate in school-wide decision making (Bush & Saran, 1995), thereby distributing responsibility for school culture. The consensus of opinion on the importance of the role of school principal in effecting this change in culture is considerable (Earley, 2004; Bush & Barker, 2003; Simkins, 2005; Harris, 2004; Harris et al., 2003; Harris, 2000; Robb, 2000; Marsh, 1997; Sergiovanni, 1992; Senge, 1990; Howey and Vaughan, 1983). Rather than a command and control approach, traditional forms of management need to be replaced by skills of encouragement and mentoring (Argyris, 2002). In this atmosphere the leader’s role is to create the conditions in which knowledge can flourish.

**Leadership strategies**

Several leadership strategies informed by research contribute to achieving the desired culture: instructional, educative, transformational, and distributive leadership strategies to name a few. Each of these leadership strategies will be discussed in turn.

Instructional leadership theory is a strategy that incorporates the function of teacher development but in a traditional sense and encompasses hierarchies and top-down leadership (Liontos, 1992). This leadership strategy supposes that the principal knows the best form of instruction and teachers’ work is closely monitored. Therefore, teacher development is conceived in terms of a remedial or deficit reduction process.

Furthermore, Leithwood (1993) reports on research that disputes the viability of an instructional leadership role for the principal. The report cites principals as claiming it is
not a function they feel comfortable performing primarily because it is unclear what teacher development looks like and how a principal might foster such development given the usual job demands. Sergiovani (1992) also states that although instructional leadership has its place in necessary circumstances, it should be practised judiciously and in a supportive way, not a dominant way, to guard against teachers being cast as subordinates.

When instructional leadership is required, Leithwood (1993, see pp. 93-99) offers guidelines for principals for fostering teacher development. The guidelines place a responsibility on the teacher and advocates embedded practices such as recasting routine administrative activities into powerful teacher development strategies. Additionally, he places the obligation on the principal/leader for establishing a school culture based on the norms of collegiality and professional inquiry.

This view of instructional leadership resembles the theory of educative leadership offered by Duignan and Macpherson (1992) which adds to the traditional focus in the literature on style, attitudes and behaviours. They add that educative leaders must also be concerned with knowing organisations and ways of leading that address the cultural norms of the group. They assert that actions taken to change the assumptions of others inevitably lead to a redefinition of the culture of the setting (p. 3). However, recent studies from many countries declare that principals did not actually succeed in connecting the instructional process with the school culture (Marsh, 1997).

An educative leadership paradigm is more compatible with the other leadership theories mentioned than is instructional leadership theory. An educative leadership paradigm incorporates the transformational characteristic of empowerment. Additionally, it is facilitative and exhibits elements of a distributive nature. Principals who adopt this type of leadership strategy create a learning community with a focus on results. A principal of this type will have strategic influence on all results, teacher growth and ultimately student achievement, by providing cultural leadership that is linked to organisational structures designed to support the collective focus (Marsh, 1997).
The element of empowerment is fundamental to transformational leadership strategy. This leadership approach would empower teachers to take ownership of the vision and put aside their personal immediate goals (Blase and Blase, 1994). Empowerment produces teacher motivation, ownership, commitment and a sense of professionalism. Leithwood (1994 in Leithwood et al, 1997: 7) has developed a model of transformational leadership which includes empowering teachers to contribute to the school vision and goals, creating a productive school culture and importantly, developing structures to foster participation in school decisions. The model establishes the assertion that the concept of transformational leadership is closely aligned with the creation of a learning community and the tenet of constructivism, problem-solving ability. What is particularly valuable about transformational leadership strategies is that teachers feel their contributions are valued by such a leader.

However, this model of leadership is not uncontested. According to Bass (1997) there are critics who argue that transformational leadership may be unethical for a few key reasons including that it is antithetical to organisational learning coercing employees of an organisation to adopt certain values as their own. Allix (2000: 17) also maintains that “leadership vision derives from a personal theory of reality that is fallible.” However, Bass (1997) argues that such critics fail to distinguish between transformational leadership and pseudo-transformational leadership. He maintains that this leadership strategy has demonstrated effectiveness across organisations and countries through unifying purposes of an organisation and liberating human potential. Conclusively, Allix (2000) realises that it is the possible absence of a system of checks and balances coinciding with this leadership strategy that can create a potential moral concern.

Transformational leadership as a way of increasing social capital is discussed by Couto (1997). He reports Coleman’s position that the transformational leader develops human capital and Coleman suggests an explicit role of leaders in increasing social capital. It appears that researchers advocate this leadership strategy when change within an organisation is desired (see also Hopkins et al., 1997).
Research conducted in South Australia of 96 schools offers an explanation of the characteristics of a transformational school principal. The focuses are compatible with Leithwood’s model described previously with the additional characteristics of:

- “Individual support – providing moral support, showing appreciation for the work of individual staff and taking account of their opinions.
- Performance Expectation – having high expectations for students and for teachers to be effective and innovative.
- Intellectual Stimulation – encouraging staff to reflect on what they are trying to achieve with students and how they are doing it; facilitating opportunities for staff to learn from each other and modelling continual learning in his/her own practice.” (Mulford, 2003: 20).

Ultimately, this research concludes that transformational and distributed leadership were the best strategies for organisational learning.

When leadership is thought of as an interaction between people as well as the context they find themselves in, distributed leadership can be understood. Leadership activity from a distributive perspective shifts the analysis away from the individual personality and tasks and aims at the “web of leaders, followers and situations that give activity its form” (Spillane et. al, 1999: 13) enhancing accountability. If leaders and followers are not allowed to collaborate in accomplishing group tasks, leaders become reactive and are forced to follow pre-existing traditions (Gibb, 1954 in Gronn, 2000).

The potential of results-driven education shifts the power base of an organisation to the owners of the organisational knowledge or the expertise (Argyris, 2002) which places critical importance on the leadership approach of the principal. It also allows for much greater leadership roles for middle management. Busher and Saran (1995) assert that “interactive or emancipatory views of teaching and learning imply the need for more interdependent relationships between people in school organisations than is portrayed in conventional-hierarchic-bureaucratic” structures (p. 193).
Distributed leadership is compatible with research that suggests that school leadership reaches beyond those in formal leadership positions and permits staffs to be actively and collectively participating in the core work of the school (Leithwood et al., 1997; Spillane & Timperley, 2004). It is a strategy closely aligned with transformational leadership in the sense that distributing responsibility empowers individuals with the purpose of bringing about a major change in some phenomenon (Burns in Spillane, 1999). Moreover, this leadership theory sees the context as part of the leadership activity taking the emphasis off the individual personality. No longer is the vision for a school the sole responsibility of the traditional leader. Rather, the focus on activity looks at the things people do to create coherence of vision (Spillane & Timperley, 2004: 18 & 20).

Additionally, a leader practising distributive strategies provides clarity to groups tackling policy issues in terms of the limits of their decision making authority. Members can not be made to feel that their participation is only token involvement (Garmston, 2004). Stoll (1999) reports that research finds that greater benefits are derived in schools in which teachers or teams of teachers are given responsibility to lead during a change process. Correspondingly, Harris et al., (2003: 75) claim that where leadership is shared, there exists more possibility of organisational development and change. Decentralising decision making, shared leadership, generates increased motivation towards change. Even though research also suggests that attempts to distribute decision-making power have resulted in only peripheral change keeping the locus of power and authority where it has always been (Guskey and Peterson, 1996), Earley (2004) reports that leadership teams were effective provided the principal delegated clearly defined areas of responsibility.

Evidence from research reported by Harris (2004) suggests that distributed forms of leadership can assist capacity building within schools which leads to school improvement. A central message derived from this research consisting of two case studies in England was that the limitation of a singular leadership approach was recognised by successful heads and that these heads saw their main leadership role as being primarily concerned with empowering others to lead (p. 16).
Harris's research involved in-depth case studies of twelve schools and the heads of these schools were of different ages, stages in their careers, different experiences and worked in different situations. The commonality of their approach to leadership in these successful schools is revealing. The evidence from these studies suggests that a form of leadership that is distributed and collegial can yield positive results in the lives of teachers and consequently the life of the school.

Distributing leadership is more than just a collegial exercise although collegiality is at the core of distributed leadership. Harris (2004: 15) says the important delineation between collaboration and distributed leadership is that distributed leadership results from the activity; it is a product of networks, study groups and inquiry partnerships. A collegial model like distributed leadership is an attractive model for educational organisations because it provides for the participation of the teachers and assumes authority of expertise in contrast to the positional authority found in hierarchical structures (Bush, 2002b: 20).

Although there is little research evidence that the attempt to decentralise authority and involve teachers in decision making furthers student outcomes it is linked to the development of a learning community (Guskey and Peterson, 1996; Stoll, 1999; Harris, 2004; Busher & Barker, 2003). The collaborative, shared decision making emphasis of all the leadership strategies discussed places them within a constructivist philosophy.

Constructivist leadership's influence on professional development

Any constructivist leadership approach focuses on professional growth (Norris, 1998). A leader in this context promotes and facilitates conversations, ensures time for relationships to develop and importantly allows time for teams to meet (ibid.). A principal in this context is responsible for creating an atmosphere conducive to learning through modelling continuous learning. Capacity building in the form of the school's human and social capital can be promoted through leadership of a constructivist nature by
modelling best practice, providing feedback to teachers, practising desired strategies, collaboration and planning, inquiry and problem solving (Marsh, 1997; Little, 1993).

Organisational structures, including leadership distribution, need to be conceived or re-designed to support and nurture the intended culture. No matter how well structured and conceived a professional development initiative may be, its effectiveness will be limited unless it operates within a climate that enhances it (Middlewood, 1997). It is also a function of constructivist leadership strategies to conceive or re-design the systems of the school to support and nurture the core values and objectives the school has determined for itself. For example, should a school aspire to incorporate technology as a teaching learning tool, the technological capability of the school needs to be assessed. Among the conditions under which technology use is seen to increase are strong leadership, the extent to which professional development focuses on technology integration and the technological capacity of the school (O’Dwyer, et al., 2004).

Therefore, a primary aim of a constructivist leader is to increase the quality of teachers’ work through professional development strategies. Teachers’ work must also be encouraged to relate to the core values and objectives of the school. Constructivist leadership strategies are directly related to the human resource management process (Bush, 1997). Training and development strategies, including induction procedures for newly qualified teachers, help to ensure that an organisation has the people with the skills and knowledge required to achieve the goals of the organisation. It is largely recognised as a responsibility of school leaders to provide these procedures for newly qualified teachers. Without sustained support and guidance for these teachers’ professional development there exists a very real danger of them leaving the profession (Bubb & Earley, 2005), not to mention their inability to contribute to the school’s objectives.

In addition, constructivist leadership strategies are required to move schools beyond the traditional grammar of schooling that impedes new ideas and practices from being integrated into teachers’ repertoires and consequently the school’s culture (Hargreaves & Fink, 2003). Villegas-Reimers and Reimers (2000) in their paper that reviews the
literature on teacher professional development from an international comparative perspective cite “two elements of a school as a context that are crucial for teachers’ professional development: one is the culture of the school and the other is the nature of school leadership” (p. 53).

Leadership responsibilities

Without a substantial amount of assistance teachers’ capacity to move actively into implementation could be overestimated (Fullan, 1991). Feedback, especially as it concerns the acquisition of specific innovations, is necessary for successful teacher learning (King & Newmann, 2001). Principals must recognise that ongoing support after initial training is critical to the success of any innovation (DuFour & Berkey, 1995). In fact, any learning process that includes a mutual influence between learners and their instructional resources must involve feedback. Without feedback any meaningful mutual influence is impossible (Naidu & Bernath, 2002: 8). It is ultimately the principal’s responsibility to establish support mechanisms such as peer coaching, mentoring or any collaborative strategy including teachers networking and cooperating with other teachers (Holmes & Johns-Shepherd, 2006; Loucks-Horsley & Matsumoto, 1999; Rosenholtz, 1989).

Research has shown that the one-shot workshop or event is not usually effective for long-term change to manifest (Cochran-Smith, 2001; Bubb, 2005; DuFour & Berkey, 1995; Sparks & Hirsh, 2000; Sandholtz, 2002) largely because the follow-up component is missing. Therefore, it becomes a management role to provide additional opportunities for teachers to get together to continue to learn and to reinforce what was learnt at the initial workshop. This follow-up can take on different forms:

- Additional events on the topic, preferably conducted within subject specific groupings or other homogeneous groups;
- Additional events at an advanced level;
- Development of special interest groups that meet regularly to discuss the topic. This could also be done on-line or in person. (Kelly, 2003: 58).
In fact, research indicates that the primary responsibility of all school leaders is to sustain learning. (Hargreaves & Fink, 2003; Leithwood & Riehl, 2003; Stoll, 1999). “Leaders develop sustainability by the way in which they approach, commit to and protect deep learning in their schools; by the way they sustain others in their efforts to promote and support that learning; by the way they sustain themselves in their work, so that they can persist with their vision; and by the way they try to ensure that the improvements they bring about will last over time, especially after they themselves have gone.” (Hargreaves and Fink, 2003: 694).

Ensuring sustainability includes securing unity of vision within the management ranks, senior and middle. There is a consensus, according to Stoll (1999), that effective schools have a vision of where they are going. Earley’s work (1997) emphasises this point by reporting that a significant portion of failing schools in England and Wales experienced a change of head teacher. The presumption of this finding is that the other members of the line management were either not clear about the school’s direction and philosophy or were not prepared to continue without the head teacher. While the study supports other research that asserts the significance of leadership at all levels (Busher, 2002a, 2005), Earley’s study specifically places the duty on the principal to sustain the institution.

Assuring consistency of vision throughout the leadership team contributes to sustainability and to optimal conditions for professional learning. The leader should also provide the questions that will guide the community’s learning. Moreover, it is the principal’s responsibility to understand how cultural factors will affect how the learning process will operate in the context of the school (Munro, 2005). In Lebanon, this would include personnel factors such as years and types of training and exposure to the intended school learning philosophy as well as sociological factors such as long-held views of teachers and their role in schools and students’ lives specifically.

It has been reported that teachers cite principals’ commitment to professional development as a key element of effective leadership (Harris et al., 2003). The principal
must take on the role of "principal change agent" (Fullan, 1993) setting the intellectual and interpersonal tone of the school as well as shaping the organisation in a way that fosters community learning (Davis, 2000). The roles of educational leader are many and in the 21st century should centre on more subtle and important tasks such as building organisations where people continually expand their capabilities (Senge, 1990; Quick & Normore, 2004).

Leadership in this climate becomes a moral obligation more than ever before and the school climate, culture and community are direct reflections of the school’s leadership (Quick & Normore, 2004). In self-managing schools with their greater autonomy, such as is the case in the private school sector in Lebanon, it is crucially important that school leaders develop a school ethos that supports teacher learning (Bubb & Earley, 2005: 28); including managing resources to effectively achieve the intended goals of the school as well as enhancing learning and teaching (Anderson, 2002). Creating and sustaining a competitive school requires leadership practices that allow leaders to address the uniqueness of their schools and its context incisively.

Ultimately, principals in Lebanese schools need to cultivate a broader meaning of what is meant by professional development and execute leadership strategies capable of guiding the process and creating a conducive organisation. It is leadership’s responsibility to ensure that the professional development strategies meet the needs of the individual teacher as well as the needs of the school. “This means that leaders of schools would not only think about how to deliver changes and new policies, but that they would exercise a type of leadership that transcends the technical and managerial approach inherent in corporate managerialism so that moral and professional accountability, not just contractual accountability would be a central concern.” (Ehrich & Simpson, 1995: 2).

**Conclusion**

Professional development for teachers in Lebanese schools needs to move away from one-shot training workshops unrelated to teachers’ real experience or workshops that
force teachers into passive learning modes and which do not model the kinds of cooperative learning strategies now required of the teachers themselves (Sandholtz, 2002). The new framework for education in Lebanon that was officially endorsed with the issuance of Legislative Decree 12227 advocates a conversion to more formative curricula through promoting group-work and discovery learning (Abouchedid, et. al., 2002). Multiple forms of job-embedded learning that create a continuous learning cycle is what can move teachers beyond being technicians or transferors of knowledge. As long ago as 1983 Howey and Vaughan predicted that with the growing magnitude of challenges facing education an evolution to continuing, cooperative and on-the-job forms of professional development will be required (p. 96).

All the models of professional development discussed in the preceding pages lend themselves to an embedded, sustained approach to professional development with a practical component. A Study conducted in 1994 in Colonel Richardson Middle School, Maryland, U.S.A. demonstrated the importance of sustained, relevant professional development that is embedded in the daily life of a teacher.

This small (461 students) rural school, shares commonality with the target school of this study in terms of size. It was performing below State expectations when the Principal instituted a two-year plan to improve efforts in writing. As a result of the professional development initiative the school’s test scores improved dramatically. The school then chose a different focus for the professional development initiative. After each two year cycle the teachers were required to maintain portfolios demonstrating their continuing use of techniques that were learned in previous years. The experience of this school offers support for focused professional development with relevance to a particular reform agenda along with systematic follow-up and reflection as necessary components.

Teachers in this school reported being very appreciative of the focused, sustained nature of the professional development initiative and its emphasis on bringing improvements to the classroom. The more experienced teachers expressed satisfaction at the relevancy of the strategy as opposed to the many one-shot workshops they had attended over the years.
One final point highlighted by the teachers was the fact that much of the professional development was available during the school day rather than after school and on weekends. (Jackson & Davis, 2000: 112-113).

A powerful argument for a variety of learning opportunities and professional development that is embedded into the life of the school is offered by Schenkat & Tyser (1997). "It is virtually impossible to create and sustain conditions for productive learning for students when they do not exist for teachers." (p. 123). This concept of constructivist learning for teachers as well as students requires a different approach to system thinking. An environment which provides opportunities for ongoing dialogue with colleagues, which fosters a sense of community where learning is the norm and growth and renewal are not options, is a school culture that can be understood and cultivated through the concept of a learning organisation.

System thinking reveals that unless individual learning and organisational changes are addressed simultaneously and support each other, the gains made in one may be cancelled by continuing problems in the other (Sparks, 1994). This is an important observation which the Lebanese educational system needs to contemplate. Holding on to organisational structures that no longer serve the best interest of education, specifically the growth and development of teachers as informed by research, will prevent Lebanese schools from achieving the best possible outcome. Fragmented approaches to educational reform lack a compelling vision of the future of Lebanese schools.

Sykes (1996) offers two judgments that he claims form the most serious unsolved problem for educational reformers in American education. The first is that teacher learning should be the focus of any effort to improve education and secondly, that conventional professional development, which means one-shot workshops that have little connections to what goes on in the life of the school and the classroom in particular, is severely inadequate. Additionally, the Department for Education and Skills in the United Kingdom has declared that in-service activities undertaken by large groups of staff unrelated to individual or whole school needs must shift to a professional learning
community in which there is an ‘a la carte’ vision of the purposes and principles of continuing professional development for the whole staff (Bubb, 2005: 85).

It is becoming apparent that there is a like-minded view of the main characteristics of meaningful teacher professional learning and the role it plays in educational reform worldwide (Bubb & Earley, 2005; DfES, 1999; Villegas-Reimers & Reimers, 2000). Lebanon’s schools would be wise to look to these emerging models. Successful schools of the 21st century will be learning organisations that build continuous learning into jobs at all levels (DuFour and Berkey, 1995), with an emphasis on a new perspective of leadership that serves to alter the traditional view of leadership as synonymous with authority (see Harris, 2003). The tradition of looking to outside sources to promote learning for staff needs to give way to organisations capable of renewal. Teachers and administrators need to think of professional growth not in terms of workshop but workplace. Sustained professional growth should become the response mechanism to internal and external challenges.

Finally, professional development should not be conceived as a type of curative measure with an implication that teachers are not doing their jobs. Conversely, it should be viewed as an integral component of their professional lives, designed to enhance their skills and effectiveness as well as their job satisfaction through motivating, inspiring and constant reinforcement of their practise. Furthermore, the success of the agenda articulated here requires that most teachers rethink their classroom practice and construct new roles and expectations concerning student outcomes, to teach in a way they have never taught before or probably never experienced as students (Darling-Hammond & McLaughlin, 1995).

In Lebanon there is a growing competition among private schools for students and this reinforces the need for high performance from the school which is directly linked to the quality of performance of the teachers. “A school’s capacity to improve is directly linked to the staff’s ability to modify their teaching practice” (Munro, 2005: 35). This literature review has looked at three influential aspects of professional development agendas and
has demonstrated how all three must function together in order for the most dynamic and meaningful teacher learning to take place.

The goals, and the questions that emanated from them, guided the two-stage case study into a professional development in-service programme at a private school in Lebanon. They were created to illuminate and explicate the three aspects, discussed above, that have influence over the professional development agenda at the target school. To understand how the three aspects are functioning at the target school, the aims and resultant questions, were:

To discern whether or not:
- the in-service programme met the instructional objectives as set by the administration;
  1. What do the senior staff perceive as the purpose of the school’s professional development programme?
    1.1 What are the content and processes of the in-service programme?

- the in-service programme met the expectations of the teachers;
  2. What do teachers perceive as important for inclusion in professional development sessions?
    2.1 What is the level of knowledge the teachers possess at the start and at the conclusion of the in-service programme regarding the instructional topics as set by the administration and at its completion?

- the objectives of the administration are compatible with those of the teachers;
  3. What is the teachers’ perception of how successful the in-service programme was managed?
    3.1 Are the teachers’ opinions of what is important compatible with the instructional topics of the in-service programme?
- the programme is being managed effectively;

4. Does the in-service programme have an impact on the life of the school?

4.1 What skills and strategies can teachers be observed implementing in their classrooms that were stressed during the in-service programme?

4.2 Are students aware of aspects of practice by their teachers that can be linked to the in-service programme?
Chapter Three

How the Research was Designed and Executed

Overview of the study

The focus of this two-stage research was to determine if the conventional two-week in-service programme, common to schools in Lebanon, serves as a means of professional development for teachers. The first stage was evaluative, looking at whether or not the two-week in-service initiative at a private school accomplished its objectives. The second stage started three months later and moved toward theory-seeking (Bassey, 2002). The aims and key research questions that shaped the research design and guided the two stages of the case study are available on page 60-61.

Overall strategy suited to an interpretive qualitative research design

A key assumption of this study was that the professional development of teachers is influenced by the various parts of a school community including the administration and organisational structure of the school. The study reveals how all the parts work together leading to an understanding of the unique context. This assumption required that the research be interpretive and utilise qualitative methodology (Merriam, 1998).

Interpretive research seeks to understand meanings rather than causes and investigates what is often “taken-for-granted” (Cohen and Manion, 1994: 39). Therefore, research questions were designed to explicate a deep understanding of the phenomenon of the conventional, in-service programme. Interpretive research philosophy also says that reality is not something waiting to be discovered but rather “people understanding reality in different ways” (Morrison, 2002: 18). Moreover, “a central focus of a qualitative research study is to provide understanding of a social setting from the perspective of the research participants” (Gay & Airasian, 2000: 204). Therefore the key research questions for this study centred on the perspectives of the participants towards the professional development programme and the practises that surrounded the programme.
Additionally, this research contained other characteristics of qualitative research with the researcher as the primary instrument for data collection and analysis (Neuman, 2003; Merriam, 1998; Cohen & Manion, 1994). Also, as is common to qualitative research, fieldwork was a primary source of data in this study (Neuman, 2003; Merriam, 1998). Finally, qualitative research primarily employs an inductive research strategy (Merriam, 1998: 7) which involves breaking down the data into smaller units, determining the importance of the units and then putting the units together in an interpreted form (Gay & Airasian, 2000: 242). This study inductively constructed concepts and abstractions that can lead to theory building or can be used to add congruence to prior theory.

**Case study as qualitative research**

Yin (2003: 13) explains that “a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context.” An in-service programme functioning as professional development was investigated in its school context. Stake (1995) asserts that case studies must have boundaries, and the boundaries of this study originated from the focuses of the study. The study examined the in-service programme at a particular school, the content of the programme, the dissemination of information during the in-service programme and the programme’s impact on teachers in the school over the course of an academic year.

The evaluative nature of this case study is fundamental to case study research. According to Stake (1995), all evaluations are case studies. This case study was evaluative given its focus on the worthwhileness of the professional development programme’s content and strategies. It examined the extent to which the in-service programme achieved its objectives. It is also illuminative to the extent that the data reveal the complex interrelationships which have an impact on the situation (see Bassey, 2002: 114; Stake, 1995: 37). Yin also explains that case study has a distinct advantage over other research strategies when “a how or why question is being asked about a contemporary set of events, over which the investigator has little or no control.” (Yin, 2003: 9). The key
research questions for this study focus on the ‘how’ of the professional development programme.

Additionally, qualitative case study is a particularly suitable design for research interested in process especially of a longitudinal nature (Morrison, 2002). Examining the professional development of teachers and the influencing context required a longitudinal element of one academic year in this case. Furthermore, this qualitative inquiry was influenced by the values that the investigator made explicit (Mertens, 1998), see chapter two. Therefore, this research design supplied a logical sequence that connected the data to the research questions and ultimately to the final interpretation.

This two-stage case study was implemented over the course of an academic year. The first stage consisted of field observation of the two-week in-service programme and the administration of the pre-test and post-test Likert-scale survey. Stage two of the study began three months later and included classroom observations, interviews with teachers, and with the senior administration including the Principal. Later in the academic year documentation in the form of supervisor evaluation of teachers and the school brochures was reviewed, a follow-up interview with the Principal was conducted and two student group interviews were also carried out.

Principles for ethical research

The primary ethical question from which all other ethical considerations stem is first and foremost the worthiness of the project (Miles and Huberman, 1994). The worthiness of this research is in its significance to a wide domain and its timeliness. This researcher believes that the professional development of teachers is an area of vital importance in meeting the demands on the educational system through teachers as primary change agents. Congruence between a researcher’s values and the research focus has a positive implication on the research design, data collection and analysis (Miles and Huberman, 1994).
In this study first-hand observation of the phenomenon of interest was a primary source of data. There are unavoidable ethical dilemmas inherent in observation techniques specifically in view of the fact that the investigator is visible as a researcher in that situation (Hancock, 1998; Hitchcock and Hughes, 1989). This research technique places the researcher in very close proximity with the subjects being investigated which may either influence the actions of the subjects or possibly lead the researcher to lose objectivity. Therefore the researcher’s position must be determined and factored into the research design.

My position as a researcher at the target school was overtly known. This overt position tackles the ethical dilemma of deception. Participants must knowingly give information that is to be used for the research purpose in order for the research to be ethical (Busher, 2002b; Moyles, 2002; Erickson, 1990). I positioned myself in a non-interventionist pose and the teachers seemed to ignore me for the most part during the two-week in-service sessions and appeared to take my presence in stride as time went on. Over the course of the academic year, during visits to the site, I tried to view the situation as it would unfold had I not been there (Stake, 1995).

Gaining access to the school was easily accomplished through a telephone call followed by a face to face meeting with the Principal. After describing the intention of the research (Stake, 1995) he granted me complete access to the in-service programme and to the school as many times as was necessary. The teachers and directors were informed by the central office the morning of, or perhaps the day before, when classroom observations or interviews were to be conducted risking the principle of voluntary consent. Therefore, prior to each observation and interview I asked each teacher for their personal permission to talk to them or to enter their classroom and asked them if they would like to see my observation comments at the end of the class.

Related to voluntary consent is informed consent. Informed consent is a fundamental condition of ethical research (Busher, 2002b; Moyles, 2002; Gay & Airasian, 2000; Neuman, 2003; Merriam, 1998). Therefore, prior to each classroom observation and each
interview with a teacher or a director my reason for being there was explained and a consent form was signed (Cohen et. al., 2001; Neuman, 2003). The purpose of the consent form was essentially for the participant to acknowledge that they received an explanation of why we were having this conversation and that they understood the explanation and agreed to participate. Although the Principal introduced me at the beginning of the in-service session and instructed the faculty to cooperate throughout the year, the faculty were not fully informed of the purposes and activities of the research (Erickson, 1990). Gay and Airasian (2000) talk about the necessity of obtaining approval from the research participants even though access has been granted from the authorities for a smoothly executed study.

Some authors discuss the comfortable rapport that often develops between the researcher and the participants and that this rapport can often lead to ethical dilemmas during the research that need evaluation on the spot (Miles & Huberman, 1994; Gay & Airasian, 2000). This type of rapport did develop between this researcher and the school community. Therefore, during the research period if a teacher divulged information that was not related to the research focus I simply gave a noncommittal response and did not retain the information.

All teachers appeared comfortable with my presence and forthcoming during the interviews. Their communicative frankness created a dilemma that was dealt with through confidentiality. Confidentiality was promised to all interviewees although none expressed concern. This was accomplished through coding and not using titles unless the title was a necessary part of the data. This phenomenon proved to be a difficult ethical dilemma for the researcher since the school community is small and therefore referring to a director or head of department for example would not ensure that person’s anonymity. However, none of the participants had any concerns if their title or some identifying characteristic was reported. Therefore, confidentiality was accomplished through the coding system that identified a teacher, for example, but not which teacher. Also, a director or head of department were identified as such but not specifically which cycle or department.
The teachers were also assured that I would not allow myself to be coerced by the administration into divulging anything I may observe in their classrooms not pertaining to the objectives of the in-service programme thereby protecting the participants from any possible psychological risk (Erickson, 1990). Although none of them exhibited any reservations about my presence, I still felt it necessary to voice my intentions.

It was recognised that all research contains an ethical obligation to minimise misrepresentation and misunderstanding. Merriam (1998) suggests that the ethical manner in which an interpretive case study is conducted directly influences the validity and reliability of the study. Therefore, ethically speaking, the integrity and quality of this study are embedded in the thoughtfulness and thoroughness of the research design as well as the well-carried out tactics.

**Constructing trustworthiness**

The principles of validity and reliability are strongly associated with quantitative measurement (Neuman, 2003; Gay & Airasian, 2000). Nevertheless, research conducted within a qualitative, interpretive paradigm must be concerned with the trustworthiness of the research conclusions through valid and reliable methods and instrumentation. Firestone (1986) explores the differences in terminology between quantitative and qualitative research paradigms emphasising that although the terminology changes, research within qualitative paradigms require the discipline certain terminology obligates. However, the understanding of these evaluative concepts is different when evaluating qualitative research than when evaluating quantitative research (Guba & Lincoln, 1985; Bush, 2002a; Miles & Huberman, 1994).

When qualitative research is deemed valid it can be concluded that the research achieved a high level of credibility of the findings (Guba and Lincoln, 1985; Neuman, 2003; Sapsford & Jupp, 1996). The credibility of interpretation of this study was enhanced through the application of triangulation. Specifically, method and respondent
triangulation were used to explore converging and diverging perspectives and conclusions (Bush, 2002; Miles and Huberman, 1994). Areas of uncertainty were identified through triangulation as well as supplying credibility to the emergent themes. How triangulation was used in this study is discussed more thoroughly in the next section.

The multi-method design of this case study required that content validity be determined on the questionnaire used. Essentially, content validity says that the items on a questionnaire measure the intended content. This type of validity is determined by expert judgement; there is no formula to compute it quantitatively (Gay & Airasian, 2000: 164). With regard to the Likert-scale survey in this study, content validity was established during the pilot tests.

The dependability of the study equates with its reliability which says that the conclusions make sense based on the data (Guba & Lincoln, 1985; Yin, 2003). This was accomplished through asking explicit research questions, minimizing bias throughout the data collection period, and transparently reporting the research procedures and results. Adding to the dependability of the study is the full range of data collected across settings, including the in-service programme and site and classroom visits, across time and multiple respondents suggested by the research questions (Miles & Huberman, 1994).

Transferability of the findings is a characteristic of qualitative research which corresponds to the idea of generalizability of findings in quantitative research. Transferability was desired in this study for a couple of reasons. Although, the two stages of this study provided different end points, the first stage was essentially evaluative, the second stage moved toward theory building (Bassey, 2002). The insights the study provides could potentially inform policy at the target school as well as for the consortium of schools to which the target school belongs. Moreover, as discussed in chapter one, Lebanon is in the midst of an education reform movement and research is needed to inform the process. The results of this research are thought to be able to cast light on the
professional development of most teachers, especially teachers working in schools attempting reform.

The quality of transferability was addressed with a few relevant queries. First, are the findings congruent with or connected to prior theory? Chapters five and six of this thesis suggest that they are. Second, are the outcomes of the study generic enough to be applicable to other settings? (Miles & Huberman, 1994). Stage-two of the study provided an interpretable view into this particular case making the learning from this case tentatively applicable to emerging theory and some settings. Therefore, tentative transferability of knowledge to other situations may be possible because outcomes and predictions that arise from it can be understood as what ‘may work’ (Bassey, 2002: 114) in other situations.

Importantly, this study adhered to the three principles established by Yin (2003: 97-105) to establish construct validity and reliability of the case study evidence. The first principle of using multiple sources of evidence has been reported and will be discussed in the next section. The second principle says to establish a separate database from the written report. The database for this study includes several hundred sheets of data including: field notes, observation records, typed interview transcripts, 82 completed surveys, the SPSS and Excel output files, and archival documents. The third principle of maintaining a chain of evidence is reported in this thesis beginning with the research questions to the final interpretation. Ultimately, constant reflection on what was being done and how it was being done as well as adhering to strict and ethical procedures helped the process to be consistent and therefore one that can be judged as trustworthy (Hammersley, 1996).

**Triangulation**

The triangulation of evidence employed in this study contributes to the concepts of confirmability, credibility, dependability and trustworthiness (Tellis, 1997; Merriam, 1998; Denzin & Lincoln, 1998; Yin, 2003). Triangulation is said to be a basic principle in
data collection for case study (Nisbet & Watt, 1984 in Bush, 2001: 69). It is the primary procedure for establishing the credibility of the interpretation of the data in case studies (Merriam, 1998; Cohen & Manion, 1994; Stake, 1995; Tellis, 1997).

This study incorporated both respondent and method triangulation. Respondent triangulation in the form of member checks was employed regularly to confirm an observation or inference, especially during the observation of the two-week in-service programme (Merriam, 1998; Neuman, 2003). Respondent triangulation used in this study supplies quality of confirmability as well as dependability of the data and the resulting conclusions. This cross-checking of data established its validity (Bush, 2002: 68). Additionally, respondent triangulation within the interview methodology was also incorporated by interviewing some teachers, the management and some students revealing the multiplicity of perspectives in a social situation (Bush, 2002: 69).

The triangulation of methods supplied data that constructed plausible explanations, as well as pointed the analysis towards a clear conclusion based on the evidence. “A major strength of case study data collection is the opportunity to use many different sources of evidence.” (Yin, 2003: 97), providing a more complete understanding allowing key constructs and processes to be traced using more than a single methodology.

Important data claims were methodologically triangulated, which included data from the survey, interviews that utilised multiple respondents and perspectives, two different methods of observation, and review of relevant documentation. All data that were thought to be critical to any final assertion or key interpretation were confirmed through multiple methods and respondent triangulation (Stake, 1995; Denzin & Lincoln, 1998). Finally, Merriam claims (1998: 207) that “in terms of using multiple methods of data collection and analysis, triangulation strengthens reliability as well as internal validity.”

**Population sampling**

Two levels of sampling are required in qualitative case study research (Merriam, 1998;
Miles & Huberman, 1994). First, the case to be studied was selected and then the sample within the case. The criteria for the case were established which included that the school valued some type of professional development for teachers. Also, the school had to provide a professional development programme for its teachers during the two-week in-service time period. Concurrently, some practical issues were taken into consideration. First, the language of instruction at the school had to be English since I am an English speaker. Also, the school had to be within travelling distance of my home and work. With the case thus identified, the target school was approached and reserved.

The second level of sampling involved choosing who to interview and which teachers to observe in their classrooms. A purposive sample of maximum variation for both data gathering strategies (Merriam, 1998; Gay & Airasian, 2000) was generated based on criteria revealed from the research objectives (Merriam, 1998). This type of non-probability sample was used in order to pick a sample that met the purpose of the research (see Cohen, et al., 2001: 103). First, the group of senior managers had to be part of the sample as the research was looking into the administrative systems and structures and their relationship to the professional development programme. The senior management includes the Principal and four directors, one for each educational cycle, pre-school, elementary, intermediate, high school (see chapter one for a description of the cycles).

Second, the objectives of the research dictated that common patterns be discovered as well as any diverse variations that may have existed between and among the teachers; two purposes that maximum variation sampling provides (Miles & Huberman, 1994: 28; Merriam, 1998). Maximum variation among the sample of teachers was desired so as to have a sample of the greatest possible diversity. The widest possible range of characteristics was established for teacher interviewees: years of experience, teachers of different subject disciplines, teachers with and without additional administrative responsibilities, teachers of different grade levels, male and female. Also, it was desired to include a technology teacher in the interviews since technology is an identifying
characteristic of the school and is often cited as a characteristic of a learning community (Desimone, et al., 2002; Dimmock, 2000; Grant, 1996).

For the interviews, the criteria produced a sample of four teachers of maximum variation including a classroom teacher, an English teacher, computer teacher and math teacher, two males and two females. The experience of the teachers in the sample ranged from beginning to highly experienced, with two of the teachers also functioning as department heads. Additionally, the four directors from each educational cycle were interviewed both as directors and as teachers since they all teach in their respective divisions bringing the total number of teachers interviewed to eight in a total faculty of forty-one full-time instructors. The sample size for the teacher interviews in this case study represents 19.5% of the faculty, consistent with recommendations from Cohen et al., (2001) and Gay and Airasian (2000). Cohen et al., (2001) recommend a sample size of 5 or 6 out of a homogeneous group of 30 (15%) and slightly more if there is heterogeneity in the group (p. 95); and Gay and Airasian (2000) claim that 10-20% of the population is common for descriptive research (p. 134).

The purposive sample of teachers to observe in their classrooms was based on the same criteria mentioned and resulted in a maximum variation sample group of eight teachers who were observed teaching during stage two of the research. Finally, the sample for the student group interviews was purposive representing different grade levels and gender and convenient based on who was available (Neuman, 2003). A convenience sample was determined to be the only viable approach to this data gathering strategy and is often the sampling strategy for case study (Cohen et al., 2001: 103). The type of information needed from these students, corroboration of classroom observations, could be obtained from a convenience sample.

Gorard (2001) says that although convenience sampling introduces a danger of biasing due to the willingness of the informants or the reasons for their availability, it can be proper to use this non-probability sample when the intention is to “approach informants as experts to help explain an educational process” (pp. 24-25). These students were
viewed as ‘experts’ in what goes on in their classrooms. Furthermore, even though Merriam (1998) claims that samples created in this way can lack credibility, these samples contained diversity of gender, various levels of academic achievement (according to the directors) and variety of grade levels thereby supplying credibility to the data acquired.

For the student group of upper elementary and middle school, students were selected from the playground during their break. This group was comprised of eight students, a mixture of girls and boys: two girls from 4th grade, two boys from 5th grade, one girl and one boy from 6th grade, and one girl and one boy from 8th grade representing 10% of that population. The high school group was also conveniently selected and consisted of four female students, one from each grade 9 – 12, representing 7.7% of that population. The two groups of students were interviewed for the purpose of gaining insight into whether or not students were aware of their teachers implementing strategies that had been emphasised during the in-service professional development workshops.

The final sample involved the entire full-time faculty participating in the pre-test and post-test survey. This random sample was representative of the entire faculty population allowing inferences to be made to the population (Gay & Airasian, 2000; Cohen et al., 2001).

**Constructing the data gathering instruments**

A multi-method approach to data collection was chosen with the primary concern of enhancing the confirmability and dependability of the evidence. During stage-one, methods included a Likert-scale pre- and post-test survey of all forty-one teachers and field observations conducted during the in-service programme. Stage two of the research included classroom observations, four different semi-structured interview protocols, and a review of relevant documentation, including the school’s Mission and Vision Statements advertised in the school brochure. Other documents that added to the data base included archival records such as observation reports on teachers. “One of the most
important uses of documents is to corroborate evidence gathered from other sources (Tellis, 1997: 9) and that is what the documents were used for in this case study.

A pilot study was conducted during the academic year 2003-2004 at one of the target school’s sister schools and consisted of several phases (Yin, 2003). The pilot tests refined the data collection strategies with respect to both content and procedures. Miles and Huberman (1984) consider it important that a case study researcher acquire some familiarity with the phenomena and the setting under study (p. 46) and Gorard (2001) says pilot studies should be viewed as a full dress rehearsal for the whole research design. All data gathering instruments were piloted prior to their use in the actual study. This process will be discussed within the discussion concerning each instrument. Each data gathering instrument will now be discussed in detail.

The Survey: pre-test and post-test instrument

A Likert-scale survey using ordinal measurements was administered as a pre- and post-test. The Likert-scale survey was designed on the basis of the eight topics intended for the in-service programme as articulated by the Principal.

- First aid
- Lesson planning
- Teaching strategies
- Group work
- Active listening
- Technology
- Time management
- Networking

The intention of the survey was to assess the teachers’ knowledge of and attitude toward the instructional objectives of the in-service sessions. There were a total of thirty five line items which were scored using a graduated 4-point scale of ‘strongly agree’ to ‘not at all’ (Appendix A). Data from both surveys answered the following research question.
KRQ 2.1: What is the level of knowledge the teachers possess at the start of the in-service programme and at its conclusion regarding the instructional objectives as set by the administration? (The complete list of key research questions can be found on p. 60-61)

Likert scales need a minimum of two choices, 'agree' or 'disagree' according to Neuman (2003). However, Neuman asserts that using only two response choices yields a crude measure and therefore recommends four to eight categories to measure responses. He explains that categories can be combined later in the analysis but data collected with just two categories cannot be made more precise later (see p. 197). Other authors, such as Hatch and Lazaraton (1991), state that many researchers prefer a five, seven or even a nine point scale, the odd numbers always allowing for a neutral category. However, in the design of this Likert survey an odd number that would have supplied a neutral category was decided against in order to compel the respondents to make a decision.

This forced-choice (Trochim, 2004) required the respondent to opt between the two poles of opinion, forcing a decision on rating to be indicated. Cohen et al. (2001) make the point that most people do not like to be considered extremist and therefore wish to avoid the two extreme poles on the continuum of the rating scale choosing middle ground. Since the purpose of this instrument in this study was to gain insight into whether or not the faculty's knowledge of the teacher training objectives was increased by the training sessions, a forced-choice scale was designed to avoid neutrality. Four rating categories were supplied: 4 = strongly agree; 3 = agree; 2 = somewhat; 1 = not at all. The pilot study corroborated the forced choice design by revealing that teachers felt four response choices were adequate for them to express their opinion on each statement.

Multiple statements were designed pertaining to each of the eight objectives of the in-service programme (p. 73). Neuman (2003) emphasises that multiple statements increases the reliability of the instrument and that statements that measure several aspects of an objective improves content validity. The survey consisted of thirty five statements in all plus demographic information.
The survey was piloted in order to increase its reliability, validity and practicality (Cohen et al., 2001). The pilot study occurred during the academic year prior to the actual case study and took place at a sister school. The sample for the pilot was comprised of an expert group of 23 teachers (a number consistent with the recommendation of Thomas, 1998). This sample, although about half in number, corresponded with the sample of the main study by consisting of teachers of a wide range of experience with the majority being beginning teachers. In addition, the pilot sample like the main sample consisted of teachers of a variety of disciplines.

The pilot provided content validity of the instrument through the feedback of the respondents. The respondents in the pilot study reported that four response choices were not only adequate but seemed to them the right approach for this particular survey. Additionally, the pilot study also provided feedback on the layout of the instrument. For example, all demographic information would be organised around numbers for the purpose of analysis. Years of experience was re-organised in scale format instead of writing in a number. Also, under the query that asked for their highest level of education, 'teaching diploma' was added to the list in accordance with the teachers’ suggestion.

The revised survey was piloted a second time with a different set of teachers. This time 15 teachers from a different school participated in the pilot study and they also testified that the forced-choice design was not only adequate but obligated them to think harder about the statements. This group also found the new layout easy to understand and this version of the survey was used in the actual case study. In addition to the expert judgment (Best & Kahn, 1998) of the teachers in the pilot test, Cronbach’s alpha was computed to establish the internal consistency reliability of this instrument (see Appendix B).

There are three different approaches to establishing internal consistency according to Gay and Airasian (2000): Kuder-Richardson test, the split-half test and Cronbach’s alpha. The Kuder-Richardson test was not tried since this test is best for surveys that have two parts or are dichotomously scored such as multiple choice items (p. 174). Likewise, the split-
half test was not tried since it is especially appropriate for long questionnaires and involves dividing the same construct into two groups to determine whether both halves give the same result (Neuman, 2003). Since numbers were used to represent response choices, Cronbach's alpha is said to be the best choice for measuring internal consistency reliability (Gay & Airasian, 2000).

Cronbach's alpha is a test of reliability that "estimates the internal consistency reliability by determining how all items on a test relate to all other test items and to the total test" (Gay & Airasian, 2000: 174). When line items are determined to be measuring similar things they are internally consistent. An alpha score of 0.7 or above is accepted as a reliable instrument in the social sciences (Santos, 1999; How to Guide to SPSS, 1999). The Likert-scale survey for this study received an alpha reliability coefficient of 0.7 as computed with SPSS software (Appendix B). The formula for alpha shows that if the number of items is increased the value of alpha increases, reflecting an increase in reliability. Therefore, the Likert-scale survey used in this research with just 35 line items can be considered reliable.

Semi-structured interviews

Four different semi-structured interview protocols were designed for teachers, senior staff, the Principal (Appendix C) and student groups. A couple additional questions related to their job descriptions were asked of two of the teacher interviewees who also serve as department heads.

In-depth inquiry and the exploration of the teachers' perspective was the intention of their interview protocol. The protocol was based on the two-week in-service sessions, both the content of the sessions and the manner of information dissemination, thus linking the ensuing data to the research questions. The questions were designed to achieve the type of insight needed and were open-ended which provided a greater breadth and depth of understanding (Denzin & Lincoln, 1998; Merriam, 1998). The result was the interviewees
revealing very informative evidence that could not have been anticipated with a more structured protocol.

Specifically, data from the sample of teachers interviewed were intended to answer the following research questions:

**KRQ 2**: What do teachers perceive as important for inclusion in professional development sessions?

**KRQ 3**: What is the teachers’ perception of how successful the in-service programme was managed?

**KRQ 3.1**: Are the teachers’ opinions of what is important compatible with the instructional objectives of the sessions? (see p. 60-61 for complete list.)

A separate interview protocol was created for the four directors of each educational cycle (see chapter 1 for an explanation of the cycles). Again the protocol was semi-structured, based on the in-service programme and observation data from that timeframe (Appendix C). This interview protocol intended to discover the process of establishing the in-service objectives, the follow-up procedures the administration had planned as well as the directors’ point of view concerning the in-service initiative and the role professional development plays in the life of the school. However, each interview provided a useful perspective regarding each individual’s views on professional development in general and the in-service sessions in particular as well as provided insight into the administrative culture and structure at the target school. This interview protocol for all senior staff provided data that answered two key research questions.

**KRQ 1**: What does the senior staff perceive as the purpose of the school’s professional development programme?

**KRQ 4**: Does the in-service programme have an impact on the life of the school?

Another semi-structured interview protocol was designed for the Principal with the intention of answering the same research questions (KRQ 1 & KRQ 4) but from his
perspective (Appendix C). In addition to gaining insight into the process that informed the two week in-service sessions, this interview was used to determine a frame of reference for the school culture and philosophy and how professional development factors into the school philosophy. Also, the Principal’s leadership style and ways of thinking were clarified and evidence obtained that illuminated the system structures at the school particularly the systems that control the flow of information. Site visits as part of stage two of the research generated some follow-up questions that resulted in another shorter interview with the Principal later in the year. All the interview protocols were conceived with the intention to discover a linkage or explanation for what transpired during the in-service programme and what was being observed in the school (Stake, 1995).

These three interview protocols were piloted prior to their use in the main study. First, during the pilot study at the sister school the prior year an interview protocol was created and tried out on three teachers from this school. During this trial the main focus was on the kind of information the questions generated; whether or not the evidence that emerged was evidence that could inform the study’s objectives. Also a main focus of the pilot exercise was the creation of probes to some of the questions. After the observation of the in-service programme during the actual study the protocol was modified and piloted again with a different set of three teachers and this version of the schedule was used.

**Student group interviews**

Data from the student interviews used a semi-structured protocol to answer the following research questions.

- **KRQ 4**: Does the in-service programme have an impact on the life of the school?
- **KRQ 4.2**: Are students aware of aspects of practice by their teachers that can be linked to the in-service programme?
The interview protocol for these sessions was piloted during the year of the actual study with a group of four students from the same sister school as the other pilot exercises. The sample for the pilot study was non-random and convenient and included students that ranged from middle and high school grades, two girls and two boys.

**Observations**

A non-participant approach was employed to two observational strategies and both strategies were piloted. In the case of the ethnographic field notes the in-service sessions at a sister school the preceding year were observed. This exercise acted as a meaningful training for practising note taking and observational skills (Moyles, 2002). The data from the observation of the in-service programme answer this key research question.

**KRQ 1.1: What are the content and processes of the in-service programme?**

The classroom observation protocol was also piloted and it was during the pilot study the preceding year that the present/absent protocol was decided on (Appendix D). In a natural setting such as a classroom it is difficult if not impossible to observe everything that is going on and more importantly this type of observation would not address this research’s objectives (Gay and Airasian, 2000). The classroom observations were intended to inform the objective of the research to discern whether or not the in-service programme had impact on teachers’ performance. Therefore, the present/absent approach provided the most defined data. The observation schedule was piloted in a classroom and refined for ease of use. Data from the classroom observation protocol answer the following questions:

**KRQ 4: Does the in-service programme have an impact on the life of the school?**

**KRQ 4.1. What skills and strategies can teachers be observed implementing in their classrooms that were stressed during the in-service programme?**
Carrying out the procedures

Stage One

On the first day of the in-service training at the start of the main study the pre-test Likert survey was given to all 41 teachers attending. This first administration provided a baseline for establishing the teachers’ knowledge and attitudes before they received any professional development training. The post-test survey, administered to the same 41 teachers on the final day of the in-service programme, was the same survey used in the pre-test and provided data concerning the overall influence of the two-week session on the teachers’ attitudes toward and knowledge of the objectives for the training. An exit poll was also conducted on the last day of the in-service programme.

In stage one the observational strategy involved taking detailed field notes during the two-week in-service training programme prior to the start of the school year. Related to its ethnographic intent, a non-participant approach to the observational strategy was incorporated. Five of the days were devoted to professional development workshops and four of the days to meetings of various types. I attended all nine days as a non-participant observer recording all the events as they happened as well as insights and inferences I had at the time. The field notes from this period are an unstructured, ethnographic account of the meetings and professional development workshops (Cohen et al., 2001).

As a non-participant observer I had occasion to interact with the group but did not take an established role in the group, rather my aim was to be ignored during the in-service programme (Sapsford & Jupp, 1998; Moyles, 2002). Observation without bias or prejudice was my goal and this is an advantage of non-participant observation. I needed to observe the training sessions as they happened, experiencing not only the content but the way in which the content was presented to the teachers. Although there is no such thing as value-free data collection (Moyles, 2002), a number of strategies were employed to minimize the bias inherent in observational strategies thereby enhancing the dependability of the data.
First, focusing on the content and pedagogical strategies of the in-service activities established clarity of purpose (Moyles, 2002). Second, a literal account was recorded in the field journal including many quotes from many different participants. Third, my own reflections, concerns, and uncertainties were recorded (in a different colour of ink) as they occurred in the field and were referred to when examining the data. Also, contradictory data were examined for explanations and thoroughly explored.

Interaction with the group of teachers did transpire as is assumed in qualitative research (Merriam, 1998). During breaks in the sessions I would initiate conversations with various teachers and they would share with me their opinions about what was taking place. There were also times during a session when a teacher would feel compelled to offer me his/her perspective on events. This comprehensive record facilitated analysis of the observation material and enlightened the classroom observations and subsequent interviews (Bell, 1999).

Copious field notes were recorded throughout the in-service programme. Basic information as to time the sessions began, location, number of people present, and topic of the day were always supplied at the outset. As the session progressed a factual description of the events was written down in as detailed a manner as possible. Focus was divided between the workshop facilitator/instructor and the teacher/students. A kind of shorthand was used so as to write down as close to a verbatim account as possible. Comments I wanted to make to myself or insights into a particular event were written in a different colour of ink (Bell, 1999). After leaving the research site, the notes from each day were typed leaving a wide margin on one side of the page for later notes (Cohen & Manion, 1994; Merriam, 1998), and stored together in a binder for auditability.

Stage Two

A second observational strategy was conducted as part of stage-two of the study beginning three months later. This latter round of observations was of a purposive
maximum variation sample of teachers in their classrooms. The criteria for the sample were similar to the interview sample. That is, teachers of a wide range of experience and a variety of subject disciplines were observed. These observations were semi-structured in nature and based on the in-service sessions. The semi-structured observation protocol allowed for observation of the ideas presented during the in-service programme and also provided the opportunity for informal data gathering (Moyles, 2002).

The purpose of the observations was to see if the professional development workshops had an observable impact on the teachers’ performance in the classroom. An observation protocol was created which listed several concepts that were the focus of the in-service content (Appendix D). The protocol was a present/absent format and any other observations that were related to the research objectives but could not be noted on a present/absent form were written down. Observation bias during the classroom observations was addressed using the above strategies but also as Moyles (2002) suggests by turning a ‘blind eye’ to occurrences in the classroom that were not part of the research.

All interviews took place during stage two of the research and were conducted face to face and in the case of the Principal and senior staff, in their respective offices. The teacher interviews took place in various places, the library, faculty lounge and in a director’s office. All interviews were tape recorded with the intention of increasing the reliability of the data. None of the respondents objected to the device. Minimal notes were taken during the conversations; notes on facial and body expressions especially were noted. For example, if the interviewee appeared confused or self-protective this was noted; insights and interpretive ideas were recorded as they occurred to me following the advice of Cohen et al. who claim that “the ideal interview is to a large extent interpreted throughout the interview.” (2001: 281). Importantly, with intention of securing a valid, credible transcript, I summarized each answer as I understood it and asked for the interviewee’s oral acceptance of my interpretation (Cohen et al., 2001: 126; Neuman, 2003; Merriam, 1998).
All interviews were transcribed verbatim using Microsoft Word and archived for
auditability (Bassey, 2002). The verbatim accounts served to reduce researcher bias and
improve the validity of the data (Gay & Airasian, 2000). Each interview lasted between
40-60 minutes resulting in a voluminous transcript for each interview.

The student group interviews were conducted in informal settings. The younger students
and I sat in an empty art room and the high school students and I sat in their student
lounge. The interview protocol was based on the in-service programme and previous
classroom observations. Primarily, the data from this approach was intended to
corroborate observational data from the classroom observations and the presence or
absence of teaching strategies.

The interview style differed slightly with the younger students from that of the older.
Upper elementary and middle school children range in age from 9 years through 13 years
while the high school students ranged from 14-17 years of age. A short time was spent
establishing a rapport, asking them about what they were doing on the break and
apologising for taking their break time. With the younger group no detailed explanation
was given of why we were having this discussion prior to asking the first formal question.
They were very forthcoming and all were excited to have a chance to talk.

The high school students were given the reason for my being there prior to asking the
first formal question. During the session it was easier to have a give and take
conversation with these older students, asking them to elaborate on a point or picking up
on a point they introduced. The data from these groups were compared and analysed for
patterns and discrepancies. Then the data were used to triangulate the data from
observations as well as data from the interviews.

The last site visit occurred towards the end of the school year and included a short
follow-up interview with the Principal and review of some documentation. Student
evaluations of teachers were reviewed as well as observations of the teachers conducted
by management. Published literature such as the school’s mission and vision statements
were also read and filed in the database at this time. Analysis of these documents was used as subsidiary evidence to provide triangulation within the case study (Cortazzi, 2002)

**Analysis of the data**

**Qualitative data**

The naturalistic characteristic of this case study research concentrated on pulling apart the phenomena under investigation and putting it back together again more meaningfully (Stake, 1995: 75). The analysis presented many challenges specifically with regard to the large amount of data that were collected and that varied in relevance. Data management is a primary concern in qualitative research (Watling, 2002; Merriam, 1998). Therefore, it was through the management of the data that the analysis began. Beginning on the first day of data collection and continuing in conjunction with data collection, the management of the data provided direction for the study (Watling, 2002; Merriam, 1998; Stake, 1995).

After the first three days of observing the in-service programme a content summary sheet was created that asked critical questions of the data collected thus far (Miles & Huberman, 1994). This strategy continued at regular intervals, every two to three days and then after each site visit. The content summary sheets served to begin to focus on what the data was suggesting and also what research questions were beginning to be answered. The process also revealed what research questions could not be answered by the data collected thus far and therefore helped to focus the data collection. This type of preliminary analysis was iterative and persistent throughout the project (Watling, 2002).

During stage-two, data from the interviews were compiled on a summary sheet in matrices under the questions asked. These content summary sheets proved useful in the next stage of data analysis as thoughts and inferences that had come to mind at the time were also recorded on those sheets. Classroom observation data were analysed for
commonalities and divergences and summarised. These sheets of summary matrices were used in the next stage of data analysis which began constructing categories that were indicated by the data as transcripts from all data gathering methods were read many times.

This constant comparative method generated themes through a grounded approach (Glaser, & Strauss, 1967) coding common and divergent ideas by a word or short phrase. Themes gradually became clear and grounded in the data. Matrices were used to organise data from different interview transcripts, and from all other sources (Miles & Huberman, 1994) resulting in themes that contain triangulated data. The use of the matrices facilitated data reduction by highlighting the relevant data (Appendix E). In addition to a constant comparative technique, a cross tabulation analytical technique was also employed.

Cross tabulations of variables such as years of experience and certain attitudes revealed a theme of beginning teachers versus experienced teachers. Also, the technique exposed the theme of cultural barriers, both of these themes are reported in the next chapter. The final interpretation relies heavily on connections, common aspects and linkages among the data. In the final analysis only themes that have been triangulated through a constant comparison method and have reached saturation of all retrieved data are included. Notes were also made about links to the literature and the themes gradually became clearer.

Although the emerging themes were intuitive emanating from the data transcripts, they were informed by the study’s purpose (Merriam, 1998; Neuman, 2003); specifically the research questions as well as the conceptual framework constructed in chapter two. Through the iterative process described above concepts emerged from the critical questions asked of the data (Merriam, 1998).
Quantitative Data

The Likert-scale survey underwent a different type of analysis. First, the data from all 41 surveys for the pre-test and all 41 from the post-test were entered into an Excel file using a separate sheet for Survey A and one for Survey B. Then these files were transferred to the Statistical Programme for the Social Sciences (SPSS).

This study used statistical tests that are designed to reveal the strength of an association between two variables. The chi-square test can be used for analysing variables with nominal characteristics, such as this Likert-scale survey (Gorard, 2001); revealing the strength of a relationship between two variables (Neuman, 2003). However, although the number in the demographic variable was 41, the number of the line items for each objective was less than 10 so the chi-square test could not supply answers for this study (Gorard, 2001: 124).

Cross-tabulation is also a way of showing whether or not there is a relationship between two variables (Robson, 1993: 331; Neuman, 2003). Using SPSS each line statement on the survey was cross tabulated with each demographic variable. However, the technique did not reveal any data that could aid in the understanding of the research focus. The central tendency of each objective on the Likert-scale survey resulting in the mean for each objective was calculated using Excel, providing meaningful data that answer the research questions for which this instrument was intended.

The mean for each objective of the in-service programme on the pre-test and the post-test along with the difference between the two Surveys is displayed in table 4.6 (chapter 4). A $t$-test was employed to determine if the difference between the two surveys had any statistical significance. The $t$-test for small groups (about 40) of related samples is a powerful test to determine statistical significance (see Gorard, 2001: 157; Pell & Fogelman, 2002). The 5% (0.05) alpha level of significance, which supplied a critical $t$ value of 2.021, is often used in the social sciences as a standard for rejection of the
assigned assumption (Gorard, 2001; Pell & Fogelman, 2002; Best & Kahn, 1998) and therefore was used in this study. The result of this test is reported in chapter four.

As patterns in the data from all data sources were discovered they were organised into a conceptual framework (Johnson, 1994). Data collection continued to explore and challenge the developing conceptualisation. This cycle was repeated several times over the course of the academic year. In the course of analysis, key findings were corroborated using several information sources. The iterations among data collection and data interpretation continued until the analysis was well developed. Further site visits toward the end of the year yielded minimal or redundant information to further challenge or add to the emerging conceptual framework. For Yin (2003) a case study is complete when all relevant evidence has been collected.

**Conclusion**

This chapter has outlined the methodology of this research and how the researcher engaged in the method. The chapter has provided explanations of all the procedures related to the study including and importantly the ethical considerations of the execution of the research and the trustworthiness of the data gathering and resulting interpretation. Ethical treatment of research participants is paramount to authentic, trustworthy research and this chapter makes clear this researcher’s awareness of and attention to ethical considerations. Furthermore, the well carried out data gathering strategies reported above, which included piloting all data gathering instruments, and the fully developed approach to analysing the data offers convincing testimony that the research can be accepted as providing important learning.
Chapter 4

The Findings from the Research Revealed

Introduction

This case study was a quest for understanding as to whether or not in-service programmes can function as an aspect of professional development. Stage one of the study examined the two week in-service training programme at a private school in Lebanon which included workshops designated by the administration as professional development workshops and gathered data that reveal whether or not it achieved its objectives. Stage two gathered data throughout the school year to discern whether or not the in-service agenda functions as professional development and had an impact on the life of the school.

Forty-one full-time teachers teach at the school and were present during the in-service programme. As part of stage one of the study, a pre-test and post-test survey in Likert-scale format was administered to all 41 teachers and the demographic information for these teachers can be seen in table 4.1. Stage two of the study utilized several data gathering strategies. First, semi-structured interviews of the senior administration and a sample of teachers were conducted and the sample profile of the interviewees is available in table 4.2A. Table 4.2B describes the students who participated in the group interviews.

| Table 4.1 Relevant characteristics of teachers at the school, n=41 |
|-----------------|---------------------|------------------|
| Category        | Number of participants | Percentage Of the faculty |
| Gender          | (41)                 |                          |
|                 | (6) Male             | 14.6%                 |
|                 | (35) Female          | 85.4%                 |
| Number of years as a teacher | (15) 1-3 yrs. | 36.6%                 |
|                 | (8) 4-7 yrs.         | 19.4%                 |
|                 | (18) 8-12+ yrs.      | 44.0%                 |
| Number of years at this school | (22) 1-2 yrs. | 53.7%                 |
|                 | (15) 3-5 yrs.        | 36.5%                 |
|                 | (4) 6-8 yrs.         | 9.8%                  |
Table 4.2A sample for semi-structured interviews, administration and teachers n=9

<table>
<thead>
<tr>
<th>Interviewees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal</td>
</tr>
<tr>
<td>4 Directors, one from each cycle: KG, Elementary, Intermediate, High School</td>
</tr>
<tr>
<td>4 Teachers: T1 female, beginning years of experience, classroom teacher</td>
</tr>
<tr>
<td>T2 male, intermediate years of experience, subject teacher, department head</td>
</tr>
<tr>
<td>T3 male, experienced teacher, subject teacher, department head</td>
</tr>
<tr>
<td>T4 female, experienced teacher, technology teacher</td>
</tr>
</tbody>
</table>

Table 4.2B sample for student group interviews, n=12

<table>
<thead>
<tr>
<th>Category</th>
<th>Students in lower levels, n=8</th>
<th>Students in upper levels, n=4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of students from each grade level</td>
<td>10% of the total number of students in these grades</td>
<td>7.7% of the high school population.</td>
</tr>
<tr>
<td></td>
<td>2 in grade 4</td>
<td>1 in grade 9</td>
</tr>
<tr>
<td></td>
<td>2 in grade 5</td>
<td>1 in grade 10</td>
</tr>
<tr>
<td></td>
<td>2 in grade 6</td>
<td>1 in grade 11</td>
</tr>
<tr>
<td></td>
<td>2 in grade 8</td>
<td>1 in grade 12</td>
</tr>
<tr>
<td>Gender of students</td>
<td>2 females from grade 4</td>
<td>All four were female.</td>
</tr>
<tr>
<td></td>
<td>2 males from grade 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 male &amp; 1 female from grade 6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 male &amp; 1 female from grade 8</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.3 outlines the coding system for data referencing.

<table>
<thead>
<tr>
<th>Code</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>F* : #</td>
<td>F refers to field notes, * refers to the day the notes were taken, # refers to the page number of the transcript.</td>
</tr>
<tr>
<td>O : #</td>
<td>O refers to researcher’s observation of teachers in the classroom, # refers to the grade level observed. Stage 2 data collection</td>
</tr>
<tr>
<td>T* : #</td>
<td>T refers to a teacher interview, * refers to which interviewee, # refers to the page number in the transcript.</td>
</tr>
<tr>
<td>D* : #</td>
<td>D refers to a director interview, * refers to which interviewee, # refers to the page number in the transcript.</td>
</tr>
<tr>
<td>P* : #</td>
<td>P refers to the principal’s interview, * refers to the first (1) or second (2) interview, # refers to the page number in the transcript.</td>
</tr>
<tr>
<td>SU : #</td>
<td>SU refers to the student group interview of upper level students, grades 9-12, # refers to the page number of the transcript.</td>
</tr>
<tr>
<td>SL : #</td>
<td>SL refers to the student group interview of lower level students, grades 4-8, # refers to the page number of the transcript.</td>
</tr>
</tbody>
</table>

How the data answer the research questions

The themes that emerged from the data explicate the in-service programme and construct an understanding of this practice in relation to the professional development of the teachers. Table 4.4 illustrates how all the emergent themes have been organised around
the key research question (KRQ) they answer. Following this is a discussion of the themes in relation to the research question they address.

<table>
<thead>
<tr>
<th>Table 4.4 themes as they relate to the corresponding key and sub research questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STAGE ONE OF THE STUDY</strong></td>
</tr>
</tbody>
</table>
| **KRQ 1:** What do senior staff perceive as the purpose of the school's professional development programme?  
  *Answer:* Theme of Principal leadership; theme of teacher empowerment; theme of constructivist philosophy; theme of lack of commonality toward an understanding of the role of professional development; theme of organisational obstacles; theme of cultural barriers.  
  **KRQ 1.1:** What are the content and processes of the in-service programme?  
  *Answer:* This answer is displayed in table 4.5  
| **KRQ 2:** What do teachers perceive as important for inclusion in professional development programme?  
  *Answer:* Theme of practicality; theme of effect on beginning teachers versus experienced teachers; theme of transparency; theme of interactive methodology/cooperative learning; theme of newness of content  
  **KRQ 2.1:** What is the level of knowledge the teachers possess at the start of and at the completion of the in-service programme?  
  *Answer:* The results of the pretest/posttest survey displayed in table 4.6  
| **STAGE TWO OF THE STUDY**                                                        |
| **KRQ 3:** What is the teachers' perception of how successful the in-service programme was managed?  
  *Answer:* Theme of reflection; theme of follow-up; theme of physical space and resources; theme of scheduling  
  **KRQ 3.1:** Are teachers' opinions of what is important compatible with the instructional topics of the in-service programme?  
  *Answer:* The results of the pretest/posttest survey displayed in table 4.6  
| **KRQ 4:** Does the in-service programme have an impact on the life of the school?  
  *Answer:* Themes that answer KRQ 2 &3 also answer this question.  
  **KRQ 4.1:** What skills and strategies can teachers be observed implementing in their classrooms that were stressed during the in-service programme?  
  *Answer:* theme of inconsistent teaching approaches throughout the school  
  **KRQ 4.2:** Are students aware of aspects of practice by their teachers that can be linked to the in-service programme?  
  *Answer:* Theme of human rights
STAGE ONE OF THE STUDY

Stage one of the case study looked at the two-week in-service programme. The first two key research questions address this aspect of the research. First, KRQ 1.1 asked about the content and processes and is answered with Table 4.5

Table 4.5 Content and schedule of the in-service programme

<table>
<thead>
<tr>
<th>In-service teacher training programme included 9 days: Sept. 1 – Sept. 13, 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sept. 1 – Sept. 3 Meetings/Study Groups</strong></td>
</tr>
<tr>
<td>Wednesday: line management reviews and revises job descriptions; (Pre-test survey administered)</td>
</tr>
<tr>
<td>Thursday: all faculty (minus the math department) involved in creation of the school discipline policy</td>
</tr>
<tr>
<td>Friday: work on discipline policy continues</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Sept. 6 – Sept. 10 Professional Development Workshops</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday: cooperative learning strategy/Human Rights Document</td>
</tr>
<tr>
<td>Tuesday: active listening &amp; group work</td>
</tr>
<tr>
<td>Wednesday: accreditation process discussed through group work</td>
</tr>
<tr>
<td>Thurs. &amp; Fri.: First Aid Training; entire disciplinary group</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>September 13, Wrap-up day</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday: Post-test survey administered &amp; exit poll of teachers’ opinions regarding the most beneficial days and why.</td>
</tr>
</tbody>
</table>

Data collected from participants by means of observation and formal and informal interview protocols reveal an in-service training methodology that was steeped in a methodology contrary to the school’s philosophy and intended objectives. The primary mode of presentation was direct information transfer. With the exception of the workshop on cooperative learning that was conducted through a hands-on activity, the workshops were lecture-centric (F1-8). Data reveal evidence that teachers not only want training in progressive methodologies but also the workshop on cooperative learning that did employ a hands-on, interactive approach was the most successful day according to an exit poll of the teachers taken on the last day and observational data.
What does senior staff perceive as the purpose of the school’s professional development programme? (KRQ 1).

Six themes emerged that respond to this research question (see table 4.4). The first to be reported is the theme of principal leadership. Leadership has been shown in the discussion in chapter two to be of paramount importance to the cultivation of authentic professional development. This Principal’s leadership style is one that promotes professional development of faculty and staff.

**Principal leadership:**

The Principal exhibited characteristics of both distributive and transformational leadership strategies; two leadership attributes that serve to develop subordinates. He was very hands-off not even being present while important policy was being discussed. When present he was often observed encouraging everyone to contribute and take ownership of the process as well as delegating responsibility to a variety of people, not just members of the administration. (F1:4, 15, 16; F2:2, F3:1,6).

Transformational leadership strategies place a focus on the human resources (see Mulford, 2003; Leithwood, 1997). This emphasis amounts to developing teachers collaboratively around whole school change. Following are data that propose a transformational leadership strategy cultivated by the Principal.

The Principal said, “The teachers are the key to this institution. We are here to assist and help and support teachers and to assist and support student learning.” (F1:1).

Two teachers remarked, “I love teaching here. I can really be a teacher. That should be their motto, where a teacher can be a teacher.” He [Principal] really listens to the teachers’ points and tries to accommodate their word choices while working on job description documents. (F1:4).
Distributive leadership strategies can provide impetus for the breakdown of role and authority expectations that the teachers may have and thus lead to teacher empowerment and ownership of educational processes (see Leithwood et al, 1997; Spillane, 1999). This approach to leadership can have a strong influence on the development of teachers’ leadership capacity. Following are data that propose a distributive leadership strategy cultivated by the Principal.

"He encourages and insists on everyone having input into the procedures of the first days of school. Appears comfortable being hands-off, allowing the teachers to make the decisions (F1:14-18).

The Principal said when discussing job descriptions, “Let’s extend the circle of people who play leadership roles in the school. For example, it’s why I gave you this document and we are discussing it. You are accountable for your own responsibilities.” (F1:10-11).

Whenever the Principal was asked for his input and/or opinion on any issue he always chose an indirect answer. His intention was to get the teachers to think, take ownership of the process and base their conclusions on the core values of the school. The following story illustrates his approach.

On day 3, Friday, the director who chaired yesterday’s discussion on the creation of the Discipline Policy document informs the Principal that no consensus was reached on the issue of chewing gum on school premises and would he add his input. The Principal responds by saying, let me stress that whatever you decide it has to be implemented 100%. Even if it is decided later on that we made a mistake in the policy, as long as it is in the policy it must be implemented. Then he asks for a show of hands for three possibilities:
1. do not allow chewing gum
2. allow on breaks only
3. allow all the time.

The overwhelming majority raise their hands for the first choice and he does not seem pleased. Okay, let me ask you this: you are all aware of the speed bumps being put
all over the place in an effort to curb speeding. People still manage to speed in between them. Do you think more speed bumps should be added closer together or should people be educated on the hazards of speeding and the danger it creates. Without a pause everyone yells educate them. Okay, so then I suggest that we teach our students responsibility and teach them to dispose of gum properly so as not to damage property and/or be an environmental danger to the birds.

Teachers start complaining loudly, 'we can’t police it', 'we can’t stand by the trash cans all day long'. He holds up his hands for order and stresses that building habits takes time, consistency and perseverance. I suggest, he continues, that if we find gum on the playground or near but not in a trash can or on a desk, the privilege be revoked for the whole school for a week, next time a month and so on. I am confident it won’t take a second loss of privilege for all students to learn how to dispose of it. (F3:5-6).

On day 4, Monday, the chair of the discipline policy group informed the Principal, first thing in the morning, that the issue of chewing gum is yet to be resolved. ‘Can you please give your opinion?’ Although he looks surprised since he guided them on Friday as to how to handle it, he responded, “I prefer sugarless.” (F4:1). Then seriously he told her to draw up a plan and we’ll discuss it later.

This same story also illustrates the director’s unwillingness to take responsibility for the decision or the director’s lack of realisation that she could make a decision so contrary to her own experience.

Teacher empowerment:

This theme is related to principal leadership as it is through leadership that empowerment is generated (see p. 48). Through a collegial approach to leadership that transformational and distributive strategies promote, participation of teachers is ensured in decisions that affect them. This process constitutes professional development since taking ownership and affecting change are at the essence of professional development.

*Teachers are encouraged as a group to decide on the discipline policy. Even though members of senior administration are present, the Principal makes clear that one*
will be a facilitator but everyone needs to participate. "It is important that you all be behind the document you produce. I want it to be a document you can support 100%" (F2:1)

During discussion on the discipline policy document an item was changed pursuant to the request of a teacher. "Wow, that was neat, did you hear that. We were able to get that changed. That is so neat we could vote and get something changed. I'm so used to top command telling me what to do." (F3:9).

A beginning teacher starting her second year at this school, "Here I can be myself. I can say what I think to the Principal, even if it is something I don't like. I am also allowed to teach the way I think best." (F3:10)

However, a limitation of collegial leadership is teachers not wanting to commit the time required for its implementation (Bush, 2002). This limitation was in evidence at the target school both through observation and comments from beginning teachers especially.

Young female teachers are very vocal when it comes to 'how to do something' or clarifying procedure and logistics: for example, how to administer punishment and how to get supplies, but they are quiet in the discussions about formulating policy. (F3:13).

A first year teacher remarked, "There has been too much discussion on the Discipline Policy. Someone else should do the work. I'm a teacher; I have other things I need to do." (F7:2).

Data also reveal that there was more noise and less attention during activities that were facilitated by members of the faculty or senior administration other than the Principal; infering that the teachers responded to the authority of the Principal and did not recognise the authority of colleagues. In addition, an inference is evident that the teachers were not intrinsically motivated by the learning opportunity.

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Constructivist philosophy:

This theme is included as an aspect of leadership for two reasons. First, constructivist philosophy is a core value of this school. Therefore, it requires principal leadership as a crucial link to this type of systemic reform. Through principal leadership strategies that address teacher capacity, implementing inquiry-driven and activity-based education at all levels is possible. Second, as discussed in chapter two, a learning community which is promoted through a constructivist approach to the learning process fosters positive outcomes for teachers as well as students and it is a management task to establish the mechanisms for a learning community to evolve. The argument is also made that for schools to be effective in the future, they will have to be active learning environments for teachers as well as students (see Grodsky and Gamoran, 2003; Bezzina & Camilleri, 2001).

With the advent of constructivist thinking as a way of conceiving professional development (Sergiovanni, 1996), data are included that support a constructivist culture at this school. In view of the fact that the school advocates a student-centred, constructivist philosophy of education it is necessary that this philosophy permeate the culture of the school.

In fact, a learner-centred, constructivist philosophy is being promoted. A conversion from an old fashioned approach to teaching that views teachers as transferors of knowledge, to facilitators of the learning process in a constructivist sense was strongly in evidence.

The Principal said, "Anyone who thinks activities are a waste of time doesn’t believe in our philosophy and shouldn’t be working here." (F5:3).

Fourth grade math class began with an activity that got most of the children up and participating. (O:4)
"I can speak for the French department. We have changed. We use activities, cooperative learning. And even the Arabic is trying. We need more information, more workshops about activities about how to integrate cooperative learning so it is beneficial for us." (D4:5)

Both a beginning elementary teacher and an experienced elementary teacher were observed deviating from their lesson plan and taking advantage of a teaching moment that presented itself (O:2; O:1).

The school is alive with visual displays of projects and reports in every division, in common areas and classrooms. (F10:2).

In spite of the Principal's leadership attributes and the constructivist philosophy the style promotes, data analysis exposed themes that make evident the obstacles he faces in his attempt to create an authentic learning environment for all. The first obstacle is evidenced by the next theme.

Lack of commonality toward an understanding of the role of professional development:

It is a leadership responsibility to work toward whole staff consensus on school priorities (see Mulford, 2003), of which the professional development of the teachers should be and is expressed as such in the job descriptions of all the line management at this school. However, the line management articulated varying views of what professional development is and how it can benefit the school.

The views include the idea of professional development as a curative measure as well as the idea that communication among faculty and between faculty and research is professional development. The picture that emerged was vague and lacking in commonality. The lack of a consensus as to what professional development constitutes impacted on how the administration should go about it.
"I've done it in areas that I would tend to be very concerned about [choosing mentors and mentees]; mentoring myself or assigning a Head." (D3:1)

"It's [professional development] more a communication between us. I try to talk to the teachers every week but I have so many things to do. So whenever I have the occasion to talk to them I do it." (D4:1)

"I don't approach their professional development in a formal way. I approach them with certain things you know if they're working on such a chapter I'll say here look at these . . . if I know of projects, for example I will share ideas, that's part of my job to be a resource for the teachers, I don't tell them go take a course or anything, we don't organize workshops within the department." (T3:7).

The opinions also include the idea of one-shot workshops outside of the school organisation as constituting professional development for some directors.

"A seminar (outside the school) is more of a professional development." (D1:5)

As discussed in chapter two, distributed leadership assists capacity building within schools (Harris, 2004). Therefore, it becomes the responsibility of all senior management to achieve uniformity of the meaning of professional development and what it looks like in their specific context so as to assist in the capacity building of the teachers. Of all the obstacles this is one of the most serious in terms of designing and successfully implementing a meaningful professional development initiative at this school.

Although, the Principal employs a leadership style conducive to the development of a learning organisation the school organisation is established on a classic hierarchical structure with bureaucratic procedures which impede the transformation.
Organisational obstacles

Data exposed barriers to an organisational culture that enhances adaptability to change. Human and cultural change must be served by the organisation. Sergiovanni (1996) promotes in-service education moving away from the administration side of the ledger to the teacher side as a way of promoting commitment to their craft in a community versus an organisation climate. The concepts of empowerment and moral leadership styles discussed in chapter two require a change to organisational models that are collaborative in nature and incorporate networking within and without.

This conceptual shift is predicated on the belief that the individual is the basic building block of the school. The shift also suggests that the distributed leadership concept creates a flatter or more web-like leadership structure than the classical pyramid or top-down hierarchical model. Yet, the administrative configuration at the target school is very rooted in the classical structure (See table 1.1 on page 9). A more inclusive model would bring teachers into the decision making process. Additional data that address organisational and system barriers is presented below.

Directors demonstrate reluctance to make a decision and take responsibility for a controversial issue. The gum chewing incident and the Director’s inability or lack of willingness to resolve the conflict even with the Principal’s guidance. (F4:1) This story is reported above.

“I can’t say I don’t trust the heads but it’s not the same as me taking care of something.” (D2:4)

The top-down structure is creating obstacles rather than facilitating teachers’ work.

“I find that it’s the system....if you want to get something photocopied it takes 48 hours, you just have to be on the ball, you can’t get something right away. I’d like to see a breakdown in some of the bureaucracy.” (T2:11-12)
Decisively, the pyramid structure has influence over the flow of communication.

“"No, I didn’t have any input into what should be included in this in-service. I knew when we arrived before the teachers."” (D2:12).

“I can’t remember, no I didn’t have any input into the in-service. If it was up to me I would start with how to create a lesson.” (T4:1).

The classic, hierarchical organisational structure of the school with its bureaucratic procedures is impeding the flow of information. One of the roles of professional development within a learning community is to create a free flow of information. The Principal was under the impression that the line management as well as the teachers had provided input into the training agenda. However, the data depict a different reality. Given that learning is a constant and is influenced or constrained by the culture of the organisation, the organisational configuration becomes a very important consideration.

The organisational structure of the school and the procedural systems are not the only barriers to systemic reform which would ultimately lead to a learning organisation. The mentality or agenda of the individuals also has a direct bearing on the formation of a learning community. Therefore, data divulged a theme of cultural barriers hindering the successful shift.

Cultural barriers:

In addition to the cultural framework on the macro-level reported above, evidence emerged that suggests that a cultural barrier to a progressive approach to education exists on the micro-level as well. In the discussion in chapter two, it is reported that transformational leadership promotes opportunities for staff to change practices in light of new understandings and to encourage staff to reflect on how they are teaching and interacting with students (see Mulford, 2003; Leithwood, 1997). Therefore, this theme is
included as an obstacle to the total realisation of the necessary leadership attributes needed to institute the kind of professional development policy advocated in this thesis.

The following data support the contention that in Lebanon a cultural norm exists that stifles the individual and promotes deference to perceived authority. This foundational sense of compliance and acquiescence creates a barrier to individual empowerment and confidence in transforming beliefs and values much less implementing strategies counter to one's own experience.

A non-Lebanese teacher volunteered that he felt there were cultural barriers which made it difficult to create the atmosphere the Principal wants. He asked if I noticed that the Lebanese were not as vocal in the meeting as the others. He offered that he notices that it is mainly the foreigners and the ones who have spent a lot of time overseas who are leading the discussions. (F1:13).

A teacher was frustrated that the same teachers dominated the discussion on discipline policy and said he feels most teachers are afraid to say anything and that this stems from their orientation. However, he said, this school encourages teachers' input and the Principal really wants us to participate but most teachers find it strange and difficult. (F2:6).

Another teacher of foreign birth and upbringing offered, "I'm sure you noticed that some people speak more than others. It seems just a few of us talk and I'm one of them!" (F6:2).

"Arabic and French teachers in the past are the most resistant to the use [talking about activities] but they have started and they are doing more things, doing more group work in the classroom. They are actually starting with technology." (P1: 8) A Director concurred with this point of view during her interview.
However, the Principal was not inclined to state unequivocally that culture is the reason as to why some teachers embrace modern methodology and some are more reluctant.

"I can't say that culture plays a strong role in acceptance of these ideas [interactive teaching methodologies] generally speaking. But maybe association with the American programme, which is more hands on than most, would seem to produce more tendency to accept these things. In the past Arabic and French teachers have been the most resistant to the use because they saw it as different... but they have started and they are doing more things, doing more group work in the classroom." (P1:8)

Nevertheless, the evidence is strong that culture plays a role.

**What do teachers perceive as important for inclusion in teacher professional development sessions?** (KRQ 2)

The conceptual framework developed in chapter two for authentic professional development includes an adherence to the theories that inform effective adult learning (see Butler, 2001). As discussed in chapter two, adult learning theories are compatible with a constructivist educational philosophy (see pp. 17-21) and therefore concepts such as newness of content, interactive methodology and practicality must be included in situations where adults are the learners, such as teacher professional development initiatives. These three ideas emerged as themes that answer this key research question.

Additional themes emerged from the theme of *practicality*: the themes of *effect on beginning teachers versus experienced teachers* and the theme of *transparency*. These two themes will be presented following the theme of practicality and then the themes of *newness of content* and *interactive methodology* will be presented.
Practicality:

"Workshops have to be brought down to smaller groups and preferably subject groups. The large interdisciplinary group is ineffective." (T3:2)

"Much more practice is needed and the concepts need to be related to the classroom and the specific context." (T4:2)

Two experienced teachers, one of whom is also a director of cycle, stated a wish that there would be more workshops on lesson planning, construction, including how to integrate activities and technology into a lesson. All the teachers interviewed also voiced a desire for the workshops to be subject-specific and related to the classroom. The entire multidisciplinary group was the norm throughout the in-service programme (F1-8). Two first-year teachers also expressed during the in-service programme, a need for more practical concerns, including school procedures, and less time spent on policy formulation (F7:2).

Effect on beginning versus more experienced teachers:

The discussion on constructivist learning and adult learning theories in chapter two (pp. 20-21) also reports that content and processes should be related to past experience and to the individual’s development. Moreover, chapter two reported literature that cites teachers’ stage in their careers as a variable to be considered for successful professional development (Villegas-Reimers & Reimers, 2000). Beginning teachers at this school had a more meaningful in-service training experience than their more experienced colleagues.

"The in-service workshops were missing in the ‘whys’ and ‘wherefores’, even the better workshops were missing the follow-up component, “what did I learn?” “Why are we doing this?” (T2:5).

"Everything was of mild value... (T3:2)
"None of it was very relevant to me." (T4:1).

Director of Cycle and an experienced teacher, "I'm not coming today. I have done this stuff so many times before and I have so much preparation to do and the students are arriving soon!" (F5:1)

Teachers with more experience, as reported above, need information that will take their teaching practice to a higher level. The experienced teachers in this study seemed to desire pedagogical understanding not just teaching strategies. They wanted to explore the concept of cooperative learning more thoroughly, including variations and assessment strategies. This group of teachers also dominated discussions on policy (F2:3-7). By not realising the needs of the entire faculty, the in-service programme had little impact on more than half of the teachers present, see table 4.1 for the percentage of teachers.

Beginning teachers, on the other hand, enthusiastically embraced the ideas presented in the workshops and consciously attempted to incorporate the strategies into their repertoire. This group also responded enthusiastically to the workshops that dealt with the specifics of their craft not responding as enthusiastically to the days devoted to policy formulation.

"Nothing was new but I was interested in everything, I thought like a student, I had the interest of a student and the workshops stimulated my creativity." (T1:4).

Beginning teacher, "The sessions had a big influence on me and I'm trying to incorporate the ideas." (O:2).

Transparency:

The models of constructivist professional development discussed in chapter two all contain an element of transparency (Barnes, 2001; Cheung & Cheng, 1997; Burbank & Kauchak, 2003; Wagner, 2004). Peer observation as a type of collaboration, among other
forms of inquiry is an effective way of broadening traditional in-service training models (Burbank & Kauchak, 2003:500; Angelides, 2002; Darling-Hammond, 2005; Toomey, et al., 2005; Hopkins & Reynolds, 2001). As discussed in chapter two, networking as a professional development strategy also provides transparency of practice (Bubb, 2005; Holmes & Johns-Shepherd, 2006). Likewise, Fullan (1991) recommends clinical observation, which guarantees transparency as an important feature of professional development. The teachers and directors in this study articulated a desire for improvement and change through transparent, constructivist processes.

"Groups of teachers should go and spend a day at one of the sister schools, we would see methodologies, activities, cooperative learning, classroom management, how they are integrating the computer and they would come to us too." (D2:16).

"More workshops and more people to come here; I think there are many people with so much experience, they have been to several places and we can benefit from them." (D4:6).

"Role playing would be nice, for the lesson plans it would be good if somebody would teach an actual lesson." (T4:15)

"They [other teachers] could see me giving a lesson and we could have feedback. This would be better by subject group as well." (T2:10)

"We don’t organise workshops in the department but why not? We could have a workshop on standardizing assessment strategies or just kicking around the idea how we’re evaluating the students. I find that there is a lot of variety and big differences between teachers. I wonder if we’re all reading off the same page in terms of intent." (T3:7).
Transparent activities are practical and teachers expressed the desire to not only teach in front of peers for the purpose of receiving constructive criticism but also to see peers and colleagues teach for the purpose of gaining insight and ideas.

**Newness of content:**

This theme had particular meaning for all teachers interviewed. Teachers were very quick to say that they were at times frustrated by the lack of newness during the in-service programme and that they had heard much of the content before, particularly the active listening material. Collaborative action research and the lesson study strategy are two approaches to professional development that generate newness of content through their problem solving components (pp. 26-30).

> The exit poll at the conclusion of the in-service programme cited the jigsaw exercise day, discussion of accreditation content, first aid, as the most beneficial days because each of these days provided new, stimulating, relevant content. (F9:1)

> "...in terms of any real value I'd have to say the newness of the information about human rights in particular had some value." (T3:2).

Two of the teachers during formal interviews and three teachers who were spoken to informally during the in-service programme all talked about the few bits of new content as what they took away from the training days. The importance of this theme is also highlighted by the following:

> Describing outside workshops they attended in the past couple of months, two teachers said that they couldn't remember the workshop content because it was "old-hat" and presented through lecture. (F10:2).
Interactive methodology/cooperative learning:

Interactive methodology also proved to be an influential element for teacher learning. The data reported below corroborate research reported in the literature on adult learning theories that report that adult learners respond well to learning situations that are social, active learning processes (Glatthorn, 1990 in Sandholtz, 2002: 3). The one workshop that incorporated a hands-on activity was cited by all teachers and observation as the most meaningful day. Additionally, it was the one day all teachers remembered when asked about the in-service workshops some months later.

Group of four teachers, “The jigsaw exercise was the best day because of the way we did it” (F8:6)

Teachers were aware that the workshop devoted to active listening was not successful due to its ineffective, passive methodology.

A teacher offered, “The active listening day was long and didn’t have an effective presentation; we know this” (F8:6)

“The active listening could have benefited from role-playing” (D1:8).

Some teachers were aware that the methodology for the workshops was largely antithetical to the methodology advocated by the school.

“All activities could have benefited from being hands-on.” (T4:3-4)

“If I had known about the content of the first aid I would have requested that it be more interactive.” (D3:6).

Data also suggest that it was the content more than the exercise itself that made the jigsaw workshop a meaningful experience for the more experienced teachers.
“The Human Rights content (the content used during the jigsaw exercise) was the most valuable idea I took away because I’ve never delved into the document that completely. Also, very important for the teachers in this school because it is part of our school philosophy.” (T3:2).

What is the level of knowledge the teachers possess at the start of the training programme and at its completion? (KRQ 2.1).

Data from the pretest/posttest Likert-survey address this research question by making known teachers’ perceived acquaintance with the intended topics of the in-service programme and supplying data that illustrate whether or not that perceived acquaintance improved during the in-service programme. Survey A was administered on the first day of the in-service programme before any planned activities began. Survey B was administered on the last day after all workshops and policy discussions had taken place.

The centre of distribution for all the in-service topics for all forty-one surveys was calculated resulting in the measure of central tendency or average answer of each objective. The results are displayed in table 4.6 below. The forced choice design of the survey (see chapter three for an explanation of forced choice design) makes obvious what side of the scale the faculty answered. Given that the respondent had four choices from which to choose, each statement having a choice of rating numbered 1-4, results in the mean value for each instructional objective as 2.5. Therefore, a number above 2.5 would mean that the answer falls on the ‘agree’ side of the scale for that topic thus signifying a strong association with the topic and a number falling below the mean reports that the faculty answered on the ‘disagree’ side of the scale. The greater the rating beyond 2.5 the higher the agreement and numbers less than 2.5 signify less association with the topic.

The ‘disagree’ side of the scale suggests a need for more knowledge and/or experience with that topic. Table 4.6 shows that on Survey A only the concept of first aid is rated on the disagree side of the scale. This suggests that it is the only topic in which teachers felt
a lack of knowledge prior to the start of training. Additionally, the topic of technology shows a marginal position on the scale suggesting a need for training in this area; and importantly this number did not change from the start of the in-service programme to its completion.

Table 4.6: The Results of the Pretest/Posttest Survey

<table>
<thead>
<tr>
<th>Objective</th>
<th>Survey A</th>
<th>Survey B</th>
<th>Difference</th>
<th>calculated t</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Aid</td>
<td>2.02</td>
<td>2.96</td>
<td>+0.94</td>
<td>2.265</td>
</tr>
<tr>
<td>Lesson Planning</td>
<td>3.69</td>
<td>3.69</td>
<td>0</td>
<td>0.046</td>
</tr>
<tr>
<td>Teaching Strategies</td>
<td>3.49</td>
<td>3.37</td>
<td>-0.12</td>
<td>1.691</td>
</tr>
<tr>
<td>Group Work</td>
<td>3.38</td>
<td>3.20</td>
<td>-0.18</td>
<td>1.431</td>
</tr>
<tr>
<td>Active Listening</td>
<td>3.51</td>
<td>3.51</td>
<td>0</td>
<td>0.468</td>
</tr>
<tr>
<td>Technology</td>
<td>2.70</td>
<td>2.70</td>
<td>0</td>
<td>0.135</td>
</tr>
<tr>
<td>Time Management</td>
<td>3.16</td>
<td>3.31</td>
<td>+0.15</td>
<td>1.556</td>
</tr>
<tr>
<td>Networking</td>
<td>3.66</td>
<td>3.61</td>
<td>-0.05</td>
<td>1.251</td>
</tr>
</tbody>
</table>

A $t$-test was conducted to determine if the difference between both surveys had statistical significance. Using the 0.05 significance level with degrees of freedom equalling 40 resulted in a critical $t$ value of 2.021. When $t$ was calculated on the difference in the two surveys if $t$ was smaller than 2.021 the difference is statistically insignificant and if $t$ was larger than 2.021 it can be said that the difference has some statistical significance. Therefore it can be concluded that the training was ineffective for all the objectives since the difference is less than 2.021 except in the case of first aid where the calculated $t$ is greater than 2.021. See the last column in table 4.6.

It is known from the Surveys that teachers felt a strong awareness of all the intended topics prior to the start of the programme, except in the areas of technology and first aid. The post-test survey reveals that teachers’ awareness of all the topics except for first aid was not enhanced during the two-week in-service programme.
STAGE TWO OF THE STUDY

What is the teachers’ perception of how successfully the in-service programme was managed? (KRQ 3)

Part of the answer to this research question has been exposed in the themes of principal leadership, teacher empowerment, beginning versus experienced teachers, interactive methodology, newness of content, practicality and transparency all discussed above. The rest of the answer, however, can be understood through the themes of reflection, follow-up, physical space and resources, and scheduling.

Reflection and follow-up are areas for management to consider especially as demands on accountability increase. The idea of reflection as a means of altering perspectives and fundamental beliefs should be instituted for effective professional development to manifest. Second, the idea of follow-up as a necessary component for continuous learning to occur must be included in the professional development agenda for sustained learning and evolution. Finally, the matters of the physical resources and scheduling are elements of the infrastructure that require the leaders’ attention so as to promote and sustain teacher learning (see Arbuckle, 1997; Anderson, 2002).

Reflection:

Professional development also means providing occasions for teachers both collegially and individually to reflect critically on their practise to build new knowledge and beliefs about content and pedagogy (Darling-Hammond & McLaughlin, 1995).

“The other English teachers in this division and I often collaborate on lesson plans and ideas. We try to bounce ideas off each other regularly. (T2:8).
"In the preschool our weekly meetings create a very fine tuned programme. A lot of collaboration happens in those meetings, information is passed and help on how to tackle a problem or deal with a student is shared." (D1:8).

However, collegial collaboration without reflection of purpose is not likely to result in a collective commitment to specific curricular or instructional policies (Little, 1989). It is through continually examining for the purpose of improving teaching and learning that change takes place. Data testify that teachers at this school regularly engage in some form of reflection but it is not always systematic and it is primarily solitary.

"It (reflection) is a necessary part of life. I do write notes on lesson plans or certainly make a mental note of things that didn’t work. [I] don’t want to stay the same teacher; I want to look at things in new ways, ways I can get the children motivated or wanting to learn.” (T2:8)

"Every hour when I finish the period I type on the computer what went wrong, what was right... It makes me feel secure that I have this information." (T4:8-9).

Touring the high school area, small groups of teachers are often seen conversing about students and classes. (F10).

It is a leadership responsibility to take the practice of reflection from the archival and construct it as a meaningful catalyst for change. Literature is beginning to inform the need to provide a social forum for teachers’ reflection (Zambo, 2005; Sharp, 2003; Zeichner, 1994). When this happens a necessary ingredient for an authentic model of professional development begins to emerge.

**Follow Up:**

Supervised reflective practice and follow-up should be featured in all models of professional development (Fullan, 1991). Evidence from this study corroborates this
assertion, particularly data that emerged from the senior administration and experienced teachers. This group voiced the fact that the lack of a follow-up strategy had impact on their ability to implement the desired strategies.

The Principal said, "One of two areas we failed last year was that professional development was not continuous. There was no follow-up." (F1:6).

"On observation [as head of department] I saw a lot of standing in front of the room so we need more workshops on group work and cooperative learning. One time is not enough" (T3:8).

"follow up, follow up follow up, we need a complete day of workshop to recap everything." (D2:16)

"We need more information, more workshops about activities about how to integrate cooperative learning so it was beneficial for us and for our students." (D4:5)

Teaching is an applied art and as with the application of all artful skills, teaching strategies must be monitored regularly, fine-tuned and adapted to each unique situation.

**Physical space and resources:**

The physical space at the school as well as resources or lack thereof was a barrier for all the teachers that were interviewed as well as two of the directors. Data from field observation also corroborate these data. In particular the acoustics were criticized.

"The room was awful, but it is the biggest one at our school. I think it impacted on the benefits, you will be distracted and then you will not listen to him because how many times can you say, 'I cannot hear you'?" (T4:4).
"You know the whole atmosphere wasn't that comfortable for that long of a stretch and there was a lot of ambient noise." (T3:3)

Lack of resources were also cited as having a negative impact on implementing the kind of teaching strategies and learning opportunities the administration would like to embrace. In particular the internet was cited as slow and unreliable.

"The internet is very slow and we don't have access to the internet as easily as you would have in other places which prevents us from using it successfully as a teaching or research tool. Otherwise I could tell a teacher every day to get on the internet and give me ideas about how to teach the skeletal system for example." (D2:15).

**Scheduling:**

All the teachers interviewed as well as three of the directors specifically mentioned their workload as being too demanding not leaving time for professional development. Additionally, the in-service schedule was criticised for not being arranged in a way that optimised the teachers’ time.

A first-year teacher offered, "Some of the training this week was boring. Well, not boring, it's just that I have so much to do with preparing and other things that I found the sessions long and maybe I could have used my time better." (F7:2)

"First aid could have been condensed into 2 hours with more modern methodology." (T3:3)

"Too much time was spent; everything needed to be more concise." (D1:7)

During the first aid workshop one teacher brought some busy, cutting work and soon many teachers followed suit doing 'busy-work' while listening to the instructor (F8:4)
Directors as well as some other teachers are observed coming and going throughout the sessions (F8:1)

It is a management responsibility to be aware of the inherent obstacles and find solutions to optimise the professional development exercises (Marsh, 1997; Senge, 1990).

Are teachers’ opinions of what is important compatible with the instructional topics of the in-service programme? (KRQ 3.1)

The data from the Likert survey also answer this research question. The results of Survey A, administered prior to any of the planned activities, reveals that teachers answered high on the ‘agree’ side of the scale for every intended objective except first aid. This revealed an incompatibility with the teachers’ opinions of what is important to include in the in-service agenda with what was in fact included. This research question is also answered through the emergent theme of technology.

**Technology:**

The importance of technology as a teaching and learning tool is articulated in the school’s Vision Statement:

“We will empower our students to compete and excel in a global community by providing them with quality teaching and integrated technology.” (School brochure)

The Mission Statement also articulates this tenet:

“That each student’s academic potential is most fully realized through a challenging and varied multilevel curriculum and integrated technology combined with appropriate support.” (School brochure)
Additionally, use of technology was mentioned as an explicit objective of the in-service programme by the Principal prior to the start of the in-service programme, see table 4.6, and again on the first day.

"Three days next week will be spent on professional development...human rights and technology in the curriculum." (F1:14).

However, observation of the in-service programme revealed that technology did not play a role either as a teaching tool or as a focus of one of the workshops (F1-9). The Survey discloses a situation where teachers feel they need training on the computer, see Table 4.6. Additionally, data expose a situation whereby the use of technology is desired by the faculty as well as necessary in order for the school to successfully implement their Vision and Mission statements.

"I have so many teachers who don't know how to use technology or are limited in using technology so it would be nice for them to have a workshop about the use of technology, how to surf the net or things that would be helpful for them to get information and do this." (T4:16)

"Some of the unshakable values of the school that I want to be sure everybody buys into includes the use of technology not as a trend but as a way of life." (P1:9).

Although, during stage 2 of data collection late in the school year, students reported that some teachers tried to use technology in some way; but students also reported that computers are not used as a teaching tool.

"The English teacher uses videos a lot." (SU:3)

"We use computers to prepare for the SAT exam and we are encouraged to present projects using PowerPoint." (SU:2-3)
Technology as a tool can be instrumental in fostering a constructivist approach to education, the intention of the target school. Training teachers in the use of technology is also an identifying characteristic of a learning-centred school (see Dimmock, 2000).

**Does the in-service programme have an impact on the life of the school? (KRQ 4)**

The themes discussed above under KRQ 2 and KRQ 3 and their sub-questions create a picture of how this in-service programme impacted on the life of the school.

**What skills and strategies can teachers be observed implementing in their classrooms that were stressed during the in-service programme? (KRQ 4.1)**

The school philosophy aspires to cultivate a learner-centred environment. An active and interactive approach to the learning process is advocated. Some data suggest that cooperative learning strategies were not utilized to an adequate extent during the training sessions, nor were these strategies as a teaching approach emphasised enough.

"I would like to have meaningful workshops, more practical, more practice, more hands-on, activities." (D2:13)

The presentation of the content of the workshops should be inclusive, interesting and interactive as well as a model of the type of teaching the school wishes to adopt. Certain strategies and philosophies cannot be expected in the classroom if they are not modelled throughout the life of the school. Moreover, the technique of modelling best practices is included in Leithwood’s (1994 in Leithwood et al, 1997:7) model of transformational leadership, a leadership strategy connected with organisational learning (Mulford, 2003).

A consequence of this oversight during the in-service programme was the inconsistent use of cooperative learning strategies by the teachers throughout the school as observed during stage 2 of the research which began 3 months later.
Inconsistent teaching approaches throughout the school:

Cooperative learning techniques were not in evidence in a KG2 class nor was the room set-up in a manner to facilitate group work. (O:KG)

Team work and a variety of teaching strategies in a high school class of very disruptive boys. (O:10/11)

Not much variety in teaching strategies evident in this class, no activity but the class did end with group work (O:3)

Data from the student group interviews also report inconsistencies in teaching methodology and in the way teachers interact with the students.

Students report enjoying the jigsaw activity and all group activities because ‘classes are more interesting when we don’t just sit.’ They also said they would like to do more cooperative learning techniques and activities. (SL:1)

“We do group work a lot, especially in English” (SL:2 – 5th grade).

Students from the middle school division, grades 6 and 8 claim not to be doing the jigsaw activity. (SL:2).

Teachers make classes interesting they are prepared, plan activities; we do group work, but not all of the teachers teach like this. (SU:4)

Are students aware of aspects of practice by their teachers that can be linked to the in-service programme? (KRQ 4.2)

Students report being treated with respect and feeling that their teachers have genuine concern for them. This revelation speaks to the theme of human rights.
Human rights:

The Vision Statement in the school’s brochure reads: will promote human rights...and human rights is also listed as a unique feature of the school. Given these two references it seems imperative that all members of the community be aware of human rights and how they manifest in the community. The nature of this type of initiative precludes any well-defined picture of what the principle looks like in practice. However, data were exposed that reveal students’ awareness that their rights are recognised and respected by the teaching staff.

The Human Rights document was used as the content for the cooperative learning workshop demonstrating the ‘jigsaw’ method. Data revealed that the concept was meaningful to most teachers by virtue of its newness. It also was revealed that the more experienced teachers realised that as a concept it is part of the school’s core values and therefore necessary to be educated in it and consciously practise it.

Principal addressing the entire faculty, “We have no bad students at this school. We have wonderful children here, who may sometimes do bad things or use bad judgment. Don’t be judgmental of the child.” (F1:15)

Students report that most teachers are fair and friendly (SU:1)

“They know us as individuals.” (SU:4)

“Some teachers aren’t as fair as other teachers.” The middle school students were the most negative on this point (SL:4).

The high school students, more than the intermediate level students, were aware of aspects of practise that can be linked to the in-service programme. For example, they claimed hands-on interactive work is a regular feature in their classes. Interestingly, it is
noted that the more experienced teachers teach in the high school division. Elementary students report that their English teachers as well as some individual teachers from other subjects use a lot of group activities and are respectful of them. However, their report creates an inconsistent picture in the elementary division. The intermediate level students alleged that they were not treated fairly by the majority of teachers and that their classes were not interesting or interactive.

Summary

The findings reported here reveal that a well-informed, effectual model of professional development does not exist at this school. The lack of knowledge of what constitutes meaningful professional development is evidenced throughout the findings in the discussions under all the research questions. Consequently, the in-service programme did not function as professional development despite the fact that the workshops were labelled as such.

Moreover, the deficient knowledge of professional development is substantiated through the limited use of a mentoring strategy and through the lack of embedded, inquiry based activities. On the other hand, the findings also reveal a school community that demonstrates awareness of different approaches to the teaching/learning process and the need to constantly develop and challenge the status quo.

The findings disclose the main obstacle to the full realisation of a type of authentic professional development strategy such as is being promoted in this thesis under the theme of organisational obstacles. This theme reveals that the school structure is not contributing to the evolution of a learning community. This structural obstacle creates a number of additional barriers that could be avoided if the hierarchical configuration was replaced with a configuration more conducive to a collaborative environment. These barriers are prohibiting the Principal's leadership style which includes transformational and distributive strategies, from being as influential as possible. System structures are absent that would promote shared decision-making. The concept of shared-decision
making has been introduced, see the 'gum chewing story' on pp. 94-95 and the evidence of the discipline policy committee, see table 4.5, days 2 and 3 specifically.

The findings also reveal teachers responding to the transformational strategies of the Principal, see the theme of teacher empowerment. However, this necessary ingredient for a learning community is not being fully realised. Yet, the idea of a learning community is precisely the concept required for the manifestation of collaborative, inquiry-driven professional development that is also embedded and sustained.

Finally, the findings also make known fundamental deficiencies in the school’s approach to professional learning. The concepts of reflection and follow-up/feedback are conspicuously missing. Without these vital components teachers are not focusing on the best way to implement instructional strategies or on the evaluation of their instructional practices as well as the instructional philosophy of the school. These ideas are critical for a quality professional development programme.
This chapter presents a discussion of the implications of the findings as they relate to the key research questions generating a deeper understanding of the findings and reflecting the picture that the findings create. The main purpose of this research was to determine whether or not the traditional two-week in-service agenda widely practised throughout Lebanon can function as professional development for teachers teaching in schools in Lebanon.

The conceptual framework for this study promotes a model of professional development that propels a teacher to adopt a conviction of lifelong learning that results in an investigation of perspective and view of teaching. The findings of this study demonstrate that organisational characteristics in which the school operates determine the success of the model of professional development. Therefore, the findings reported in the previous chapter craft a picture of professional development that places the onus on the management of the initiative.

What do senior staff perceive as the purpose of the school’s professional development programme? (KRQ 1)

A lack of definition of the concept of professional development throughout the senior administration had influence over this school’s professional development programme (pp. 98-99). There existed a variety of opinions as to what professional development is and how it should be practised (p. 99). Lack of a shared vision and understanding of professional development among the line management had a negative impact on the teachers’ professional development, especially given that members of the line management are in a prominent position to influence teaching and learning (Earley, 2004).
Some of the line management viewed professional development as a curative measure or articulated a point of view that professional development is outside workshops (p. 99). This thinking is contrary to recent research which promotes the benefits of job-embedded, practical inquiry whose purpose is growth and learning (Wiggins & McTighe, 2006; Darling-Hammond, 2005; Burbank & Kauchak, 2003; Richardson, 2003; Guskey, 2000). Workshops removed from the classroom context are not an effective means of initiating and sustaining change (DuFour and Berkey, 1995; Sykes, 1996; Garet et al, 2001; Bubb, 2005), unless they can occur during the school day and be incorporated into the daily routine (see Walsh & Gamage, 2003). None of the line management expressed a systematic strategy to satisfy this aspect of their job description. Rather, all articulated a serendipitous approach lacking in design.

Specifically, mentoring relationships were initiated to address what senior management perceived as deficiencies (p. 99). In several instances more than one director assigned teachers with classroom management difficulties to a mentor teacher in an effort to remediate the situation (D3, D4). This deficit correction strategy is criticized in the literature, undermining the potential benefits of the mentoring process (Little, 1993; Hixson and Tinzmann, 1990; Sandholtz, 2002; Carter & Francis, 2000).

Mentoring is a practical, transparent tactic which can provide newness of content for both the mentor and the mentee (Bolam & McMahon, 1995; Bush et al., 1996; Carter & Francis, 2000; Guskey, 2000). These characteristics meet the criteria the teachers in this study revealed as essential for meaningful professional development (p. 104; pp. 105-108). Moreover, the hierarchical characteristic of a mentoring relationship is exaggerated when it is used to address a skill deficit compromising a successful mentoring experience (Bush et al., 1996; Bolam & McMahon, 1995; Mathews, 2003). Some research reports that separation of mentoring and supervision roles contributes to successful mentoring exercises (NSW DET, 2002; Awaya, 2003) but directors and supervisory teachers were the mentor of choice at this school (p. 99). Mentoring as practised at this school fails to be a constructivist learning strategy.
The varying views of the line management towards professional development prohibit a consensus as to what professional development constitutes and how to go about it even though the responsibility for teachers’ professional development is explicitly stated in the job description document authored by the line management. It is a leader function to create a shared vision that reflects the knowledge base of professional development (Spillane & Timperley, 2004; Earley, 2004; Harris, 2004; Hargreaves & Fink, 2003; Lumby, 1997; Senge, 1990). Through efficient management and the explication of beliefs and intentions of professional development the foundation for the organisational arrangements necessary to achieve them can be put into place (Bubb & Earley, 2005; Arbuckle, 1997).

Leadership strategies and organisational culture

With the focus on the management comes a spotlight on the leadership attributes and strategies of the senior management, especially the Principal. The findings reveal a principal with leadership characteristics (pp. 93-96) that research associates with the realisation of a learning organisation (Mulford, 2003; Harris, 2004; Hargreaves & Fink, 2003; Harris et al., 2003). This research says that when senior staff and teachers are involved in the core work of the school a learning community is more likely to evolve. The framework of professional development promoted in this thesis endorses the concept of a learning organisation as the scaffold upon which the model is realised.

The emphasis on whole staff consensus in the discipline policy formulation discussions, the consensus strived for in the handling of the first days of school (pp. 95-96) as well as the authoring of the job description document (p. 95) all indicate a transformational approach to leadership by encouraging participation of the teachers (Mulford, 2003; Bush, 2002; Leithwood et al., 1997). Furthermore, this Principal was seen to promote an atmosphere of caring and trust demonstrating a willingness to change practises in light of teachers’ wishes and understandings (F1-3, p. 96), qualities also associated with transformational leaders.
In addition, evidence suggests a distributive leadership approach at the principal level as he distributed authority for conceptualising the School Discipline Policy (pp. 94-95) and for control over workshop proceedings. The “Gum Story” (pp. 94-95) also reveals his intention to distribute power to the line management. Implicit in the structure of the training sessions was the Principal’s belief in the need for ownership of the process. By turning over responsibility for creating policy he forced the faculty to create and take ownership and responsibility.

Decentralisation of authority is linked to the development of a learning community where professional development can flourish. It has been reported that it is through transformational and distributive leadership attributes that a learning organisation manifests (Busher, 2005; Earley, 2004; Harris, 2004; Spillane & Timperley, 2004; Mulford, 2003; Hopkins et al., 1997; Busher & Saran, 1995; Senge, 1990). This case study illuminates the system obstacles that impede the transformation. Specifically, a hierarchical, bureaucratic structure was found to impede the vision and flow of information preventing a truly distributive leadership configuration from resulting.

The organisational structure of the target school is established on a traditional hierarchical and bureaucratic configuration juxtaposed on an educational philosophy progressive in nature (Table 1.1). One of the main barriers to the successful implementation of a learning community where progressive philosophy and methodology can flourish is the traditional school structure that prevails or perhaps the culture that structure nurtures (Roche, 2003; Arbuckle, 1997; Sergiovanni, 1996; Joyce & Calhoun, 1995; Dimmock, 2000). Importantly, no matter how well structured and conceived a professional development initiative may be its effectiveness will be limited unless it operates within a climate that enhances it (Bezzina & Camilleri, 2001; Middlewood, 1997).

The system processes of the target school adversely affected the flow of information and efforts at collaboration, (p. 101). Quick and Normore (2004) claim that too often the functions or life of the school follow the system-world of the school rather than the
system enlightening the life of the school. The Principal was under the impression that both line management and teachers had input into the professional development workshop content (P1:1). However, none of the line management or teachers seemed to have been aware of this. Obstructing communication prevents a bona fide collegial atmosphere from manifesting. Where needed, it is the task of the leader to "establish new practises and structures that will create the intended climate, culture and community of the school" (Quick and Normore, 2004: 342) and not be held back by structural characteristics that obstruct innovation (Joyce and Calhoun, 1995: 51; Harris, 2004).

**What do teachers perceive as important for professional development programmes?**

(KRQ 2)

The pre-test and post-test Surveys showed no change in teachers’ perceptions of the in-service topics over the course of the in-service programme (table 4.6) and this challenges the Principal’s contention that the in-service topics were informed by line management and teacher input (P1:1). Significantly, collaborative planning or the value of teacher input as an effective feature in the management of a professional development agenda is a recurring theme in research (Stoll et al., 2005; Sparks & Hirsh, 2000; Sandholtz, 1999; Hixson & Tinzmann, 1990; Burbank & Kauchak, 2003; Sisco, 1997).

This breakdown of communication could be a result of the bureaucratic procedures, related to a top-down structure framing the flow of information, such as the one evident at the target school (see Table 1.1; p. 100). This finding corroborates the influence of the school at the macro-level on individual teacher’s professional development, asserting that hierarchical, bureaucratic educational systems have a negative impact on professional development initiatives (Bezzina & Camilleri, 2001). An awareness of how the system serves the intentions must be explicit. Inference from the data suggests that at this school the system was adopted for habitual reasons and not for its merits in fostering and realising the school’s mission.
The findings also suggested a lack of commitment of the faculty to the in-service programme as evidenced by directors coming and going during the workshops and teachers bringing work to complete while listening to a speaker (pp. 114 & 115). Commitment to an initiative is often the result of teachers taking ownership of the initiative (Blase & Blase, 1994; Leithwood et al, 1997; Mulford, 2003). Distributing responsibility leads to a sense of ownership, collaboration and a connection to the professional development of teachers (Hargreaves & Fink, 2003; Earley, 2004; Harris, 2004).

Moreover, this same data suggests that teachers began the professional development sessions assuming they were competent and knowledgeable of all the intended objectives. Research consistently states that the primary role of a leader is to provide learning opportunities for all (Grodsky & Gamoran, 2003; Hargreaves & Fink, 2003; Lumby, 1997; Senge, 1990). Ultimately it is management’s task to provide content and strategies that would initiate and sustain teacher learning (Table 4.6 & pp. 104-108). The findings reveal themes that point to a failure of management to recognize the importance of practicality, newness of content and transparency in all aspects of professional development activities, as necessary for teachers’ growth. The lack of use of technology is a case in point and this emerged as a separate theme. (p. 115).

What is the teachers’ perception of how successful the in-service programme was managed? (KRQ 3)

Physical space and resources

Management must find ways to optimise available space and resources for the sustainable growth of teachers that is supported by all available resources (Hargreaves & Fink, 2003; Bush, 1997; Bolam, 2002; Bubb, 2005; Anderson, 2002). Data disclose that the in-service workshops were not designed with this obligation in mind (pp.113-114). Space limitations can be dealt with through the type of embedded, transparent models of professional development advocated in this thesis. Holding on to traditional
methodologies or ways of doing things without forethought given to optimal use of space serving the needs of the agenda will prevent the school from achieving the best possible outcome.

Sessions were held in an acoustically unfriendly room with the entire multidisciplinary group participating and learner-centred strategies and interactive methodologies were not utilised to an adequate extent (pp. 108 & 113). This liability contributed to the passive role imposed upon the teachers. The in-service schedule featured one-shot workshops on a variety of topics, (table 4.5). Research informs that principals must abandon an assortment of workshops and support ongoing, purposeful learning (Bubb, 2005; Grodsky & Gamaron, 2003; Cochran-Smith, 2003; Darling-Hammond, 2005; DuFour & Berkey, 1995); since teachers may find it difficult to implement ideas that are often conceptually and practically far removed from the classroom and from their prior experience (see Burbank & Kauchak, 2003; Cochran-Smith, 2003; Garet, et al., 2001).

The inconsistent and ineffective constructivist approaches used during the in-service programme resulted in the inconsistent use of constructivist approaches in the classroom. This link highlights the likelihood of a concept being remembered and embraced to the idea of modelling desired strategies and following up on intended objectives. The absence of the link impacted on the success of the in-service workshops serving as professional development (pp. 106-108; 118). Research has shown that modelling a desired teaching strategy is an effective means for teachers to keep pace with the constant changes and demands of the profession (Haberman, 2004; Crowther, 1998; Viadero, 1996). Without a modelling component workshops will be counter-productive in changing teachers’ views of teaching and consequently their practice (McCarthy & Riner, 1996; Joyce & Showers, 1982; Cochran-Smith, 2001).

Moreover, studies into adult instruction report that there must be a change in the role of the instructor as content giver to that of learning manager or facilitator with a commitment to individualising instruction whenever possible (Sisco, 1997). The role of learning manager was the intention of the Principal (see ‘gum chewing story’ p. 94).
However, data also revealed that the intention was not realised to advantage. Teachers played too passive a role during the in-service activities for the type of teaching methodology the in-service activities intended to impart (F5; F7).

Smaller groups organised along departmental lines or grade level (Grodsky and Gamoran, 2003; Busher, 2005; Busher & Saran, 1995) could have been used as a method of dealing with physical constraints. Collaborative professional development models utilise smaller groups (pp. 23-35). These strategies offer a way of coping with acoustically unfriendly space such as the target school's situation (p. 113). As the school year progressed, the elementary English department, as encouraged by the head of that department, successfully cultivated a collaborative sub community (p. 111). However, without a systematic approach or an intentional culture of this sort, this achievement was an isolated incident and independent of the in-service programme.

Had smaller groups been utilised during the in-service programme the strategy could have institutionalised the process of collaboration throughout the school year. The networks offer support in systematic and sustained ways (Burbank and Kauchak, 2003; Spillane & Timperley, 2004). Learning opportunities teachers encounter within networks allow teachers to adapt to their changing levels of knowledge, interests and enthusiasm (Holmes & Johns-Shepherd, 2006; Keiffer-Barone et al., 1999; Floden et al., 1995; Bubb, 2005; Hopkins et al., 1997; Bolam & McMahon, 1995). Capacity building networks were not instituted either within this school or within the sister school network. Systematic education reform cannot be rooted in a top-down, expert-driven belief (Wagner, 1998) and importantly this type of approach is contrary to constructivist philosophy.

Management also did not realise that a teacher's years of experience would prove to be related to the benefits and influence of the in-service workshops (pp. 104-105; Bubb & Earley, 2005). The less experience a teacher had the more those teachers got out of the in-service programme; whereas the experienced teachers in this study desired pedagogical understanding of the teaching methodologies. They wanted to explore the concept of cooperative learning more thoroughly, including variations and assessment strategies.
Adult learning theories say that content should be related to individuals’ experience and developmental stages (Smith, 1982 in Butler, 2001; Villegas-Reimers & Reimers, 2000; Bubb, 2005; Holmes & Johns-Shepherd, 2006).

Also, cultural barriers had some impact on the teaching practises desired by the school (pp. 101-103). The senior administration is aware of this phenomenon but believes that progress is being made in that area. However, it is still a factor in the lack of consistency of teaching practise and the realisation of a learning community (see Hargreaves, 1992; Guthrie, 1980; Sparks & Hirsh, 2000; Ho et al., 2001). Therefore, it is a management task to anticipate the needs of all the members of the faculty and find strategies to counteract any barriers in order for successful professional development to take place.

**Feedback for sustained learning**

Time limited the line management’s ability to guide, follow-up and expose teachers to compatible ideas (pp. 114-115). Moreover, as a result of the lack of comprehension of professional development on the part of the senior management (pp. 98-99), the critical criterion of consensus of vision was missing (Mulford, 2003; Leithwood et al., 1997).

Intended as a follow-up strategy the school practises an observation schedule whereby the heads of departments and directors observe teachers teach. This conventional, hierarchical means of evaluating teacher performance perpetuates a stifling, inhibiting organisational culture. This top down approach interferes with the practice of collaboration and ultimately to the realisation of a learning community. Showers and Joyce (1996) make a distinction between the type of coaching used for teacher evaluation and the type of coaching that is part of a professional development strategy.

Follow-up support is a critical element to the success of all professional development strategies (DuFour & Berkey, 1995; Hargreaves & Fink, 2003; Leithwood & Riehl, 2003; Kelly, 2003; Fullan, 1991; Bubb, 2005). It is a role of management to ensure all strategies
are implemented to advantage and to provide additional opportunities for teachers to get
together to continue to learn and to reinforce what was learnt at the initial workshop.

No evidence was uncovered that would suggest any follow-up procedures were instituted.
Furthermore, no collaborative strategies with built in feedback systems such as are
discussed in chapter two were implemented. Research has learnt that teachers who felt
supported in their ongoing learning and classroom practise were more committed and
effective than those who did not (Sandholtz, 2002; DuFour & Berkey, 1995; Fullan,
1991; Rosenholtz, 1989). Furthermore, outside workshops which are endorsed by most
members of the senior management at this school (p. 99) limit the benefits for a
professional community that school sponsored professional development activities would
provide (Grodsky & Gamoran, 2003; Cochran-Smith, 2001; Sparks & Hirsh, 2000)
precisely because the follow-up component is missing.

Data from the Survey disclose the teachers’ desire for internal and external networking
and collaboration (Table 4.6). For a school in the Lebanese context external input is an
important idea to move a school beyond current practice as a means of avoiding the
possibility of parochialism and insularity (Helsby, 1999; Carter & Francis, 2000;
Showers & Joyce, 1996; Hopkins et al., 1994) and assisting learning (King & Newmann,
2001; Hopkins & Reynolds, 2001). No use of networks or any kind of sub-group was
utilised during the in-service workshops. The full multi-disciplinary group was the norm
throughout. Research has also informed that professional development strategies that
involved networking outside the school context, providing opportunities for interaction
with professional peers is valued and cited as a benefit by teachers and professionals in
the field (Holmes & Johns-Shepherd, 2006; Stoll et al., 2006; Bubb, 2005; Hopkins &
Reynolds, 2001; Bolam & McMahon, 1995). Through this transparent course of action
the schools in this consortium would be obligated to make their mission and vision
evident and consistent.
Building capacity through reflection on practice

Management's responsibility to building an organisation's capacity also requires instituting features of reflection. Teachers at this school engage in some form of reflection on their work and performance in the classroom (pp. 111-112). However, for these teachers it is primarily a solitary experience, not systematic and mainly archival in nature. Research is being reported which asserts that teachers reflecting only on instructional practice does not bring about fundamental change (Sharp, 2003).

Reflection that builds capacity cannot be a product of a solitary effort but is more likely to occur through the construction of networks of collective thinking (Ruiz and Pares, 1997); and provision of a social forum for teachers' reflection (Zambo, 2005). For continuous learning to occur reflection should be supervised and featured in all models of professional development (Fullan, 1991).

A critical issue for managing professional development efforts is the provision of support in developing a practise of reflection that allows teachers to take the implicit aspects of practice to the explicit. Building teachers' capacity to adapt teaching to a learner-centred approach requires the analysis of teachers' conceptions and attitudes. It is teachers' deeply-rooted conceptions and attitudes toward teaching and the learning process that can obstruct the acquisition of the necessary capacity to teach to the individual and their special characteristics and learning styles (Cochran-Smith, 2003; Ho et. al., 2001; Stoll, 1999; Gagliardi, 1995). Moreover, reflection is a necessary component of a learning community where critically reflecting on the processes of organisational improvement and developing capacity from within is the norm (Stoll, 1999; Hill, et. al., 1995; Toliver, 1999; Little, 1989).

The management has not provided circumstances where critical reflection can occur (pp. 105-106; 111-112). It does not exist at the school in any kind of structured or supported way except for the preschool division. The preschool division exhibits the most open, collegial atmosphere in the school. It also has the smallest number of faculty which may
be a factor in this achievement. Weekly meetings are scheduled and centre around a sharing of information, research and websites of interest as well as collaborative discussion on the needs of particular students (p. 112). The high school division also demonstrates a sense of collegiality. Touring the high school area small groups of teachers were often observed discussing together but without the regular systematic schedule provided by management as in the preschool division (p. 112).

The intermediate and elementary divisions projected less of a collegial, sharing environment. There is evidence that some teachers in these divisions have achieved a mutually respectful relationship, especially the head of English and his subordinates (p. 111). The perceived atmosphere could be a result of the physical layout. Many teachers work between these two divisions and they are housed on two different levels creating a geographic barrier, whereas both the preschool and the high school divisions are self contained. However, with adjustments to schedules and implementation of peer observation or mentoring a collegial environment could result. Still, collegial collaboration without reflection of purpose is not likely to result in a collective commitment to specific curricular or instructional policies (Little, 1989).

Well documented in the literature as a necessary component of effective professional development (Darling-Hammond, 1998; Darling-Hammond & McLaughlin, 1995; Barth, 1997; Leithwood & Riehl, 2003; Fullan, 1991; Stoll, 1999; Harrison et al., 2005; Spilkova, 2001), reflection is a difficult concept to teach; rather occasions for teachers to reflect critically should be provided by management. There are instructional strategies that emphasise the social nature of the reflective process such as action research and lesson study strategies discussed in chapter two (Zeichner, 1994; Viadero, 2004). Professional development initiatives such as mentoring, and study groups also incorporate reflective practice as well as the strategy of networks (Holmes & Johns-Shepherd, 2006; Guskey, 2000; Viadero, 2004).

Networks as a professional development strategy have also been recommended for facilitating innovation (Hopkins & Reynolds, 2001). The vision that guides the
educational approach at this school requires teachers to rethink their own practise, to construct new classroom roles and teach in a way they may not have done before. Teachers of all ranges of experience in this study reported a desire to be observed by peers and to observe colleagues in the classroom (p. 106; T1; T2; T3; T4; D2). By adopting a participatory teaching methodology in the training sessions, the pedagogical strategy of critical reflection on the process would be a natural by-product.

**Does the in-service programme have an impact on the life of the school? (KRQ 4)**

Use of technology is an identifying characteristic of the school; it is mentioned in the Mission Statement and Vision Statement in the school's brochure as a vital component of the school's approach to education. Yet, technology did not figure into the professional development agenda either as a teaching tool or as the topic of a workshop. The surveys revealed that teachers began the in-service programme lacking in confidence in their technological ability and the surveys reveal that that did not change over the course of the programme (Table 4.6).

Consequently, this study supports the findings reported in O'Dwyer, et al. (2004: 19) that say among the conditions under which technology use is seen to increase are: the extent to which professional development focuses on technology integration, the variety of technology related professional development activities and technological capacity within the school. Persuasively, a school that aims to increase the use of technology should focus on technology integration as an integral part of their approach to professional development.

The same argument would hold true for a school that aims to embrace an educational philosophy contrary to the educational culture and tradition of the country in which the school operates. The target school in this study promotes a constructivist philosophy toward education (see School Brochure; pp. 97-98) which is compatible with the curricular reform advocated by the Lebanese Ministry of Education (Abouchedid, et al., 2002; Kisirwani & Parle, 1987). Also, some researchers think that the professional
development of teachers should be oriented to a constructivist approach rather than transmission oriented for the new tasks of teaching and learning (Cochran-Smith, 2001; Richardson, 2003; O’Dwyer, 2004).

Convincingly, research reports that constructivist-oriented teachers use computers in more varied ways with more technical expertise as well as use them frequently with students (Becker, et al. 2000:55 in O’Dwyer, et. al., 2004). Furthermore, school managers need to design procedures and strategies that help to ensure that an organisation has the people with the skills and knowledge required to achieve the goals of the organisation (Bubb & Earley, 2005; Bush, 1997). This management task was not met due to bureaucratic, inefficient system procedures (pp. 100-101). Significantly, the lack of technology integration at this school could also be a contributing factor to the incomplete transformation to a learning organisation (see Sallis & Jones, 2002).

At the same time, the data do make apparent a situation whereby a transformation is in progress (pp. 97-98; p. 119). A constructivist culture is promoted at the school which includes a multi-level curriculum whose purpose is to address the needs of all, a major tenet of constructivism (Cornett, 2003; Aaronson, 1978). The school was alive with visual displays substantiating activities as an integral part of the learning process (F10:2). However, data also argue that it is the management and system structures that are encumbering the total transformation at the case study site.

Significantly, the school has failed to define key concepts. The concept of technology is not defined in any of the school’s documentation nor was its meaning made explicit. Technology can in fact mean many things. Education technology can include anything from photocopy machines, film projectors, videos, televisions, overhead projectors as well as computers. Additionally, technology can be used for many purposes: to prepare lessons, using a word processor or the internet or to be used to deliver a lesson. Technology for student use is another area and could mean student use under teacher direction, or to be used in the creation of projects or for research. In order for technology
to play a role in the educational strategy of the school its use and purpose must be defined.

Summary

How the findings craft a model of professional development

The in-service professional development agenda as practised at the target school differed from the model proposed in this thesis in several significant ways. Convincingly, the findings reveal that in-service programmes cannot suffice as teachers' professional development because professional development must be an on-going, embedded process. Furthermore, to be an aspect of teachers' professional development the in-service programme must consist of certain elements:

- Practicality
- Transparency
- Newness of content
- Interactive methodology
- Reflection on practice
- Follow-up/feedback

Practicality

Research has indicated that professional development focused on subject matter and providing teachers with hands-on work as well as being integrated into their daily life is more likely to produce improved knowledge and skill (Garet, et. al., 2001). The findings from this study add support to this proposition, (pp. 104; 106). The in-service workshop on cooperative learning that used a hands-on methodology was the most meaningful, according to the data, and the only workshop remembered months later by all the teachers interviewed, either for the methodology or the content, and that can be linked to teachers' practice (p. 108).
Insufficiently, the professional development schedule at the target school did not incorporate any other workshop or activity that employed a strategy that allowed teachers to participate in a hands-on, practical manner. The strategies put forth in chapter two, lesson study, peer coaching or study groups, would have integrated a practical component. These strategies have been found to direct a shift in teaching philosophy from teaching as giving information to teaching as providing opportunities for students to build their own knowledge (Lewis, 2002; Burbank & Kauchak, 2003), which is the intention of the target school.

The professional learning strategy of mentoring also incorporates a practical element. In fact, this strategy, as discussed in chapter two, is a constructivist method containing several of the characteristics cited in this study as necessary for professional development to be successful. Specifically, the strategy naturally involves transparency along with a practical element and critically, follow-up and reflection (Brightman, 2005; Mathews, 2003; Bolam & McMahon, 1995; Bush et al., 1996; Toliver, 1999; McIntyre, 1988). The findings of this study reveal that the target school realises mentoring can be influential but does not understand the merits of the strategy and therefore, does not implement it properly (p. 99).

**Transparency**

Transparency of practise was not in evidence due to the way the workshops were structured. During the in-service programme the teachers were not always engaged, the large multi-disciplinary group was the norm throughout and information dissemination was primarily lecture-centric (see p.92).

Any type of collaborative strategy, such as was discussed in chapter two, was missing from the segment of the in-service programme labelled as professional development workshops. However, a study group was employed for the purpose of establishing a discipline policy earlier in the schedule, Table 4.5. Teachers collaborated on the formulation of this document. Although Guskey (2000) describes study groups as
involving the entire school in finding solutions to common problems, this large multi-disciplinary group faced problems as a result of its size and configuration. In fact, some research (see Ruiz & Pares, 1997) suggests that optimally the groups should be small in number to achieve cooperation and lessen the chance of conflict. Data revealed that beginning teachers were marginalised seemingly by choice (p. 96) and the large number of people made it difficult for all to be heard and consensus to be reached (F2 & F3).

The use of this study group demonstrated awareness on the part of the administration to adopt a model that cultivates embedded learning. Some researchers report that the use of collective participation is likely to have influence over teacher practice (Desimone et al., 2002) and that study groups are an effective means of bringing about changes in teacher behaviour (Crowther, 1998; Joyce et al., 1989). However, other research reports that participation has little effect on teachers’ instruction (Keiffer-Barone et al., 1999). Nevertheless, this same research has shown that teachers appear to grow professionally through study groups that are on-going by increasing awareness among teachers of a need to change what and how they are teaching. Additionally, they are an efficient way of providing follow-up. However, no data was uncovered that suggests that this study group was on-going and representative of continuous development.

Furthermore, no evidence was uncovered that revealed this school was tapping into their own natural resource in the form of their sister schools that would have supplied transparency of practice (p. 106). These four schools are all attempting a similar conversion to a constructivist philosophy, student-centred approach to education. Even though research has informed that teachers value opportunities for networking with their professional peers (Bolam & McMahon, 1995) and the teachers in this study expressed the same desire (D2, p. 106) no such plan was initiated.

**Newness of content**

Under this theme in chapter four it is reported that teachers with more experience did not find the workshops of value primarily because they lacked new or inspirational content.
Some of these teachers even decided not to attend some of the workshops insisting they had more pressing business (pp. 105; 115). On the other hand, teachers of less experience were more enthusiastic about attending all the workshops.

The emergence of this theme in this study reveals two important conclusions. First, newness of content is a necessary ingredient for meaningful professional development for teachers of all levels of experience. Second, incorporating newness of content will ensure that the needs of all teachers will be addressed.

**Interactive methodology**

Data uncovered a school aware of the value of a constructivist, student-centred approach to education in the current climate of reform (p. 97). Professional development workshops, during the two-week in-service programme, were designed with the intention of utilising cooperative learning strategies, Table 4.5. However, data revealed that the active listening workshop lacked role playing or interactive methodology (p. 108). Also, the group work planned for the workshop on the accreditation process was ineffectually executed (p. 93); and the workshop on first aid utilised the entire multi-disciplinary group, and included irrelevant material along with ineffectual, non-engaging methodology (p. 108; F:4 & F:5). Only the workshop devoted to the cooperative learning strategy called the 'jigsaw' was effectively carried out and resulted in being the one workshop remembered by all the interviewees later in the school year (p.107).

The framework for professional development initiatives must be philosophically consistent with the school’s organisational and improvement goals (Hixson & Tinsmann, 1990). The administration at the target school demonstrated understanding of this assertion as evidenced by the professional development agenda. However, the execution of the agenda suggests deficiencies in other areas that have profound influence over professional development initiatives. (This point is discussed thoroughly on pp.122-125)
Reflection on practice

Reflection on practice existed in a limited sense in this school community. Teachers practise some form of reflection but the exercise is primarily archival, rarely moving into an area that informs practice (p. 112). However, a portfolio system was in the process of being implemented at the target school. It could be argued that this is a form of reflection but it is still not a transparent strategy. Collaborative reflection requires a high degree of efficacy and transparency. The senior management expressed a desire for more formalised reflection on practice. However, to encourage reflective practice the structures need to be integrated into the professional development activities. (Zambo, 2005; Harrison, 2005).

Additionally, the findings explain that the in-service agenda cannot function as authentic professional development such as is being promoted in this thesis because it does not allow for teachers to progress and have their beliefs and value systems evolve (pp. 111-113). The act of reflection provides a necessary bridge between theory and practice (Willis, 2004). The teachers in this study revealed that they consider reflection to be a necessary part of their work (pp. 110-111). It is a primary finding of this study that it is management’s responsibility to provide opportunity for teachers to engage in critical reflection which will also provide opportunity for follow-up of desired stratagems. As discussed in chapter two, the first consideration of all managers is to place learning at the centre of all activities (Lumby, 1997).

Follow-up/feedback

An inherent obstacle exists for a school that promotes a progressive strategy to teaching. Teachers that these schools employ come from diverse backgrounds and approaches to teaching which contribute to their personal viewpoint. Logic would dictate that consistent and well-focused training and exposure be on-going in order to facilitate an approach to education that is likely far removed from personal experience. In a school where teachers are empowered in the classroom and encouraged to practise modern methodologies
insecurity often accompanies this academic freedom. The need to know that they are doing the right thing is real and this assurance comes through feedback and constructive criticism.

The traditional classroom observations, employed by the target school and conducted by a member of the line management, do not qualify as follow-up if not implemented with other means of transparency and feedback. The findings revealed that a follow-up component with all the necessary attributes for growth and reform was missing from the professional development strategy at this school. Intrinsic values are often not cultivated without proof of something’s worthwhileness or effectiveness (Cochran-Smith, 2003; Guskey, 1986). Its absence proved to be a critical deficiency in the successful realisation of the in-service programme as an aspect of professional development.

Conditions that support professional development

The findings made known that the organisational structure the school operates within and the ensuing culture it creates have impact on teachers’ professional learning (pp.125-126; Table 1.1). It has been proposed that genuine professional development must be initiated within a framework of a learning community. It has also been proposed that the aspects of practice that are considered fundamental to teachers’ professional development aid in the transformation of a school organisation into a learning community. Within this reciprocal framework teachers’ professional growth can flourish.

Data disclose a Principal who employs transformational and distributive leadership techniques. These two leadership strategies are instrumental to the realisation of a learning community by nurturing a collaborative environment which ultimately allows for authentic professional development to manifest. Data also suggest that at the target school these leadership attributes do not yield the full benefit of their potential due to the hierarchical management structure on which they are juxtaposed.

Cultural constraints prejudice some teachers’ viewpoints towards constructivist methodology and is one of several obstacles to effectively implementing the type of
teaching/learning environment the Principal envisions (pp. 101-103). Additionally, the Principal cited lack of follow-up on the part of senior management as a deterrent to implementation of desired teaching strategies. His awareness is a big step toward rectifying the situation. However, it is the finding of this study that perpetuating conventional and well-entrenched organisational structures and systems are at the heart of the problem of implementation and the ultimate obstacle.

It also became evident that a lack of an explicit understanding on the part of the management at this school of what professional development is and what its role should be has prevented and will continue to prevent authentic professional development from manifesting at this school. It is a very important finding of this study that all members of the management team must be cognisant of the explicit role of professional development in their community and how the strategies will be implemented if there is to be genuine job-embedded professional development. The responsibility for the unity of vision lies with the quality of the leadership (Earley, 1997).

It is the definitive finding of the study that the customary two-week in-service programme does not suffice as professional development. However, it can be a source of the professional development initiatives for the coming academic year. Concisely what are needed are the elements of reflection and follow-up and feedback guided by homogeneity of vision within a climate of continual collaboration supported by appropriate organisational structures and systems.
Chapter 6
Wrapping up the Learning

Statement of Main Findings

This chapter will summarise the main findings of the study under the four key research questions. The chapter will then explain the study's significance. The chapter will also discuss the limitations and recommendations that have surfaced through the process. The chapter and thesis end with a personal reflection on the research process.

The main purpose of this research study was to look at the current practice in Lebanon of in-service agendas during the two-week time period before the start of school. It was intended to see if the entrenched schedule supported teachers' professional learning. Also, the intention was to uncover the specific requirements and conditions that support the professional development of teachers in this context. As a result of the need to uncover the many facets that create the professional development agenda and influence its success a case study was designed around the following key research questions.

1. What does the senior staff perceive as the purpose of the school's professional development programme?
2. What do teachers perceive as important for inclusion in professional development sessions?
3. What is the teachers' perception of how successful the in-service programme was managed?
4. Does the in-service programme have an impact on the life of the school?

The conceptual framework crafted in chapter two takes into consideration three main ideas having significant influence over the professional development of teachers: the teachers, the system world in which they work, the principal and his leadership style and capacity. That discussion identified conditions that support professional development. This comprehensive framework served as a heuristic guide to the data collection process.
The same conceptual framework also provided guidance for the initial categorisation of the data. The conclusions drawn answer the four key research questions.

The first question inquired as to what the senior staff perceives as the purpose of the school’s professional development programme? The senior staff elucidated an opinion of professional development as primarily a remedial strategy; a strategy to call upon when teachers are deficient in a given area (p. 99). Additionally, senior line management understood communication among faculty and between faculty and research as professional development (p. 99). One director articulated the belief that outside workshops or study is professional development if the school asks the teacher to participate (D1:5).

The Principal, on the other hand, seemed to be aware of the benefits of professional development in general and some strategies in particular, for example, mentoring. However, he neglected to institute procedures and systems to implement an effective agenda. Importantly, he was not aware of the senior management’s views of what constitutes professional development and their diversity of opinion.

The second key research question asked what the teachers perceive as important for inclusion in professional development sessions. This research question provided an abundance of data that revealed several key themes (Table 4.4 & pp. 104-108). Significantly, teachers expressed a desire to learn and grow through experimentation, exposure to new ideas, and exposure to constructive criticism. No teacher who was interviewed or spoken to at any time during the research process expressed satisfaction with the status quo.

The third research question asks how successfully the in-service programme was managed in the opinion of the teachers. The data that answer this question began to unravel the situation at the target school. It was through this research question that the issues of the organisational structure of the school and the corresponding system structures began to show their ineptitude for the professional development agenda.
Through both the quantitative data and qualitative data it became known that teachers had no significant input into the professional development agenda. Furthermore, the agenda did not meet their needs or desires; nor did the agenda serve to propel the teachers to higher levels of awareness or ability.

The final key research question looked at the professional development programme's impact on the life of the school. The answer to this question is inconclusive. It was perceived that the observation of teachers in the classroom could have been compromised by the teachers knowing in advance that they would be observed. Also, an observational inference was made while talking with the older student group especially. These students strongly appreciated the fact that their teachers were nice to them and respected them as people and therefore were hesitant to express anything that could be construed as negative. The younger student group, on the other hand, wanted to express all the things they did not like about school.

However, the data collected demonstrated the minimal impact this in-service programme had on the life of this school. Specifically, the lack of follow-up procedures and transparent reflection negated any long-term influence. Moreover, lack of any embedded strategies assured that the professional development agenda stopped at the end of the two-week in-service time period.

**Significance of the Study**

This study contributes to the literature on teachers’ professional development in a significant way and to teachers’ professional development in Lebanon in an influential and consequential way. Through the themes of practicality, transparency, interactive methodology, and newness of content a better understanding emerges of what practises should be embedded within professional development in order for the transfer of learning to occur. These themes also add to theory on teacher change which says that a critical
component to the acceptance of change is how change is introduced and understood by the teachers (Fullan, 1991; Hopkins et al, 1996).

In addition, the themes of teacher empowerment, constructivist learning philosophy and the distributive and transformational approaches to leadership provide the processes necessary for the transfer to take place. It is also better understood through this study that organisational structures are conditions that either support or impede the transfer process. This finding persuasively adds to theory reported by Sparks (1994) that says that individual learning and organisational changes should be addressed simultaneously and support each other or the gains in one may be cancelled by continuing problems in the other.

In an era of reform, such as the current situation in Lebanon, it is certainly worthwhile and timely to investigate the professional development strategies of teachers teaching in Lebanese schools. It is even more significant to do so at a school that claims to have the best trained teachers and teacher training programme. The target school of this study is aware of modern pedagogy and has a Principal whose leadership fosters teacher empowerment and teacher leadership. Yet, this school can still benefit from this research to move beyond current practice. Therefore, schools in Lebanon less endowed and less aware can certainly benefit from the insight this study provides.

The implications for in-service agendas at all schools in Lebanon are significant. All Lebanese schools are affected by the Ministry of Education’s Decree 12227 calling for a new framework of education throughout the country. The significance of this study specifically relates to private schools since the private school sector is largely self-managing and in a competitive climate with the proliferation of schools at this time (Abouchedid et al., 2002).

The findings suggest that as a professional development strategy, the two-week in-service schedule is a limited vision and has limited impact on school culture; a finding that corroborates existing research in this field (DuFour and Berkey, 1995; Fullan, 1993;
The findings of this study reveal that schools need to break the old mould of the two-week in-service period for professional development to transpire. School management must understand the difference between the acquisition of certain skills and professional development which addresses fundamental change and results in continuous growth and progress compatible with the school’s agenda. Clarity of purpose should serve to design the model of in-service programmes. The ultimate success of any in-service initiative requires that there must also be a bridge between the concepts and the strategies of use (Sparks & Hirsch, 2000).

The attempt to break away from the established way of conducting in-service training in Lebanon by instituting what the target school labelled as professional development workshops incorporating interactive methodology (Table 4.5) during the in-service programme, is in keeping with the progressive philosophy of this school. For a school attempting an educational approach that is grounded in more modern theories and research it becomes critical for the school to abandon established structures and procedures that may not serve the new vision.
However, the absence of collaborative and practical approaches such as the strategies discussed in chapter two had a major impact on the in-service programme as an aspect of professional development. Practicality through strategies closely aligned to the classroom eliminates the major limitation of traditional in-service models (Burbank and Kauchak, 2003). Schools must stop making the assumption that through exposure to skill and method development teachers’ classroom realities will change.

In addition, although data disclose the themes of teacher empowerment in evidence at this school and distributive and transformational leadership approaches practised by the Principal, the target school does not go far enough with organisational innovations. The administration composition is hierarchical and bureaucratic structures inform the flow of information thus impeding the realisation of a learning community throughout the school, (Table 1.1). The revelations from this study corroborate assertions made by Joyce and Calhoun, 1995; Wagner, 1998; Hopkins & Reynolds, 2001; Grodsky and Gamoran, 2003; Harris et al., 2003; Busher, 2005 that say a collaborative culture is at the heart of developing successful improvements in schooling.

This finding adds persuasively to the literature on learning communities and the significance of this conceptual framework for the complex cycle of continuous change. The work of many researchers promotes this concept as a way of providing organisational structures that would support continuous and collaborative learning. See the work of: Senge, 1990; Newman, 1994; Hopkins et al., 1994; Sergiovanni, 1996; Lumby, 1997; Loucks-Horsly & Matsumoto, 1999; Dimmock, 2000; Grodsky & Gamoran, 2003. This finding also adds to work reported by Guskey (1998) that stresses that organisational variables are the key to success or failure of any professional development effort. Policies and practises as well as organisational support must all be compatible with implementation efforts and the findings suggest this was not the case at the target school.

The existing systems also impact on the authentic professional development of the teachers at this school preventing true collaboration within and across subject and grade
levels from manifesting. This revelation should serve to inform in-service providers countrywide. The rigid timetable and adherence to established procedures must give way to more creative scheduling to meet the challenges facing teachers.

Fullan (1999: 66-67) asserts that re-culturing a school to affect teaching and learning is much more difficult than re-structuring. He explains that the curriculum development projects that inundated U.S. schools in the 1950s and 1960s did not take hold despite countless in-service workshops due to the fact that the strategies neglected the culture of the institutions that were host to the innovations. The target school could learn from this experience. The progressive school philosophy at the target school is juxtaposed on a hierarchical organisational structure inhibiting the re-culturing of the school.

The discussion of the findings (chapter 5) focused on the management of the initiative. This realisation adds credence to research that states teachers’ professional development is a core task of management (Bolam, 2002; Hargreaves & Fink, 2003; Leithwood & Riehl, 2003; Harris et al., 2003; Hopkins & MacGlichrist, 1998). The findings disclosed a lack of understanding and homogeneity throughout the line management with regard to professional development and the role it plays in this school’s life. The lack of a common vision for the school and universal strategy for executing the mission has to be cited as a fault of the Principal. In fact, all the deficiencies of any school process, the professional development initiative in this case, all lay squarely with the principal. It is a management task to develop systems and promote the desired educational philosophy through a variety of means. This conclusion adds to the research of Grodsky and Gamoran, 2003; Lumby, 1997; Hargreaves and Fink, 2003; Liethwood and Riehl, 2003; Kelly, 2003; Earley, 1997.

The emergent theme of transparency provides an important insight into teachers’ thinking not initially obvious. The revelation that the teachers in this study desire stimulation from new information as well as a desire to collaborate with colleagues within and outside of the school community with the intention of improving teaching practice is perhaps not commonly understood. Teachers appear to want to show each other their work and to
learn from each other. More experienced teachers can learn new, innovative approaches from beginning teachers and beginning teachers can benefit from the experienced.

This finding adds to the literature on networking. An educational community is comprised of sub-communities which can allow teachers to consider educational goals in terms of their classrooms or subject area enabling their professional learning to be an embedded, practical process. The finding adds to the work of Busher, 2005; Spillane and Timperley, 2004; Grodsky and Gameran, 2003; Desimone et al, 2002; Hopkins and Reynolds, 2001; Hood, 1997; Loucks-Horsely and Matsumoto 1999; Darling-Hammond and McLaughlin, 1995 with regard to networking as a means of professional growth.

In addition, the lack of follow-up on the strategies introduced during the in-service programme at this school add to the literature that claim that professional development without this aspect is ineffectual if not non-existent. See the work of: Fullan, 1991; Kelly, 2003; Hargreaves and Fink, 2003; Leithwood and Riehl, 2003; Walsh and Gamage, 2003. This study also corroborates studies by DuFour and Berkey (1995) and Bezzina and Camilleri, 2001 which concluded that a collection of professional development workshops was less successful than on-going, purposeful learning that is sustained. Mechanisms must be instituted as part of the school’s ‘flow of information’ systems to ensure the effective and consistent application of desired strategies and approaches. The mechanism of traditional observations conducted by management personnel at this school does not qualify as a professional development tactic. All systems should be conceived to facilitate teachers’ work and teachers’ professional growth.

In conclusion, the findings of this case study are significant simply because of their revelatory contribution. The insights this case study provides cannot be overstated and should be reflected upon and eventually play a role in the development of policy regarding the professional development of teachers in all Lebanese schools. Teacher change and development has been obscurely understood in Lebanon and with the country attempting educational reform it is of the highest priority. This study, hopefully, will
serve to ignite awareness and further research into this all important area of educational reform.

**Limitations of the Study**

The limitations of this study are essentially those that are inherent to any qualitative inquiry. Qualitative data is subjective to a degree (Stake, 1995; Cohen & Manion, 1994) and consequently the data often raise more questions than they answer. However, Stake (1995) maintains that this subjective quality should not be viewed as a failing. Rather the subjectivity is an essential element to the understanding of the investigation. This study incorporated a respectable concern for validating observations and routinely triangulating data as a way of nullifying the subjectivity.

Qualitative research and case study in particular is also limited in its ability to generalise. Stake (1995) also reports that concern exists that the results of case study inquiry are inconsequential due to the length of time they require and to the specificity of each case. However, Yin (2003) counters that concern by suggesting that a case study can be generalised to propositions if not to populations or universes. Hammersly (1996) also claims that it should not be assumed that generalisation from any sample to a finite population can be achieved with any research methodology.

Nevertheless, in the case of this study the ability to share the learning with a select population does exist in the other schools managed by the same educational management consultancy. Furthermore, there are additional schools that possess enough commonality with the target school to possibly benefit from this research. Finally, the findings from this study, through their close association with findings from other studies, can and should be used to inform professional development initiatives throughout the educational sector in Lebanon.

This case study focused on a two week in-service programme and continued its investigation throughout the course of a school year in order to ascertain the achievability
of in-service schedules in the Lebanese context as a means of professional development. The length of time conveyed by Stake as a concern becomes insignificant in this case. The findings are quite able to cast light on the study focus and be applicable to the target school as well as others.

Merriam (1998) counsels that writers of case study reports need to be aware of potential bias which is also linked to a lack of rigour in the collection, construction and analysis of the data. This case study applied considerable attention to maintaining thoroughness and trustworthiness of the data collection procedures. All data gathering instruments were piloted and all data were triangulated through multiple methods and multiple respondents resulting in a meticulously executed account thus negating the potential bias.

A limitation of observation protocols is the inherent threat to validity in the form of observer effects (Gay & Airasian, 2000, see p. 300). During the classroom observations it was perceived that my presence possibly had impact on the natural behaviour of the teachers. The intention of the observations was to note the presence or absence of activities as a pedagogical tool, a variety of teaching strategies as well as other ideas presented during the in-service programme. Most of the teachers had advanced notice that I would be coming. Therefore, it is possible that my presence influenced what was observed. Analysis of these data took this possibility into consideration.

In spite of the intrinsic limitations of this research methodology, it was determined that it was the research approach most appropriate for the questions being asked and the phenomenon to be investigated. The complex social units involved in this investigation were best explored through case study. Merriam (1998: 41) maintains that “case study has proven particularly useful for studying educational innovations” of which the embedded professional development of teachers is one such innovation.
Recommendations

Recommendations for practice

The target school exhibits awareness of some of the necessary ingredients for embedded professional development as proposed in this thesis. The target school also exhibits a collegial culture and a principal with some of the necessary leadership attributes to guide the transformation to a learning community. However, the target school has adopted a top-down management structure that does not serve nor cultivate these attributes.

It is the recommendation of this study to review the organisational structure and the corresponding job descriptions. It seems apparent that given the Principal’s desire to extend leadership roles (p. 95) that a more innovative, web-like organisational chart would better serve the transformation this school is attempting. Once a more collaborative management structure is in place, many of the deficiencies cited will be eliminated. With this transformation alone, the Principal’s goals will be more easily attained.

The Principal must also create structures that foster distributive leadership. Resource allocation, including the professional development agenda and the use of personnel to support this agenda are areas where leadership distribution is needed. This type of distribution also requires a new look at scheduling. The Principal must also support inquiry and professional learning by creating opportunities for teachers to grow and to make instructional decisions.

A further recommendation is to implement systems that provide for systematic follow-up and reflection. As noted earlier, the preschool division’s practise of weekly gatherings is a strategy that could and should be adopted by all divisions. Furthermore, all leaders in a position to implement professional development strategies must understand those strategies and implement them in the most influential way. For example, the strategy of
mentoring needs to be employed with a focus on growth and development and not on a teacher’s inadequacy.

Following are assertions generated from the findings that can aid in a clearer understanding of what constitutes professional development as it is being promoted in this thesis. Each assertion is followed by the page numbers where evidence for the assertion can be found:

1. Professional learning opportunities must be designed to include the needs of all faculty members, not just one segment of the faculty, for example, beginning teachers. (p. 104-105)
2. The pedagogy of a teacher training initiative that is in opposition to the pedagogy the training is intended to impart will be ineffectual. (pp. 108 & 118).
3. In-service workshops that have no built-in means of practicality, transparency and importantly follow-up mechanisms cannot be viewed as professional development strategies. (pp. 104, 105-106, 113).
4. Both formal workshops, in-house or within the school’s network, along with embedded processes should co-exist in the professional development strategy for teachers. (p. 106).
5. Continuous learning must be adequately supported with structures, scheduling, time allocation and resources for both administration and teachers. (pp. 113-115).
6. Knowledge about how adults learn best should serve as the basis for planning and implementing professional development. (pp. 104-108).
7. Embedded work related queries should inform the professional development strategies and be designed with the needs and goals of the school in mind as well as with a common understanding among all senior management. (pp. 98-99).
8. For a learning community to be fully realised collaboration within and across grade levels and subject matter must be encouraged and supported. (pp.105-106; 111-113).
9. Without a robust and unified knowledge of the learning process, any attempt at modifying teacher practice will be ineffectual. (pp. 97-99).
Provided the in-service agenda is managed effectively within an organisational framework that supports professional development, the in-service programme can serve as a catalyst for the professional development agenda for the academic year.

Further research required

It was beyond the intention of this study to pursue the link between ethnic culture and views on teaching. However, the findings have exposed this as an area to examine in the successful implementation of constructivist teaching strategies. Constructivism as an educational philosophy has yet to take hold globally and certainly in Lebanon despite the fact that the technological revolution is changing the way society and economy function and education will be affected as well (Lumby, 2001; Elkind, 2004). It falls to those who manage the teaching and learning process to supervise the acquisition of resources and the necessary training to guarantee their effective inclusion into the organisation and the teaching and learning process. Research is needed to inform constructivism in Lebanese schools and the role technology should play in schools.

The cultural bias suggested in the findings also influences teachers’ willingness to participate and collaborate. Without this willingness a move to a learning community is compromised. Establishment of a learning community is paramount to instituting a successful and embedded professional development initiative. Research needs to explore this phenomenon and inform the move to a learning community in a Lebanese context specifically.

The traditional management structure cultivated at the target school is an area that needs further exploration in all schools in Lebanon. It is a well-entrenched organisational structure that has its merits. Its main problem with regard to the framework of professional development promoted in this thesis is its tendency to encourage acquiescence and discourage empowerment and accountability. Recent research into distributive leadership practices (Harris, 2004; Earley, 2004) is beginning to inform that
this common model of management can be used to advantage with the right kind of leader at the helm. This is an area of research that could benefit Lebanese schools intending to re-culture their environments.

Finally, additional research should be designed to discover what artefacts or behavioural changes in teachers and students should be identified to provide evidence of learning transfer from professional development sessions. This should be done especially with regard to abstract concepts such as the human rights notion featured in the in-service programme evaluated in this study.

A final personal reflection

One of the most important lessons I learned as a researcher through conducting this study is that staying focused on the research's intent is indispensable to framing a successful study. It became apparent within the first few days, if not hours, that I was being exposed to a mammoth amount of data. The potential scope of what was happening was beyond my ability; more importantly, beyond the intention of the research design. The necessity of staying focused on the specific intentions of the research became very apparent.

As a way of staying focused, I employed two strategies. One, I took the research questions with me every time I visited the research site. I also kept them in view near my workstation. Second, I read and re-read the literature review many times to ensure that I was viewing the situation and the resulting data through the correct lens.

I entered the research process a bit tentative but now feel validated as a researcher. I learned that I like looking at data and figuring out what it means, or what it could possibly mean. I also began to reflect on the idea that whether the data is quantitative or qualitative the way the data is presented and analysed is a reflection of the researcher's personal interest or passion. Through this reflection I was surprised to learn that I am passionate about teachers' professional development.
Appendix A
Likert-scale Survey

Please answer all of the following questions as honestly as possible. Your participation is voluntary and greatly appreciated. All information gleaned from this document will be handled with complete confidentiality and all participants will remain anonymous.

1. Gender: (1) male _____; (2) female _____

2. Including this year, I have been a teacher for:
   1-3 years ____; 4-7 years ____; 8 - 11 years ____; 12 or more ____

3. I have taught at an SDC school (including this year):
   1 - 2 years ____; 3 - 5 years ____; 6 - 8 years ____

4. Please check the line that best describes the highest level of your education.
   (1) Doctorate degree ____
   (2) Master degree ____
   (3) Teaching Diploma + Bachelor degree ____
   (4) Bachelor degree ____
   (5) some university ____
   (6) teacher or vocational training after high school ____
   (7) high school diploma or Baccalaureate ____

5. Check which one applies to you:
   (1) part-time teacher, 20 hours per week or less ____
   (2) full-time teacher, more than 20 hours per week. ____

6. In which of the 4 cycles in the Lebanese curriculum do you teach? Check all that apply.
   Cycle 1, preschool KG 1&2, ____; Cycle 2, elementary grades 1-5 ____;
   Cycle 3, intermediate grades (6) 7-9 ____; Cycle 4, high school 10-12 ____

7. Please check the one area that best describes what you teach.
   ____ Languages/ Social Sciences  ____ classroom teacher
   ____ Sciences  ____ Physical Education/Health
   ____ Mathematics  ____ Art/Music/Drama
   ____ Learning Support  ____ Information Technology
Circle the number that most closely represents your knowledge of the following statements.

<table>
<thead>
<tr>
<th>Statement</th>
<th>4 = strongly agree; 3 = agree; 2 = somewhat; 1 = not at all</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I know basic first aid training.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>2. I know CPR</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>3. I have had previous training in first aid.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>4. I know what to do in a medical emergency at this school.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>5. I feel confident that I can take care of a student requiring first aid</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>6. I know what is expected of me by this administration concerning lesson</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>7. I know how to write grade appropriate lesson plans.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>8. I write lesson plans every day for each lesson I teach.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>9. I know how to write lesson plans for the subject I teach.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>10. I include written objectives in each lesson plan I prepare.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>11. I try very hard to make lessons interesting for the students.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>12. I try very hard to make lessons interesting for myself.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>13. I am familiar with various teaching strategies.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>14. I regularly employ a variety of teaching strategies in my lessons.</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>15. I think it is necessary for a teacher to have a wide repertoire of</td>
<td>4 3 2 1</td>
</tr>
<tr>
<td>teaching strategies.</td>
<td></td>
</tr>
</tbody>
</table>

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16. I think that different teaching strategies facilitate the learning of different subjects.  
17. I think that all teaching strategies can be successfully employed at any grade level.  
18. I know how to incorporate group work in my lessons.  
19. I utilize group work on a weekly, or more frequent, basis.  
20. I feel group work is necessary for meaningful learning to take place.  
21. I understand what active listening means.  
22. I think active listening is important for the learning process.  
23. I incorporate active listening tactics in my classroom such as paraphrasing and asking for clarification.  
24. I consider myself computer literate.  
25. I need more training on computer software to adequately utilize the computer in the classroom.  
26. I believe technology should be used as a tool in the classroom by the teacher and the students.  
27. I use technology as often as possible during my lessons.  
28. I have my students use the computer during class time several times a week.  
29. I have good time management skills.  
30. I am aware of tactics that will improve my ability to manage time.  
31. It is part of my job to facilitate good time management skills in my students.
32. I know how to recognize poor time management in myself.

33. I know how to recognize time management problems in other people.

34. I feel it is important to network with teachers from other schools.

35. I feel it is important to develop good relationships with teachers where I work.

Responses are strictly confidential and will be reported only in summary form in my thesis. THANK YOU for your cooperation!
Appendix B
Reliability Analysis – Scale (Alpha)
SPSS output file

Reliability coefficient

N of cases = 35.0
N of items = 35

Alpha - 0.7063

Factor Analysis
Correlation Matrix
Covariance Matrix

a. this matrix is not positive definite
a. This matrix is not positive definite

<table>
<thead>
<tr>
<th>Commonalities</th>
<th>Initial</th>
<th>Extraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>I know basic first aid training.</td>
<td>1.000</td>
<td>.918</td>
</tr>
<tr>
<td>I know CPR</td>
<td>1.000</td>
<td>.791</td>
</tr>
<tr>
<td>I have had previous training in first aid.</td>
<td>1.000</td>
<td>.855</td>
</tr>
<tr>
<td>I know what to do in a medical emergency at this school.</td>
<td>1.000</td>
<td>.846</td>
</tr>
<tr>
<td>I feel confident that I can take care of a student requiring first aid treatment.</td>
<td>1.000</td>
<td>.744</td>
</tr>
<tr>
<td>I know what is expected of me by this administration concerning lesson plan construction.</td>
<td>1.000</td>
<td>.665</td>
</tr>
<tr>
<td>I know how to write grade appropriate lesson plans.</td>
<td>1.000</td>
<td>.852</td>
</tr>
<tr>
<td>I write lesson plans every day for each lesson I teach.</td>
<td>1.000</td>
<td>.491</td>
</tr>
<tr>
<td>I know how to write lesson plans for the subject I teach.</td>
<td>1.000</td>
<td>.633</td>
</tr>
<tr>
<td>I include written objectives in each lesson plan I prepare.</td>
<td>1.000</td>
<td>.728</td>
</tr>
<tr>
<td>I try very hard to make lessons interesting for the students.</td>
<td>1.000</td>
<td>.654</td>
</tr>
<tr>
<td>I try very hard to make lessons interesting for myself.</td>
<td>1.000</td>
<td>.598</td>
</tr>
<tr>
<td>I am familiar with various teaching strategies.</td>
<td>1.000</td>
<td>.727</td>
</tr>
<tr>
<td>I regularly employ a variety of teaching strategies in my lessons.</td>
<td>1.000</td>
<td>.732</td>
</tr>
<tr>
<td>I think it is necessary for a teacher to have a wide repertoire of teaching strategies.</td>
<td>1.000</td>
<td>.767</td>
</tr>
<tr>
<td>I think that different teaching strategies facilitate the learning of different subjects.</td>
<td>1.000</td>
<td>.561</td>
</tr>
<tr>
<td>I think that all teaching strategies can be successfully employed at any grade level.</td>
<td>1.000</td>
<td>.530</td>
</tr>
<tr>
<td>I know how to incorporate group work in my lessons.</td>
<td>1.000</td>
<td>.543</td>
</tr>
<tr>
<td>I utilize group work on a weekly, or more frequent, basis.</td>
<td>1.000</td>
<td>.568</td>
</tr>
<tr>
<td>I feel group work is necessary for meaningful learning to take place.</td>
<td>1.000</td>
<td>.666</td>
</tr>
<tr>
<td>I understand what active listening means.</td>
<td>1.000</td>
<td>.708</td>
</tr>
<tr>
<td>I think active listening is important for the learning process.</td>
<td>1.000</td>
<td>.789</td>
</tr>
<tr>
<td>I incorporate active listening tactics in my classroom such as paraphrasing and asking for clarification.</td>
<td>1.000</td>
<td>.546</td>
</tr>
<tr>
<td>I consider myself computer literate.</td>
<td>1.000</td>
<td>.788</td>
</tr>
<tr>
<td>I need more training on computer software to adequately utilize the computer in the classroom.</td>
<td>1.000</td>
<td>.676</td>
</tr>
<tr>
<td>I believe technology should be used as a tool in the classroom by the teacher and the students.</td>
<td>1.000</td>
<td>.633</td>
</tr>
<tr>
<td>I use technology as often as possible during my lessons.</td>
<td>1.000</td>
<td>.705</td>
</tr>
<tr>
<td>I have my students use the computer during class time several times a week.</td>
<td>1.000</td>
<td>.521</td>
</tr>
<tr>
<td>I have good time management skills.</td>
<td>1.000</td>
<td>.772</td>
</tr>
<tr>
<td>I am aware of tactics that will improve my ability to manage time.</td>
<td>1.000</td>
<td>.590</td>
</tr>
<tr>
<td>It is part of my job to facilitate good time management skills in my students.</td>
<td>1.000</td>
<td>.688</td>
</tr>
<tr>
<td>I know how to recognize poor time management in myself.</td>
<td>1.000</td>
<td>.725</td>
</tr>
<tr>
<td>I know how to recognize time management problems in other people.</td>
<td>1.000</td>
<td>.780</td>
</tr>
<tr>
<td>I feel it is important to network with teachers from other schools.</td>
<td>1.000</td>
<td>.369</td>
</tr>
<tr>
<td>I feel it is important to develop good relationships with teachers where I work.</td>
<td>1.000</td>
<td>.688</td>
</tr>
</tbody>
</table>

Extraction Method: Principal Component Analysis
Appendix C
Semi-structured interview protocols

Interview protocol for the Principal

1. How and why did you choose the objectives for the two-week in-service training?
   - did any of the directors and/or faculty have any input?

2. You have initiated a couple of professional development strategies this year, the research cubbies in the faculty lounge and a mentoring programme. Can you tell me what your goals are in implementing these programmes?
   - are you satisfied with their progress, why or why not
   - which of the two strategies has proven more successful in terms of accomplishing the above stated goals, why?

3. What, if any, accountability measures have been put into place to ensure that professional development strategies are in fact being employed?

4. Do you observe the teachers in the classroom, or rely on the Directors?
   - what are you or the Directors looking for during the observations? How is the criteria established?

5. Do you view the in-service program and the professional development of your teachers as one and the same? Please describe
   - can you identify any obstacles that inhibit the success and even the implementation of professional development initiatives?

6. What is your overall vision of this school and what role does professional development play in that vision.

7. Is there anything else you’d like to add concerning the role of professional development in the life of a teacher as well as the life of a school?

Interview protocol for Directors

1. How do you support professional development of your teachers? (see #8 in job description document)
2. What is included in the teachers' portfolios?
   - Can I see the portfolios of the teachers?
   - Do the teachers have access to their own portfolio?

3. How many times do you observe your teachers and what are you looking for during the observation?

4. Have any of your teachers gone to seminars and reported back to the faculty?
   - How do you try to promote this type of activity?
   - How are the sharing seminars scheduled? How is attendance?

5. Regarding the first two weeks of in-service training, did you have any input into the content, goals and objective?
   - if no, do you think it is necessary to have a say, why or why not?
   - If yes, how was your input solicited?
   - do you agree with the content that was emphasized?
   - What would you have included that was not included?
   - What comments do you have regarding the format of the sessions?

Interview protocol for teachers

Time of interview:
Date:
Place:
Interviewee (name & gender):
Position of interviewee (subject/grade level):
How many years a teacher:
How many years at this school (or a sister school):

1. Regarding the two week in-service session, how much information was new to you?
   - use my list of the in-service content to prompt if needed
   - if anything new – were you able to master or grasp the concept in the time allotted.
   - How much experience and/or training in first aid have you had prior to this in-service program? Do you think it is something that every teacher should have knowledge? Have you had to use it this year?

2. What was the most valuable piece of information you obtained from those workshops?
3. Do you feel the content of the in-service sessions was presented in a meaningful way?
   - other possible strategies
   - environment we were in; is there a better place in the school?

4. Are you able to link the strategies and knowledge you gained through the sessions to your classroom practise? Why or why not?

5. How much time, per day, week or month, are you able to find for personal reflection or group reflection with your colleagues (pertaining to your work)?
   - is this amount of time sufficient? Why or why not.
   - Do you think reflection is a necessary part of your work?
   - How could the school aid you in finding the time and the way to reflect?

6. Do you get the impression that professional development is an important part of your career at this school?
   - does your schedule provide time?
   - Do you feel you can experiment with new ideas in your class?
   - Does your Director or Principal encourage your development?
   - What about fellow teachers? Is there an open or closed atmosphere when it comes to sharing ideas and strategies?

7. Are you aware of the mentoring program, what it is and that it was established for the first-year teachers at this school?
   - if yes, are you participating as a mentor? describe the program if it’s beneficial
   - if yes, do you know anyone who is a mentor/mentee? Do you know what they think of the program?
   - If NO, did you know about it or that the programme existed?
   - If NO, do you think it would be a good idea?
   - Would you like to be a mentor?

8. If you could establish the goals/objectives for the two-week in-service session, what would they be?

9. Would you like to add anything else?
Appendix D

Present/Absent Classroom Observation protocol utilizing spot checks

Grade level: __________________ Subject being taught: ______________
Date of observation: ________________ Number of students: ___________
Lesson start time: ________________ Lesson end time: ___________

- Classroom climate/learning environment
  _____ enough computers and operational
  _____ positive environment that promotes pupil involvement and cooperation
  _____ efficient classroom routines
  _____ stimulating and appropriate decor
  _____ effective discipline strategies, mindful of human rights per professional
development sessions
  _____ physical environment conducive to cooperative learning (not too many desks,
space to move, etc.)
  _____ educational materials/books present

- Teacher performance in selected areas that denote student-centred strategies,
teacher as facilitator, cooperative learning strategies.
  _____ orderly, sequential learning  _____ providing examples
  _____ guided practice  _____ independent practice
  _____ variety of activities (fun activities
    as stressed in the in-service sessions.)  _____ questions and answers
  _____ material prepared and ready for use  _____ small group work
  _____ opportunities for hands-on learning  _____ explicit instructions
  _____ periodically checking for understanding  _____ works with individuals
  _____ demonstration
  _____ other   ____________________________

- Use of technology in the classroom
  _____ teacher uses the computer as a teaching aid
  _____ each student has opportunity to work at a computer _____ how long?
  _____ meaningful programs/relevant to subject matter
Appendix E
Analysis of the Qualitative Data

Analysis of the qualitative data began immediately with inferences and impressions being recorded in the field journal as they occurred in the field. After each day of observation the notes from the day were transcribed using Microsoft Word. These notes were then stored in a binder and referred to on a daily basis making notes in the margins as ideas emerged and coding data that referred to themes. After two or three days data were summarised on *Content Summary Sheets* developed from models found in Miles and Huberman (1994).

The data generated from interviews during stage two of the study were first summarised under the interview questions. See the example matrix below. Matrices were also created coding common and divergent ideas from the transcripts after sorting through them many times. These matrices served to reduce the data to the relevant bits and showed commonality and divergences of answers. The matrices were constantly referred to as other data began coming in.

<table>
<thead>
<tr>
<th>MOST VALUABLE CONTENT OF THE IN-SERVICE WORKSHOPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1:1 - everything; I enjoyed being the student and getting ideas from the workshops</td>
</tr>
<tr>
<td>T2:3 - the group work even though it didn’t go far enough.</td>
</tr>
<tr>
<td>T3:2 - all of mild value but the Human Rights material of particular value</td>
</tr>
<tr>
<td>T4:4 - some ideas that emerged during the First Aid training but on a personal level not specific to school.</td>
</tr>
<tr>
<td>D4:5 - the cooperative learning for the French and Arabic to be more with the mission and vision of the school. We need more and more practical to the subject matter.</td>
</tr>
<tr>
<td>D3:7 - I think something has benefit when it is interactive rather than a person standing and lecturing.</td>
</tr>
<tr>
<td>F8:6 - “The jigsaw exercise was the best day because of the way we did it” (group of 4 teachers)</td>
</tr>
</tbody>
</table>

A constant comparative method of all data sources allowed themes to emerge. The technique extended to cross tabulating variables with data. This technique exposed themes such as *beginning teachers versus experienced teachers* and *cultural barriers*. As the themes surfaced, data from all data gathering techniques were compared and matrices

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were developed. See an example below. If a theme could not be supported by triangulated data, it was rejected.

<table>
<thead>
<tr>
<th>BEGGINING TEACHERS REALISED MORE BENEFIT THAN EXPERIENCED</th>
</tr>
</thead>
<tbody>
<tr>
<td>T1:4 (beg. Teacher) nothing new but I was interested in everything. I thought like a student, I had the interest of a student and the workshops stimulated my creativity</td>
</tr>
<tr>
<td>T2:5 (intermediate) the in-service workshops were missing in the 'whys' and 'wherefores', even the better workshops were missing the follow-up component, “what did I learn?” “Why are we doing this?”</td>
</tr>
<tr>
<td>T3:2 (exp.) workshops have to be brought down to smaller groups and preferably subject groups. The large interdisciplinary group is ineffective.</td>
</tr>
<tr>
<td>T4:2 (exp) much more practice is needed and the concepts need to be related to the classroom and the specific context.</td>
</tr>
<tr>
<td>D1:8 (exp) The active listening could have benefited from role-playing</td>
</tr>
<tr>
<td>D2 (exp) I have done all these things so many times before; I have more important things to be doing.</td>
</tr>
<tr>
<td>O:2 &amp; 4 the younger, beginning teachers diligently and consciously trying to implement the ideas presented during the in-service.</td>
</tr>
<tr>
<td>O:3 of a very experienced teacher in the elementary division saw an efficient classroom routine, a variety of teaching strategies including group work but no activity during the lesson.</td>
</tr>
<tr>
<td>O:2 In a second year teacher’s classroom, observation data revealed active listening techniques, time management strategies, and group work</td>
</tr>
<tr>
<td>O:1 In a second year teacher’s class the lesson began with an activity and proceeded with a variety of teaching strategies and critical thinking questions.</td>
</tr>
<tr>
<td>O:5 “The sessions had a big influence on me and I’m trying to incorporate the ideas.”</td>
</tr>
<tr>
<td>F3:13 the young female teachers are very vocal when it comes to clarifying procedure and logistics but they seem to want to be told what to do and how to do it.</td>
</tr>
<tr>
<td>F8:1 Directors (experienced teachers) as well as some other teachers are observed coming and going throughout the sessions.</td>
</tr>
</tbody>
</table>

All data sources, field journal, interview transcripts, observation schedules, survey data, and documents were sorted through, reviewed iteratively many times, and cut and pasted to discover any data that could contribute to the emerging themes. This constant comparative method generated themes through a grounded approach (Glaser, & Strauss, 1967). The final interpretation relies heavily on connections, common aspects and linkages among the data. In the final analysis only themes that have been triangulated through a constant comparative method and have reached saturation of all retrieved data are included. The iterations among data collection and data interpretation continued until the analysis was well developed.
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