

LEBANESE AMERICAN UNIVERSITY

TEACHERS' ATTITUDES TOWARDS PROFESSIONAL  
DEVELOPMENT ACTIVITIES AND THEIR IMPACT ON  
THEIR PRACTICES AND MOTIVATION: A CASE STUDY

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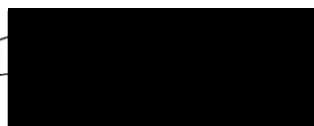
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# Teachers' attitudes towards professional development activities and their impact on their practices and motivation: A Case study

Zeina Ali Hamdan

## Abstract

The backbone of any successful and effective educational organization is a high-quality teaching staff. It follows that a well-designed professional development (PD) program is needed for preparing competent teachers. This case study, which took place in School "X", used quantitative and qualitative research method and data analysis to find answers to the following research questions: "What are the attitudes of the secondary and middle school teachers at "School X" regarding the effect of the school's professional development programs on the quality of their teaching practices and motivation? How do teachers' attitudes compare (Science/Non-science; Middle/ Secondary; Female/ Male) regarding professional development? What are teachers' recommendations to improve the quality of the professional development program provided by their school?"

Questionnaires, focus group interviews and observations were conducted to collect and triangulate data results. Participants included all middle and secondary teachers of the Beirut Campus of school X (160 teachers), while each interview session was conducted with five (in the case of middle school teachers) or six teachers (in the case of secondary school teachers), representing different departments. Finally, the observation sessions targeted the in-service day (academic and recreational parts), SPEC (Student centered problem based experiential and collaborative learning), Study groups, and Outreach. It was found that teachers regard professional development program in their school as

beneficial in general but could be enhanced further. Although the attitude of novice teachers towards professional development is more favorable than that of veteran teachers, findings show that the overall teachers' attitude towards professional development is a negative one. Modifications and suggestions to improve the quality of the professional development activities at school X were proposed by the teachers. In conclusion, School X offers a prosperous professional development program, but its fruitfulness will remain limited unless a more systematic organizational structure is created.

Keywords: professional development, Lebanon, teacher's attitudes, motivation, schools

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## Chapter One

### Introduction

One of the recent trends in the field of educational management is the emphasis put on school effectiveness and improvement. Hopkins (1998) explains school improvement as an approach that makes schools a better place for students to learn and accentuate their academic outcomes. Although there has not been consensus on one perspective of school effectiveness, a recent definition associates school effectiveness with the performance of the school as an organizational unit (Scheerens, 2000). According to Perie and Baker (1997) and Nabhani and Bahous (2010), the backbone of any successful and effective educational organization is a high-quality teaching staff. It follows that a well designed professional development (PD) program is indispensable for preparing competent teachers.

Hustler, McNamara, Jarvis, Londra, & Campbell (2003) define continuous professional development (CPD) as ‘activities that increase the skills, knowledge and understanding of teachers, and their effectiveness in schools and also promotes continuous reflection and re-examination of professional learning’ (p.1). Nowadays, the term CPD is a general term that includes mandatory and/or self-chosen activities that range from formal activities and in-school training (workshops, mentoring programs, in-service training etc...) to informal and/or off-campus activities (following up on recent trends, attending study groups, joining a university to do a Master Degree or a certain Diploma) (Nabhani & Bahous, 2010).

Since Professional Development is an essential component of school effectiveness and improvement (Muijs, Day, Harris & Lindsay, 1999), this study aims to elicit teachers’ attitudes to professional development as provided for and guided by their school

*Profile of School X*

The school site of this study is a well established school, famous in the community for its effectiveness and stakeholders. “School X” is a private school that was established in 1891 in Turkey and moved to Beirut in 1936 at the invitation of the American University of Beirut. The School offers its educational services in two campuses, the main one in Beirut and the other in Meten. The Beirut campus includes pre, elementary, middle, and secondary school divisions, while the Meten campus is home to 800 students in grades pre-K through middle school. Each division at School “X” has its own building, space, teachers, staff and administration.

School “X” offers challenging academic programs from preschool to secondary school. Students learn English, French and Arabic, and most of them are trilingual. At the secondary level students enroll in one of four educational systems: the Lebanese Baccalaureate, the French Baccalaureate, the College Preparatory Program, or the International Baccalaureate. The school also offers distinguished programs in the fields of sports, arts, music, counseling and guidance, and community service.

School “X”’s students and teachers come from all over Lebanon, as well as from other countries in the Middle East and around the world. The school, that follows a non-sectarian admissions policy, admits students without regard to race, religion, color, gender, nationality, or political affiliation. School “X” regards its mission as an assiduous attempt to prepare students to become critical thinkers and active citizens in society, who endorse values of justice, tolerance, and respect for others (School X’s website).

In order to preserve the high standard of its educational programs, advance the knowledge and skills of its staff, enhance teachers’ effectiveness and promote their professional growth, School X has created an Educational Resource Center (ERC) that organizes a wide-range of professional development activities every year. Certain activities are planned by School

X's teachers while others are designed by experts from local universities or consultants from abroad. In general the activities provided by the ERC are divided into internal activities held on campus of the school (Information Technology workshops, Outreach program, study groups, accreditation project, in-service days, fundamental strategies workshops, and curriculum writing project) and external activities that are international opportunities for school X's teachers and staff (exchange program, International Baccalaureate workshops, and international conferences). It is important to note that there are no explicit signs of formal needs assessment done by the ERC before planning PD for the year.

Besides planning systematic professional programs and activities, the ERC is responsible for the collection and upholding of a complete library that contains educational resources of various media types (school X's website).

#### *Purpose of the study*

The purpose of this study is to explore teachers' attitudes towards the professional development (PD) activities offered at school X and to investigate the influence of teachers' attitudes on their practices and motivation. Teachers' attitudes will be also used to identify the strengths and weaknesses of the PD program and to suggest modifications that are expected to enhance its productivity. The study, that took place in the Beirut campus of School "X", seeks responses for the following research questions:

"What are the attitudes of the secondary and middle school teachers at "School X" regarding the effect of the school's professional development programs on the quality of their teaching practices and motivation? How do the attitudes of teachers with different profiles (discipline, grade level, and years of experience) compare? What are teachers' recommendations to improve the quality of the professional development program provided by their school?"

*Rationale*

The researcher decided to conduct the study specifically in School X for several reasons. First, this school is a private Lebanese school with a reputed professional development program that is flexible, regular, diverse, and not restricted to nationwide training organized by the Ministry of Education. In addition, being a teacher in school X made it easier for the researcher to get the administration's permission to collect data and gather information. Finally, being one of the top schools in Lebanon, School X provides its teachers and the teachers of the community with a well planned and reputed professional development program. Because of school X's experience in many professional development domains, the diversity and resourcefulness of the programs offered, and the convenience and ease of access to research data, this school was chosen to be the school under study.

Beyond all the reasons introduced above, another factor that makes this study of special importance is that it investigates an area that has not been targeted before in school X. Despite the variety of its PD programs, no structured attempts have been made to investigate the teachers' views of the impact of any of the PD activities on them as professionals. In order to gain a better understanding of the effect of school X's PD program on teachers, the subjects themselves were asked about their attitudes and reactions (Hustler, McNamara, Jarvis, Londra and Campbell, 2003; Fraenkel & Wallen, 2008). Asking the subjects themselves about their own experience is important since views of those closely involved in a program help clarify matters that are not clear to observers (Nabhani & Bahous, 2010).

This study will contribute knowledge of teachers' attitudes about PD to administrators who wish to improve their schools by enhancing faculty's teaching methods and students learning. The highest gains of the study are achieved if the data analysis enables the researcher to

identify the most effective PD approaches adopted by the school. Offering School X recommendations in this regard, would be valuable to the school's future plans. Results of the study would also encourage the researcher to propose recommendations for all schools that share with School X similar educational perspectives, philosophies and aspirations. Since the aim of educators is to present students with good education, any findings that support this improvement would be of importance and interest to school administrators who wish to have leading schools. Moreover, exploring teachers' attitudes concerning professional development is necessary, for teachers are the front-line personnel who are entrusted to advance students' learning. Benefits of PD depend on teachers' willingness to implement new pedagogical approaches; indeed, only positive attitudes enhance voluntary translation of PD learning into practice, while lack of conviction results in reluctance. So in order to maximize the benefits from the PD program, teachers' attitudes need to be studied and their recommendations need to be taken into consideration.

### *Hypotheses*

As a teacher at School X, who has been enrolled in some professional development activities, the researcher can safely hypothesize that School X's teachers think that the PD programs contribute to the quality of their teaching practices and motivation. As stated in the literature, an attitude has three components: cognitive, affective, and behavioral (Dwyer, 1993). In this matter, the researcher hypothesizes that at the cognitive level, all teachers ought to conceptualize the value of professional development and its potentials. At the affective level, the researcher expects that the majority of teachers do not exhibit high levels of motivation because of the extra professional obligations that are usually associated with PD enrollments. Since the behavioral component of attitude is highly influenced by the affective component, the researcher

doesn't have high expectations regarding the application of the learned methods in the classrooms by the teachers.

Another hypothesis is that, compared to middle school teachers, secondary teachers tend to show less commitment to PD potentials and applications. 'Personal traits' usually encountered in Secondary teachers (ego, connectedness to subject matter, focus on content) are responsible for this tendency. Because of the same personal traits, non-science teachers will show more enthusiasm than science teachers when it comes to the involvement in the PD activities. The partition between science and non-science teachers is based on the fact that the researcher is a science teacher and thus is interested in this distribution.

Furthermore, the researcher regards the years of experience to be an essential determinant of teachers' attitudes regarding PD. Teachers with less than 5 years of experience at school X are expected to acquire a positive attitude towards PD, because they regard it as catalyst for professional growth. On the other hand, the researcher thinks that teachers with more than 5 years of experience are in their burn out stage of their career, hence tending to be less enthusiastic about PD activities.

Finally, the researcher anticipates that the recommendations that will be provided by the teachers in both schools (middle and secondary) will be mostly associated with motivational factors like rewards, time, and recognition.

#### *Operational definition*

According to Triandis (1971), and Barros and Elia (1998), "an attitude is an idea charged with emotions which predisposes a class of actions to a particular class of social situations" (p.2). This definition suggests that an attitude has three components: a cognitive component (the idea), an affective component (emotion), and a behavioral component (the action) (Dwyer, 1993). In

this study, teachers' attitudes are chosen to be investigated by virtue of these three components. A comprehensive analysis of teachers' ideas (cognitive component) and emotions (affective component) regarding the professional development activities are believed to reflect on their motivation and teaching practices. Motivation acquires a special importance in this study, because it is an internal state or condition that triggers a certain behavior. Motivational aspects in this study were addressed in the questionnaire and interviews. For professional development to have the sought for influence, it must be planned to fuel teachers' motivation.

All the information presented in the following section is derived from the pamphlets and brochures that are prepared by the ERC to describe the activities that are planned yearly by its members. The professional development activities offered at school X can be divided into: Internal and External.

#### *The internal activities*

##### *Information Technology (IT) workshops*

Such workshops that are led by IT teachers at school aim to familiarize teachers with the uses and applications of various programs, software, and technological tools. These workshops are not offered on regular basis; they are planned occasionally whenever a certain need arises such as new software or program is installed, a new trend in technology emerges and others.

##### *Outreach program*

These are workshops that address different educational topics and are presented by School X's teachers to their colleagues serving in other private and public sectors. In such workshops, organized by the school's educational resource center, School X teachers share their experiences with other professionals and at the same time gain recognition and develop an intrinsic professional motivation. The outreach is done once per month over a period of three to

five months per year. Each workshop presented by a teacher or a group of teachers addresses a certain topic or theme over a period of 2 to 5 hours.

*Study groups*

In such groups, teachers enroll in in-depth studies of certain educational themes (assessment, differentiated instruction...). The Educational Resource Center proposes the group titles and invites teachers from different levels and fields to enroll in a group of their choice. Study group meetings occur once per month (usually on Wednesdays after the school teaching hours, the meeting time is around 90 minutes), where teachers share experiences and knowledge, and agree on activities and classroom applications.

*Accreditation project*

School X is accredited by the “Council of International Schools (CIS) and the “New England Association for Schools and Colleges (NEASC), who send accreditation teams every five years to check on the school’s progress. Accreditation teams make recommendations and the school usually forms committees that design and implement plans to respond to these recommendations. One example of these committees is the “environment committee” that has lately developed a school environmental policy to be the foundation for curricular, co-curricular, and extracurricular environmental activities. This program is considered a professional development activity since it empowers teachers by giving them a say in major issues like writing policies, finding solutions to problems and helping their school meet international standards.

*In-service days*

These are working days during which classes are suspended and teachers enroll in professional development activities. Usually two full days are dedicated for in-service training in

one school year. Workshops of in-service days may be classified into intra-departmental “mentoring” workshops and creative workshops. The first type of workshops is decided within departments, is led by one or more department member(s), and addresses specific objectives. On the other hand, creative workshops are led by teachers and designed to enhance common skills needed in all disciplines such as creative thinking, theater, folk dance, cooking, stretching and others.

#### *Fundamental Strategies Workshops*

Such workshops are usually led by foreign experts invited from the United States or local experts. These workshops are meant to train teachers in basic strategies that should be widely implemented at all levels and in all programs since they are based on the integration within disciplines and classes. The following two workshops are currently applied in the school: SPEC (Student-centered, Problem-based, Experiential and Collaborative learning) and APP (“Apprentissage par Probleme”). The SPEC workshops extend over a period of two years. Three 3-day sessions take place in the first year, and one 3-day session takes place in the second year. The APP was offered for one year only.

#### *Curriculum Writing*

School X has worked on a project to design its own curricula, where teachers of different departments were required to write curriculum guides for different grade levels and programs. The aim of curriculum writing was to establish a common school identity for all students who are enrolled in different programs (The Lebanese, the French, the IB and the High School Programs). Curriculum writing is considered a professional development activity since it empowers teachers by giving them a say in what and how they want to teach in their classrooms.

Furthermore, it helps teachers improve their abilities to design, develop better assessments and learn about the importance of objectives among many other benefits.

*The external activities*

Exchange programs, International Baccalaureate workshops, and the international conferences belong to the external category.

*Exchange programs*

School X established ‘exchange agreements’ with different international schools in different places around the world such as Turkey, Europe, USA, and Arab countries. According to these agreements, teachers from school X visit international schools and examine how teaching and learning take place in different cultures. After being involved in the exchange experience, teachers are requested to write detailed reports to describe their experience, explain what they learned, and suggest how they will customize the new methods to be used in their classrooms.

*International Baccalaureate (IB) workshops*

These workshops, organized by the IBO (the International Baccalaureate Organization), are meant to train prospective IB teachers in the essentials of the program. School X sends its teachers, who are expected to join the IB program to IB workshops so that they acquire the necessary basics for teaching according to the IB requirements . These requirements include assessment techniques, extended essay program, IB curriculum and others.

*Conferences*

Teachers from different school departments and grade levels are selectively sent to attend and/or present sessions in international conferences. These conferences usually discuss a specific or a general educational concept. An example of a conference that took place this year is the Near East South Asia council of overseas schools (NESA) spring conference.

To put it in a nutshell, research states that the keystone of school effectiveness and improvement is highly qualified teachers (Nabhani & Bahous, 2010; Perie & Baker, 1997). In order to develop high-quality teaching staff the school needs a well designed and systematic professional development program.

Based on the importance of PD programs in creating effective schooling, this study examines a PD program (internal and external activities) at a private Lebanese school that is known by the community for resourcefulness of its professional development programs. It examines the program's strengths and weakness from the perspective of its middle and secondary, experienced and veteran, and science, non-science teachers. Recommendations for improvement are provided by the participants.

The following sections of the study are divided into five chapters. First, a literature review about professional development and its effect on teachers' practices and motivation is presented. Then, chapter three presents the research design including the methodology employed in this research, the participants in this study, the instruments used to collect data, and the methods that were used to analyze the collected data. After that, the data that was collected from the three different instruments (survey, interviews and observations) are triangulated and presented. Subsequently, chapter five presents the findings and a comparison between the obtained information and the reviewed literature. Finally, a general conclusion is offered where recommendations, limitations of the study and suggestions are discussed.

## Chapter Two

### Literature Review

Teachers' professional capacity has continuously been a major concern in educational reform projects. The legitimacy of this concern stems from key roles that teachers play in shaping the plans and processes of educational organizations, and bringing future desired changes to modern societies. It follows that preparing well trained teachers ought to be a social, political, and educational need all over the world (Darling-Hammond et al., 2009; Obama, 2009; Shaukat, 2004)

According to a study conducted in Paris by the International Institute for Educational Planning-UNESCO (2003), modern societies have established a new perspective of teachers based on their dual role as subjects and objects of change. Indeed, efficient professional development is indispensable to enhance that role.

Professional development has a noticeable impact on the overall effectiveness of schools. According to Stoll (1994), and Hargreaves and Hopkins (1994), effective schools are those in which well trained , motivated, and professionally growing teaching staff function in a culture of partnership, risk taking, and continuous learning. However, Hargreaves and Hopkins (1994) argue that professional development is not a “quick fix” for all the problems of schools, yet it is a long term process that should be studied closely and applied appropriately in order to induce the sought for positive change.

This review of literature aims to investigate teachers' attitudes regarding the impact of professional development on their teaching practices and motivation. The review is divided into two major parts. The first one is a general introduction that summarizes the most common definitions and forms of professional development and elaborates on the importance of the research topic. The second part is meant to create a background for the study's research questions: I) what are the

attitudes of school X's middle and secondary teachers regarding the effect of the school's professional development programs on the quality of their teaching practices and motivation? II) How do teachers' attitudes compare (science/non-science; middle/ secondary; teachers teaching for less than 5 years/ teachers teaching for more than 5 years) regarding the impact of school X's professional development programs? III) What are school's middle and secondary teachers' recommendations to improve the quality of the school's professional development program?

*Introduction: Professional Development and teachers' attitudes*

How is professional development defined?

Several definitions of professional development (PD) are encountered in the educational literature. Although all these definitions share some common ideas, they seem to be formulated based on different perceptions and theories. According to Kelchtermans (2004), the different backgrounds prevent the construction of a concrete, unique, and overarching research-based theory that shape PD practices.

In her study "an Inquiry into continuing professional development for teachers", Gray (2005) contends that the term CPD was first coined by Richard Gardner who was a professional development expert in York University-Toronto in the mid 1970's. This term (i.e. CPD), which replaced the previously common term of 'in-service training', integrates two important segments of teachers' knowledge: knowledge acquired from university education and knowledge gained "on the job". Gray (2005) claims that "CPD embraces the idea that individuals aim for continuous improvement in their professional skills and knowledge, beyond the basic training initially required to carry on a job" (p. 5). Possession of both the knowledge and skills is what make teachers capable of fulfilling their roles (Shaukat, 2004; The General Teaching Council Trust,

1993). In this study, the terms professional development (PD) and continuing professional development (CPD) are used interchangeably.

Villegas-Reimers (2003) distinguishes between formal (workshops, lectures, meetings, and mentoring) and informal (publications and educational documentaries) professional development, and argues that either one is not considered thorough unless accompanied by regular self assessment.

The term PD has been defined as formal, in-school activities and/or informal, off-campus activities that are mandatory and/or self-chosen that help teachers improve their profile (Nabhani & Bahous, 2010). At a deeper level, PD is commonly viewed to incorporate descriptive and prescriptive perspectives. The descriptive perspective stresses teachers' experiences and learning gains from the implementation of PD approaches. This perspective takes into consideration the context and time of professional development and emphasizes the important roles of the social, organizational, and cultural environments in which teachers are working (Scribner, 1999; Kelchtermans, 2004). The timing of professional development acquires a special importance. Research findings recommend PD for novice and veteran teachers, but suggest coordinating development plans and mechanisms with experience. Other studies have also emphasized the productivity of starting PD at an early stage of teachers' professional age (Ball & Goodson, 1985). The prescriptive perspective emphasizes the organizational dimension of PD. It seeks answers to the question: "How is PD organized most effectively?" Here, the planning of activities and workshops is very crucial to the success of the professional development plans. In order to maximize the cost effectiveness of professional development programs, schools' administrations ought to organize their programs in a way that takes into consideration appropriate timing and

durations, specific needs of teachers and students, and relevant training curricula (Kelchtermans, 2004).

Irrespective of perspectives and rationales, professional development can be seen as a regular and continuous chain of learning experiences, during which teachers enroll consciously in formal and informal activities for improving the quality of their planning skills, critical knowledge, emotional intelligence, teaching practices and communication with colleagues (Day, 1999; Robb, 2000). Kelchtermans (2004) contends that professional development affects teachers' actions and skills as well as their perception of their strategies and themselves. Since teachers' actions are partly driven and guided by their thinking and attitudes, it can be argued that professional development should target teachers' actions, beliefs and motivation (Richardson & Placier, 2002). According to Kelchtermans (1996), teachers' thinking is reflected in their "personal interpretive framework". This framework is divided into two major domains; one focuses on teachers' "professional self" (self image, self esteem, job motivation, future perspective and task perception), and the second targets teachers' knowledge and beliefs about teaching in general.

*What are the most common forms of professional development?*

The most common professional development forms encountered in the literature are: In-service training ("INSET"), reflective practices, technology workshops, accreditation programs, visiting international faculty, and designing curricula.

*In-service training, "INSET"*

In-service training is defined as structured training activities that have the goal to improve teachers' proficiency in subject matter knowledge and teaching skills. Before and a little after World War I, 'In-service training' was the only form of professional development commonly appropriated through institutes and summer courses (Halim, Osman & Meerah, n.d; Ward, 1972;

Tyler, 1971). Nowadays in-service training is only one form of “continuing professional development” (Gray, 2005). In-service training comprises technical and instructional workshops that provide teachers with instructions to acquire new skills, knowledge, and teaching strategies that help them teach in a better way. These workshops are particularly fruitful when they include hands-on activities that are tailored to address specific trainee’s needs in their schools’ contexts (Valarie, 1997). Some schools add to the knowledge and skills based workshops certain training that they refer to as “recreational workshops”. These workshops are retreat workshops that are meant to relieve teachers from their work stress, recharge their energy, and enrich their creative and artistic faculties. The importance of these workshops lies in their influence on the “professional self” aspect of teacher’s growth (Kelchtermans, 2004). These workshops help teachers improve their ‘self efficacy’, motivation, creativity, and awareness of their impact on students’ lives (Milner, 2002). Research findings show that teachers’ beliefs in their ability to affect students’ lives are likely to improve students’ achievements and motivation (Kaufman & Sawyer, 2004). Examples of recreational workshops include stress and anxiety management, weight management, meditation, self-hypnosis, insomnia, theatre, and music (Murphy, 2007).

*Reflective practices: Self-reflection, study groups, and action research*

Reflective practices involve complex mental processing of topics that do not have evident solutions (King & Kitchener, 1994). Moon (1999) defines a reflective practice as a powerful technique for assisting and supporting learning and boosts the gains from professional development. On another note, Ferraro (2000) affirms that reflective practice is used as a way to compare one’s own practices to the practices of successful practitioners. The most common types of reflective practices mentioned in the literature are self-reflection, group reflection and action research (Ferraro, 2000; Hopkins & Antes, 1990). Self reflection, a powerful tool in adult learning,

is based on the idea of analyzing and learning from one's experiences in natural settings (Licklider, 1997 as cited in Ferraro, 2000; Marshall, 2006). Ferraro (2000) argues that professional development "should involve more than large group sessions, it should include activities such as study teams and peer coaching in which teachers continuously examine their assumptions and practices" (p. 3). Self reflection flourishes in professional communities, where teachers share conceptions and experiences through discussions, dialogues and debates (Andrews & Lewis, 2002), and during university seminars and long term in-service training when teachers contextualize their actions and practices (Fisher, 2001). Self reflection is one substantial dimension of communication which is crucial to school effectiveness and improvement. When teachers within the same institution share and exchange experiences, insights, and skills in an atmosphere of professionalism, trust and collegiality, they will be creating a productive learning environment and healthy school culture (Dalin, 1998; Harris, 2002; Hopkins, 1996).

Study groups fall within the second type of reflective practices: group reflection. These groups give teachers from same or different grade levels the opportunity to meet, discuss, analyze and share experiences related to any educational topic that can affect their teaching and self improvement (Murphy, 1992; Joyce & Showers, 1995). According to Murphy (1992) and Joyce and Showers (1995), three conditions are essential for the efficiency of study groups: they have to be obligatory to all teachers and administrators, the groups' meetings must be regular and convenient, and the number of teachers per group should not exceed six.

Action research, the third reflective practice, is an approach that allows teachers to improve their rational, social, and educational practices by learning from their own experiences in strictly directed and inquiry based environment (Ponte, 2005; Elliott, 1991; Carr & Kemmis, 1986). Action research was first initiated at the beginning of the twentieth century in USA and the UK. Its

basic aim at that time was to bridge the gap between the educational research and practice. Action research, which could span from one week to a whole school year, can be conducted by a single teacher or a group of teachers who are working on the same topic, grade level, or department. Action research is believed to have a positive effect on teachers and their practices because it is practical, easy to conduct, and includes a smaller sample size that might be restricted to one student only. More importantly, its strength resides in the fact that the teacher is a major participant in the research. S/he identifies a problem, formulates a series of clear researchable questions to be investigated, conducts a literature review regarding the targeted issue, collects data (mainly from students), analyses data, and finally communicates answers to school community so that everyone can benefit from the findings (Ross-Fisher, 2008).

#### *Professional development and technology*

In this century where people compete in an emerging information-based international market, it is important to prepare students and reshape school practices in a way that forms well primed citizens (Harvey & Purnell, 1995; Jonasson, 1993). Yet, although schools are well equipped with technologies, teachers do not integrate them sufficiently in the curriculum. This is due to the lack of teacher training in this subject (Lowery, 2003). The growing role of technology in shaping our lives is a reality beyond any doubt. The U.S. Bureau of Labor Statistics predicted that 70% of current jobs in the US will require the use of advanced technology, and by the year 2010, 90% of these jobs will be vacant due to the lack of technological literacy in societies (Jackson, 1999 as cited in Cole & Styron, 2006). Since the major aim of schooling is to educate students and prepare them to become productive citizens, technology must be incorporated in today's educational curricula (Cole & Styron, 2006). Researchers in the field of school effectiveness propose student-centered instructional strategies to enhance meaningful learning and

the most recommended strategies involve the integration of technology (Soloway et al., 2001). Cole and Styron (2006) insist that training teachers on the uses of technological tools seem indispensable for advancing professional development of teaching staffs in schools. They investigated teachers' opinions regarding their preferences towards online or face-to-face technology training. Findings revealed that although more teachers prefer the online mode, preferential differences were not statistically significant. The researchers concluded that just like teachers should plan their lessons to accommodate different learning styles, school administrators ought to adequately organize online and face-to-face training to address the learning preferences of all teachers. On a different note, Sugar, Crawley, and Fine (2004) examined teachers' decisions towards the adoption of new technologies in their classrooms. Their study shows that technology adoption decisions are highly influenced by the teacher's individual attitude towards the adoption of such technology rather than by external support from key persons. This is why the authors recommend that a workshop in IT starts with a section to convince teachers and change their attitudes and beliefs regarding the integration of technology in their lessons. The literature shows that teachers tend to resist technology when they perceive it as irrelevant to their class (Lowery, 2006). Harvey and Purnell (1995) expose teachers' attitudes towards IT workshops in their study "Technology and teacher professional development". They uncover the wish of participants to re-examine these professional development activities in a way that takes into consideration anxieties of teachers, practical issues that affects the use of technology in the classrooms, and to set realistic expectations from the use of technology. In the same context, Brand (1997) contends that a well-planned staff development program in educational technology relies on the following elements: sufficiency of time allocated for assimilation ad practicing of the learned material, consideration for teachers' different needs , flexibility of professional development opportunities, provisional

support, collaborative development, remuneration and teacher recognition, sustained staff development, link between technology and educational objectives, intellectual and professional stimulation, and supportive administrative actions.

*Accreditation programs*

According to the “World’s Premier Online Directory of Education” (n.d.), and the Association of Christian Schools International (2009), accreditation is a voluntary process adopted by any organization to get evaluated by a regional or international institute. Programs and records are appraised periodically to maintain a minimum standard acquired by all accredited institutions. The accreditation process ensures high quality of learning and integrity since the educational system is always evaluated from all aspects. The accreditation process may take different forms but no matter how it is accomplished three phases are always essential for all procedures. ‘Preparation and self-evaluation’ is the first phase during which a school gathers and documents necessary information and self assess its performance based on the accrediting institution’s requirements and standards. The second phase is the ‘assessment phase’ where an accreditation team visits the school seeking accreditation and actually assesses its performance. The third phase is the ‘judgment phase’ during which the accreditation team makes the final verdict regarding the eligibility of the school for accreditation. The major virtue of accreditation is that it obligates accredited institutions to commit themselves to regular self assessment towards enhancement of effective performance (World’s Premier Online Directory of Education, n.d.).

According to the Association of Christian Schools International (2009), and the New England Association of Schools and Colleges (n.d.), the benefits of accreditation are numerous, but the ones that have special impact on teachers’ practices may be summarized as follows:

- Sustains school integrity and high quality learning by providing validation and accountability to school programs, teaching and credentials
- Promotes on-going self assessment and improvement
- Gives a rationale and a drive for long-term planning

Participating in committees to fulfill the requirements and apply the recommendations of the accreditation team is considered as a professional development for teachers since it empowers them by giving them a say in different divisions at school. Furthermore, it makes them aim higher and work on themselves in order to stay up to date with the latest trends to satisfy the requirements of the accreditation organization (Wergin, 2005).

#### *Visiting International Faculty*

Based on the report written by the select committee on pension policy in the U.S. (2009), the visiting international faculty program (VIF) was founded in 1989. This program provides U.S. schools with teachers from 50 different nations on a one year to three years contract. The role of these teachers extends over two successive phases. In the first phase, the VIF transfer their knowledge, culture, customs and teaching approaches to the American schools, staff and students. According to the report written by Select committee on pension policy in the U.S. that is sponsored by the U.S. Department of State (2009), this will “foster mutual understanding between the people of the United States and the people of other countries through educational and cultural exchange” (Select committee on pension policy in the U.S., 2009, p.2). As the exchange process comes to an end, the VIF go back to their home countries and share with their colleagues what they have learned about the American culture, society and educational system. According to McGregor

(2005), an English teacher who participated in the Fulbright exchange program, the success of such course depends on the appropriateness of course strategies and activities, openness of participants, and efficiency and transparency of communication among exchange partners

*Curriculum design by teachers*

Curriculum reform is defined as an approach that promotes the development of new instructional material and methodologies (Anderson, 1992). Parke and Coble (1997), led a 5 year study in which American middle grade science teachers participated in curriculum design, and the results of this study confirmed teachers' awareness of the value of curriculum writing as a professional development activity.

Anderson (1992) argues that curriculum reform improves teachers' practices provided that the reform is well planned, monitored by open minded administration and teachers, takes place in a culture of collaboration and collegiality in school, and support for change. Short (1996) claims that curriculum design obliges teachers to modify their conception of teaching and learning. For this reason, it is regarded as a powerful tool for professional development.

In conclusion, any activity that helps teachers improve their teaching skills and attitudes towards their profession can be classified under professional development. Most successful activities are those that are tailored to meet the needs of teachers and their students (Stedman, 1987; Nabhani & Bahous, 2010). As stated by Kelchtermans (2004) the context of the professional development is very important for a successful PD. Teaching does not take place in vacuum; it is affected by students' profiles and should be planned to satisfy their needs.

*Importance of teachers' attitudes concerning how PD activities influence their practices and motivation*

Baros and Elia (1998) define the term attitude (from Latin *aptus*) as a personal or rational preparation for action. They state that human beings are driven by their attitudes that determine what each person will perceive, take notice of, reflect and most importantly do. Thus, a person's attitude makes him/her respond positively or critically to individuals, associations or events. In other words, the study of teachers' attitudes is crucial since it impacts their motivation and eventually their practices. Newell and Cunliffe (2003) add that teachers' attitudes are usually influenced by the professional experience they have gained, and their appreciation of professional development is substantially derived from the professional attitudes they have developed over the years. Clemente (2001) argues that the notion of attitude is of a great importance in the teacher's belief system, and it should be incorporated within his/her college education scheme.

Social psychologists distinguish between three components of attitudes: a) the cognitive component, b) the affective component and c) the behavioral component (Dwyer, 1993; Huitt, 2001). The cognitive component is associated with knowledge, the affective component identifies with feelings and motivation, and the behavioral component relates to practices and accomplishments of tasks. Thus if teachers understand the importance of PD activities (cognitive component) and are motivated to attend the PD activities provided to them ( affective component), the application of what they learned ( behavioral component) is expected to be positive as well. In order for the teachers to benefit to the maximum form a certain PD activity, their attitude (in its three components) should be a positive one (Baros & Elia, 1998; Triandis, 1971; Dwyer, 1993; Huitt, 2001).

*What are teachers' attitudes regarding the effect of the school's professional development programs on the quality of teaching practices and motivation?*

The literature available in the domain of professional development programs in schools over the past few years is vast. Several researchers investigated the relationship between professional development activities and the quality of teachers' professional practices. Many studies have suggested a positive influence of professional development on instruction, provided that the PD programs are structured to satisfy teachers' professional needs.

Supovitz and Turner (2000) affirm that teachers' practices in the classroom depend appreciably on the magnitude of teachers' participation in professional development activities. They assert that the participation in a large number of workshops leads to the creation of an investigative classroom culture and advancement of inquiry-based teaching practices. Similar findings emerged from the study conducted by Porter, Garet, Desimone, Suk Yoon, and Birman, (2000).

Hustler, McNamara, Jarvis, Londra, and Campbell (2003), who investigated teachers' perceptions of CPD, suggest that teachers' satisfaction and attitudes regarding PD are usually a result of the combination between several factors such as structural and cultural factors, teachers' career phase, teachers' age and subject matter they teach. They can exhibit positive or negative attitudes depending on the way they receive and perceive the professional development experience. If this experience is tailored to fit their needs, the reception and perception are expected to be favorable.

On another note, Showers and Joyce (1996) propose peer coaching strategy to improve the implementation of new curricula and instructional techniques. Peer coaching is a process that involves teachers working together, providing support and feedback to each other in order to

improve their teaching skills (Parker, Hall & Kram, 2008). Advocates of ‘Peer coaching’ argue that it typically operates as a process of collaborative planning and strategy implementation, where teachers pool their experiences and appropriate new strategies more frequently and appropriately (Ackland, 1991; Odell, 1990; Perkins, 1998; Showers & Joyce, 1996).

According to Marable and Raimondi (2007), teachers believe that mentoring has a positive and direct impact on their motivation and instruction, and an indirect favorable influence on their students’ achievement. Bryant and Terborg (2008) investigated the fruitfulness of peer mentoring, a new trend in mentoring based on a one to one relationship between experienced and novice teachers. They found that this approach should be used to secure smooth integration of new teachers in the school life in a way that improves their knowledge and practices.

Talbert and McLaughlin (1994) explain that PD improves teacher-student relationship and enhances teachers’ efficacy. Similar results appear in reports written by Ofsted (2001; 2002; 2006) who associate PD with appreciable gains in teachers’ subject knowledge, curriculum planning skills, and teaching potentials.

Many other studies suggest an overall positive influence of PD on curriculum and pedagogy, teachers’ motivation and instruction, and students’ achievement and motivation. Favorable aspects result from induction techniques, reflective practices, and work based problem solving. However, shortcomings of PD have been also indicated in the literature. Origins of these shortcomings are mostly attributed to absence of adequate national policies, lack of teachers’ involvement in PD planning and decision making, irrelevance of training courses to teachers’ specific needs, inconvenience of training schedules, insufficiency of practicing time, insensitivity of PD programs to cultural and socioeconomic differences and backgrounds, resentment towards administrative top-down selections of workshops, and anxiety about change in schools (Rhodes,

Nevill, & Allan, 2005; Muijs, Day, Harris & Lindsay 1999; Karagiorgi & Symeou, 2006; Calabrese, 2006; Conco, 2005; Knight, 2000; Garet et al., 2001, Nabhani & Bahous, 2010).

*How do teachers' attitudes compare (Science/Non-science; Middle/ Secondary; teachers teaching for less than 5 years/teachers teaching for more than 5 years) regarding professional development?*

*Middle and Secondary teachers' attitudes compared*

In his study of Teacher perceptions of PD, Knight found that the conflict that exists between middle and secondary teachers is a major aspect of the limitation to professional development. He writes, "Most middle school teachers see themselves as teaching the whole child first, teaching a specific curriculum second" (2000, p.10). Middle school teachers believe that they do not have major curriculum issues to deal with, but rather behavioral issues. Middle school students do not have many subjects to handle, and do not have to worry about graduation and college preparatory requirement; however, they pass through the "hormone ranging" stage. The study shows that middle school teachers work in instructional teams where teachers of sciences, math and social studies plan and collaborate at the same grade level.

Secondary school teachers, on the other hand, do not equally collaborate because they put more emphasis on individual subject matters and curriculum academic demands. This fact may explain why secondary teachers are less cooperative and more reluctant towards professional development scenarios (Knight, 2000).

*Teachers teaching for less than 5 years vs. teachers teaching for more than 5 years:  
comparison of attitudes*

Ruberto (2003) studied the attitude of veteran teachers towards professional development as she was pursuing her PhD. She discovered that professional development creates enthusiasm in a collegial environment, develops teachers' skills and areas of expertise, and nurtures teachers' intellectual and leadership capacities. Ruberto's (2003) findings' supported all the claims regarding the experience- related attitude fluctuations between teachers. Veteran teachers, who are empowered by some kind of experience stability, fear the unavoidable changes that professional development promises to bring. Designers of PD programs in schools ought to realize that teachers have 'career cycles', and each cycle is defined by specific needs, concerns, and capacities (Steffy, Wolfe, Pasch, & Enz, 2000; Ruberto, 2003). Understanding and addressing the features of the different cycles is indispensable for satisfying the ultimate goals of professional development. Huberman (1989) identifies seven stages within his model of 'career cycles'. The first stage (new teachers, 1 year of teaching) is the survival and discovery stage where new teachers enter the workforce and show eagerness to learn. In the second stage (after four years of teaching), designated by Stabilization, teachers exhibit commitment to their career choice; they attempt to increase their repertoires, use new methodologies and pedagogies, and link between acquired skills and ability to affect students' learning. In the third stage of "experimentation/activism" teachers eventually seek leadership roles. The fourth stage referred to by "taking stock: self doubt stage" is reached after twelve to twenty years of service, where teachers tend to assess themselves and their work. Some of them consider changing careers and others exhibit signs of unhappiness after reform attempts. In the last three stages, "serenity", "conservatism" and "disengagement", teachers become burned out and do not exhibit signs of appreciation or interest in reform. The confidence

and self acceptance of teacher decreases gradually when going from serenity (high confidence and self acceptance) to the disengagement stage (very low). The best implication of Huberman model is that “the veteran teacher requires appropriate professional motivation and challenges to remain committed and engaged in teaching and ongoing learning” (p. 33), while novice teachers, especially in the first two stages of the career cycle (zero to four years of experience) are eager to learn and participate in professional development activities (Huberman, 1989, Margolis, 2008).

*Science and Non-science teachers' attitudes compared*

Despite the general belief that people who pursue science and mathematics education are smarter and more hard working than those who study languages or arts (Nita, 2007), the literature does not show any considerable difference in attitudes between science and non-science teachers regarding professional development. In general, teachers (being science and non-science) believe that professional development is crucial to improve and learn new methods, techniques, and skills, but they commonly correlate between positive attitudes towards PD and relevance and applicability of the material offered during professional development activities (Hustler et al., 2003; Adams & Krockover, 1997).

*What are teachers' recommendations to improve the quality of the Professional development program?*

*Criteria for high quality PD*

A study conducted by Garet et al. (2001) shows that for a professional development activity to be considered efficient its feature should fit the following conditions: It should meet the needs of the teachers, focus on content knowledge, provide an opportunity for dynamic learning, and observe important structural features, namely the form, duration, and heterogeneous nature of activities (having different teachers from different levels, departments and schools). Lee (2005), Hooker

(n.d), and Deal and Peterson (2009) advocate PD models that are tailored to fit the needs of teachers. Lee (2005) emphasizes teacher-administration joint efforts in planning PD activities, while Deal and Peterson (2009) recommend the creation of efficient communication system to build cultural networks to expand experiential gains. Lee (2002) suggests that efficient PD is achieved when it is structured to tackle objectives and planning, it involves the learner in the decision making, and is led by expert trainers. Studies conducted by Ruberto (2003), Charles and Shane (2006), Shorten and Monaghan (2005) , and the Commonwealth of Virginia (2004) suggest the following set of conditions for successful PD:

- The training curriculum must be research – based, challenging, relevant to school's culture, aligned with school's mission statement, subject matter and technology oriented, appreciative to the role of assessment, and consistent with national educational standards and international strategies.
- The training sessions should be designed, supported, and led by professional development experts who are competent, charismatic, and capable of building on teachers' prior knowledge.
- Professional development programs must be regularly evaluated and updated.
- Professional development plans have to be far from the direct influence of political and financial authorities.

Charles and Shane (2006), who have been involved in developing science and math professional development plans for the 21<sup>st</sup> century in the U.S., believe that “to support teacher quality in mathematics and science, we should design powerful, content - specific staff development that is data-driven and evaluated, and is based on using ideas that work and knowing how educators learn” (p.128).

In conclusion, since the beginnings of the 1990's, the literature about professional development is quite rich. Researchers advocate professional development programs, but most of them presume that success of these programs is restricted to certain areas and conditions. However, one area that needs further in-depth investigation is teachers' attitudes and how they perceive the impact of professional development on their practices and motivation. The researcher has chosen to study this area, and she selectively addressed middle and secondary teachers who have been traditionally avoided in previous studies.

The next chapter displays the research design: methods and instruments used to collect data in this research.

## Chapter 3

### Methodology

The study is a mixed methods case study research, where the collected data is based on opinions and insights as well as facts and figures (Fraenkel & Wallen, 2008). This study sought answers for the following research questions: “What are the attitudes of the secondary and middle school teachers at “School X” regarding the effect of the school’s professional development programs on the quality of their teaching practices and motivation? How do teachers’ attitudes compare (Science/Non-science; Middle/ Secondary; teachers teaching for less than 5 years at school X/ teachers teaching for more than 5 years at school X) regarding professional development? What are teachers’ recommendations to improve the quality of the Professional development program provided by their school?”

The literature defines a case study as a research that helps researchers understand a complex issue or even add strength to previous knowledge collected from previous research about this issue. It’s an “empirical inquiry that investigates a contemporary phenomenon within its real-life context” (Yin, 1984, p. 23). Lester (1999) stresses that the importance of such type of research lies in the fact that it is a great means to “gain insights into people’s motivation and actions” (p.1). Based on this idea, a case study was chosen since it fits the research questions very well.

On the other hand, a mixed methods research is defined as “the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study” (Johnson & Onwuegbuzie, 2004). This methodology was chosen for this research since it presents triangulated proof (since it’s based on combining qualitative and quantitative methods) for a conclusion through convergence

and validation of findings. When qualitative and quantitative research methods are combined, more complete results are obtained, and thus the possibility of generalizability of outcomes increases (Johnson & Onwuegbuzie, 2004; Fraenkel & Wallen, 2008). In this study, the researcher does not aim to generalize the results but to shed light on a particular case so that others in similar situations may benefit.

Surveys, interviews, and observations were used to collect data. These methods were found efficient for conveying the participants' thoughts, reflections, and lived experiences (Lester, 1999; Moustakas, 1994). Some school documents (ERC documents) were analyzed to get an overview of all the PD activities presented by the school.

### *Participants*

The sample that includes all school X's middle and secondary teachers (80 middle and 80 secondary), is selected purposively from the middle and secondary divisions at school "X". The sampling is of "Maximum variation" type where the selection is based on a variety of people with a wide range of extremes but the population shares an important common pattern that cut across variations (Patton, 1990; Fraenkel & Wallen, 2008; Hoepfl, 1997). The participants have different backgrounds in terms of nationalities, professional expertise, cultures, and work experience, but they share belongingness to the same school culture and educational system. The reliability of such type of sampling lies in the fact that it targets a relatively large population, large enough to represent the authentic variations, experiences, and attitudes of virtually all the middle and secondary teaching body at school X (Patton, 1990; Fraenkel & Wallen, 2008; Hoepfl, 1997).

Table 3.1 Demographics of Middle and Secondary Teachers at School X

Gender		Experience ( years of teaching at school X)				Age (years old)			
Male	Female	Less than 5 years	Between 5 & 10 years	Between 10 & 15 years	More than 15 years	Between 22 & 30	Between 30 & 40	Between 40 & 50	Between 50 to 64
45%	55%	15%	30%	40%	15%	20%	40%	30%	10%

*Instruments*

The data collection methods of this study were selectively and purposefully employed to address the study's general purpose and specific research questions tabulated below:

Table 3.2 Relation between Study Purpose and Research Questions

Study Purpose	Research Questions
The purpose of this study is to explore teachers' attitudes towards the professional development (PD) activities offered at school X and to investigate the influence of teachers' attitudes on their practices and motivation.	What are the attitudes of the secondary and middle school teachers at "School X" regarding the effect of the school's professional development programs on the quality of their teaching practices and motivation?
	How do teachers' attitudes regarding professional development compare: 1) Science/Non-science 2) Middle/ Secondary 3) Teachers teaching for less than 5 years at school X/ teachers teaching for more than 5 years at school X
	What are the teachers' recommendations to

improve the quality of the professional development program provided by their school?

The methods used to collect data were three. The first one is a survey in the form of a questionnaire. The second one is observations of some professional development activities offered at school X. And the third one is focus-group interviews with teachers who were chosen to represent the different departments (Ten teachers from the middle school and twelve teachers from the Secondary School). The teachers who participated in the focus-group interviews were chosen because they: (a) had a long experience at school X, (b) were respected figures in their departments, (c) had frequent enrollment in the school's professional development activities, and (d) were available for the interview.

The three instruments were adopted because they are the typical instruments used in a case study research. In this type of studies, all the research phases and procedures should be kept as close as possible to the participants whose perspectives constitute a main source of data for the study (Lester, 1999; Moustakas, 1994, Patton, 1990; Fraenkel & Wallen, 2008; Hoepfl, 1997). Besides the data collected from the teachers, additional documents were used to back up the information collected. These documents are mainly school documents taken from the Educational Resource Center (website, pamphlets, brochures etc...)

### *The Survey*

The literature defines a questionnaire as a form containing a set of questions, especially prepared to address a large number of subjects in order to collect detailed information about a certain topic (Seidman, 1998; Fraenkel & Wallen, 2008; Cohen & Manion, 1994; Burns, 2000). The 'virtue' of the survey, as an instrument in this study, is its appropriateness for acquiring abundant detailed information from a large sample of individuals having a wide range of

perspectives. The surveys were structured in two main parts. The first part is based on the Likert-Scale (16 items) where teachers are required to read and evaluate the statements attentively before they respond (Seidman, 1998; Fraenkel & Wallen, 2008; Cohen & Manion, 1994; Burns, 2000). In the second part of the survey, teachers had to answer specific open ended questions (3 questions) related to efficiency of each of the professional development activities offered in school X. Answers to these questions were significantly informative since they gave teachers more space to comment, elaborate, evaluate, explain and suggest. Giving the chance to all participants to tell their ‘own stories’ and respond using their own words and expressions was crucial for promoting the authenticity and trustworthiness of the data (Groenewald, 2004).

In order to secure teachers serious involvement when responding to all of the questions, the researcher sought the approval of the Director and department Chairs to devote a part of the department meetings for completing the surveys.

The survey questions were constructed in a way to thoroughly address the research questions. As Drever (1995) suggested, a high-quality questionnaire that yields significant results is the one that asks questions derived from the research questions and objectives. For example, question number 4 “What modifications would you suggest to improve the quality of study groups, exchange program, IT workshops ....” is directly related to the third research question “What are teachers’ recommendations to improve the quality of the Professional development program provided by their school?”

All the survey questions focused on clarifying the attitudes of teachers regarding the impact of the professional development activities on their practices and motivation. It is important to note that the motivation is usually determined by an attitude test, which is the questionnaire in this study. The survey’s items were prepared based on the guidelines of Cohen and Manion (1994),

Fraenkel and Wallen (2008), and Trochim (2006). Most of the items were formulated by the researcher, but some were adopted from the work of Menlo and Poppleton (1990). To ensure the validity of this instrument, the selection of the survey questions was finalized after consultation between the researcher, an expert in the field of education (thesis advisor), and an academic coordinator at school X who holds a master of arts in Education and is known to be active in the domain of professional development. Considerable efforts were made to write straightforward instructions for the different sections of the survey and to formulate simple and clear questions using correct and appropriate language and a non-condensed layout (Cohen & Manion, 1994; Fraenkel & Wallen, 2008, Burns, 2000; Trochim, 2006). When the questionnaire was first formulated, the researcher and her consultants were concerned to make the wording and connotation of the questions as consistent as possible with the cognitive, affective, and behavioral components of ‘attitude’ (Items 1, 3, 5, 10, 11, 12, 13, 14, 15 and 16 address the cognitive component; items 7, 8, and 16 address the affective component; and items 2, 4, 6, 9, 12, 13, 15 and 16 address the behavioral component) (See appendix I). In a way, this alignment between the components of attitude and survey’s questions was intended to serve as an initial coding phase that was expected to give the researcher some insight during the analysis stage.

In order to increase the validity and reliability of the instrument, the survey was piloted before it was actually administered. The piloting occurred during an extended chemistry department meeting, where the chemistry teachers (the researcher’s colleagues) completed the surveys and gave comments. The researcher analyzed the piloting outcomes and made the necessary modifications. Piloting was necessary to insure validity and appropriateness of the survey (Fraenkel & Wallen, 2008; Mitchell & Jolley, 2010; Teijlingen & Hundley, 2001).

The survey used in this study was a convenient instrument to collect data from a large number of subjects. Making it sufficiently valid and reliable was relatively easy and manageable, but its length was a disadvantage. In order to collect rich information, the researcher prepared a long survey and conducted the data collection at the end of the school year, when teachers were suffering from energy drain. Despite all measures taken, some exhausted teachers did not take the surveys seriously. Consequently, the researcher could not thoroughly control the loss of subjects and the sincerity of responses (Seidman, 1998; Fraenkel & Wallen, 2008; Cohen, Manion & Morison, 2004; Burns, 2000).

#### *Focus group Interviews*

The literature defines focus group interviews as a technique where a group of people (5 to 12) discuss a specific topic under the guidance of an interviewer (Fraenkel & Wallen, 2008; Cohen & Manion, 1994). This instrument was chosen in this study since it gives the participants the freedom to express their attitudes and ‘tell their stories and experiences’ with little restrictions. Indeed, when collection of data becomes that authentic, a great value is added to the quality of the case study (Lester, 1999; Moustakas, 1994).

The interview questions addressed the research questions and were derived from the survey questions. The aim was to rephrase the questions of the survey in a more open-ended way to give teachers good opportunity to elaborate on the different inquiries. To enhance reliability and validity, the interview was piloted during a chemistry department meeting which was planned to resemble a ‘real’ scenario of focus group interviews; the researcher consulted with the educational expert and the academic coordinator to analyze the piloting outcomes and make the necessary modifications and adjustments. After the interview was actually administered, the answers collected from subjects under study were compared with the answers collected from the

survey for triangulation purposes. The piloting was appreciably informative and helpful. On the one hand, it made the researcher aware of some minor ambiguities in questions' wordings. On the other hand, it was a good opportunity for the researcher to practice facilitating a focus group interview (Fraenkel & Wallen, 2008; Mitchell & Jolley, 2010; Teijlingen & Hundley, 2001).

The interviews were audio recorded and transcribed at the stage of data analysis. Recording of the sessions was indispensable for the researcher to make sure that all what has been said was captured accurately in a way that leaves no room for ambiguities and misinterpretations (Fraenkel & Wallen, 2008; Cohen, Manion & Morrison, 2004).

The interviews (Appendix II) were essential for enabling the researcher to develop a clearer understanding of teachers' authentic views. Interviews were conducted in two 1-hour sessions per division (i.e. middle /secondary). In each session, five (in the case of middle school teachers) or six teachers (in the case of secondary school teachers) were asked six questions. Teachers were randomly chosen under the condition that each interviewee represented a distinct department (math department, physics department chemistry department etc...). All interviews were held in the school's teachers' lounge, a familiar and comfortable place for all teachers. The researcher explained the interview's procedure and rules before the start of actual sessions, and then the interviewees were given the liberty to express their opinions, argue, build on each others' comments, and make recommendations in the way and language they have chosen. Although the interviewer was encouraging the interviewees to keep on conversing, she did not interfere by judging, evaluating or adding to the information given by the teachers (Burns, 2000).

The major advantage of this instrument was its cost effectiveness in terms of gathering primary data. By grouping a large number of subjects (5 to 12) the interviewer was able to receive a significant input, feedback and dialogues. As the subjects discussed the issues

presented to them loudly and collectively, the interviewer gathered more valuable and comprehensive information (Fraenkel & Wallen, 2008; Cohen & Manion, 1994). However, one inconvenience that the researcher encountered was the tendency of the interviewees to lose focus and deviate from the relevant discussion topic. The researcher tried as much as possible to interrupt distractions and guide the discussion back to the right track (Fraenkel & Wallen, 2008; Cohen & Manion, 1994). Some of the interview questions were very interrelated which made teachers' answers either mixed up or imprecise. The interviewer in such cases had to interfere to clarify or stop the teacher where needed, and encourage interviewees to expand and elaborate in other places. She encouraged the teachers to "expand on what they think but neither leading them nor challenging them" (Drever, 1995, pp. 23, 24).

### *Observations*

In qualitative observations, the observer uses all his/her five senses and records them on a data sheet (Fraenkel & Wallen, 2008; Cohen, Manion & Morisson, 2004). In this study, this instrument was used in order to validate the answers of the teachers from the interviews and the questionnaires. Furthermore, the researcher used this instrument to develop a more detailed description of teachers' behaviors during some professional activities (Foster, 1996)

This instrument was used to collect data from some internal activities, namely study groups, in-service days, SPEC, and outreach workshops. The researcher chose these four activities based on several criteria. First, these activities are shared between middle and secondary teachers allowing the researcher to observe simultaneously a large sample of teachers from both divisions. Second, these activities are labeled 'highly important' at the school. On the other hand, outreach workshops are chosen based on their uniqueness. Third, the selected

activities may not be considered as a common version of regular professional development activities.

The researcher assumed the role of a participant observer, who enrolled in the activities and collected data covertly and anonymously. The researcher has chosen to conduct all observations personally to avoid the data collector bias internal threat. Moreover, the ‘covert’ and ‘anonymous’ gathering of data was intentionally implemented to satisfy validity and ethical considerations (Fraenkel & Wallen, 2008). A checklist (Appendices III a, III b, III c, III d, III e), that was adapted from the work of Burns (2000) and designed by the researcher based on the research questions and some guidelines from the “Guide 1: Training Package Assessment Materials Kit, DETYA 2001”, was meant to help in the validation of teachers’ claims reflected in the surveys and interviews.

As Foster (1996), Fraenkel and Wallen (2008), and Mitchell and Jolley (2010) claim, it is inappropriate to rely on respondents’ views only when collecting data since they tend to expose the positive features of the school and themselves mainly with minimal reference to the negative features. Inspired by this argument, the researcher decided to collect data through observations. However, the researcher experienced some inconveniences while collecting data during the observation sessions. One major inconvenience was the long time that she had to spend at school. The researcher decided to limit the number of observed activities to diminish the impact of energy drain on the efficiency of data collection, but even the limited observations required long and exhausting consumption of time and effort. Another substantial inconvenience was the inevitability of the researcher’s induced bias. Since the observer was the researcher who was aware of the study’s hypothesis, the collected data might have been prejudiced (Fraenkel & Wallen, 2008; Cohen & Manion, 1994). In order to reduce the researcher bias, the observation

checklists were made specific and detailed. Moreover, the observation data was directly transcribed and analyzed. These measures were taken to minimize observer's bias by eliminating the potential tendency of the observer to add personal views (Mitchell & Jolley, 2010).

*Reliability and Validity of instruments, data analysis and results*

According to Mitchell and Jolley (2010), reliability of an instrument expresses the repeatability and regularity of the answers collected using this instrument. On the other hand, validity is regarded as a test to check if the instrument is measuring what it is supposed to measure. The issue of reliability was observed throughout the study from the initial planning stage till data analysis. The researcher, after consultation with experts and knowledgeable professionals, made sure that each item/question in the questionnaires, interviews, and checklists was clear, free from any possibility of contradictory interpretations, and aligned with the rationale and purpose of the study. Furthermore, the reliability was enhanced through piloting of instruments .The main technique, used to improve the internal validity of the study, was triangulation. The literature defines triangulation as a method that is based on using a different numbers of approaches to investigate a certain research question. The purpose of such method is to boost the validity of the obtained results (Fraenkel & Wallen, 2008; Burns, 2000; Cohen, Manion & Morrison, 2004). As Webb, Campbell, Schwartz, and Sechrest (1966) suggested, "once a proposition has been confirmed by two or more independent measurement processes, the uncertainty of its interpretation is greatly reduced" (p.3). All the data analysis procedure was based on gathering information from three different sources (surveys, interviews, and observation). Often, analysis of school documents was used as an asset. Triangulation and piloting were used jointly to improve the quality of collected data, enhance the accuracy of the researcher's analysis, and eventually to give more chance for generalizability of research

outcomes (Fraenkel & Wallen, 2008; Burns, 2000; Cohen, Manion & Morrison, 2004; Golafshani, 2003; Mitchell & Jolley, 2010).

The major threats to internal validity were mortality, subject characteristics, and instrument decay. Subject characteristic threat was a concern because the sample was purposeful and not random. However, the sample that filled the questionnaire was variable in terms of educational backgrounds, experience, age, and gender in a way that may narrow the margin of selection bias (Yu & Ohlund, 2010) .Mortality threat was another challenge to the internal validity, since a sufficient number of completed questionnaires are usually needed in order to make meaningful analysis and reasonable inferences. But in general, after examining the completed surveys the researcher noticed that no serious bias or lack of meaningful information emerged in a way that jeopardizes the internal validity (Mitchell & Jolley, 2010; Fraenkel & Wallen, 2008)

Because the data collection was exhausting, data collection took place in two different timings to avoid the instrument decay threat. The questionnaires were all distributed and collected at the end of the academic year 2008/2009, while interviews and observations were divided between the last week of the academic year 2008/2009 and the first week of September 2009 (beginning of the academic year 2009/2010). Ethical concerns were treated carefully in this study.

Following the guidelines by Fraenkel and Wallen (2008) and Burns (2000), confidentiality of the information and the identities of the participants were protected. Furthermore, participants were treated with respect, and the researcher made sure that all research procedures and tools were free from any physical or psychological harm to the participants in the study. Special attention to the ethical concerns was given by the researcher since she was conducting the study on her colleagues. Conducting the study in the researcher's workplace was an experience characterized by advantages and disadvantages. Being a teacher at school X increased the flexibility associated

with the study's preparations and data collection. Most of the data collection was done during the researcher's free periods at school. Furthermore, most teachers and the administration were cooperative and helpful in the preparatory and appropriation stages of the study. On the other hand, the researcher had to make considerable effort to reduce her personal involvement, bias, and subjective judgments during collection and analysis of data (Mitchell & Jolley, 2010; Fraenkel & Wallen, 2008).

### *Data Analysis*

The collected data was analyzed to determine whether they provide corroborative evidence for the effect of professional development on teachers' practices and motivation. The interviews and questionnaires were used to investigate whether any of the professional development activities were regarded as more beneficial than others. In-depth analyses were conducted for comparing teachers' attitudes (middle/secondary, science/non-science, 5 years of experience/less than 5 years of experience), identifying general and specific attitude trends, recognizing reasons behind teachers' perspectives, deducing the impact of teachers' attitudes on their practices, and synthesizing evidence-based propositions for modification and development. The data collected from the instruments allowed for collection of qualitative (survey's open ended questions, interviews, and observations) and quantitative (Likert scale) data. The second research question and part of the first research question were addressed by quantitative data analysis based on calculating averages and percentages. While the second part of the first research question and the third research questions were addressed by qualitative data analysis.

The qualitative data was analyzed based on the steps of the QDA (qualitative data analysis) process described by Seidel (1998).

The author explains that QDA is based mainly on three “notes”: noticing (and coding), collecting and thinking. The first phase comes directly after the data collection phase, where the researcher reads the information and starts noticing traits, similarities, and contradictions and takes side notes. Coding is then done by giving names to the interesting points noticed and recorded. The second phase is collecting and categorizing the data. Jorgensen (1989) defines data categorization as a process that involves breaking up, sorting out, or disbanding the information into chunks, building blocks or units. He stresses the fact that the researcher should sort the collected information by searching for common patterns, types, classes, sequences in order to reconstruct a meaningful whole. The last stage of the QDA is the “thinking” process. At this stage, the researcher compares and contrasts each of the groups and units created in the previous stage in order to find similarities, differences or patterns. This process gives the researcher the opportunity to develop a holistic and analytical view of the accumulated data.

In this study, the data collection section is divided into three main parts based on the three different research questions. The first section that deals with the first research question (What are the attitudes of the secondary and middle school teachers at “School X” regarding the effect of the school’s professional development programs on the quality of their teaching practices and motivation) is divided into two branches. The first one is labeled “The impact of professional development activities on teachers’ practices and motivation: General trends in opinion” while the second part is titled “most beneficial aspects of the different activities.”

#### Questionnaires

Copies of the survey were distributed to middle and secondary teachers during weekly departments’ meetings at the beginning of June 2009. By the end of the month, ninety-two teachers returned their copies to the researcher who used the responses to classify each

professional development activity offered by the school under one of the following three categories: “Has a positive effect on teacher’s practices and motivation”, “has a negative effect on practices and motivation”, and “has no effect on practices and motivation”.

After collection and examination of the Likert-scale data, teachers’ responses were clustered into four themes (Menlo & Poppleton, 1990): communication of experiences, adequacy and appropriateness of implementation, use of written documents, enhancement of and motivation for further growth. In order to analyze the results of the second research question and part of the first research question, average scores were calculated. These scores were used as indicators for professional development’s influence on teachers’ attitudes. These scores were calculated in two steps. First individual scores for each item in a specific theme are calculated and then the theme’s average score is determined by calculating the individual items’ averages. The results obtained are tabulated and presented in chapter four.

In order to analyze the data collected by the survey that falls under the first branch of the first research question, two different methods are used. A general presentation of middle and secondary teachers’ attitudes is summarized in a table and a graph (p. 49). Then, a more in-depth look is accorded to the responses collected from the Likert-Scale type questions. The results of the ‘in-depth look’, which are presented as scores out of five points, are clustered into four themes as discussed above. At the end of this section, a table that shows the different themes and the collected results from both middle and secondary school teachers is used to summarize the collected data (p. 52).

The results of the second branch “most beneficial aspect of the different activities” that are derived from the questionnaire’s data are tabulated (Appendix VI). Aspects like coordination, exposure, enhancement of awareness, social interaction and professional motivation, developing

expertise and finding resources and finally feedback and reflection are treated. The tables containing the detailed information are found in chapter four.

The results that fall under the second research question seeking a meaningful comparison between the different groups of teachers (Secondary/Middle; Science/Non-Science; and Teachers teaching for less than 5 years/ teachers teaching for more than 5 years) is based on the answers of teachers collected in the Likert scale part of the questionnaire. This section is divided into three main parts (Secondary vs. Middle school teachers; Teachers teaching for less than 5 years vs., teachers teaching for more than 5 years; and science vs. non-science teachers). In each of these three parts, scores are calculated and represented as scores (out of five) for each theme of the four themes discussed earlier. For each group of teachers, the averages of the individual items and different themes are tabulated (p. 64 and 65 for the comparison between middle/secondary teachers; pp. 67 and 68 for the comparison between teachers teaching for less than 5 years and teachers teaching for more than 5 years; and pp. 69 and 70 for the comparison between science teachers and non-science teachers).

The questionnaire results derived from the second open-ended question corresponds to the third research question (What are teachers' recommendations to improve the quality of the Professional development program provided by their school?). Results collected were clustered into the following themes: communication, specificity, and timing, satisfaction of teachers' needs, monitoring progress and follow up, financial motivation. Results were summarized and tabulated in chapter four (p. 74).

### Interviews

The interviews' results related to the first research question collected are divulged using a detailed description of what the teachers said. The results showed the answers of the middle and secondary school teachers separately. Questions one and six tackled this part of the study.

The interviews results related to the second branch of the first research question, "most beneficial aspect of the different activities", are included separately to mirror the middle – secondary teachers' explanations in the different interview sessions. Questions two and three tackled this part.

The results of the interview questions summarized in details the answers of teachers to two questions (four and five) that tackled the general trends in proposed modifications.

### Observations

The observation instrument was only used to tackle the first research question: What are the attitudes of the secondary and middle school teachers at "School X" regarding the effect of the school's professional development programs on the quality of their teaching practices and motivation. The prepared checklist was used and the collected data was summarized in the form of two tables (Appendices IV and V) that reveal teachers' behaviors during some PD sessions. The first table (Appendix IV) summarizes teachers' behaviors during in-service days (academic and recreational workshops), study groups, SPEC and IT workshops. The behaviors are clustered to address:

- The extent of engagement in performance of tasks
- The level of appreciation and satisfaction

The second table (Appendix V) summarizes the behaviors of teachers who present outreach workshops. The behavioral indicators in this addressed the issue of confidence, readiness and

preparation; creation of positive and productive culture; and maintenance of efficient communication and collaboration.

The next chapter presents in details the results collected from the different instruments and that are clustered under the three research questions “What are the attitudes of the secondary and middle school teachers at “School X” regarding the effect of the school’s professional development programs on the quality of their teaching practices and motivation? How do the attitudes of teachers’ with different profiles (discipline, grade level, and years of experience) compare? What are teachers’ recommendations to improve the quality of the Professional development program provided by their school?”

## Chapter Four

### Findings

#### *Introduction*

This chapter presents the data collected from school X's middle and secondary teachers using a questionnaire, focus-group interviews, and observations. Questionnaires (Appendix I) were distributed to 120 teachers at school "X" and 92 copies were returned. Four focus-group interviews were conducted where 5 or 6 teachers in each session sat together to confer, argue, and discuss six questions prepared by the researcher (Appendix II). Observations of some of the internal activities occurring at the school were meant to verify whether teachers' claims in the questionnaires and interviews were legitimate (Observation checklist in Appendix III a, b, c, d, and e). The use of three different methods to collect information aimed to triangulate the data and check for accuracy. Results of data analysis for each instrument were used to address each research question.

This chapter is divided into three main sections addressing the three research questions:

- a. What are the attitudes of the secondary and middle school teachers at "School X" regarding the effect of the school's professional development programs on the quality of their teaching practices and motivation?
- b. How do teachers' attitudes compare (Science/Non-science; Middle/ Secondary; teachers teaching for less than 5 years at school X/ teachers teaching for more than 5 years at school X) regarding professional development?
- c. What are the teachers' recommendations to improve the quality of the professional development program provided by their school?

*What are the attitudes of the secondary and middle school teachers at “School X” towards PD?*

This section is divided into two parts:

- The first part, “The impact of professional development activities on teachers’ practices and motivation: General trends”, reveals middle and secondary teachers’ general attitudes regarding the way that professional activities impact their practices and motivation.
- The second part, “most beneficial aspects of the different activities”, exposes the teachers’ views regarding the most beneficial aspects of each of the professional development activity presented at school X.

*Views on the impact of professional development activities on teachers’ practices and motivation: General trends in opinion*

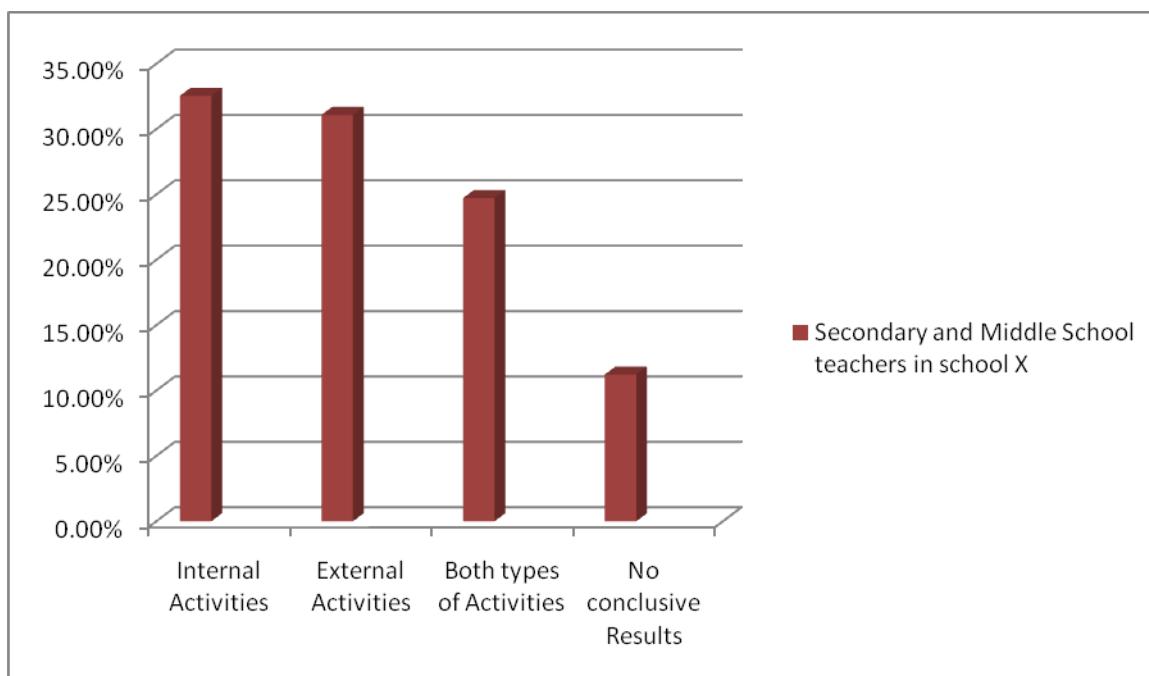
#### Questionnaire Results

In general, teachers’ responses reveal views that professional development activities provided by School “X” have a positive impact on their practices and motivation, but confirm that some activities are more beneficial than others. Questions assessing the impact of internal and external activities on motivation and practices reveal that some teachers regard external activities as more beneficial, while others attribute more gains to internal workshops (Table 4.1 and figure 4.1).

Table 4.1 Attitudes of Middle and Secondary school teachers towards the Impact of PD activities presented by the ERC

Item	Percentage of responses' (beneficial for motivation and practices)
Internal activities	32.55%
External Activities	31.09%
Both types of activities	24.73%
No conclusive Results	11.23%

Figure 4.1 Attitudes of Middle and Secondary school teachers towards the Impact of PD activities on motivation and practices



Teachers' responses collected using a Likert-Scale type questions in the first part of the questionnaire were clustered into four thematic categories: 'Communication of experiences', 'adequacy and appropriateness of implementation', 'use of written documents', 'enhancement of and motivation for further growth'. Average scores are used below as indicators for professional development's influence on teachers' perspectives. These scores are computed as follows:

- Individual scores for each item in a specific thematic category are averaged
- The thematic category's average score is determined by averaging the individual items' averages.

These scores are computed in order to produce representative figures for the thematic categories, in a way that allows for meaningful designations of teachers' attitudes (strongly agree, agree, undecided, disagree, and strongly disagree- these descriptions were used in the Likert scale).

#### *Communication of experiences*

Statements 2, 11, 12, 13 and 16 in the first part of the questionnaire tackle 'communication of experiences'. These statements were meant to elicit teachers' evaluations of the extent to which some of the activities help teachers exchange ideas, share experiences, learn about and from each others' professional challenges, and transmit knowledge and skills from one generation to another. The 'Communication of experiences' was sought for in teachers' responses to items associated with in-service days (intra/inter departmental interaction), mentoring (veteran / novice teachers, chairperson/department members), study groups (interaction between teachers belonging to the same /different departments and same/ different divisions), and the exchange program (communication between participating teachers and various segments of school community).

In general, teachers' responses suggest that activities supporting the communication of experiences seem to have a positive impact on teachers' practices and motivation (average score 3.83/ 5 i.e. comparable to the 'agree' score in the survey rubric).

#### *Adequacy and appropriateness of Implementation*

This theme is derived from teachers' responses to items 3,4,5 and 6 in section 3 of the questionnaire, which investigates teachers' attitudes regarding the appropriateness of their professional development for preparing students' for official exams and assess adequacy of implementation and adaptation of skills offered in fundamental strategies workshops (SPEC, APP etc....). The average score of teachers' responses is 2.90 meaning that teachers' attitudes towards the 'adequacy and appropriateness of implementation' of the learned techniques and new methodology is in the 'undecided' phase.

It is important to note that 9.4% of the secondary school teachers and 20% of the middle school teachers did not answer items four, five, and six.

#### *Use of Written documents*

The professional development activities that fall under this category, curriculum writing and accreditation project, are addressed by items 9, 10 and 15.

The average score of teachers' answers is 3.63 indicating that they are in between the 'undecided' and 'agree' phases. It is worth mentioning that the average score is negatively affected by the relatively low score of item nine (3.04) that investigates teachers' reliance on curriculum guides in their instructional planning and practices, and positively influenced by the score of item ten (3.95) that investigate the beneficial gains related to participation in the accreditation program.

*Enhancement of and Motivation for further growth*

The four items (1, 7, 8 and 14) that address this thematic category are centered on the role of professional development programs in promotion of teachers' professional growth, motivation and expertise, professional status, and professional creativity. The average score of teachers' responses is 3.93 which insinuates their agreement on the positive influence of the school's professional development program.

Table 4.2 the impact of the professional development activities on teachers' practices and motivation in School "X"

<b>Theme</b>	<b>Question Item</b>	<b>Average Score (/5)</b>
		<b>Secondary and Middle School teachers at school X</b>
Communication of Experiences	2, 11, 12, 13, 16	3.83
Adequacy and appropriateness of Implementation	3, 4, 5, 6	2.90
Use of Written documents	9, 10, 15,	3.63
Enhancement of and Motivation for further growth	1, 7, 8, 14	3.93

#### Interview Results

Interview Items one and six address the first research question. All the interviewees (middle and secondary) reflected a general agreement on the importance of professional development and its impact on teachers' practices and motivation. But Secondary

teachers claim that external activities (conferences, IB workshops, and exchange program) are more beneficial, while Middle teachers believe that internal activities (study groups, fundamental strategies and IT workshops, outreach, curriculum writing and accreditation project, in-service days) are more helpful.

The Arabic coordinator of the secondary school pointed out that teachers are benefiting from the professional development activities consciously or subconsciously. He explained that teachers' practices are regularly enriched by new methods year after year. A veteran secondary school physics teacher considered professional development as an essential component of a teacher's career. He elaborated that the curricula and programs are dynamic, developmental, and help teachers maintain high standards of professionalism. The head of the physical education department argued that the benefits of PD activities depend equally on years of experience and the source of the professional development. He said "New teachers benefit more than veteran teachers from workshops. Experienced teachers do not benefit in general unless PD activities are designed and implemented by reputable international experts". The math teacher disagreed and believed that whether new or veteran, both teachers do benefit in a way or another. She said "A well planned professional development activity provides new teachers with methods of teaching; while it helps veteran teachers see things from a different perspective". On the other hand, middle school teachers contended that beneficial professional development activities are those that are tailored to fit teachers' needs and the school's culture.

When asked about teachers' attitudes towards attending School X's professional development program, all interviewees (middle and secondary) agreed that "Teachers' attitudes are generally negative". These negative attitudes, the interviewees explained, are derived from teachers' overwhelming workloads and the incompatibility between workshops' generality and their specific needs.

After a fruitful long discussion, the secondary school teachers came to the conclusion that teachers' attitudes are related to items like teacher's age, teachers' loads and degree of involvement in school's culture, scheduling, type and relevance of workshops, and incentives for participation. These results are comparable to the data found in the literature (Nabhani & Bahous, 2010). The head of the chemistry department in the secondary school said: "The attitudes of teachers would be totally different if the school creates a reward policy (financial or moral) to motivate teachers". The head of the IT department in the secondary school affirmed that "teachers believe that if they attend a four hour workshop, they should benefit and learn new techniques at every minute of the four hours! This is not possible! Teachers cannot benefit 100% from a workshop unless we are talking about a new teacher. Everyone benefits from workshops even if they are not explicitly noticing it." The math teacher (shared in middle and secondary schools) noted "I assume that if the workshops were optional, only 30% of the teachers would attend. And from these 30%, most of them would be novices who are eager to learn and gain the experience that veteran teachers have."

### Observation Results

Observation sessions for the different internal professional development activities were divided into two major parts: "school X's teachers as participants" and "School X's teachers as presenters". Two different observation checklists were used for each of these cases (Appendices III a, b, c, d, and e). The observations, that were planned to examine teachers' behaviors in authentic situations, focused on assessing the quality of teachers' participation in professional development activities in terms of number of 'active' teachers and the frequency of involvement. The terms "regularly", "often", "Rarely", and "not at all" were chosen to respectively describe teachers who responded to almost every activity, most activities, some activities, and none of the activities. Descriptors of teachers' behaviours were chosen from the following list:

- All teachers regularly(1)
- All teachers often(2)
- All teachers rarely (3)
- All teachers are not involved at all (4)
- Most teachers regularly(5)
- Most teachers often(6)
- Most teachers rarely (7)
- Most teachers are not involved at all (8)
- One or few teachers regularly (9)
- One or few teachers often (10)
- One or few teachers rarely (11)
- One or few teachers are not involved at all (12)

In the type of observed activities, it was quite impossible to count exact numbers of behavioral occurrences. The descriptors indicated above represent the outcome of the researcher's consultation with two experienced professionals at school X who have been closely involved in planning and presenting outreach workshops in the past ten years. The professionals helped the researcher in identifying the common behavioral indicators that reveal teachers engagement in and appreciation for the professional development activities. To enhance the trustworthiness of these descriptors the researcher gave specific definitions for the words "regularly", "often", "rare", "few", and "most":

- Regularly: A behavior that occurs explicitly in all sections of the PD session.
- Often: A behavior that occurs in most but not all sections of the PD session
- Rare: A behavior that occurs in few sections of the PD session.
- Most teachers : between 50 % and 99 % of the participants

- Few teachers: less than 50 % of the participants

The researcher and her consulters agreed on the descriptors and their definitions before the actual observations were made. They prepared a common tabular format that was used when observing the different sections of the sessions. The symbol ‘X’ was placed in the table’s cells to indicate the labeling of behaviors (Adapted from Burns, 2000)

Indicator	Descriptor											
	1	2	3	4	5	6	7	8	9	10	11	12

#### *School X's teachers as participants*

One session of each of the activities was attended. The choice of the activity was done randomly based on the availability of the workshop during the interval of data collection. The observation checklist items were clustered into three major themes: Performance of tasks, exhibiting signs of appreciation, and active engagement and participation. Since different activities have different work scenarios, some items that appeared in some checklists were deleted from others. The results of the different observations are summarized in the table presented in Appendix IV. It is quite difficult to make clear impressions or infer persistent patterns form the observational outcomes tabulated in appendix IV. However, there is some evidence that:

- SPEC and IT sessions seem to elicit more appreciation from teachers

- Engagement of teachers is relatively high during the professional development session but decreases when teachers are required to complete tasks after the session
- Teachers tend to get engaged highly during arguments with the presenter and each other (extending their concerns, questioning feasibility in class, communicating what they actually do with their students...), but they show less motivation to actual performance of tasks during sessions.
- Teachers' signs of appreciation are not appreciable noticeable.

*School X's teachers as "presenters"*

The professional development activity that was addressed in this part of the study was the outreach program. Four sessions were attended and analyzed. The behaviors of the different workshop presenters, school X teachers, were studied in order to validate the answers of teachers that were collected through the questionnaire and the focus-group interviews. The seventeen items of the observation checklist that was used in this case were divided into three themes: confidence, readiness and preparation; creation of a positive and productive culture; maintaining efficient communication and collaboration. The collected data can be summarized in a table presented as Appendix V. The emerging patterns here may be outlined as follows:

- Presenters prepare well for their workshop and create a 'discussion' atmosphere during their sessions
- Presenters make an effort to develop a good relationship with their audience through pleasant communication practices and regular check for understanding.
- No clear effort is made to explain rationales of proposed strategies. Emphasis is put on the mechanical applications

*Most beneficial aspect of the different activities*

## Questionnaire Results

The second part of the questionnaire targets the most beneficial aspects of the different professional development activities provided by school X. High coherence between the middle and secondary teachers can be easily noticed in this part since most of the activities are common at both levels. Teachers' answers in this regard may be classified into six themes, namely: Coordination, exposure, enhancement of awareness, social interaction and professional motivation, developing expertise and finding new resources, and receiving feedback and promoting personal reflection. The table in Appendix VI summarizes the collected data in this part.

## Interview Results

Questions two and three tackled the topic "*Most beneficial aspect of the different activities*". Teachers were provided with a list of the different professional development activities provided by school X and were asked to list and explain why these workshops are considered important. Their answers came as follows.

*IT workshops*

Both Middle and Secondary school interviewees regarded 'exposure' and 'communication' as the most beneficial aspects of IT workshops. They construe that by learning varied uses of IT, teachers expand the space of contact with their students (use of blogs, e-mails, website posts etc....). A secondary school philosophy teacher strongly defended this position by saying: "In Rome do what Romans Do! This generation of students is addicted to computers and technology. In order to motivate students, one needs to use their language. You make your students more interested when you use visual aids from the internet." All interviewees agreed that teachers should be IT literate to stay up to date with the latest educational techniques,

resources, and software. The head of the activities department contended: “IT is specifically important in my field to promote students’ work. This is why it is a must that teachers learn how to use IT properly”. The head of the school’s IT department (middle/secondary) interpreted the importance of the IT workshops by “the supervised interaction with the machine”. He explained: “Some veteran teachers have some kind of phobia from the machine and the internet. Immediate help provided in workshops breaks the tension and ‘dilutes’ the resistance towards IT.”

#### *Outreach program*

The secondary school interviewees confirmed the importance of the outreach program since it gives teachers good opportunities to share their experiences and learn about other teachers’ problems in other schools of the local community. The head of the IT department insisted that “It’s like a community service for teachers! Since there is no time to do ‘good’ on your own, this program gives you a convenient chance to help teachers who really need help in the community”. The secondary school’s interviewees were confident that leading outreach workshops should enhance teachers’ skills and proficiency. When presenters interact with participants, they often have to adapt their presentation to address different needs and backgrounds. This adaptation is enriching to the presenter’s experience in terms of skill and subject matter. Teachers of the middle school added that outreach workshops are important for school X’s teachers since they make them recognize their professional status as compared to other schools. They said: “We find ourselves at a very advanced stage compared to other teachers. This motivates us greatly.”

#### *Study Groups*

The shared math teacher between the middle and the secondary school defined the study groups as “sessions where teachers have the chance to reflect on their own teaching practices”. Interviewees from both divisions agreed on ‘communication’ as the most important aspect of a

study group. Teachers stressed the importance of the vertical coordination that takes place during study groups' sessions. The Biology teacher said: "Secondary and middle school teachers get to work together and explain how they see things from their perspectives. This helps teachers realize the continuum of the different subjects they teach". The Chemistry coordinator reflected: "Study groups increase our feeling of belongingness to the school". Secondary school interviewees argued that the importance of study groups' discussions lies in the integration of different disciplines leading to synthesis of new learning, ideas and thoughts. "We learned how to use a scientific method to teach philosophy!" said the secondary school philosophy teacher during the interview.

#### *Accreditation program*

All interviewees believed that the feedback of the accreditation team and the implications of such a project help teachers develop mature perspectives concerning their strengths and weaknesses. "This feedback launches new plans for improvement", noted a middle school Arabic teacher. According to the interviewees, accreditation recommendations motivate teachers by identifying high standards and setting achievable goals. Teachers learn how to set their priorities. "This self evaluation made us learn how to be honest with ourselves" stated the middle school social studies teacher. The shared Arabic teacher concluded: "It helps you improve and stay challenged at all times since it tackles all aspects of the school (curriculum, assessment, school playgrounds, toilets etc...)".

New teachers did not answer this question. They barely have an idea about the accreditation project, and were not involved in any of the committees formed at school during the project.

*In-Service days*

In the four interviews, most teachers expressed a negative attitude towards in-service days. They said: “If the school keeps it as it is (general or repeated topics, getting unqualified people to give the workshops), this activity will never be beneficial at all!” Some teachers suggested a new version of in-service days that should be designed to become ‘extended department meetings’, where teachers have sufficient time to conduct more elaborate discussions and performances. The new Arabic and math teachers considered in-service days important, since teachers are given the chance to select what is interesting, appropriate, and relevant to them from a variety of topics. The head of the activities department supported his colleagues’ opinion, and found special potentials associated with the ‘academic’ and ‘recreational’ sections of in-service days. To him, “a recreational workshop is a field where stress is relieved, and stronger bonds among teachers are developed”. The head of the chemistry department asserted that in-service days allow the vertical and the horizontal coordination in the school. Furthermore, he suggested that “it is an opportunity for department chairpersons to empower their teachers by asking them to choose topics and lead some sections of the workshops”.

*Fundamental Strategies workshops (SPEC and APP)*

The secondary school philosophy teacher and the shared math teacher agreed that the most beneficial aspect of the fundamental strategies workshops is centred on developing expertise and finding resources. Teachers are provided with skills, strategies and the newest trends in education to improve their practices and manage their classrooms effectively. They elaborated that these workshops give teachers from different departments and levels the opportunity to collaborate and learn from each others’ experiences. This would create a better social interaction in the different levels of the school.

It is important to note that the information collected for this part is very limited since most of the interviewees, who were not knowledgeable about these activities, could not answer any of the questions.

*Curriculum writing project*

Middle and Secondary interviewees stated that the curriculum writing project (lasted from 2001 to 2006) was very beneficial to them. They described it as one of the most important projects done at school. The head of the Arabic department at the secondary school said: “This is what I call the democracy of teaching!” The secondary school physics teachers explained that teachers wrote their own curricula for the Lebanese program, defined and acquired a better understanding of the objectives, learned new assessment techniques addressing different perspectives and different learning styles, introduced new teaching methods to be used, etc... According to him, this project unified the curricula taught in the different sections, and most importantly unified the assessment process. “This is how we insure a fair assessment to our students” he claimed. He added that this project helped teachers clarify their ideas and have a comprehensive understanding of the curriculum for the subject they are teaching. The outcomes of this project, namely curriculum guides, emphasize how School X’s students must be taught. “If a teacher decides to leave, we, as a school, do not feel any risks, since detailed procedures of how things should be done are written in this project”, explained the head of the Arabic department at the secondary school. Furthermore, teachers of the secondary school agreed that this project empowered teachers greatly. “By giving them the authority to choose their own standards and objectives, teachers are motivated to put their hearts in what they do”, affirmed the shared head of the activities department at school X. The biology teacher added that although it was a tiring process, but this project has ‘drawn the best out of teachers’. Middle school teachers believed that this project was important since it helped teachers aim higher. According to them,

the Lebanese program books are not of good quality, and this is why a new manual that is aligned with the mission and vision of school X is indispensable. The head of the IT department (middle/secondary) noted that in order to keep the benefits of this project for a longer period of time and avoid obsoleteness, the written curricula should be updated every few years. He said “we should have “living curricula” especially in IT and sciences”.

It is important to note that only the veteran teachers who participated in the writing of the curricula were able to answer this question.

#### *Exchange programs*

The secondary and middle teachers agreed that the exchange program helps teachers learn about new ideas, techniques, skills and methods that are implemented in other international schools around the world. “This exposure is crucial for teachers to widen their teaching perspectives. I found that the idea of students going to their teachers is more practical than teachers going to students in fixed classrooms” affirmed the secondary school physics teacher. Interviewees from middle and secondary schools concluded that this program affects the social life of participant teachers who have the chance to meet new people from different cultures around the world. Furthermore, secondary teachers identified a motivating element in exchange visits. The head of the Arabic department explained: “When we discover that what we do here exceeds what is done at international schools, we feel really proud”. In addition, middle school teachers believed that this program is supportive to visual teachers who benefit more from authentic and direct observations. Middle teachers associated gains of the exchange program with experiences in reputable international schools.

#### *IB Workshops*

Secondary teachers (enrolled in teaching IB courses) stressed that IB workshops represent a compelling need. Without IB workshops a teacher can not teach the IB program since

it is quite different from common programs in Lebanon (assessment, content, resources etc...).

“In IB you can not go by the book especially that the program has a large framework and is updated every seven years” indicated the IT head. Interviewees from IB program claimed that attending IB workshops is a very rich experience since it provides teachers with resources, skills and methods that are very relevant to their subject matter. “It tells you what is expected from your students and how they will be assessed in official IB exams, and this helps us set better strategies to meet the IB objectives and expectations” said the secondary school math teacher. The teachers added that such workshops present an opportunity to share experiences and resources with different IB teachers around the world. Furthermore, teachers would make connections and friendships that could be of great help at different stages of their teaching profession. The physics IB teacher advocated online IB workshops since they allow teachers to work at their own pace.

#### *Conferences (NESA, TARA etc...)*

The distinguished key-note speakers and specialized features of these conferences are the two most beneficial aspects of this program. The secondary school philosophy teacher said: “Certain subjects are very theoretical (like philosophy) so it helps a lot to hear about these philosophical matters from well known speakers rather than participating in workshops”. In addition to exchanging ideas, experiences, and useful teaching strategies, conferences grant teachers from different countries the chance to lead concurrent sessions. “Preparing the presentation and presenting it in front of teachers from different countries and backgrounds affects teachers’ practices and motivation” said the head of the chemistry department at the secondary school.

*Comparison between the attitudes of different groups of teachers regarding professional development*

The comparison between the different groups of teachers (Secondary/Middle; Science/Non-Science; and Teachers teaching for less than 5 years/ teachers teaching for more than 5 years) is based on teachers responses to questions formulated according to Likert scale. The data was analyzed and averages for the different items were computed. Then the items were clustered into four themes (communication of experiences, adequacy and appropriateness of implementation, use of written documents, and enhancement of and motivation for further growth) as explained in the first part of this chapter. The obtained results are exposed in the sections below.

*Secondary/ Middle teachers*

The average scores of the different items for the Secondary and Middle school teachers are presented in the table below.

Table 4.3 Average score of Secondary vs. Middle school teachers from Likert scale questions of questionnaire

	Average Scores (/5)	
	Secondary Teachers	Middle teachers
Question 1	4.15	4.50
Question 2	4.03	3.80
Question 3	2.47	2.30
Question 4	2.86	3.29
Question 5	3.17	3.75
Question 6	2.72	3.38
Question 7	3.87	3.11
Question 8	3.90	3.89
Question 9	3.09	3.00
Question 10	4.00	3.90
Question 11	3.78	3.00

Question 12	4.03	3.70
Question 13	3.55	3.10
Question 14	3.90	3.60
Question 15	3.78	3.00
Question 16	3.74	3.30

Table 4.4 The impact of the professional development activities on teachers' practices and motivation in School X: Secondary vs. Middle school teachers

<b>Theme</b>	<b>Question Item</b>	<b>Average Score (/5)</b>	
		<b>Secondary School</b>	<b>Middle School</b>
Communication of Experiences	2, 11, 12, 13, 16	3.83	3.78
Adequacy and appropriateness of Implementation	3, 4, 5, 6	2.81	3.18
Use of Written documents	9, 10, 15,	3.72	3.33
Enhancement of and Motivation for further growth	1, 7, 8, 14	3.96	3.80

The figures in tables 4.3 and 4.4, suggest that middle and secondary teachers perceive activities supporting the 'communication of experiences' as having a positive impact on their practices and motivation (average scores for secondary and middle are respectively 3.83 and 3.78, which is comparable to the 'agree' score in the survey rubric.)

Concerning 'adequacy and appropriateness of implementation' average scores of middle and secondary teachers (3.18 and 2.81 respectively) indicate that teachers' attitudes fall within

the ‘undecided’ phase. In the case of secondary teachers, the scores for the individual items three, four, five and six (2.47, 2.86, 3.17, and 2.72 respectively) range between ‘disagree’ (score of 2) and undecided (score of 3). The profile of middle teachers is only different when it comes to adaptation of fundamental workshops strategies. Average scores of their answers to item five (3.85) suggest that they ‘agree’ that fundamental workshops are adapted into classroom cultures in school X.

Secondary teachers ‘agree’ on the positive influence of the ‘use of written documents’ on their practices and motivation (average score 3.72), whereas middle teachers seem ‘undecided’ (average score 3.33). Although middle teachers seem to believe that the experience they gained when working on curriculum guides improved their understanding of the curriculum design and applications (score 4.00), they are apparently ‘undecided’ whether these curriculum guides are regularly used by teachers when planning their lessons (3.00). Furthermore, middle school teachers do not seem to ‘agree’ on the positive impact of the accreditation recommendations on their teaching practices (score 3.00).

Concerning the thematic category ‘enhancement of and motivation for further growth’ middle and secondary teachers’ average scores are 3.96 and 3.80 respectively, indicating that teachers ‘agree’ that the professional development offered at school X has a positive impact on their practices and motivation. The range of scores for middle and secondary teachers support this conclusion (secondary range: 3.87 and 4.15; middle range: 3.60 and 4.50)

*Teachers who have teaching for less than 5 years/ Teachers who have been teaching for more than 5 years*

The average results of teachers that have been teaching for less than five years and the teachers that have been teaching for more than five years in school X were computed. The results are summarized in tables 4.5 and 4.6 below. For convenience, Teachers who have been teaching

for less than 5 years are going to be designated by ‘less experienced’ (LE) and Teachers who have been teaching for more than 5 years will be designated by ‘more experienced’ (ME).

Table 4.5 Average score of answers of teachers who have been teaching for less than 5 years vs. teachers who have been teaching for more than 5 years

	Average Scores (/5)	
	Teachers who have been teaching less than 5 years in school X (LE)	Teachers who have been teaching more than 5 years in school X (ME)
Question 1	4.78	4.13
Question 2	4.23	3.77
Question 3	1.97	2.97
Question 4	2.48	2.89
Question 5	3.10	3.20
Question 6	3.26	2.84
Question 7	4.16	3.44
Question 8	4.06	3.82
Question 9	3.10	3.39
Question 10	4.19	4.20
Question 11	4.48	3.51
Question 12	4.32	3.79
Question 13	4.26	2.80
Question 14	3.74	3.34
Question 15	3.58	3.28
Question 16	3.97	3.67

Table 4.6 The impact of professional development activities on teachers' practices and motivation in School X: experienced vs. non-experienced teachers' opinions

<b>Theme</b>	<b>Question Item</b>	<b>Average Score (/5)</b>	
		Teachers teaching less than 5 years in school X	Teachers teaching more than 5 years in school X
Communication of Experiences	2, 11, 12, 13, 16	4.25	3.51
Adequacy and appropriateness of Implementation	3, 4, 5, 6	2.70	2.98
Use of Written documents	9, 10, 15,	3.62	3.62
Enhancement of and Motivation for further growth	1, 7, 8, 14	4.19	3.68

In general, LE teachers have higher average scores than ME teachers on all thematic categories, except for the 'adequacy and appropriateness of implementation' (2.70 vs. 2.98). The displayed data above suggest that LE teachers perceive activities supporting the 'communication of experiences' as enriching to their practices and motivation (average score: 4.25/5, i.e. comparable to the 'agree' score in the survey rubric). Whereas the average scores of the ME indicate that they range between the 'undecided phase' and the 'agree phase' (average score: 3.51).

Average scores of LE and ME teachers' (2.70 and 2.98 respectively) indicate that teachers' attitudes regarding 'adequacy and appropriateness of implementation' are within the

'undecided' phase. Yet, it is important to note that the ME have higher average scores for the overall thematic category and individual items within the category.

LE and ME teachers have exactly the same average score (3.62) when it came to the third thematic category, 'use of written documents'. The answers show that the two groups of teachers 'agree' that teachers make use of written documents derived from accreditation and curriculum writing projects.

LE teachers seem to 'agree' (average score 4.19) that the professional development at school X has a positive impact on their 'enhancement of and motivation for further growth'. This positive attitude seems to be less pronounced in case of ME teachers ( average score 3.68).

#### *Science/ Non-Science teachers*

The average scores of the individual items of the Likert- scale part of the questionnaire are summarized in tables 4.7 and 4.8 below with the scores for the science teachers and the non-science teachers of the population.

Table 4.7 Average score of answers of science teachers 5 years vs. non-science teachers

	Average Scores (/5)	
	Science teachers (ST)	Non-Science teachers (NT)
Question 1	4.20	4.35
Question 2	4.30	3.87
Question 3	2.50	2.32
Question 4	2.60	2.58
Question 5	3.20	2.90
Question 6	2.83	3.15
Question 7	4.15	4.03
Question 8	3.87	3.90
Question 9	3.02	3.05
Question 10	4.10	4.13

Question 11	3.60	3.69
Question 12	3.88	3.95
Question 13	3.48	3.30
Question 14	3.72	3.61
Question 15	3.65	3.72
Question 16	3.78	3.82

Table 4.8 The impact of professional development activities on teachers' practices and motivation in School X: Science vs. non-science teachers' opinions

<b>Theme</b>	<b>Question Item</b>	<b>Average Score (/5)</b>	
		<b>Science teachers</b>	<b>Non-Science teachers</b>
Communication of Experiences	2, 11, 12, 13, 16	3.81	3.73
Adequacy and appropriateness of Implementation	3, 4, 5, 6	2.78	2.74
Use of Written documents	9, 10, 15,	3.59	3.63
Enhancement of and Motivation for further growth	1, 7, 8, 14	3.99	3.97

In general, the average scores of ST and NT are comparable indicating no significant attitudinal differences between the two groups. Both groups seem to 'agree' that activities supporting the 'communication of experiences' have a positive impact on teachers' practices and motivation (average score: 3.81 for ST and 3.73 for NT). Furthermore, science and non-science teachers exhibit a positive attitude when it comes to 'using written documents' and 'enhancement of and motivation for further growth'. Their average scores (3.59 and 3.63; 3.95

and 3.97 respectively) are comparable to the ‘agree’ score in the survey rubric. However, it is obvious that both groups of teachers do not show positive attitude when it comes to the thematic category of ‘adequacy and appropriateness of implementation’. Their comparable average scores fall under the ‘undecided’ phase (2.78 and 2.74 respectively).

*Teachers' recommendations to improve the quality of the professional development program in their school*

#### Questionnaire Results

The accreditation and curriculum writing projects are not included in this part of the questionnaire since these projects have been accomplished. So no modifications can be applied. Moreover, conferences and IB workshops are also not included here since school X does not have a say in the planning of these activities.

Answers of the middle and secondary teachers in this part of the questionnaire may be classified into six trends for modification:

- Developing a policy that governs the communication of professional development experiences in a way that maximizes professional gains for the whole school community.
- Planning workshops that target subject- specific content.
- Scheduling activities appropriately: neither when teachers are overwhelmed with routine school duties, nor in week ends or vacations.
- Planning workshops and activities based on teachers and students’ needs and interests to increase gain of knowledge and enhance teachers’ positive attitude towards the appropriated activities.

- Forming a committee that studies teachers' reports and develop plans to apply and monitor their recommendations and propositions. Teachers believe that devising an efficient follow – up system ensures better implementation and increases the chances of progress.
- Providing financial motivation for teachers who participate in these activities to enhance their interest and commitment

It is important to note that answers of the middle and the secondary teachers are similar in this section of the questionnaire. Besides the stated general trends, each activity acquires some additional specific comments, which are summarized below:

*Study Groups*

In order to have a more coherent and stronger culture in the school, a better communication between the different campuses of school X should occur by including teachers from both campuses in study groups. Furthermore, the teachers recommend that facilitators of study groups, before being appointed, should be provided with sufficient training in the essentials of managing study groups meetings and activities.

*Exchange program*

In order to increase the number of teachers who benefit from this activity, the frequency of exchange should increase (more than once per year). More frequent visits from foreign teachers would enhance fruitful interaction and collaboration with local faculty. Some teachers suggested a Lebanese interschool exchange program involving schools with different cultures and languages of instruction. To them, school X will benefit from this scenario especially that it offers a variety of educational programs.

*IT workshops*

Middle and secondary teachers request the availability of technological tools in the whole school and not just in some floors or some classrooms. This would facilitate the work of teachers and avoid the waste of time that results from moving technology sets from one classroom to another and eventually motivate more instructors to integrate technology in their teaching plans.

*Fundamental strategies workshops (SPEC and APP)*

Teachers suggest the compilation of SPEC and APP activities, plans, and videos in a 'resource bank' that is made available to all faculty members. Moreover, a call for assessing the productivity and applicability of these fundamental strategies is noticed in teachers' suggestions.

*In Service Days*

Some secondary and middle teachers argue that they should be given the chance to select two out of the three workshops offered during the in-service days, even if the afternoon workshops are meant to be recreational. Other teachers in both schools consider in-service days in their current version just a waste of time since they address broad topics and are given at times when teachers start to experience energy drains

*Outreach Program*

Specific suggestions for outreach program involve the launching of 'workshop modules' ( 3-5 consecutive sessions addressing different aspects of the same educational theme ), issuing end -of- module assessment certificates to participants ,enhancing communication with participants to follow up on implementation of strategies presented in workshops, inviting reputable and experienced teachers to increase the benefit of school X's teachers, and increasing the out-of- campus sessions to maximize contact with teachers especially those who live in remote areas and cannot come to school X.

The table below summarizes the results discussed above. It relates each PD activity to the proposed general trends in modification that applies to it. In total six themes are proposed (communication, specificity, timing, satisfaction of teachers needs, monitoring progress and follow up, and financial motivation), yet not all of them are applicable to the same activity. For example, teachers proposed to improve the exchange programs by improving communication, specificity and monitoring progress and follow up.

Table 4.9 The Major trends in proposed modifications for each professional development activity done in School “X”

Theme Activity \	Communication	Specificity	Timing	Satisfaction of teachers needs	Monitoring progress and follow up	Financial motivation
Study groups	Applicable	Applicable	Applicable	Applicable	Applicable	Applicable
Exchange programs	Applicable	Applicable	Not Applicable	Not Applicable	Applicable	Not Applicable
IT Workshops	Not Applicable	Applicable	Not Applicable	Applicable	Applicable	Applicable
Fundamental Strategies Workshops	Applicable	Applicable	Applicable	Not Applicable	Applicable	Applicable
In-Service Days	Not Applicable	Not Applicable	Applicable	Not Applicable	Applicable	Not Applicable
Outreach program	Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

### Interview Results

Two questions (questions number four and five) tackled the theme “*General trends in proposed modifications*”.

Three major trends for modifications are observed. Teachers believed that a system of monitoring and follow-up is crucial in order to maximize the benefits of the professional development activities.

Besides, they all stressed the importance of having a reward policy (recognition, financial etc...) that motivates them to work and participate in these workshops. Finally, teachers agreed that the timing of the workshops should be changed. The math teacher said: “How can they expect a positive feedback if they plan the workshop on my day off or directly after a long teaching day?”

In addition to these general trends in opinions, middle school teachers proposed to have more workshop presenters from developed countries. The head of the physical education department said: “We need people to give workshop who are more experienced than us in order to acquire gains. This would guarantee equal and balanced learning experiences for new and veteran teachers”. Finally, middle school teachers wished for a better choice of workshops. They asked for workshops that are tailored to fit their needs rather than general ones. They proposed that the administration asks teachers their opinions before deciding the topics of workshops.

In conclusion, this study uses questionnaires, focus group interviews, and observations to get answers for the following research questions: “What are the attitudes of the secondary and middle school teachers at “School X” regarding the effect of the school’s professional development programs on the quality of their teaching practices and motivation? How do the attitudes of teachers’ with different profiles (discipline, grade level, and years of experience) compare? What are teachers’ recommendations to improve the quality of the professional development program provided by their school?”

The data collected from the two different instruments (interviews and survey) show that teachers regard professional development program in their school as beneficial in general but could be enhanced further once certain elements are given more attention; these elements are appropriateness of scheduling, type and relevance of workshops, and existence of incentives for participation.

Furthermore, teachers expressed their satisfaction with certain activities more than others. Some teachers believed that external activities are more beneficial, while others suggest more gains from internal workshops. Teachers suggest that the most beneficial aspects of each of the professional development activities may be clustered into five major themes: Coordination, exposure, enhancement of awareness and communication, social interaction and professional motivation, developing expertise, finding new resources, receiving feedback, and promoting personal reflection. A noticeable trend was observed in the questions related to the “in-service day”. Almost all teachers expressed their dissatisfaction with the academic workshops that were labeled as ‘general’, ‘repetitive’, and ‘do not target the needs of the teachers’. However, middle and secondary teachers expressed their content with the recreational workshops. Another observed trend is related to the “curriculum writing” and “accreditation” projects. Teachers who participated in the accreditation committees and worked on their departments’ curricula showed a great enthusiasm and advocated the valuable experience they gained from their participation in these projects. On the other hand, teachers who did not participate in these workshops are not benefiting from the projects’ outcomes. The gains from these projects can be maximized if arrangements are made for proper use of the curriculum guides and reports of the accreditation teams.

When comparing the responses and reflections of LE and ME teachers, it is evident that teachers’ enthusiasm about professional development diminishes with increasing years of

experience. Yet, although LE teachers' attitudes towards professional development are more positive, findings show that the overall teachers' attitude towards professional development can be classified as negative.

A comparison between science and non science teachers leads to one conclusion: there are no significant attitudinal differences. Both groups of teachers shared similar attitudes regarding the different aspects and issues discussed.

Teachers of school X agree that certain elements play major roles in shaping the attitude towards professional development workshops. These elements include: teacher's age and experience, teaching loads and degree of involvement in school's life, scheduling of workshops, type and relevance of workshops, and incentives for teachers' participation.

The next chapter presents the discussion of findings from the analyzed data and answers to the different research questions.

## Chapter Five

### Discussion of findings

This chapter presents discussion of findings from the questionnaire, focus-group interviews, and observation data. A two – level strategy was followed. The first level addressed school X teachers' attitudes and how they compare with the findings of the reviewed literature and answered the following research questions:

- a. What are the attitudes of the secondary and middle school teachers at “School X” regarding the effect of the school’s professional development programs on the quality of their teaching practices and motivation?
- b. How do teachers’ attitudes compare (science/non-science; middle/ secondary; teachers teaching for less than 5 years at school X/ teachers teaching for more than 5 years at school X) regarding professional development?
- c. What are the teachers’ recommendations to improve the quality of the Professional development program provided by their school?

The second level focused on using teachers’ responses as foundations to develop a research based professional development framework for enhancing teachers’ attitudes, motivation, and practices.

*What are the attitudes of the secondary and middle school teachers at “School X” regarding the effect of the school’s professional development programs on the quality of their teaching practices and motivation?*

General trends in teachers’ perceptions about the different professional development activities implemented at School X

Ruberto (2003) believed that professional development, that creates enthusiasm in a collegial environment, is very crucial for teachers’ and schools’ improvement. The researcher

found that “professional development respects and nurtures the intellectual and leadership capacity of teachers, learning, and leadership” (p.16) and “reflects best available research and practice in teaching, learning and leadership” (p.17).

In general, the answers collected from the questionnaire and interviews show that middle and secondary school teachers at school X perceive professional development activities presented by their school as beneficial. However, they argue that the optimal gains of professional development cannot be achieved unless it is designed to observe appropriateness of scheduling, type and relevance of workshops’ contents, and allocation of incentives for participation. Secondary teachers claim that external activities (conferences, IB workshops, and exchange program) are more beneficial, while Middle teachers believe that internal activities (study groups, fundamental strategies and IT workshops, outreach, curriculum writing and accreditation project, in-service days) are more helpful.

Analysis of teachers’ answers reveals that the majority of middle and secondary teachers believe that the professional development activities that emphasize “communication of experiences (like in-service days, mentoring, study groups, and exchange program) have an evident positive impact on their teaching practices and motivation. Similar results are found regarding the activities that target the “enhancement of and motivation for further growth” of teachers. These activities are centered on the role of professional development programs in promoting teachers’ professional growth, motivation and expertise, professional status, and professional creativity. On a second note, teachers exhibit an obvious indecisiveness regarding the adequacy of some of the learned material in the professional development activities. In line with the reviewed literature, school X teachers are particularly skeptical about the appropriateness of the PD activities to prepare students for official exams; moreover, they doubt the adequacy of implementation and adaptation of ‘fundamental strategies’ (SPEC, APP etc....) in their

educational practices. Moreover, teachers do not seem convinced about the advantages of “curriculum writing” and “accreditation project, a trend that is quite inconsistent with literature. Almost all teachers, especially those who were curriculum writers or members on accreditation committees at school, acknowledge the benefits of such projects in principle, but they confess that neither curriculum guides nor accreditation reports ‘inspire’ school wide teaching practices. What supports teachers’ belief is the fact that new teachers (joined school faculty after the accomplishment of the two projects) have no idea about these projects.

In line with these conclusions, observations of internal activities, that were taking place at school during the data collection phase of the study, reveal that veteran teachers rarely show willingness to devote any extra time, beyond the allocated duration of the workshop or activity, to complete assignments and follow up on tasks. Moreover, most of veteran teachers exhibit no signs of appreciation nor satisfaction during workshops, and they particularly express their disappointment regarding the outcomes of in-service days. On the other hand, novice teachers seem to value the gains of the interaction with veteran teachers during professional development experiences. This observation complies with the ‘career cycle’ theory advocated by Steffy, Wolfe, Pasch, and Enz (2000) and Ruberto (2003). Veteran and novice teachers, however, share a common view of satisfaction and enjoyment of recreational activities. This consensus about recreational workshops in school X is aligned with the literature that suggest that recreational activities promote teachers’ motivation, self-efficacy, and awareness regarding their impact on students’ lives; most importantly they are not ‘energy- drainers’ (Kaufman & Sawyer, 2004; Milner, 2002; Kelchtermans, 2004).

Concerning their attitudes towards PD, most veteran middle and secondary teachers believe that the overall ‘attitude profile’ is rather negative .The overwhelming work load sand incompatibility between workshops’ generality and teachers’ specific needs, in addition to

issues like age, degree of involvement in school culture, PD schedules, and absence of incentives shape this negative ‘attitude profile’. Although the overall ‘attitude profile’ does not seem encouraging, novice teachers do not always share with veteran teachers their negative view. Observation sessions reflect novice teachers’ obvious enthusiasm, eagerness, and readiness to engage in PD workshops and learn new teaching strategies. Indeed, school X teachers’ concerns and reflections intersect with Knight’s (2000) propositions regarding the components of teachers ‘attitude profile’ in the domain of professional development.

*The most beneficial aspects of the different activities and their effect on teachers’ instructions and motivation*

The results of the questionnaire and the interviews show that each professional development activity administered at school X has one or more beneficial aspects. These may be clustered into five themes: coordination, exposure, enhancement of awareness and communication, social interaction , developing expertise and finding new resources, and receiving feedback and promoting personal reflection(all themes are consistent with findings in the literature review).

Central to all the beneficial aspects derived from teachers views regarding professional development is the key role of professional motivation in its cognitive and social dimensions. Cognitive views of motivation confirm that human behaviour is affected by the way people perceive themselves and their environment. The behaviour is governed by peoples’ need to construct a knowledge base, aspirations for their successful performance, attributions for their success and failure, and conception of their cognitive ability (Biehler & Snowman, 1997). Motivation has also an important social dimension, because humans need meaningful social

contexts in which they (a) enrol in community based learning experiences, (b) seek recognition as valuable members, and (c) develop a sense of belonging and adjustment (Forgas, Williams & Laham, 2005).

Table 5.1: Correlation between the motivational dimensions and the themes of the beneficial aspects

<b>Theme</b>	<b>Motivational component substantially involved</b>
<b>coordination</b>	Social
<b>exposure</b>	Cognitive
<b>enhancement of awareness and communication</b>	Cognitive – Social
<b>social interaction</b>	Social
<b>developing expertise and finding new resources</b>	Cognitive
<b>receiving feedback and promoting personal reflection</b>	Cognitive

### *Coordination*

School X teachers assert that some professional development activities, like study groups, in-service days, fundamental strategies and IB workshops, accreditation and curriculum writing projects, ensure positive coordination and communication between the different parts of the school. Coordination is either vertical or horizontal. In vertical coordination, teachers from different levels (middle, secondary) share their experiences that are based on different

backgrounds. This is very crucial to the effectiveness and efficiency of the school system.

Vertical coordination ensures a stronger feeling of belongingness to the school identity, an accurate understanding of the different levels' educational practices and goals, and a clearer vision for the scopes and sequences in terms of contents and skills.

In horizontal communication, teachers of same level coordinate and share their experiences. The virtue of horizontal coordination in school X can be regarded as an interdisciplinary approach that allows teachers to view issues from various perspectives in order to extend the appreciation of the person (Ministry of Education, Ontario, 2002). Such an approach allows teachers to plan and work independently and collaboratively at the same time, and facilitates the identification of problems and the implementation of innovative solutions by using inquiry, research methods, and synthesized methodologies from different disciplines.

### *Exposure*

School X teachers claim that the exchange and outreach programs, IB workshops, conferences, and accreditation project affect teachers positively by exposing them to international standards, new educational practices and classroom environments, and interaction with foreign and local teachers. They also appreciate IT workshops that expose them to the internet, which is one of the students' main fields of interest. School X teachers' responses reveal that exposure of teachers to other local and an international endeavour affects their practices through expanding their educational scopes, enlightening their professional perspectives, and enriching their resource portfolios. Motivation is a crucial element in this regard. Teachers feel satisfied when they share similar values and standards with teachers coming from prestigious international and local schools. They develop a deeper feeling of pride when they discover their high competency as compared to other colleagues from other educational settings. Similar results were found by Anatoli (2008) in his case study of Russian

teachers. The study demonstrates that a professional development activity that exposes teachers to new methods, skills, and international standards widens the range of their instructional practices and affects the interpersonal relations in schools, teachers' professional growth, and social status. Researchers in the field of school effectiveness propose student-centered instructional strategies to enhance meaningful learning, and the most recommended strategies involve the integration of technology (Soloway et al., 2001). Teachers' exposure to IT helps them integrate IT based lessons in their classrooms.

*Enhancement of awareness and communication*

School X's teachers agreed that all the professional development activities provided at their school (except for the conferences) enhance their awareness regarding teaching and learning taking place in the same and different school levels, school X's status (achievements and obstacles) as compared to other local and international schools, IT integration in teaching, and the newest trends and issues in international curricula (IB) and educational systems. Awareness and communication complement each other. Many research findings emphasize the importance of communication in shaping a school's culture on the one hand, and teachers' practices and motivation, on the other hand. Hopkins (1996) contends that communication between professional peers, within and outside schools, affects teachers' practices and their ability to use innovative teaching methods positively. Furthermore, he confirms that collegiality, trust and collaborative work relationships are crucial to create a school culture that is open to development efforts. Moreover, Harris (2002) affirmed that professional growth cannot be maintained except through professional dialogues that allows for reflections on different segments of teaching and learning.

*Social interaction*

According to school X's teachers, social interaction and professional motivation are essential components of professional development programs. The social interaction at school X manifests itself in building acquaintance with colleagues (study groups and fundamental strategies workshops), interaction with different educational cultures (exchange program and conferences), recreational workshops (like music, dance, sport...), building intradepartmental communities (In service-days), assuming instructional leadership roles (Outreach), seeking institutional and self professional development (IT workshops, IB workshops, conferences accreditation program , curriculum writing project), and developing local and international professional friendships (conferences, outreach, exchange). All manifestations of social interaction are expected to implant in teachers a positive attitude towards school in general and more importantly towards teaching. A transferable study from the business world supports this claim. This study reveals that the most successful organizations are the ones that believe in the 'value of people'. This is why the challenge nowadays in any type of organization is to build, foster and optimize human capital (Ashby & Miles, 2002 as cited in Sampath, 2006). Furthermore, Kaufman and Sawyer (2004) found that the attitude of teachers towards teaching is positively affected when they participate in network meetings, coaching sessions and training sessions where they learn how to implement new methods, skills and methodologies.

*Developing expertise and finding new resources*

This is a desired outcome of professional development activities offered by any institution. Teachers' answers in the survey and interviews show that PD activities inspire teachers to integrate subjects, acquire new ideas for promoting students' academic and personal skills, learn new pedagogical perspectives, search for new techniques of class management, benefit from other professionals' experiences , and develop an profound understanding of the

school system. Studies in the literature back up these findings. Marable and Raimondi (2007) argue that PD activities and specifically mentoring have a positive and direct impact on teachers' motivation and instruction.

*Receiving feedback and promoting personal reflection*

According to school X teachers, study groups, in-service days, fundamental strategies workshops, outreach program, and the accreditation project affect teachers' motivation and practices through giving them feedback and promoting personal reflections about their teaching practices. Feedback has three major sources. The first one is school X teachers who discuss common classroom issues and reflect on their own teaching practices in study groups and in-service sessions. The second source is teachers of the community who attend outreach workshops and provide leaders with valuable comments, propositions, and ideas. The third source of feedback is the accreditation team whose members recognize the school's status, and identifies strengths and weaknesses.

*How do teachers' attitudes compare (Science/Non-science; Middle/ Secondary; teachers teaching for less than 5 years at school X/ teachers teaching for more than 5 years at school X) regarding professional development?*

Middle and Secondary teachers' Attitudes: Comparative approach

Comparing middle and secondary teachers' responses shows that there is no major difference in the attitudes towards professional development and its effect on practices and motivation. The compatibility of responses may be attributed to the fact that many of the teachers are shared between middle and secondary divisions and eventually tend to attend the same workshops. However, a minor difference can be noticed in the general points of view regarding the effect of professional development activities on practices and motivation.

In general, secondary and middle teachers' perceive activities supporting the 'communication of experiences' and "enhancement of and motivation for further growth" as favorable for their practices and motivation. Furthermore, secondary and middle teachers reflect their 'un-decidedness' when it comes to "adequacy and appropriateness of implementation". Secondary school teachers do not totally agree on the "use of written documents", and middle school teachers express their doubtfulness regarding this subject. Likewise, results show no consensus about the effectiveness of internal and external workshops. Middle school teachers seem more convinced about the benefits of internal workshops, whereas secondary teachers regarded external activities as more beneficial. It is worth noting that the percentage of middle teachers that could not give a conclusive result regarding that issue is slightly greater than that of the percentage of the secondary school teachers. These results seem to be aligned with the reviewed literature. Research shows that secondary and middle teachers do not share similar perceptions about professional development (Knight, 2000). This difference arises from the fact that middle and secondary school teachers have different backgrounds and cultures.

*More experienced and less experienced teachers' attitudes: comparative approach*

In line with the literature (Steffy, Wolfe, Pasch, & Enz, 2000; Ruberto, 2003) the analysis of data collected from the different instruments indicates that teachers' appreciation for professional development diminishes with increasing years of experience. Less experienced teachers need the professional development as booster for professional self-concept, while experienced teacher , who have developed a career identity, need experiences that are beyond what traditional workshops offer.

*Science and non-science teachers' attitudes: comparative approach*

The data collected in this study does not imply any significant attitudinal differences between science and non-science teachers regarding professional development. Obviously the

factor of discipline or subject matter does not seem to interfere in creating attitudes towards professional development in school X. These results are aligned with the findings of the reviewed literature (Hustler et al., 1997).

*What are the teachers' recommendations to improve the quality of the Professional development program provided by their school?*

When asked about propositions for modifications, school X teachers responded in a very open and constructive way. Their answers can be clustered into six major themes: communication, specificity, and timing, satisfaction of teachers' needs, monitoring progress and follow up, and financial motivation. These findings are aligned with the reviewed literature (Ruberto, 2003, Charles & Shane, 2006, Shorten & Monaghan, 2005, and the Commonwealth of Virginia, 2004).

In abridging the totality of the study, the researcher's findings supported most hypotheses with some minor variances from the original expectations. Analysis of the results, show that in general teachers regard PD activities provided to them by their school as beneficial but they suggest improving them with the enhancement of certain elements such as relevance of workshops, and the timing among others. In alignment with the hypothesis, at the cognitive level, teachers expressed a clear understanding of the importance of PD and its potentials. On the other hand, at the affective and behavioral level, teachers did not demonstrate high levels of motivation or application of the learned methods.

When comparing middle school teachers' attitudes to those of the secondary school teachers', results showed that they are not very different. Yet on the other hand, they do not share analogous attitudes regarding their need for PD activities or their preference towards external or

internal activities due to several reasons stated above. These results are partially comparable to the hypothesis of the researcher regarding this issue.

Moreover, the researcher expected novice teachers to show more enthusiasm than experienced teachers towards PD. The results show that although the attitude of novice teachers is more positive than that of veteran teachers; teachers' attitude towards professional development is generally a negative one.

In contrary to the researcher's hypothesis regarding the attitudes of science and non science teachers, the results did not show any significant difference in their attitudes towards PD.

#### *Towards a more structured professional development framework in school X*

##### 1. About teachers' attitudes.

Results of this study suggest that the cognitive dimension of teachers' attitudes reflects adequate levels of conceptualization of professional development. They acknowledge its importance for their professional status, recognize its advantages and inconveniences, critique its different forms in a constructive manner, and propose legitimate and valuable modifications on its structure and procedures. However, the quality of cognitive conceptualization does not seem to extend to cover the affective and behavioral attitudinal dimensions. Despite teachers' appreciation of professional development in principle, there is little evidence that their enrollment in many of its activities is a result of personal intrinsic motivation. Teachers' answers in the questionnaire and interviews show that they do not widely implement what they learn in these activities in their classrooms regularly and systematically. Consequently irregular implementation of new teaching practices does not lend itself to conclusive evaluations of the impact of professional development activities on students' learning. Although school X offers a variety of internal and external professional development opportunities, the cost-effectiveness

of these opportunities is not certain. The reason behind this uncertainty might be attributed to the poor quality of some PD activities. This is partly true, but the main reason resides in the absence of a solid organizational structure that makes professional development at school X purposeful, systematic, self-developing, specific and relevant, applicable, self-assessing, and informative. The organizational structure of any professional development program in any educational institution is indispensable not only because of the need for functional planning and allocation of resources, but also because such a structure helps in creating a school culture in which the cognitive, affective, and behavioral components of teachers' attitudes evolve, flourish, and mature. Indeed, the impact of a teacher's role on students' learning is beyond any doubt, and unless a strong culture of positive teachers' attitudes is pursued, potentials of even the most reputable PD programs are going to be limited. Before elaborating on a research based framework for developing an organizational structure of PD, how can the imbalance in school X teachers' attitudes be explained? Below is a list of answers that meet with findings obtained in previous research work (Hustler, McNamara, Jarvis, Londra, & Campbell, 2003; Porter, Garet, Desimone, Suk Yoon, & Birman, 2000).

#### *Gaps in Communication*

The PD activities at school X are selected and dictated mainly (with some exceptions) by the Educational Resource Center (ERC) and the Administrative Executive Committee. Although the general aims of activities might be inferred from their titles, but in many cases teachers are left un-informed about the selection rationales and policies, the specific objectives for individual activities, and the school's expectations regarding the time and way of implementation and follow up procedures. In case of external workshops opportunities, the school invites applications from teachers and selects a certain number of applicants; however, the selection criteria are not communicated clearly and purposefully to the school

community. The inefficiency of communication regarding certain aspects of PD policies promotes negative feelings of ambiguity, lack of confidence, and carelessness among teachers. Such feelings do not encourage healthy intrinsic motivations towards professional development. One typical example of the impact of weakness of communication on teachers' affective and behavioral attitudinal dimensions is the new teachers' ignorance of curriculum guides. These guides were created during a school wide major project that was meant to develop a common identity for all school X students who are enrolled in different national and international educational systems. If new teachers are not aware of this project, what are the school's follow up strategies to promote its students' learning outcomes? On the other hand, the study's outcomes insinuate that many teachers are not totally comfortable with customizing SPEC tools to fit within their instructional plans. Knowing that the schools long term plan is to train all school teachers through SPEC workshops, one might feel how barren the school initiatives could be because of the negative influence of the communication gap on teachers' attitudes and students' learning.

#### *Absence of Teachers' Empowerment*

Teachers often internalize some feelings of resentment that might be associated with the absence of their role in the school's PD decision making. The explicit manifestations of such feelings emerge as complaints about the relevance, profoundness, applicability, and scheduling of the standardized PD activities offered by the school. In general, teachers consider themselves as 'front line personnel' who are more knowledgeable about their potentials and weaknesses and more sensitive for students' needs. Since the school does not have an official policy for 'teachers' empowerment' in the domain of PD, many teachers would tend to be de-motivated as they regularly comply with 'external school agendas' that deprive them to a certain extent from autonomy and self-regulation.

*Absence of a sound Rewarding Strategy*

Teachers are confident regarding the impact of PD on their professional status. Apparently the school does not have an officially declared strategy that rewards participation in PD opportunities and appropriation of new teaching methodologies. Rather, the school leadership assumes that devoting an appreciable segment of the annual budget for providing the extensive PD program is in itself the reward. Certainly, teachers' perception of rewards is quite different; professional promotions and recognition and financial supplements are the rewards that they seek. This 'opposition of perceptions' leads teachers to participate in the PD activities to abide by the school regulations; however, in many cases they neither take the activities as seriously as they should, nor make a considerable effort to apply what they learn in their classrooms. In some rare cases, when the school administration chooses to follow up on the teachers' plans for implementing new strategies, teachers follow a self-defense mechanism that is commonly based on 'time factor'. Statements like: "I do not have time to do this.... I need to finish the program..... I have to prepare my students for the official exams" are very common responses.

*Differences in Teachers' Individual Profiles*

No matter how valuable a PD opportunity is and how much effort a school exerts to satisfy teachers' professional needs, there is no doubt that some factors that govern teachers' negative attitudes are quite uncontrollable. One of these factors is the 'individual profile' of each teacher. In short, the response to PD is an individual response. The networks of traits, feelings, cultural attributes, personal experiences, and aspirations that shape individuals' profiles and govern their behaviors impose a wide range of variations in teachers' responses towards professional development alternatives. Even the same teacher might develop very different attitudes towards professional development experiences from year to year.

## 2. A Framework for a PD Organizational Structure at School X

There is no doubt that school X makes noticeable efforts to offer its teachers an extensive PD program characterized by a diversified variety of valuable activities, workshops, and training sessions. Such efforts reveal the school's strong belief in, conceptual understanding of, and solid commitment to professional development as a path towards an advanced level of school effectiveness. School X's understanding, commitment, and generosity are necessary conditions for creating a promising PD program, but these may not be sufficient to produce positive attitudes that complement the school's initiatives. The school leadership has to create a PD organizational structure in which essential needs are felt, potentials are orchestrated, performance is assessed, change is facilitated, and progress is monitored. At the heart of this structure resides an explicit vision that embeds PD policy and processes into an overall school strategy for school improvement, a strategy that acquires its legitimacy and validity from a clear connectedness to the school's philosophy and mission statement.

Indeed, depicting a detailed organizational structure for school X needs a separate study.

However, suggesting a general framework of the sought for structure seems to be a more realistic consequence of this research. What are the constituents of this framework?

### *PD Central to School Systems*

A system is a “set of interacting or interdependent entities forming an integrated whole” (<http://en.wikipedia.org/wiki/System>). A school is a typical example of a ‘system’ whose entities or ‘subsystems’( administration, academic/nonacademic departments, communities, students, laboratories, business office.. ) ought to be in a continuous, dynamic, and reversible interaction. Indeed, a healthy interaction among all subsystems is crucial for the well-being of the whole institution. In order for PD to be conducive to the overall school effectiveness, it must be recognized as central ‘subsystem’ with realistic goals and objectives that has a well-defined

relationship with the other subsystems. Furthermore, the PD subsystem should be supported by capable leadership and personnel and reinforced with rich resources. Additionally, for the PD subsystem to be efficient it should be articulated with a reasonable impact on teachers' professional status and students' learning outcomes, enhanced by a good communication and monitored by a close follow up on application of PD activities.

#### *Diversity in Teachers Learning Patterns*

Any framework for PD must exhibit a wise awareness of the cultural, personal, and experiential variations in teachers' profiles and the impact of these variations on teachers' potentials, needs, and aspirations. Unless these variations are respected by PD developers or organizers, negative repercussions would occur on teachers' attitudes and practices and eventually on their students' learning. One noticeable observation in the domain of adult learning is that adults are convinced by learning experiences that may be translated easily into an immediate application. Moreover, the ease of applicability of any learned material differs from one person to another (Charles & Shane, 1996). Designers of PD programs must regard relevance and feasibility of activities as two major concerns that must be addressed to cater for the needs of the largest segment of the teaching body at schools.

#### *Chains of Leadership teams*

The senior leadership at a school is responsible for creating a vision for PD, but cannot enact it except through a 'chain' of senior leaders or PD coordinators that translate the vision into plans and practical initiatives. The role of PD coordinators is crucial especially because their mission as vision enactors necessitates regular contact with teachers who are targeted by the professional development initiatives. The success of these 'regular contacts' is vital for the overall success of the PD program. For this reason, school ought to select the PD coordinators in the context of an empowerment strategy based on well-defined set of criteria; moreover, the

school must launch special training sessions for coordinators to sensitize them to the cultural, personal, structural, and career stage factors that determine individual teachers' needs and attitudes (Hustler et al., 2003).

#### *PD Evaluation*

Professional development is extremely demanding in terms of planning, time, effort, and resources, so its evaluation is logical and legitimate practice to assess the congruence between the outcomes and the demands. The ultimate goal of professional development is to enhance teaching practices and learning outcomes. However, assessing the impact of PD is quite challenging, since isolating the improvements that may be solely attributed to any particular PD activity is never easy. For the PD evaluation to be productive, it should be planned as a four step process:

- (1) Identifying target objectives for each PD activity
  - (2) Specifying corresponding observable behaviors for each objective
  - (3) devising evaluation procedures, and
  - (4) analyzing results and making inferences.
- An extra dimension of the evaluation process complexity arises when separate plans have to be devised for teachers' practices and students learning gains. Indeed, PD evaluation is a laborious process; however, it is expected to enhance trustworthiness of the PD programs, have a favorable influence on teachers' confidence in and commitment to professional development, help in spreading effective practice across the school system, and provide a means for responding to current and future needs in terms of achievement. The provision of a flexible and transparent evaluation strategy in a school is difficult but not impossible, especially if the burden of the process is distributed on qualified teams of leaders and performance reviewers (Office of School Education, 2005; Training and Development Agency for Schools, 2010)

*Learning Communities*

Social interaction, collaboration, and diminished isolation have proved to be conducive to the learning and construction of values in educational institutions. In line with this perspective, professional development that adopts ‘community based learning’ strategies is supposed to be more productive. ‘Professional learning community’ (PLC) is the terminology used to describe a derivative of ‘community based learning’, namely a collegial group of adults in school system who unite to achieve a goal centered on students’ learning (Kilpatrick, Barrett & Jones, 2003; DuFour, 2004). The community members engage in several activities towards achieving their goal, but all their work originates from a common vision and follows a collaborative trend of inquiry - driven learning and decision making. A school system that transforms into a medium for the systematic and purposeful creation of ‘professional learning communities’ has more chances of success in the domain of professional development. This contention might be attributed to several virtues that catalyze teachers’ willingness to engage in PD. The structure of PLC allows for deep team learning inspired by a dynamic problem solving model encompassing learning – application - refinement- application cycle. This can be reached by applying action research based on class problems and issues in the classrooms. Moreover, the collective team achievements are always complemented by unique empowerment scenarios where individuals may follow convenient meta-cognitive approaches to pursue relevant goals including those related to attitudes, values, integration, assessment, and leadership. On the other hand, the structures PLC are flexible in a way that permits the satisfaction of a variety of goals. A community might be structured on the basis of building on the synergies of individuals who work together towards sharing understandings and skills associated with a general or specific educational interest (assessment policy, individualized instruction, interdisciplinary learning...). At the same time, another community might be formed to focus on curricular

structures to develop advanced learning of curricular contents. Consequently, even subject matter departments within a school may transform into professional learning communities (Kilpatrick et al., 2003).

The ‘PLC recommendation’ highlighted in this section, has been a discussion material between the researcher and the chairperson of the chemistry department at school X as an active professional in the domain professional development at the school. He claimed that establishing a school structure based on professional learning communities within the school will enhance the effectiveness of professional development. He explained that “the traditional scenario of professional development is no more valid. The academic and non-academic departments’ must be transformed into professional learning communities that enroll in intra-departmental professional development activities that address the basic needs of the departments. Professional development, just like regular teaching tasks, must be observed in the teachers’ workloads”. The researcher also learned that three years ago, he submitted to the ERC a complete action research proposal for assessing the impact of ‘Performance Tasks’ (real life scenarios written for the curriculum guides to be used as authentic assessment tools) on students learning, but the proposal remained a proposal.

If school X wants to maximize the benefits of its professional development program, PLC must be the core of its PD organizational structure. Indeed, a ‘paradigm shift’ of this kind entails complex and major changes that range from regulations, objectives, leadership style, mentalities, and procedures to teachers workloads. However, the expected benefits deserve the effort, especially that the rationale of PLC promises to transform professional development from an ‘extra burden’ to an ongoing ‘daily practice’ where teachers are empowered to overcome their negative attitudes and self-regulate their professional growth (Office of School Education, 2005; Phelps, Graham, & Kerr 2004).

## Chapter Six

### Conclusions and Recommendations

#### *Conclusions*

School effectiveness and improvement are recent trends in the field of educational management. One way to improve schools is by improving its teachers. The review of literature shows that professional development (PD) has a positive impact on teachers' practices and motivation in general. To improve the effectiveness of PD activities, researchers suggest certain properties like specificity of the PD activity, tailoring the workshops to fit teachers' needs, and timing.

In this study, questionnaires, focus group interviews, and observations were conducted to study the attitudes of middle and secondary school teachers at school "X" regarding the effect of the professional development activities provided by their school on their practices and motivation. Results of the study, in general, are comparable with those found in relevant literature.

Analysis of the results, show that teachers regard professional development program in their school as beneficial in general but could be enhanced further once certain elements are given more attention; these elements are appropriateness of scheduling, type and relevance of workshops, and existence of incentives for participation.

Furthermore, teachers expressed their satisfaction with certain activities more than others. Secondary school teachers believed that external activities are more beneficial, while middle school teachers suggest more gains from internal workshops.

A trend was observed in the questions related to the “in-service day”. Almost all teachers expressed their dissatisfaction with the academic workshops that were labeled as ‘general’, ‘repetitive’, and ‘do not target the needs of the teachers’. However, middle and secondary teachers were content with the recreational workshops.

Another observed trend is related to the “curriculum writing” and “accreditation” projects. Teachers who participated in the accreditation committees and worked on their departments’ curricula showed a great enthusiasm and advocated the valuable experience they gained from their participation in these projects. On the other hand, teachers who did not participate in these workshops are not benefiting from the projects’ outcomes. The gains from these projects can be maximized if arrangements are made for proper use of the curriculum guides and reports of the accreditation teams.

Although the attitude of novice teachers towards professional development is more positive than that of veteran teachers, findings show that the overall teachers’ attitude towards professional development is a negative one. Teachers of school X agree that certain items play major roles in shaping the attitude towards attending workshops. These items include: teacher’s age and experience, loads and degree of involvement in school’s culture, scheduling of workshops, type and relevance workshops, and existence of incentives for participation.

Teachers suggest that the most beneficial aspects of each of the professional development activities may be clustered into five major themes: coordination, exposure, enhancement of awareness and communication, social interaction and professional motivation, developing expertise and finding new resources, and receiving feedback and promoting personal reflection. The literature explains that each one of these aspects affect teachers’ motivation and practices.

The comparison between middle and secondary teachers' responses reflects a general pattern of coherence and compatibility, with minor differences associated with preferences towards internal and external workshops. Internal activities are more popular among middle teachers, and external activities are more favoured by secondary teachers.

Analysis of the collected data shows that teachers' appreciation for professional development decreases with increasing years of experience.

The data collected in this study does not imply any significant attitudinal differences between science and non science teachers regarding professional development. Obviously the factor of discipline or subject matter does not seem to interfere in creating attitudes towards professional development in school X.

Modifications and suggestions to improve the quality of the professional development activities at school X were proposed by middle and secondary school teachers. Teachers' responses may be classified into themes: communication, specificity, timing, satisfaction of teachers' needs, monitoring progress and follow up, and financial motivation.

#### *The need for an organizational structure*

School X offers a prosperous professional development program, but its fruitfulness will remain limited unless an organizational structure is created. This structure is not only needed for functional planning and allocation of resources, but also to help in creating a school culture in which the cognitive (the idea), affective (emotion), and behavioral (the action) components of teachers' attitudes evolve, flourish, and mature. For school X to maximize the benefits of its professional development, 'professional learning communities' (PLC) must be the cells of the sought for organizational structure. The main virtue of PLC is that it promises to transform professional development from an 'extra burden' to an ongoing 'daily practice' where teachers are empowered to overcome their negative attitudes and self regulate their professional growth.

### *Limitations of the study*

In general, the findings of the study can be described as reliable and valid since the triangulation method in collecting data was used. Surveys, interviews, and observations were employed to collect data and verify consistency of answers.

However, certain uncontrollable factors could have affected the reliability and validity of the results in a way that might hinder generalizability. The main limitations are five and could be explained as follows. First, the number of the collected surveys was way below the expectations.

Out of the 160 distributed surveys, only 92 were collected.

The integrity of teachers in answering all the questions of the survey and interviews is another factor that could have affected the results of the study. Although the surveys were anonymous and the observations were covert, many teachers might not have been voicing out their true opinions in the focus group interviews.

The selection of teachers for the focus-group interviews might have affected the results as well. The group of teachers that were chosen to do the interviews were not strictly representative of the middle and secondary teacher body. The choice was made based on convenience and availability especially that an appreciable segment of teachers did not report to duty during the data collection phase (at the beginning of the academic year 2009/2010). While certain interviewees were all experts with extensive experience, other interviewees were novice teachers with limited experience.

Finally, for convenience access reasons as well, observations were conducted on selective basis. One sample of outreach, one sample of study groups, and one sample of in-service day academic workshops were attended. More reliable data could have been obtained if more than one session were observed.

*Suggestions for further studies*

Further research can be conducted on other similar schools. The same instruments can be used to collect more reliable results. On a second note, a longitudinal study could be done using different segments of teachers in school X. The research study would involve repeated data collection and analysis over a period 3 to 5 years to come up with generalizable inferences. Last, a study could be done to verify if the proposed modifications in this study, after being applied in school, would really alter the attitude of teachers about professional development.

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**Appendix I**  
**Professional Development at School X**  
**(Middle and Secondary Schools)**

Dear School X's teachers,

In partial fulfillment of the requirements for the degree of Master of Arts in Education, I am preparing a thesis where I study the attitudes of school X's Teachers Regarding the Impact of Professional Development on their Practices and Motivation. Since your valuable contribution is indispensable to make my study plausible, meaningful, and productive, I would be very grateful if you spend some time to fill the attached questionnaire.

Please note that your answers will be utilized solely for research purposes and will be kept confidential. I am available for any further questions or clarifications about this questionnaire in particular and the study as a whole.

Respectfully

Zeina Hamdan

Age : ----- years	School/campus (AA, RB): -----
Sex : <input type="checkbox"/> M <input type="checkbox"/> F	
Years at school X since: ----- years	

- 1) What is the highest degree you have earned?
- 

- 2) List in the table below the certification(s)/degree(s) you received after your BS/BA and indicate your reasons behind pursuing this (these) degree(s) (i.e. personal choice, school obligation).

Certifications/degree	Year completed	Reason for taking this certification/degree

- 3) Please circle the number that corresponds to the rating that best describes your opinion regarding the statements in the table below.

Note that:

1. = strongly disagree
2. = disagree
3. = undecided
4. = agree
5. = strongly agree

In general, attending professional development workshops promotes teachers' professional growth	1      2      3      4      5
The Inter/intradepartmental workshops held during the in-service days ensure fruitful transmission of experience and	1      2      3      4      5

knowledge from expert teachers to novice ones	
Teachers of graduating classes should focus on preparing students for official exams rather than attending professional development workshops.	1      2      3      4      5
The strategies learned in the SPEC and APP workshops are adequately implemented in classrooms	1      2      3      4      5
The workshops that are lead by expert leaders (SPEC, APP, PBLA....) are adequately adapted by the leaders of the workshops to fit the school's culture	1      2      3      4      5
The SPEC/APP strategies are applicable in all programs offered at your school	1      2      3      4      5
When teachers lead outreach workshops, their professional status is enhanced.	1      2      3      4      5
When teachers lead outreach workshops, their motivation towards enhancing their professional expertise increases.	1      2      3      4      5
Teachers rely on the curriculum guides when writing their lesson plans	1      2      3      4      5
The experience that teachers gain when working on the curriculum guides improves their understanding of curriculum design and application.	1      2      3      4      5
Study groups, whose members are middle and secondary school teachers, affect positively the coordination and the communication between both schools	1      2      3      4      5
Novice teachers benefit from being observed by departments' chairpersons	1      2      3      4      5
Veteran teachers benefit from being observed by department chairpersons	1      2      3      4      5
IT workshops help teachers develop creative instructional plans that promote higher thinking skills.	1      2      3      4      5
Recommendations of accreditation teams help teachers modify and develop their teaching skills and practices	1      2      3      4      5

Teachers participating in exchange programs bring to their school modern and successful ideas and methodologies	1	2	3	4	5
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4) Outline the two most beneficial aspects of:

a) The study groups

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---

b) The exchange programs

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c) The IT workshops

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d) Fundamental strategies workshops (SPEC/APP)

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e) In-service days

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f) Outreach program

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g) IB workshops

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h) Conferences

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i) Accreditation project

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j) Curriculum writing project

What modifications would you suggest to improve the quality of

a) The study groups

---

---

---

b) The exchange programs

b) The IT workshops

---

---

---

c) Fundamental strategies workshops (SPEC/APP)

---

---

---

d) In-service days

---

---

---

e) Outreach program

---

---

6) In your opinion, do you think that the internal workshops held at school (example: SPEC, APP, in-service day, study groups, IT workshops etc...) and/or the external workshops (example: exchange programs, conferences, IB workshops) have a positive impact on teachers motivation and practices?

---

- 
- 7) In general, which of the following have a better impact on teachers motivation and practices: the internal workshops held at school (example: SPEC, APP, in-service day, study groups, IT workshops etc...) or the external workshops (example: exchange programs, conferences, IB workshops). Justify your choice.
- 
- 
- 
-

**Appendix II**  
**Interview Questions**

- 1) How do you think professional development at school impacts teachers' practices and motivation?
- 2) In your opinion, what are the two most important aspects of each of the following professional development activities: study groups, exchange programs, IT workshops, In-service day, and outreach program?
- 3) Why do you think these aspects are the most beneficial?
- 4) If you are asked to propose modifications to improve the quality of professional development what will be your recommendations?
- 5) In your opinion how would these suggestions influence teachers' perceptions and practices?
- 6) How do you see teachers' attitude to professional development offered by school? Can you give concrete examples?

**Appendix III a)**  
**Observation Checklist (in-service days-academic)**  
**(Teachers form one group; 2 sessions per day)**

**Behaviors and their corresponding descriptor(s)**

**1. Teachers are actively engaged in performing required tasks**

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**2. Teachers help each other understanding and executing activities**

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**3. Teachers explicitly make use of multiple and differing points of views during the workshop**

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**4. Teachers nag about the sessions' demands**

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**5. Teachers continuously look at their watches**

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**6. Teachers take notes**

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**7. Teachers regularly ask questions**

---

**8. Teachers skip sessions**

---

**9. Teachers arrive late to sessions**

---

**10. Teachers enroll in side and irrelevant conversations**

---

**11. Teachers exhibit satisfaction through smiling**

---

**12. Teachers show interest in further information and techniques**

---

**13. Praising and critiquing other groups' presentations, arguments, and suggestions**

---

**Appendix III b)**  
**Observation Checklist (in-service-recreational workshops)**  
**(Teachers form one group; One session )**

**Behaviors and their corresponding descriptor(s)**

**1. Teachers are actively engaged in performing required tasks**

---

**2. Teachers help each other understanding and executing activities**

---

**3 Teachers explicitly make use of multiple and differing points of views**

---

**4. Teachers nag about the sessions' demands**

---

**5. Teachers continuously look at their watches**

---

**6. Teachers take notes**

---

**7. Teachers regularly ask questions**

---

**8. Teachers skip sessions**

---

**9. Teachers arrive late to sessions**

---

**10. Teachers enroll in side and irrelevant conversations**

---

**11. Teachers exhibit satisfaction through smiling**

---

**12. Teachers show interest in further information and techniques**

---

**13. Praising and critiquing other groups' presentations, arguments, and suggestions**

---

**Appendix III c)**  
**Observation Checklist (SPEC)**  
**(Teachers working in groups; 3 days 8:00- 4:00; 3 sessions per day)**

**Behaviors and their corresponding descriptor(s)**

**1. Teachers are actively engaged in performing required tasks**

---

**2. Teachers spend some of their break time completing unfinished work**

---

**3. Teachers complete their ‘homework’ assignments and come to the sessions prepared**

---

**4. Teachers help each other understanding and executing activities**

---

**5. Teachers explicitly make use of multiple and differing points of views**

---

**6. Teachers nag about the sessions’ demands**

---

**7. Teachers continuously look at their watches**

---

**8. During breaks, teachers talk about topic discussed in the session**

---

**9. Teachers take notes**

---

**10. Teachers regularly ask questions**

---

**11. Teachers volunteer to present assignments**

---

**12. Teachers skip sessions**

---

**13. Teachers arrive late to sessions**

---

**14. Teachers enroll in side and irrelevant conversations**

---

**15. Teachers exhibit satisfaction through smiling**

---

**16. teachers thank the presenter at the end of each session**

---

**17. Teachers show interest in further information and techniques**

---

**18. Teachers Contact with the presenter for further communication**

---

**19. Praising and critiquing other groups' presentations**

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**Appendix III d)**  
**Observation Checklist (study group)**  
**(Teachers form one group; Wednesdays 1:30- 3:15)**

**Behaviors and their corresponding descriptor(s)**

**1. Teachers are actively engaged in performing required tasks**

---

**2. Teachers complete their ‘homework’ assignments and come to the sessions prepared**

---

**3. Teachers help each other understanding and executing activities**

---

**4 Teachers explicitly make use of multiple and differing points of views**

---

**5. Teachers nag about the sessions’ demands**

---

**6. Teachers continuously look at their watches**

---

**7. Teachers take notes**

---

**8. Teachers regularly ask questions**

---

**9. Teachers volunteer to present assignments**

---

**10. Teachers skip sessions**

---

**11. Teachers arrive late to sessions**

---

**12. Teachers enroll in side and irrelevant conversations**

---

**13. Teachers exhibit satisfaction through smiling**

---

**14. Teachers show interest in further information and techniques**

---

**15. Praising and critiquing other groups' presentations, arguments , and suggestions**

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**Appendix III e)**  
**Outreach Observation Checklist**  
(Observing the teachers taking the workshop)

<b>Behavior</b>	<b>Regularly</b>	<b>Often</b>	<b>Rarely</b>	<b>Not at all</b>
Active engagement				
Spending extra time doing the required work				
Teachers are prepared and completed the required assignments				
Teachers work in cooperative groups				
Making explicit use of multiple and differing point of views				
Absence of nagging				
Watching the time				
Talking about topic discussed during the session during breaks				
Taking notes				
Asking questions				
Volunteering to present assignments				
Skipping sessions				
Tardiness				
Having side irrelevant				

conversations				
Reflecting satisfaction through smiling				
Thanking the presenter at the end of each session				
Showing interest in further information and techniques				
Contact with the presenter for further communication				
Praising and critiquing other groups' presentations				

### **Notes: -**

## Appendix IV

**Collected Data:** Teachers as participants and their observed behaviors during PD

activities

Behavioural Indicators		In-service (recreational)	In-service (academic)	Study Group	Fundamental Strategies workshop (SPEC)	IT workshop
Indicators that reflect the extent of engagement in Performance of tasks	Teachers actively engaged in performing required tasks	All teachers often	All teachers often	All teachers often	All teachers regularly	Most teachers often Few teachers regularly
	Teachers help each other understanding and executing activities	All teachers often	All teachers often	All teachers often	All teachers often	All teachers regularly
	Teachers explicitly make use of multiple and differing points of views	Most teachers often  One or few teachers regularly	All teachers often	All teachers often	All teachers often	All teachers rarely
Indicators that reflect the level of appreciation and satisfaction	Teachers nag about the sessions' demands	One or few teachers often  Most teachers rarely	One or few teachers often  Most teachers rarely	One or few teachers often  Most teachers rarely	One or few teachers often  Most teachers rarely	Most teachers regularly Few teachers rarely
	Teachers continuously look at their watches	One or few teachers rarely  Most teachers not involved at all	One or few teachers rarely  Most teachers not involved at all	One or few teachers rarely  Most teachers not involved at all	One or few teachers regularly  Most teachers rarely	Most teachers rarely Few teachers regularly

	Teachers exhibit satisfaction through smiling	Most teachers regularly One or few teachers rarely	Most teachers rarely One or few teachers regularly	Most teachers regularly One or few teachers rarely	Most teachers regularly One or few teachers rarely	Most teachers often Few teachers not involved at all
	Teachers thank the presenter	Not applicable	Not applicable	Not applicable	All teachers regularly	All teachers regularly
Active engagement and participation	During breaks, teachers talk about topic discussed in the session	Not applicable	Not applicable	Not applicable	One or few teachers rarely Most teachers not involved at all	Not applicable
	Teachers take notes	Most teachers not involved at all One or few teachers regularly	Most teachers not involved at all One or few teachers regularly	Most teachers not involved at all One or few teachers regularly	Most teachers regularly One or few teachers rarely	Most teachers regularly One or few teachers rarely
	Teachers regularly ask questions	Most teachers often One or few teachers not involved at all	All teachers often	All teachers often	One or few teachers regularly Most teachers rarely	All teachers regularly
	Teachers volunteer to present assignments	Most teachers often One or few teachers not	Not applicable	Most teachers rarely One or	Most teachers rarely One or few teachers	Not applicable

	involved at all		few teachers regularly	regularly	
Teachers enroll in side and irrelevant conversations	One or few teachers often Most teachers not involved at all	One or few teachers rarely Most teachers not involved at all	One or few teachers rarely Most teachers not involved at all	One or few teachers often Most teachers rarely	Most teachers often Few teachers rarely
Teachers show interest in further information and techniques	One or few teachers regularly Most teachers rarely	One or few teachers regularly Most teachers rarely	One or few teachers regularly Most teachers rarely	One or few teachers regularly Most teachers rarely	Most teachers often Few teachers regularly
Teachers Contact the presenter for further communication	Not applicable	Not applicable	Not applicable	One or few teachers regularly Most teachers are not involved	Most teachers regularly Few teachers often
Teachers praise and critique each other's presentations/arguments/suggestions	Most teachers often One or few teachers regularly	Most teachers often One or few teachers regularly	Most teachers often One or few teachers regularly	Most teachers often One or few teachers regularly	Not applicable

## Appendix V

### **Teachers as presenters and their observed behaviors during outreach program**

Themes	Checklist Items	Descriptors
Confidence, readiness and preparation	Presenters keep discussion on a positive and constructive note	All teachers often
	Presenters begin discussions with a thought-provoking question that leads session attendees to express their own ideas	Most teachers often One or few teachers rarely
	Presenters clarify comments and answers by emphasizing key words and ideas	One or few teachers rarely Most teachers regularly
	Presenters avoid unnecessary clichés, jargon, and buzzwords	One or few teachers regularly Most teachers often
	Presenters do not make excuses for something done poorly or omitted	One or few teachers rarely Most teachers not involved at all
	Presenters talk to the audience and not to the screen, flipchart, floor, etc.	Most teachers often One or few teachers regularly
	Presenters explain why a specific topic or learning activity is beneficial for participants to know or complete	One or few teachers regularly Most teachers often
	Presenters give precise, clear instructions before having participants complete a specific learning activity	All teachers often
Creation of a positive and productive culture	Presenters encourage responses from “silent” participants	Most teachers often One or few teachers regularly

	Presenters maintain good humor and a sense that the session should be fun as well as informative	Most teachers often One or few teachers rarely
	Presenters maintain eye contact with participants in all sections of the room	All teachers often
	Presenters check that participants understand what they are to do before beginning a specific learning activity	All teachers often
	Presenters make the transfer from information presented in the training session to the participants' real-world environment	Most teachers often One or few teachers rarely
	Presenters provide constructive feedback (i.e., descriptive rather than evaluative; focusing on the specific, not the general)	Most teachers rarely One or few teachers regularly
	Presenters invite participation from session attendees	Most teachers often One or few teachers rarely
	Presenters enjoy positive feedback and praises from participants	All teachers regularly
Maintain efficient communication and collaboration	Presenters exhibit a cooperative attitude towards participants' inquiries	All teachers regularly

## Appendix VI

### Attitudes of Middle and Secondary school teachers towards the most beneficial aspects of the different professional development activities implemented in School

<b>Theme Activity</b>	<b>Coordination</b>	<b>Exposure</b>	<b>Enhancement of awareness</b>	<b>Social interaction and professional motivation</b>	<b>Developing expertise and finding resources</b>	<b>Feedback and reflection</b>
<b>Study groups</b>	Communication between teachers from different departments, levels and schools (middle/secondary)	Not applicable	Awareness of teachers concerning teaching and learning taking place at different school levels	1) Group work 2) Acquaintance with colleagues	1) Integration of subjects 2) Ideas for lessons plans	1) Feedback about common classroom issues 2) Reflection of teachers on their own teaching
<b>Exchange</b>	Not applicable	1) Professional insight regarding educational practices in different cultures 2) Exposure to new classroom environments, curricula, and practices	Awareness regarding school X's status as compared to other worldwide schools	1) Interaction with different cultures 2) Pride to represent the school and the country 3) Appreciation of what they have locally	1) New perspectives of teaching 2) New pedagogies 3) Knowledge about others teachers' experiences	Not applicable
<b>In-service Days</b>	1) Inter-departmental exchange of ideas and experiences 2) Horizontal and vertical coordination	Not applicable	Departmental awareness of what's happening in other departments and levels	1) Recreational workshops (like music, dance, sport...) 2) Acquaintance with colleagues from different departments, schools and campuses 3) Group work	1) Workshops that target knowledge and competencies 2) The Exchange of experiences	Inter and Intra-departmental exchange of ideas, feedbacks and expertise
<b>Outreach</b>				1) Promotion of school X's name and		1) A feedback about the leader's

	Not applicable	Interaction with teachers from the community	A clear perception about obstacles and challenges that community schools face	teachers among other people in the field 2) Empowerment of teachers who play the role of workshop leaders	In-depth preparation of workshop material: promotion of leader's knowledge and expertise	propositions and skills from teachers of the community 2) Inspiration by new suggestions and ideas
<b>IT workshops</b>	Not Applicable	Students' understanding by being exposed to their world	Awareness on how to introduce technology in teaching and how to communicate with students	Up to dated with the newest trends	1)New methods to work efficiently 2)New Resources on the web	Not applicable
<b>Fundamental strategies workshops</b>	Communication between teachers from different departments, levels and schools (middle/secondary)	Not applicable	1) Exposure to the newest trends in the educational field 2) Revelation of students' abilities at different stages to teachers	1)Group work 2) Acquaintance with colleagues from different departments	1) Cooperative learning and creating challenges for students 2) New techniques of class management 3) Assistance in developing students' interpersonal skills	Conversation between teachers of the different departments and levels to assess the learned methods after applying them in class
<b>IB workshops</b>	Coordination with different IB teachers worldwide for common applicability of curriculum	Training tackling the IB program and its applicability in other international Schools	Awareness regarding new trends and changes in the curriculum that is modified regularly	Contact with worldwide IB teachers and making friendships that could help later on	Exchange of experiences and resources with different IB teachers worldwide	Not Applicable
<b>Conferences</b>	Not applicable	Communication with teachers from different countries and seeing things from a different perspective	Not applicable	Contact with distinguished Key-note speakers in the educational field	In-depth studies of learning views	Not Applicable
<b>Accreditation project</b>	Coordination between the different committees to fit the required standards	Exposure to international standards	1)Self evaluation to fit the standards 2) Awareness of where the school stands from international standards	1)Set high standards to be meet 2) Empowerment of teachers	In-depth studies of different aspects of the school	Feedback of the accreditation team clarifies where the school stands, its strength weaknesses etc...

<b>Curriculum writing project</b>	Vertical coordination between teachers to set the objectives and divide them equally between the different levels	Not applicable	Awareness of the objectives, assessment strategies, and content to be taught in all schools at all levels	Empowerment of teachers	1) Unification of the curriculum 2) Clarification of the educational objectives	Not applicable
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