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Influence of Professional Development on Teachers' Self-Efficacy

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By

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### Abstract

Professional Development is related to in-service training of teachers in workshops, and to collaborative work within professional communities in which teachers reflect on their practices and exchange ideas and activities. Teacher's self-efficacy is related to the teacher's confidence in his/her ability to exhibit innovative strategies, motivate students and produce change in their outcomes. A study was conducted in a private non-profit school located in Beirut to examine the influence of professional development on teacher's self-efficacy. Questionnaires, interviews and observations were conducted to triangulate data results. Participants included fourteen teachers, whereas interviews were conducted with three coordinators who were chosen purposefully. It was found that professional development has positive influence on teachers' self- efficacy. Future researchers could conduct this study on a larger sample of schools or they can change it into a longitudinal research with statistical measures to obtain more reliable results.

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## Chapter One

### *Introduction*

Professional development has become of great importance in the field of education. It has become an important issue in school success. Principals and teachers need professional development to achieve successful implementation of educational goals and objectives. The purpose of this study is to examine the relation between professional development and teachers' self-efficacy. The literature review will be based on research articles and books that clarify the meaning of professional development and that of teachers' self-efficacy, and that show the impact of professional development on teachers' self-efficacy. The focus of this research will be on determining the impact of professional development on teachers' self-efficacy in a sample school that has been chosen to conduct the study on.

### *Research Context*

The sample school is a private non-profit elementary school in Beirut in which 240 students are enrolled, and in which 14 teachers are employed. This school named fictitiously (X) belongs to a group of schools named fictitiously (XY). Most students in that school are of low socio-economic status. Professional development in that school includes a preparation period III which teachers attend workshops and seminars inside and outside the school and are provided with follow-up training on a weekly basis. Teachers are trained to implement a variety of new instructional strategies that they have acquired in the weekly preparation sessions. The educational center of (XY) schools usually plans and conducts such training. Yearly, in July, supervisors evaluate the work of each (XY) school for each subject matter for the whole year. In September, they organize workshop sessions for each subject matter that extend over 5-6 days,



three hours per day, in which a particular plan is designed and followed. Throughout the year, a supervisor for each subject matter visits each (XY) school weekly and meets with the teachers and coordinators and follows up their training. In addition to these local workshops, sometimes teachers are invited to attend workshops in other schools. This information was received through an informal interview that was conducted with (X) school's principal after obtaining an official letter from the department of education at LA. U. to gain permission from the director of the educational center of (XY) schools to visit (X) school and conduct this study there.

#### *Purpose of the study*

Teachers and principals might all work hard and think they are doing their best, but in fact something may remain missing. Could it be the lack of professional development? Could it be the lack of teachers' self-efficacy? What is teachers' self-efficacy? What is professional development? How could professional development affect teachers' self-efficacy? This study attempts to address these questions.

Therefore, the purpose of this study is to examine the effect of professional development on teachers' self-efficacy.

#### *Operational Definitions*

**Professional development:** includes in-service training workshops to assist teachers in adopting and experimenting with innovative instructional strategies (Fisher, 2001). It also requires that teachers communicate openly with one another about instructional issues ( Grodsky and Gamoran, 2003). It should influence collaboration, shared purpose and reflective inquiry ( King and Newman, 2001). This means that teachers should reflect on and discuss their teaching practices and guide each other towards attaining a shared purpose which is the school improvement.

**Teachers' self- efficacy:** is teachers' belief in their abilities to produce change in students'

achievement outcomes (Wheatley, 2002), to exhibit effective teaching strategies, to influence student learning (Plourde, 2002), and to motivate students to learn (Evers, Brouwers and Tomic, 2002).

Professional development aims at raising teachers' self-efficacy by improving teachers' instructional skills and hence modifying the quality of teaching. Timperley and Phillips (2003) found that through professional development, teachers acquire pedagogical knowledge related to the usage of improved learning and teaching strategies that satisfy students' different needs. This acquired knowledge then influences teachers' action in classrooms and increases their self-efficacy, which improves student achievement outcomes and thus increases teachers' expectations of students' ability to learn regardless of students' socio-economic background.

In addition, through professional development, teachers acquire a new image of themselves and thus their confidence in their abilities to produce change in their students' learning outcomes increases. Finson (2001) discussed the importance of professional development suggesting that teachers who adopt more exploratory teaching methodologies and who view themselves using nontraditional ways in teaching such as group and hands-on work and who are not always in a traditional classroom setting usually reflect confidence in their ability to impact student learning, whereas those who use more didactic and expository traditional teaching approaches reflect feelings of inability to impact student learning.

Moreover, professional development shouldn't be imposed on teachers because it will be resisted. It should rather be acquired through peer coaching and collaboration in order to increase teachers' self-efficacy. Evers et al. (2002) discussed the importance of collaborative planning, peer-coaching and group-centered in-service training in influencing teachers' self-efficacy and positive attitudes towards innovations. The researchers claimed that when the innovations were planned and ordered by the national educational authorities, these innovations were looked upon

as top-down planning strategies and were often resisted by teachers.

Furthermore, teachers' concern about their teaching abilities is the beginning of success. Therefore, teachers should discuss their instructional problems openly in order to improve themselves. Wheatley (2002) discussed the importance of expressing teachers' doubt about their efficacy in collaborative work and found that this results in teacher professional learning and change. Teachers' perception of their weaknesses influences them to improve themselves and search for solutions.

As a conclusion, professional development is necessary for fostering teachers' self-efficacy and positive attitude towards innovations. Professional development provides teachers with an opportunity to acquire new instructional skills and strategies. This pedagogical knowledge increases teachers' confidence in their abilities to produce change in their students' achievement and learning outcomes. Teachers' awareness of their students improvement will influence their quality of teaching. However, to attain such benefits, professional development should be acquired through collegiality and peer coaching rather than being imposed on teachers by top down authorities. Through collaborative planning and peer coaching, teachers will be influenced to reflect concerns about their self-efficacy which is the beginning of success to find solutions to their instructional problems.

### *Methodology*

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This study is a mix of qualitative and quantitative methodology. It follows a case study approach that uses interviews, questionnaires and observations to collect data that will be used to address the research questions. Qualitative research relies on interpretive, subjective dimensions of educational phenomena which are best explored by case study methods. Case studies are usually done on an individual unit such as a child, class, a school or a community generalizing results on a wider population to which that unit belongs (Cohen and Manion,



1994). Therefore, since this is a study of a small elementary school, the case study approach can best serve my topic. The methodology of this research includes observations conducted in the teachers' faculty lounge to collect data through note taking of teachers' collegial attitude and their level of engagement in professional dialogue and reflective inquiry.

Another source of data is the semi-structured interviews conducted with three teachers, audio-taped and transcribed for later analysis. Questionnaires that were distributed to the 14 teachers who work at the (X) school include multiple choice items, yes/no items, Likert (1-5) rating scale items and open ended questions. The questionnaires were administered post a three hours weekly training session.

Furthermore, to have a better view of the complexity of human behavior and of situations in which human beings interact, two or more methods of data collection should be used. This is called triangulation or multi-method approach which is particularly used in the field of education because in assessing the teaching-learning process in the context of a school, the single-method approach results in limited and sometimes misleading data. In addition, when the researcher is engaged in a case study, triangulation is a very useful technique that assists him/her in responding to the multiple perspectives present in a social situation. The more the outcomes of a questionnaire survey are consistent with those of an observational study of the same phenomena, the more the researcher will trust the findings (Cohen and Manion, 1994).

Therefore, to attain reliable findings, three methods of data collection were used: interviews, questionnaires and observations. These give a clearer idea of the level of professional development and the level of teachers' self-efficacy in that sample school and how they are related to each other.

*Expected Results*

The results of my project are expected to shed light on the significance of teachers' attitudes and beliefs about their teaching abilities after attending workshops and engaging in professional dialogues with peers. Attending workshops and seminars is expected to expand teachers' knowledge of a variety of new and more interesting instructional strategies that suit children's different learning needs. Moreover, the follow up training sessions provide the teacher with an opportunity to learn how to apply these new strategies and teaching methods ( Fisher, 2001).

In addition to attending workshops, teachers' participation in reflective inquiry and professional dialogue with their peers provides them with an opportunity to exchange ideas and activities and to have a shared purpose that directs them towards change and improvement.

Reflective inquiry is teachers' reflection on their teaching practices and experiences.

Professional dialogue is when teachers discuss instructional issues with each other. This collegial attitude and peer coaching will also assist teachers in acquiring knowledge about the use of a variety of innovative instructional strategies that suit children's needs ( King and Newmann, 2001).

The teachers' knowledge of these new instructional strategies and their experience in using a variety of these strategies will change their beliefs in their abilities to produce change in students' achievement outcomes and in their abilities to motivate students to learn. Hence, this will enhance and improve their self-efficacy, that is their confidence in their teaching abilities will increase. This will influence their action inside the classroom positively, that is instead of following traditional routine procedures, they will motivate students to engage in active learning processes that suit their different needs ( Finson, 2001).

Moreover, following new and more instructional procedures will improve students' learning outcomes. Teachers' awareness of this improvement in students' achievement will raise their expectations of their students regardless of their socio-economic background. Hence, they will strive to improve the quality of their instruction (Timperley & Phillips, 2003). Thus, it is expected that this study will find that professional development influences teachers' self-efficacy in the sample school.

This study includes six chapters. Chapter one consists of a brief introduction, research context, purpose of the study, operational definitions, a brief idea about methods to be used, data collection and expected results. Chapter two includes a detailed literature review. Chapter three presents the methods and instruments that are used for data collection and selecting participants. Chapter four presents the results of questionnaires, interviews and observations. Chapter five is a discussion of findings and results. Chapter six includes conclusions and suggestions for further research.

The following chapter presents a literature review based on research articles and books that show the impact of professional development on teachers' self-efficacy.

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## Chapter 2

### Literature Review

Professional development and teachers' self-efficacy are two important factors of school improvement and effectiveness. The literature review will clarify the meaning of both terms and will show how teachers' self-efficacy is linked to professional development.

#### *Professional development*

Professional development refers to providing teachers with sufficient training in acquiring new knowledge, instructional procedures and technical skills to raise their understanding of education and strengthen their willingness to make changes that will affect students' learning (Valarie, 1997). Andrews and Lewis (2002) stated that professional development includes also shared understandings developed through professional communities in which groups of teachers participate in professional dialogues discussing instructional issues and exchanging ideas, values and beliefs that could enhance student achievement and assist in school improvement.

In-service training in workshops.

Professional development requires providing teachers with an opportunity to attend university seminar courses and an in-service training period on a monthly basis (Fisher, 2001). Fisher claimed that through these training workshop sessions, teachers will have an opportunity to learn and implement improved instructional strategies that are research based. He reported also the importance of the role of a professional committee in conducting a regular assessment of teachers' implementation of specific instructional strategies. He claimed that this is much better than test scores which could only be evaluated annually. Holloway (2003) conducted a study in one district in the U.S.A. using a focused action plan that included professional development activities designed to show teachers new instructional strategies that were closely aligned with



students learning needs. He reported that one year later, 80 percent of the students scored at or above the average level, which was a sign of school improvement.

Moreover, in-service training courses may have a positive effect on outcomes if they are attended for the purpose of acquiring and applying what is new (Mortimore et al 1988). Stedman (1987) indicated that effective training should be tailored to the specific needs of staff and should be an integral part of a collaborative educational environment. Joyce and showers (1988) analyzed ways of staff development concluding that it should include a number of educational practices such as ways of managing students and learning environments and teaching strategies or models of teaching that can affect student learning.

Furthermore, in-service training programs should not only provide teachers with book instructions and technical skills, but should raise their understanding of education and strengthen their willingness to make changes that will improve students' learning ( Valarie, 1997). He states that nowadays, teachers should adapt the course content to students with special needs, find multicultural elements in their subject, integrate computers and other forms of technology into their teaching and help students cope with life complexities in this rapidly growing age. Valarie concludes that this requires continuous learning and sophisticated teacher development, but in-service training programs can be efficient only if teachers are active participants who see that what they learn produces results in their classroom and enables them to improve the lives of students.

Shared purpose, reflective inquiry and collaboration.

Teachers' learning of innovative teaching strategies and skills is most likely to occur when teachers have opportunities to collaborate with professional peers both within and outside of their schools. Teachers should communicate openly with each other about instructional issues related to their teaching experiences. This will provide them with opportunities to exchange ideas



and activities, to reflect on their knowledge and experience and to find possible solutions for their problems with some students. Hence, this will create a positive school climate which will raise the quality of teaching and thus improve students learning outcomes (King and Newmann, 2001). The researchers based their conclusions on a research study that was conducted in nine public elementary schools in urban settings across the USA that have sustained programs of professional development. Among them was Lewis Elementary School in which professional collegiality was observed in workshops and meeting sessions and in which great emphasis was given to team-work, team consensus and team building. As a result of professional development activities and efforts at that school, over four years, students' reading achievement improved greatly regardless of their social backgrounds.

In addition, creating professional communities within the school structure was found to be an important element of teachers' commitment and effectiveness. A professional community is formed of a group of teachers, coordinators or school staff members who meet together to plan, organize and discuss instructional issues. There might be a professional community for each school department or subject matter. Grodsky and Gamoran (2003) discussed the importance of professional communities within schools in enhancing shared values and purposes, collaboration and collective control which facilitate teachers' commitment and effectiveness, as well as student learning. They stated the importance of a strong professional community in enhancing the benefits of professional development in a school such as inspiring and encouraging curricular and pedagogical innovations which lead teachers to adopt new effective teaching practices.

Moreover, Grodsky and Gamoran stated the importance of reflective dialogue in which teachers exchange instructional issues and teaching experiences. They based their arguments on a study of 16 public and private secondary schools in California and Michigan. They found that a school's sense of professional community is linked to school's capacity to solve problems.

They also found that the larger the staff of a school, the more difficult it will be to establish and support a sense of community, because it is more difficult to know all the community's members. Moreover, findings suggested that in private secondary schools, professional communities are stronger than in public elementary schools. In addition, data showed that women report a greater sense of professional community than men, and that school sponsored professional development activities tend to foster professional community at both the individual and school level whereas professional development which is sponsored by non-school entities has no statistically significant effect on professional community at either the school or teacher level. This means that teachers benefit more from their own participation and benefit from the participation of their colleagues. Findings also show that teachers in schools that have strong professional communities are more energized, interested and professionally active than teachers in weak professional communities who may be neutral to the presence of their peers or even seek to isolate themselves from their peers by avoiding school-sponsored professional development.

Many research studies were conducted to examine the influence of professional communities on the professional development of teachers. Andrews and Lewis (2002) conducted a study of a secondary school in Queensland, Australia which is involved in an innovative design for enhancing achievement in schools. A group of teachers created a professional community through their participation in professional dialogue and reflecting on practice. This was the base of teacher learning and thus for professional growth and for developing tolerance and understanding of how other teachers think and how they approach teaching. The teachers talked about collective learning which was based on shared purpose, shared experience and professional dialogue. The findings of this study showed positive effects of this approach on teachers who changed their teaching in order to be able to teach in ways that allow disconnected kids to reconnect with school. A non-threatening environment was built where teachers were able to express their thoughts and

contributions and felt valued and respected. The main findings of this study revealed that teachers developed a new image of themselves, and of students' learning and of their workplace, which resulted in the enhancement of students achievement.

Moreover, a collaborative school culture was found to be an essential factor of teachers' professional development. Huffman, Thomas and Lawrenz (2003) discussed professional development issues such as collaborative work which includes study groups, peer coaching, mentoring, classroom observation and feedback. They argued that having teachers meet and discuss may be valuable, but it is not always focused on instructional practice and, as a result, may not strongly relate to instruction. They reported that quality teaching can enhance student learning, but quality teaching should be rooted in the professional learning of teachers and principals which can only be enhanced in a suitable school structure and culture that encourage decentralization and expanded leadership, professional communities, parental community and support. Hopkins (1996) stated that in order for a school culture to be self-renewing and responsive to improvement efforts, it must promote collegiality, trust and collaborative working relationships and it should focus on teaching and learning. Harris (2002) claimed that in order for collaboration to influence professional growth and development, teachers should engage in dialogue with each other about their practice. This provides the opportunity for meaningful reflective inquiry and teacher learning to occur.

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Many research studies were conducted to examine the effect of professional development, acquired through workshops and through collaboration and collegial relationships, on teachers' self efficacy. Studies showed that the effect of professional development on teachers' self-efficacy was positive.

#### *Teachers' Self-Efficacy*

Teachers' self-efficacy refers to the beliefs teachers have about their abilities to affect students' outcomes such as achievement and motivation (Milner, 2002). Teachers who feel efficacious are more likely to improve student academic achievement and support positive



student attitudes toward school (Kaufman & Sawyer, 2004). Finson (2001) stated that self efficacy is individuals' belief in their ability to perform effective teaching behaviors such as the use of inquiry approaches, more student-centered strategies and beliefs that they can help any student overcome learning problems and succeed.

#### Influence of teachers' self-efficacy on students' achievement and motivation.

Teachers with a positive sense of teacher efficacy believe they can influence student outcomes while teachers with a negative sense of teacher efficacy believe there is little that can be done to affect student outcomes or that they personally lack the skill to do so. Teacher efficacy has been found to be positively associated with factors related to reform-oriented education such as greater use of hands-on teaching methods, less use of teacher-directed whole class instruction and a more humanistic classroom control (Wheatley, 2002). Tschannen Moran et al. (1998) argue that "greater efficacy leads to greater effort and persistence, which leads to better performance, which in turn leads to greater efficacy" and that "lower efficacy leads to less effort and giving up easily, which leads to poor teaching outcomes, which then produce decreased efficacy" (p.234). Plourde (2002) conducted a study to examine science teaching efficacy beliefs prior to and directly following the student teaching semester. Quantitative data were collected and results showed that teachers who had confidence in their own teaching abilities (self-efficacy beliefs) would persist longer, provide a greater academic science focus in the classroom, and exhibit effective teaching strategies compared to student teachers who had lower expectations of their ability to influence student learning.

In addition, it was found that teachers with strong self-efficacy can overcome feelings of stress and emotional exhaustion. Evers et al. (2002) conducted a study on a random sample of 490 secondary teachers in the Netherlands and found that teachers who are able to control the learning process are more likely to perceive their own professional worth and self-efficacy.

Their research results showed that teacher efficacy is related to teachers' beliefs in their abilities to motivate students to learn, influence student achievement, adopt innovative teaching methods and classroom management strategies and implement the educational program successfully without feelings of stress or emotional exhaustion. A strong sense of self-efficacy was found to be an important factor in school improvement. Timperley and Phillips (2003) reported statistical results of a research study that examined teachers' self-efficacy and their expectations of student achievement before and after attending a course of 6 months professional development. Pre-course results showed that 72.8% of teachers believed that teachers were the major factor in influencing student achievement, whereas post course results reflected that 75.5 % of teachers believed in the importance of their role in influencing student achievement. Moreover, pre course results showed that 50% of teachers believed in the importance of using innovative teaching strategies while post-course results revealed that 100% of teachers believed in the importance of such strategies.

Moreover, it was found that the use of non-traditional and exploratory teaching methods influence teachers' self-efficacy. Finson (2001) explored the relationship between pre-service teachers' self-efficacy and perceptions of *self* as science teachers. Results reflected that feelings of one's ability to influence student learning are usually matched with teachers who use more exploratory teaching methodologies, teach students in non-traditional ways such as group work and hands-on work, whereas feelings of one's inability to impact student learning are matched with more didactic, expository teaching approaches and teaching students in more traditional settings. Lee and Houseal (2003) presented, at Western Illinois university, a case study of four science teachers who experienced the influence of the use of innovative strategies on students' motivation to learn. One of these science teachers provides her students with an opportunity to participate fully in laboratory activities and hands-on lessons to use web sites and to meet with

a guest speaker for each science unit. At the beginning of her teaching experience, the teacher used to ask students to read the book, do worksheets, answer some questions and then sit for the test. She used to do this for every chapter, but then she found out that students weren't motivated and that science should be taught in a different way. She believed that the book wasn't very interesting that she decided not to rely on it. Therefore, she began to purchase things for hands on activities and rely on donations for the rest of her materials. The case study reflected also the experience of another science teacher who used to be very interested in science during her elementary education and wanted to conduct this love of science to her students. She uses the textbook occasionally and bases her instruction on group work activities in which students are actively engaged in sharing their groups' observations or work, exploring, directly applying and discussing the results with each other. She found that students listen attentively and follow directions well when they get interested in the task they are doing. Her role is to move around the room asking questions and making observations, then ending the class period with a short discussion centered on the students' observations. She also provides students with a brief explanation of the follow-up activity and asks them to do lab experiments. The students also create a science journal with each unit reflecting on their handouts, notes and projects. She enjoyed teaching that way and found out that students who learned science through textbooks didn't like science. She found that they became more motivated to learn science after being exposed to an activity - based program. The teacher was able to cover the five science units mandated by the school district before the end of the year, and hence she gave students two extra units that she personally developed and that she believed were motivating and enjoyable for students.



Influence of professional development on teachers' self-efficacy.

Teachers who participate in training sessions, network meetings and coaching sessions to learn how to implement a new set of practices in their classrooms are more likely to report greater self-efficacy beliefs and positive attitudes toward teaching ( Kaufman & Sawyer, 2004). This conclusion was based on analyzing data that were collected for a sample of 69 teachers in grades Kindergarten through Grade 12 at 6 schools which applied the responsive classroom (RC) approach, a relational approach to education related to teachers' beliefs, attitudes, and teaching priorities, training teachers for a year or more. Findings revealed that teachers who reported using more RC practices reported higher instructional self-efficacy, and greater disciplinary self-efficacy. Teachers' self-efficacy was strengthened by the experimental programs that were designed to help teachers develop human relationship skills and to enable them to create and maintain positive interactions with their students.

Teachers with a high sense of efficacy work harder and persist longer even when students are difficult to teach because these teachers believe in their abilities to affect students in desired ways and in their students' abilities to learn (Woolfolk, 2001). Perception of successful performance raise teachers' sense of efficacy while perception of failure lowers it. Therefore, successful experience is an important source of teacher self-efficacy (Bandura, 1997). Professional development also includes receiving positive and negative feedback from colleagues and students. A case study of Mrs. Albright, a reflective and experienced English teacher revealed that positive feedback is good to hear and makes one confident, but a teacher should also hear the negative feedback, in order to improve her/ his teaching. Mrs. Albright considered students, parents and colleagues' verbal feedback as integral to her level of efficacy (Milner, 2002).

Teachers' self-efficacy is also related to teachers' confidence in their abilities to use hands-on activities and innovative instructional strategies. Lee and Houseal (2003) reported the results of a

qualitative research done on elementary science teachers. The findings revealed that a major obstacle to teaching science efficiently is the teacher's low self-efficacy in using hands-on activities and true inquiry approach. This problem could be solved by providing teachers with sufficient and appropriate training to raise their professional development and hence improve their self-efficacy in experimenting with innovative approaches. In conclusion, attending seminar courses and receiving follow-up training and building collaborative professional communities within a school structure are essential in building a teacher's identity and self-efficacy. Participating in professional dialogue and reflecting on practice is a new base for professional growth and developing tolerance and understanding of how other teachers think and how they approach teaching ( Andrews & Lewis, 2002). These researchers found that shared understandings through professional learning can influence teachers' action in the classroom. Teachers can change their image of their teaching abilities and of students abilities to learn and of the work place through establishing and working within professional communities.

The next chapter presents the methods and instruments that are used for data collection to address the research questions.

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## Chapter Three

### Methodology

#### *Introduction*

The purpose of this research is to examine the effect of professional development on teachers' self-efficacy in the (X) school which belongs to the (XY) schools. This chapter presents the methods and procedures used to explore this influence. The chapter presents also a description of a representative sample of population, a description of the research instruments and methods that were used to collect data, reasons for choosing these methods and their advantages and disadvantages. It presents also how data were analyzed.

#### *Methods and Instruments*

A case study was conducted in one private elementary school in Beirut. Case studies are usually done on an individual unit such as a school, class, community or an individual so that a researcher can observe facts and analyze results (Cohen and Manion, 1994). To trust findings, the triangulation approach was applied, that is, three methods of collecting data were conducted: interviews, questionnaires and observations. The more the questionnaire results confirm those of interviews and observations, the more the researcher can trust the findings (Cohen and Manion, 1994).

#### *Participants*

The participants in this study were fourteen teachers: six in the kindergarten branch and eight in the elementary branch of the (X) school. The questionnaires revealed the following information: their ages range between 27 and over 42 years. Seven teachers received their teaching degrees from the teachers' educational center of (XY) schools and seven received a bachelor degree in specific majors. Four teachers graduated from the Lebanese University, two graduated from the Arab University of Beirut and one graduated from A.U.B. where she is

currently pursuing a master's degree in education. Three teachers teach Arabic although they were specialized in other subjects or fields. Seven of them had 20-32 years of experience, four teachers had 11-19 years of experience and three of them had 5-9 years of experience. Questionnaire sheets were distributed to the fourteen teachers post a three hour weekly training session. Three teachers were chosen to be interviewed purposefully according to their role as coordinators. One interview was conducted with the English coordinator, one with the Math and Science coordinator and one with the Arabic and Social Studies coordinator. Three observations were conducted in the teachers' faculty lounge to note whether teachers share ideas and activities and reflect on their teaching practice during coffee break and/or free hours.

#### *Procedure*

To conduct this research, permission was taken first from the director of the educational center of the (XY) schools who then sent a message to the principal of (X) school to give me access to the school to conduct interviews with three teachers, make observations in the faculty lounge and distribute questionnaires to all teachers. Prior to writing the proposal, the researcher visited the (X) school and conducted an informal interview with its principal who later on arranged for appointments with three coordinators of three different subjects during their free school hours taking into consideration also the researcher's free time. He also allowed me to enter the school at any time I want to conduct observations and distribute questionnaires. Interviews took place in the teachers' lounge. None of the teachers showed disagreement to respond to the questionnaire or be interviewed especially when I confirmed the confidentiality of the interviews and questionnaires. Each interview lasted between 20 and 26 minutes and each observation session lasted for 30-50 minutes. Three observation sessions took place in the faculty lounge. I made a narrative record of everything I observed or heard.

*Data collection*

## Interviews.

The interviews were audio-taped and transcribed. Semi-structured interviews, including five open ended questions, were conducted because they suit the qualitative research which requires searching for details ( Seidman, 1998). Interview questions were based on the research questions which focused on three main areas of enquiry: the relationship between professional development and the use of innovative strategies, its relationship with motivating students, and with students' outcomes. Drever (1995) suggested that the main questions that are asked during an interview should be derived from the research objectives and questions. The research objectives of this study were to examine the influence of professional development on teachers' confidence in their abilities to use innovative strategies, to motivate students and to produce change in students' outcomes.

In conducting interviews, some of the guidelines presented by Seidman (1998) were followed. The interviewer should arrange appointments for each of the interviews and should read about the topic and be an expert of his /her topic before conducting the interviews. It is better to shorten the interview session to 30 minutes and the interviewer should not interrupt the interviewee or direct his/her thinking, listen more and talk less. Interviewers should establish equity in the interviewing relationship and have a serious attitude of a researcher. There should be direct contact with the interviewee and hence interviewers should have friendliness of tone, flexibility and openness to establish a relationship with the interviewee. Interviewers should share experiences on occasion. Interviewers should also be concise, purposeful and clear about the range and purpose of their study in order not to be misunderstood. They should keep participants focused and ask for concrete details.

Moreover, the researcher followed instructions by Burns (2000) which include the following. The interviewer should use parroting or mirroring and minimal encourages to keep



the interviewee conversing and should not judge or evaluate, but should only understand what he/she is listening to. It is very essential to tape record the interview to keep the raw data for later study and analyses.

Advantages and disadvantages of semi -structured interviews.

The interviews were conducted in a logical sequence and were based on research questions that were all related to the focus of the study and related to one another so that the interview flows naturally. If the interviewer jumps from one topic to another the interviewee may be confused and lose confidence in the interviewer (Drever, 1995). The interview included five questions and each question required an answer of about 5-6 minutes which was an average span of time that was needed to gather sufficient details.

Besides these advantages, there were few disadvantages. First of all, the questions were broad and very related to one another. An interviewee's answer for a specific question sometimes included an answer for a following question. Another disadvantage was that sometimes interviewees were imprecise in their responses "of course!", " very important!" , " yes! a lot!", so the researcher had to use probes and prompts to ask them for more clarifications and details or give them hints to assist them in understanding the question better and referring to precise examples and/or experiences. " Probes are directed at what people have already said, asking them to clarify and explain, but not as a rule to justify or defend their position. Prompts invite different answers of the same kind. Like prompting, probes can be general or specific encouraging interviewees to expand on what they think but neither leading them nor challenging them" ( Drever, 1995, pp.23, 24).

Questionnaires.

In choosing the questionnaire items, some guidelines by Cohen and Manion (1994) were followed. The interviewer avoided leading, open-ended and complex questions or questions that

use negatives or irritating questions that could annoy the responder. The interviewer avoided ambiguous wordings and used clear and simple wordings instead. Instructions were clear, attractive and bolded whereas the initial questions were simple, interesting and encouraged participation. The middle part of the questionnaire included the difficult questions, whereas the last few questions were of high interest in order to encourage respondents to return the completed form. The layout was not compressed and the structure was simple and clear. Respondents were asked to put ticks in boxes rather than circle recoded numbers because this can be a source of confusion and error. Also, grouping questions together with a specific Issue is a useful technique to organize the questionnaire. Finally, a brief note at the very end of the questionnaire thanked respondents for their participation.

The questionnaire format was designed according to rules stated by Burns (2000) .

Questionnaire items included closed items, open-ended items, and scale items. Ranking questions asked respondents to indicate the order of their preference among five options to make comparisons. Questionnaire items were numbered so that the respondent will not be confused, and were arranged so that respondents do not have to refer to previous items of the questionnaire. The language used was appropriate to the respondents and a 'don't know' or 'undecided' response option was included. All scales were balanced around a midpoint in the response answer. Usually the Likert-type scale is used to measure attitudes. ( strongly agree- agree undecided- disagree- strongly disagree).

Advantages and disadvantages of questionnaires.

First of all, the use of the Likert-scale items increased the validity and reliability of the responses because it forces teachers to read and judge the statements carefully (Burns, 2000). Therefore, through questionnaires the researcher was able to gather significant data that were

related to the research objectives and questions. These were triangulated later on with interview and observation results. Concerning disadvantages, first of all, almost all teachers chose the positive choices out of a 1-5 Likert scale items. So, the truth of their responses were checked against data from observations and interviews. In addition, the boxes of the Likert scale items were made horizontally, so this might have confused some readers. Moreover, in the elementary branch of the school, it was difficult to meet with all teachers during recess time, so the researcher wasn't provided with an opportunity to present the purpose of the study and announce the instructions to all teachers at the same time. Therefore, the questionnaires were distributed over several sessions and the instructions were repeated several times. Furthermore, two versions of the questionnaire were made, one in Arabic and another in English to accommodate many teachers in that school. It was easier for those teachers to choose the Arabic version and answer its items, but it was more time consuming to prepare two versions of the questionnaire.

#### Observations.

Conducting observations was chosen due to several reasons. First of all it avoids relying on what participants tell in their interviews and questionnaires which might be inaccurate. Foster (1996) claimed that in making evaluative judgments, the researcher shouldn't rely on responders' views. Usually, participants present positive views about themselves or their school's performance or they might lack the expertise of making normative judgments. Therefore, judgments based on observations done by researchers themselves produce more accurate results. Secondly, some teachers might be busy and unable to give much of their time for answering interview questions and questionnaires accurately. Therefore, observations might be a less demanding way of collecting information from them." It can give us information on those



members of the school community who are unable or unwilling to take part in interviews or fill in questionnaires" (Foster, 1996, p.13).

Narrative accounts were chosen to record details of what was observed because it best serves the purpose of the study. Conducting a qualitative research requires searching in-depth for details. Foster (1996) claimed that qualitative research usually aims at describing school life through detailed narrative accounts about social and cultural contexts.

Observational data are often combined with interview data and other documents to provide an in-depth view of the behavior and cultures of teachers and pupils. During observation sessions that were conducted at (X) school, some teachers were discussing instructional issues together during coffee break and free hours. Recorded details of these discussions reflect teachers' interest in exchanging ideas, activities and views on their teaching practice.

Advantages and disadvantages of observations.

Through observations the researcher was able to check the accuracy of interview and questionnaire results. Some teachers were engaged in talking with each other about instructional issues and innovative strategies, especially when the two teachers who met together during free hours taught the same subject. This happened twice, once when the researcher met with the English coordinator and another English teacher and another time when the researcher met with the math and science coordinator and another math teacher. Moreover, in one of the observation sessions, the researcher had the opportunity to meet, in the faculty lounge, with the math supervisor who was asking the math coordinator about certain instructional issues related to curriculum coverage and activities that were prepared with each lesson.

Besides these advantages, there were some disadvantages. First of all, the small size of the school and the number of teachers in it was an obstacle. During recess, only two or three

teachers sat in the faculty lounge. The others were busy planning and preparing for exhibitions and extra curricular activities outside the faculty lounge, so the researcher didn't have the chance to observe all teachers. Also, during free hours, only two teachers met together at the faculty lounge, so the researcher had to base the observation records on the dialogue between those two teachers. Moreover, sometimes it was difficult to make teachers talk, because some of them were busy correcting tests or preparing a lesson. So, the researcher had to talk with them and inform them of the purpose of the study in order to receive some response and encourage them to talk. Furthermore, choosing the narrative unstructured type of observation required recording detailed notes which was time consuming.

The researcher followed certain rules in analyzing the data of this study. The researcher read the research questions then in each page of notes, underlined the concepts that are relevant to the questions and then categorized them. Notes include interview transcripts, observation narrative records and frequency counts that were used to analyze questionnaire results. Burns (2000) suggested that after collecting data, the researcher has to file the data obtained from questionnaire sheets, observation records and interview transcripts. The researcher should use a form of analytic induction in which filling data is based on analysis categories.

Moreover, Burns stated that the researcher should follow a coding system that is in accordance with research questions or objectives. "After codes have been allocated to the text in the transcript file, data coded to each category needs to be collected together" (Burns, 2000, p.444).

In conclusion the above methods and instruments were used in collecting data related to the research objectives and questions. In conducting questionnaires, interviews and observations there were some advantages and some disadvantages. However, data were triangulated through the use of the three methods and procedures to attain reliable results. In the next chapter these



data will be presented and analyzed in accordance with research questions and objectives.

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## Chapter Four

### Presenting the data

#### *Introduction*

This chapter includes an analysis of questionnaire, interview and observation data that correspond to the objectives of this research which aim at examining the influence of professional development on teachers' beliefs in their abilities to use innovative methods, to motivate students and to produce change in students' outcomes.

Questionnaires distributed to the 14 teachers at (X) school which is one of the (XY) schools showed how professional development influences teachers' self efficacy. Interviews conducted with the three coordinators at (X) school examined similar areas. All interviewees were asked the same questions. Three observations of 6 teachers at (X) school, during coffee break and free hours, focused also on similar aspects. Since (X) school is a small school, the researcher had the chance to observe only a few teachers. Data results were triangulated and checked for accuracy. In general, there was a slight difference in questionnaire, interview and observation results.

This chapter is divided into three main parts that address the research objectives mentioned above, and each main part is subdivided into three parts: questionnaire results, interview results and observation results which are mentioned in details.

#### *Influence of professional development on the use of innovative strategies*

##### Questionnaires results.

When asked whether the workshops affect their teaching practice positively, 50 % of the teachers in (X) school agreed (seven teachers); 42.8 % strongly agreed (6 teachers). Reflecting their opinion on having difficulty in applying new instructional strategies, 64.3 % disagreed

(nine teachers) and 35.7 % strongly disagreed (five teachers). In reflecting on their belief in the importance of using a variety of teaching approaches, 42.8 % strongly agreed (six teachers) and 57.2 % agreed (eight teachers) (Figure 4.1). When asked about whether they consider discussing workshops and teaching practices during coffee break beneficial, 21.4 % strongly agreed (three teachers) and 57.1 % agreed ( eight teachers). Concerning their belief in the importance of sharing activities and ideas with other teachers, 71.4 % strongly agreed (10 teachers) and 28.6 % agreed ( four teachers) ( Figure 4.2). When asked whether they need more guidance and collaboration with their coordinators and supervisors, 7.1 % strongly agreed ( one teacher) and 64.3 % agreed ( 9teachers). In general, questionnaire results show a positive influence of professional development on teachers' confidence in their abilities to use innovative methods and show their motivation to use a variety of these strategies.

Figure 4.1 Teachers' ability to use innovative strategies

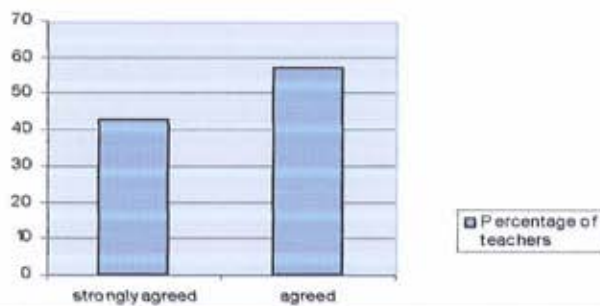
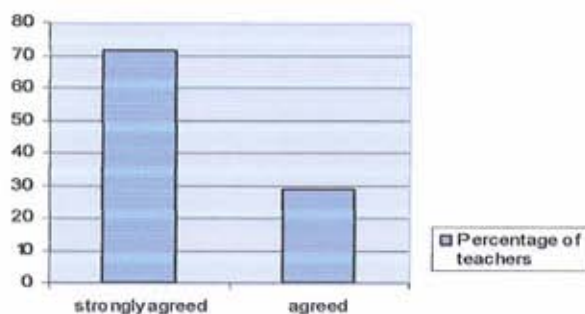


Figure 4.2 Influence of exchanging teaching practices



### Interview results.

The three coordinators reflected a positive attitude towards workshops saying that these improved their teaching style and added something new to their experience. The math and science coordinator claimed that workshops helped them to adapt to the new educational curricula in which learning has become student centered rather than teacher centered. She added that in the new educational curricula the student has to deduce and induce the information rather than receive it passively in a direct and repetitive way. She said that the teacher acquires new ideas, activities and innovative teaching methods through workshops, and that usually the teacher's work is followed up by the supervisor and the coordinator to check whether the suggested activities were applied appropriately inside the classroom. The Arabic and social studies coordinator commented that more than one week is required to produce positive results out of attending these workshops. She claimed that nowadays the teaching style differs from the traditional style that was followed previously.

The English coordinator said that through attending workshops, she might remember something that she already knows and become more aware of it. She added that when she acquires a new idea that seems interesting for her, she feels motivated to apply it in the classroom. For instance, if it is related to psychology or educational management, things that the teacher hasn't specialized in at college, the teacher benefits a lot and feels that she is improving herself.

When asked to reflect on the influence of workshops on teaching effectiveness, each teacher gave a lively example from personal experience. The first interviewee benefited a lot from a science workshop that she attended once, in the science application center of (XY) schools, in which she observed and directly applied laboratory activities and later on

conducted with students inside the classroom. She said that there is no science lab at this school, but students bring simple materials and objects with them to apply these hands-on activities. She added: " You can see that through these activities, the lesson objective is acquired easily by the student without any stress or exhaustion. I felt more comfortable in my relationship with students through the application of these activities that I acquired in workshops."

The second interviewee discussed the influence of workshops on her teaching and said that now when she wants to begin a new lesson she relates it to a previous lesson that she has explained and that she might give a grammar lesson indirectly through a reading lesson.

The third interviewee reflected on the influence of a workshop that she has attended recently about the use of the Internet in the classroom. She said that she acquired new ideas in this workshop that helped her a lot. For instance, she selects for students a website that includes several sites and then the students have to access these sites and search for information related to their lesson objectives. She continued saying: " We are doing integration i.e. teaching English through computer. We give them the opportunity to visit the computer lab once a week. They use CD's, or they work on phonics, spelling or reading comprehension. This is our first year of integration. So, I benefited a lot from this workshop. I learned new ideas and I directly applied."

When asked whether they discuss with their colleagues their views about workshops and teaching issues during coffee break or free hours and whether this helps them, the three interviewees had positive attitudes. The first interviewee said: " We usually discuss instructional matters and exchange ideas and activities during coffee break and free hours. For instance, we discuss how the lesson went on and whether the concepts or lesson objectives were acquired by the students through the activity that was prepared we also



discuss whether the students were actively engaged in the lesson." She added that they also share together students' problems or learning difficulties trying to benefit from each others' ideas. She said that they take an idea from that teacher, another idea from another teacher to come up with a solution. For instance, they might call the student's parents to come to school and discuss with them their child's problem. She also said that sometimes through their discussions, a teacher says that her lesson was good. So, they sit and discuss the reasons for the success of that lesson. Was it due to lesson preparation, lesson activities and/or evaluation? She claimed that if the lesson activities are appropriate, the student, by the end of the lesson, can come up with a certain deduction or induction of information. She added that when the evaluation at the end of the lesson is purposeful, the teacher will then have confidence in her ability to assist students to achieve the lesson objectives. This is usually the discussion that occurs between them during coffee break or free hours, as that teacher claimed.

The second interviewee said that every educator should view instructional issues as part of life. She added: " Sometimes, you sit with a group of people who don't teach or have an idea about instructional matters, but you might speak with them about instructional issues. So, how will the discussion be like, if you meet with teachers and people who are in the profession of teaching? "

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She illustrated saying that she might face a problem with a particular student and might speak about it with another teacher who faces the same problem with another student. This way can assist her in dealing with that student. She gave another example of sharing ideas and benefiting from each other's ideas. She claimed that in the Arabic language class, students' writing style is weak, but in English there is a sequential development that assists the student to write better. The English teacher takes the student's sheet and writes for him/her some guiding notes rather than correcting what the student has written. Then, the student has to read

the notes and rewrite about the topic that is required. So this teacher took that idea from the English teacher and tried to apply with her students during Arabic classes.

The teacher also claimed that there isn't a distance in the relationship between the coordinator and the ordinary teacher. She said: " Sometimes I organize test questions with another Arabic teacher who might give me her opinion in choosing a specific question or she might want to put the question in another form. We as a small school are all working together."

The third interviewee expressed also a positive opinion about discussing instructional Issues and exchanging ideas with other teachers during coffee break or free hours. She said that not all teachers can attend the same workshop at the same time but the teacher who attends comes back and provides the other teachers with information that she acquired in the workshop. For instance, she attended once a workshop about teaching learning disabled students then she came back and conducted that workshop to all teachers in the school. She said that sometimes teachers talk about instructional issues outside the coordination meetings more than in coordination meetings, but this enthusiasm varies from one teacher to another.

Therefore, the three interviewees approved the idea of attending workshops and discussing instructional issues and exchanging ideas and activities during coffee break and/or free hours saying that it had great influence on their practices.

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#### Observation results.

In the second observation session, I met with the mathematics supervisor of (XY) schools. She was asking the math and science coordinator about what was covered in the math curriculum during that week by the other math teacher and what kind of activities she used. The supervisor was taking notes. She told the math and science coordinator that she should know about activities that the other teacher will be using in teaching that particular lesson. Then, they went to observe that teacher inside the classroom. This reveals how professional development is

acquired and how it influences teachers' use of hands on activities and innovative strategies.

Then the English coordinator came in and sat down to discuss with another English teacher some issues related to teaching English. The other English teacher gave some worksheets to the coordinator and talked about the cards activity that she used with grade one students. Then they talked about the Daily News magazine that the teachers design and organize and distribute to students to improve their English language. The coordinator told her peer about the story of "Jony Apple Seed" and how students were interested. Then they discussed grammar issues and what students should learn in grade one before moving to grade two. Then they talked about asking students to write research. The other English teacher told the coordinator that the curriculum stipulates they do research on the apple. The coordinator approved the idea and told her peer that she asked her students to do a research on the turtle then she provided them an opportunity to create a group of turtles out of wax. Then they moved to talking about journals and finally they talked about general issues related to their social life outside school.

During the third and last observation session, the science and math coordinator spoke about a science experiment that was applied in the classroom with the students and how it was a success, and how a small explosion resulted from hydrogen which was produced due to the chemical reaction between two chemical substances that were used. The coordinator told the other teacher who was sitting in the faculty lounge that the students were very motivated and asked her to repeat the experiment.

Finally, data obtained from questionnaires were triangulated with data obtained through interviews and observations. In general, concerning the influence of professional development on the use of innovative strategies, there was no contradiction in the results of questionnaires,



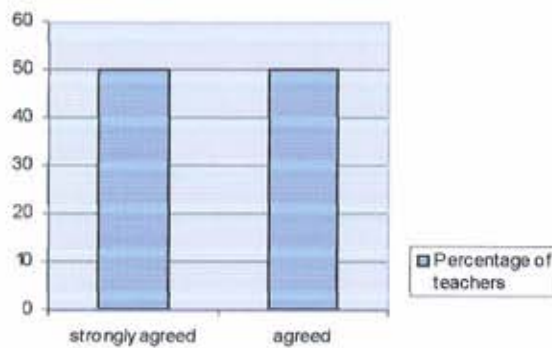
interviews and observations.

*The influence of professional development on motivating students*

Questionnaire results.

When asked whether they believe in their ability to motivate students to learn, 50% of them strongly agreed (seven teachers) and 50% agreed ( seven teachers) (Figure 4.3).

Figure 4.3 The influence of workshops on teachers' ability to motivate students to learn



Interview results.

The three interviewees reflected positive attitudes and opinions about the influence of professional development, through workshops, on their abilities to motivate students to learn.

The first interviewee claimed that she improved a lot and was able to motivate her students to learn through the workshops that she has attended. She illustrated giving an example of a technology workshop that she had attended in the main educational center and benefited a lot from. She talked also about a science workshop that she attended in a sister school and how this influenced the students to participate in the science exhibition at the end of the year. Students had to do science projects related to their curriculum textbook, so through what she learned in that science workshop about heating water through the solar

energy, she taught and helped students apply such a project.

Moreover, she said that in that annual science fair, there is an evaluative community which chooses projects according to required criteria and there are money prizes and reinforcement prizes. She also motivates students by telling them that if they finish up the project and present it well, they will receive from her a special prize as well. She stated that she also acquired ideas from science fairs and exhibitions that she attended in universities or in schools, then she tried to develop these ideas and ask students to apply them. She gave an example of a science fair at the American University of Beirut which was attended by teachers and by students and which they admired a lot. The students got motivated and wanted to participate in these science fairs.

The second interviewee said that workshops assist the teacher in motivating students and in knowing how to deal with each student because some workshops focus on building the personality of the child and informing the teacher of ways to deal with and be aware of special cases.

When asked about ways of motivating ordinary students, the teacher replied that when new ideas, tools and materials are offered, the student gets motivated to discover new things. She claimed that she acquired a lot of new ideas from workshops. Among these ideas was the idea of assisting the student to identify himself/herself on the first day of school through the identification card in which the student has to write information about him/herself and later on write daily journals of experiences. She said that this assisted her as a teacher to know about each child and that this might be an appropriate way of motivating students to learn by giving them an opportunity to express their interests and needs through writing.

The teacher also mentioned other ideas that she acquired through workshops and that increased student motivation such as the reading strategy of predicting prior to reading a text or a story. This motivates them to come up with creative work. Sometimes, the teacher asks

students to change the end of the story. The student gets motivated to do something new.

The third interviewee reflected also a positive opinion about the influence of workshops on motivating students to learn. She claimed that most times, workshops focus on the humanistic approach such as how to deal with students with learning disabilities and how to be sensitive to their needs and motivate them. She added that some workshops focus on cooperative learning which of course results in motivating students to learn.

Through workshops also, teachers learn different ways to enhance outside reading. English teachers, for example, made classroom libraries in which students borrow stories to read at home. Every five books, the student receives an award. She claimed also that when students feel that the teacher is motivated, they will feel motivated.

Through workshops also, the teachers learned how to integrate English with computer instruction and now believe that this integration session reinforces curriculum coverage and assists the teacher in illustrating the lesson.

From workshops, teachers also learn ways to manage group work activities. The English teacher said that she uses the system of token economy and puts a circle on the table of the most disciplined group. This means that this group will gain a tick. So, this reinforces them to become less noisy. If they talk, she removes the circle and by this they'll lose a tick. On the other hand, if they stay silent and work silently they will receive another circle and this means that they will receive another tick leading to a prize.

Therefore, the three interviewees agreed on the influence of workshops on motivating students to learn by getting students engaged in hands-on and cooperative learning activities, by providing them with opportunities to participate in science fairs and exhibitions and new ideas in which they could reflect their creativity, by being sensitive to students' special needs, and by using token economy and reinforcement techniques.

#### Observation results.

Observation sessions revealed also teachers' interest in motivating students to learn through new ideas and activities that they have acquired in workshops. The observation sessions showed that teachers exchanged several ideas to motivate students to learn such as the idea of Daily News magazine, cards activity, writing journals, research work and science experiments. They have acquired these activities from workshops that they attend regularly.

In general, there is a common agreement between the observation results and the interview and questionnaire results on the influence of workshops on the teachers' ability to motivate students to learn.

#### *The influence of professional development on students' outcomes*

##### Questionnaire results.

When asked whether they have a strong belief in their ability to produce change in their students' achievement outcomes, 42.9 % strongly agreed (six teachers) and 57.1 % agreed ( eight teachers) ( Figure 4.4). Concerning their expectations to improve self-efficacy through attending workshops and working within professional communities, 28.6 % strongly agreed ( four teachers) and 64.3 % agreed (nine teachers) ( Figure 4.5).

Figure 4.4 Professional development and students' outcomes

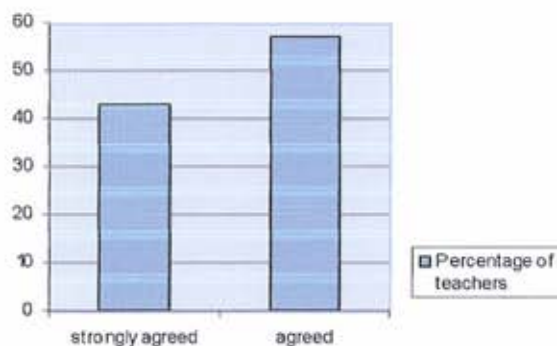
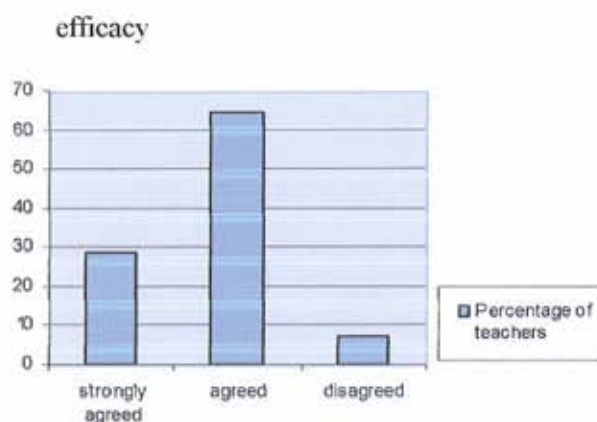




Figure 4.5 The influence of workshops and professional communities on teachers' self



#### Interview results.

The three interviewees agreed that workshops improve their abilities to produce change in their students' achievement outcomes. The first interviewee said that through workshops she acquired specific skills that assisted her in producing change in students' outcomes. For example, she learned how to conduct formative evaluation through quizzes related to students' daily practice and summative evaluation through tests that examine students' achievement of a whole chapter or unit in a specific content area. She added that previously she used one grade for the student whereas through these quizzes, she diagnoses each student's weaknesses and learning problems and helps the student before giving the summative test. This guides her to repeat the lesson or give students extra practice to help them achieve the set objectives. Through these workshops, the teachers learned to be consistent in formative and summative evaluation and were able to produce change in students' outcomes.

The second interviewee said that through coordination, teachers acquire and apply a variety of teaching methods. She stated that teachers should use a variety of new teaching methods

rather than one method and should be flexible in adopting teaching strategies they acquire at workshops in order to help low achieving students and produce change in their outcomes.

Through workshops also, teachers learn how to follow up on the student who has problems and call parents and make them aware of their child's problem. Parents only have to check their children's work without teaching them or helping them do their homework. She usually tells the students to put a sign or note near the concept that they didn't understand, and come ask about it the next day. Finally, she concluded that these are the ways she follows to improve her students' achievement outcomes.

The third interviewee reflected also positive views about the influence of workshops on her ability to produce change in her students' achievement. She said that she acquired through workshops an efficient way of checking students' understanding and diagnosing their areas of weakness. For instance, she usually makes a table for low achieving students in which she writes the weaknesses, the types of weaknesses and the intervention level. This table assists her in determining who needs an enhancement program whether through giving them stories to read or other measures.

Moreover, the English teacher usually asks parents to buy certain homework helpers and provide children with extra exercises from this helper to improve their performance.

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Then the parents can use the answer key to check whether or not their child has done the exercises correctly.

Therefore, all three interviewees agreed that workshops influence their ability to produce change in their students and enhance their achievement. All gave lively examples from their experience.

As a conclusion, questionnaire, interview and observation results coincided

with each other with a slight difference. Data were triangulated through these three procedures to show the influence of professional development, through workshops and collegial relationships, on the confidence of the teachers in (X) school in their ability to use innovative strategies, to motivate students and to produce change in students' outcomes. In the next chapter, the data results that were presented in this chapter are compared to study findings that were reviewed in chapter two.

## Chapter Five

### Discussion

This chapter includes a discussion of questionnaire, interview and observation results in accordance with the research objectives which address the influence of professional development on teachers' beliefs in their abilities to exhibit innovative strategies, to motivate students and to produce change in students' outcomes. These results will be compared to findings of literature review which present research studies conducted in the west.

#### *Influence of professional development on the use of innovative strategies*

Questionnaire results found in this study show that almost all teachers of (X) school agree on the influence of workshops on their teaching practice. When asked to reflect on their belief in the positive influence of using a variety of teaching approaches, all of them agreed ( ch.4, pp.32,33). Similar results were reported by Timperley and Phillips (2003) who examined teachers' self-efficacy and their expectations of student achievement before and after attending a course of six months professional development and found that all of the teachers believed in the importance of such strategies.

Interview data on the influence of professional development on teachers' abilities to use innovative strategies showed that workshops are important in assisting teachers to adapt to the new educational curricula in which learning has become student centered rather than teacher centered, that is, the student has to deduce and induce the information rather than receive it passively in a direct and repetitive way (ch.4, p. 33). This is similar to what was found by Wheatley (2002) that teacher efficacy is positively associated with factors related to reform oriented education such as greater use of hands-on teaching methods and less use of teacher



directed whole-class instruction.

Another finding is that teachers acquire new ideas, activities and innovative teaching methods through workshops, and that usually the teacher's work is followed up by the supervisor and the coordinator to check whether the suggested activities were applied appropriately inside the classroom (ch.4, pp. 33, 36, 37). Similar results reported by Huffman, Thomas and Lawrenz (2003) show that professional development should be based on collaborative work which includes study groups, peer coaching, mentoring, classroom observation and feedback.

Moreover, the interview results show that workshops provided teachers with sufficient training and direct application of exploratory and hands-on activities which influenced their teaching and assisted them in conducting these activities in classrooms with their students. It was found that through these hands-on activities, the lesson objective is acquired easily by the student without any stress or exhaustion (ch4, p. 34). This is in harmony with findings of Kaufman and Sawyer (2004) that teachers who participate in training sessions, network meetings and coaching sessions to learn how to implement a new set of practices in their classrooms are more likely to report greater self-efficacy beliefs and positive attitudes toward teaching.

Findings revealed also the importance of integration and the use of Internet in the classroom which was a new idea acquired in workshops. Through integration, different subjects could be taught through the computer. Teachers could provide the students with a website in which they could access several sites to find information related to their lesson. Teachers were motivated to make direct application of what they learned in workshops (ch4, p. 34). These findings are similar to findings by Valarie (1997) that in-service training should not only provide teachers with book instructions and technical skills, but should raise their

understanding of education and strengthen their willingness to make changes that will improve students' learning. One way is to integrate computers and other forms of technology into teaching and help students cope with life complexities in this rapidly growing age.

Furthermore, it was found that during coffee break and/or free hours, teachers at (X) school usually exchange ideas and activities with each other and discuss instructional issues related to the lesson preparation, students engagement in activities, students' achievement and students' learning problems. They try to benefit from each others' ideas and come up with solutions to students' problems (ch.4, p. 35) These findings are similar to what was found by King and Newmann (2001) that teachers' learning of innovative teaching strategies and skills is most likely to occur when teachers have opportunities to collaborate with professional peers both within and outside their schools.

It was also found that teachers work together in professional communities in which teachers of the same subject meet together to discuss instructional and pedagogical issues related to that subject matter. They organize together test items, activities and exchange new ideas that could assist them in improving their teaching (ch.4, p. 36). They also discuss together each student's problem and try to come up with a common solution to improve students learning and involvement in the learning process.

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These findings are similar to findings of a study by Andrews and Lewis (2002) that professional development includes also shared understandings developed through professional communities in which groups of teachers participate in professional dialogues and discuss values and beliefs that could enhance student achievement and assist in school improvement. This is also similar to Grodsky and Gamoran's (2003) findings that professional communities within schools enhance shared values and purposes, collaboration and collective control which facilitate teachers' commitment and effectiveness, as well as student learning.

Data also showed that sometimes a teacher is sent to attend an outside workshop as a representative of the (X) school, then she comes back and repeat that workshop in school for other teachers, and that there is a lot of trust and collaboration between teachers at this school. They respect each others' opinions and assist each other ( ch4, p.36). These findings are in agreement with Hopkin's (1996) findings which show that in order for a school culture to be self-renewing and responsive to improvement efforts, it must promote collegiality, trust and collaborative work relationships and it should focus on teaching and learning. Harris (2002) stated similar research findings which reveal that in order for collaboration to influence professional growth and development, teachers should engage in dialogue with each other about their practice because this provides the opportunity for meaningful reflective inquiry and teacher learning to occur.

Therefore, findings of this study are in agreement with study findings in the West which show that professional development influences teachers' confidence in their abilities to use innovative strategies.

#### *The influence of professional development on motivating students*

Questionnaire, interview and observation results show that professional development has great influence on teachers' belief in their abilities to motivate students. It was found that all teachers at (X) school agree on their ability to motivate students to learn and that most teachers are interested in motivating students to learn through new ideas and activities that they have acquired in workshops (ch4, p. 38). Teachers were found to exchange ideas and activities related to motivating students to learn, and which they have acquired from workshops (ch4, p. 41). Teachers in (X) school apply new teaching ideas and extra-curricular activities which they have acquired through workshops, and which were efficient in motivating students to



learn (ch4, pp.39,40).

It was found also that science teachers base their instruction on laboratory and hands-on activities which they have acquired in workshops and in which students become active learners rather than passive receivers. Students become motivated also through group work activities and participation in annual exhibitions of students' projects and science fairs at other schools and universities (ch4, pp. 38, 39).

Similar findings were stated by Finson (2001) who explored the relationship between pre-service teachers' self-efficacy and perceptions of self as science teachers. Results reflected that feelings of one's ability to influence student learning are usually matched with teachers who use more exploratory teaching methodologies, teach students in non- traditional ways such as group work and hands-on work.

Lee and Houseal's (2003) case study results showed that providing students with opportunities to participate fully in laboratory experiments and hands-on lessons and opportunities to meet with a guest speaker in each science unit instead of relying on the textbook alone motivated students.

Moreover, it was found that through workshops which focus on building the personality of the child, teachers at (X) school learned how to understand the personality of each child and how to deal with each child. They learned how to maintain positive relationships with their students rather than only give them information to learn (ch4, p. 39). This is similar to findings of Kaufman and Sawyer (2004) which revealed that teachers after professional training reported higher instructional self-efficacy and greater disciplinary self-efficacy. Teachers' self-efficacy was strengthened by the experimental programs that were designed to help teachers develop human relationship skills and to enable them to create and maintain positive interactions with their students.



Furthermore it was found that through workshops that focus on the humanistic approach, teachers of (X) school learned about LD students and how to be sensitive to their needs and motivate them. They acquired the idea of cooperative learning which also results in motivating students to learn (ch4, p.40). Through workshops teachers learned integrating computer literacy with other subject matters, which motivated students to learn (ch4, p. 40).

Similar findings by Valarie (1997) revealed that nowadays, teachers should adapt the course content to students with special needs, find multicultural elements in their subject, integrate computers and other forms of technology into their teaching and help students cope with life complexities in this rapidly growing age. This requires continuous learning and sophisticated teacher learning.

It was also found that innovative methods reinforce curriculum coverage (ch4, p.40). This is in harmony with Lee and Houseal's (2003) findings. A teacher was able to teach the curriculum mandated by the school district and add to them enjoyable content for the students.

Concerning classroom management and group work management, it was found that some teachers used the humanistic approaches in classroom management which maintained a good relationship with students (ch4, p. 40). This is similar to findings of Wheatley (2002) which reveal that teacher efficacy are positively associated with factors related to reform-oriented education such as greater use of hands-on teaching methods, less use of teacher-directed whole class instruction and a more humanistic classroom control.

#### *The influence of professional development on students' outcomes*

Questionnaire, interview and observation results show that teachers believe in the influence of professional development on their abilities to produce change in students' outcomes through attending more workshops and working in professional communities (ch4,

p. 42). These findings are similar to Timperley's and Phillips (2003) findings in that after in-service training, almost all teachers believed in the importance of their role in influencing student achievement.

Another finding is that through workshops teachers acquired specific skills and new ideas that assisted them in improving students' outcomes such as skills in formative evaluation to diagnose each student's weaknesses and learning problem before giving the summative test. Through this approach, teachers at (X) school were able to produce change in their students' outcomes and hence felt more comfortable (ch4, pp. 42, 43). Similar findings were reflected by Kaufman and Sawyer (2004) that teachers who feel efficacious are more likely to improve student academic achievement and support positive student attitudes toward school. Wheatley (2002) found that teachers with a positive sense of teacher efficacy believe they can influence student outcomes while teachers with a negative sense of teacher efficacy believe there is little that can be done to affect student outcomes or that they personally lack the skill to do so.

These findings are similar also to findings of Andrews and Lewis (2002) that professional development had positive effects on teachers who changed their teaching in order to be able to teach in ways that allow disconnected kids to reconnect with school. Relevant findings are also reported by Tschannen-Moran et al. (1998) that greater efficacy leads to greater effort and persistence, which leads to better performance, which in turn leads to greater efficacy and that lower efficacy leads to less effort and giving up easily, which leads to poor teaching outcomes, which then produce decreased efficacy. Moreover it was found by Evers, et al. (2002) that teacher efficacy is related to their beliefs in their abilities to influence student achievement and to implement the educational program successfully without feelings of stress or emotional exhaustion.

In addition, it was found that teachers should use a variety of new teaching methods rather than one unique method and that the teacher should be flexible in adopting teaching strategies acquired through workshops. Teachers at (X) school believe in the importance of following up students who have learning problems or are low achievers and providing them with more care and support to improve their achievement (ch4, p. 43).

These findings are similar to findings of a study conducted by Finson (2001) who stated that self-efficacy is individuals' belief in their ability to perform effective teaching behaviors such as the use of inquiry approaches, more student-centered strategies and beliefs that they can help any student overcome learning problems and succeed. Woolfolk (2001) found also that teachers with a high sense of efficacy work harder and persist longer even when students are difficult to teach because these teachers believe in their abilities to affect students in desired ways and in their students' abilities to learn.

Moreover, it was found that teachers at (X) school usually prepare their students for doing their homework assignments by themselves without depending on their parents and this influences their students' achievement (ch4, p. 43). Similar to these findings are those reported by Timperley and Phillips (2003) that prior to in-service training most teachers believed that parents were the major factor that influenced students' achievement while post course results revealed that few teachers believed so and that the majority of teachers believed in the importance of their role in influencing student achievement.

Furthermore, it was found that teachers at (X) school have acquired through workshops an efficient way to produce change in their students' outcomes by checking students' understanding and diagnosing their areas of weakness regularly and deciding on the intervention level (ch4, p. 43). Through this approach, teachers were able to enhance most

students' achievement. Finally, English teachers usually ask parents to buy their children certain homework helpers and provide students with extra exercises from this helper to improve their performance (ch4, p. 43). Similar to these findings were reflected by Wheatley (2002) and Tschannen-Moran et al. (1998) as well.

As a conclusion, questionnaire, observation and interview results related to the influence of professional development on teachers' self efficacy are in correspondence with review findings discussed in chapter two. In the next chapter, conclusions and suggestions for further research will be presented.

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## Chapter Six

### Conclusions and Suggestions

#### *Conclusions*

The review of research studies that were conducted on schools in the west reveal that professional development influences teachers' self- efficacy. Questionnaires, interviews and observations that were conducted on (X) school which is one of (XY) schools showed similar results. Analysis of these results reflected that professional development acquired through workshops and through reflective inquiry within professional communities influences teachers' beliefs in their abilities to exhibit innovative strategies. It was also found that professional development influences teachers' beliefs in their abilities to motivate students and to produce change in students' achievement outcomes. In other words, professional development influences teachers' self-efficacy.

Teachers in (X) school seem to have high self-efficacy which is the result of regular weekly meetings with the supervisor and workshops they attend at the educational center of (XY) schools and other workshops that they attend outside school. Their self efficacy is also the result of collegial relationships and to professional communities in which teachers of the same subject meet together and discuss instructional issues, and in which teachers of the same class meet together to discuss students' problems in that particular class. Since the school is small, they seem to have a collaborative culture in which all teachers are ready to assist each other to reach a common purpose which is the school improvement. Most of them have positive attitudes towards sharing ideas and activities with each other during coffee break and free hours. They believe in the importance of professional dialogue in enhancing their instruction and in providing them with new ways of dealing with students' problems. The majority believe

in the importance of workshops in providing them with an opportunity to learn how to use a variety of innovative methods which influenced their teaching experience positively.

In addition, teachers in (X) school are usually followed up by a supervisor who is sent from the educational center of (XY) schools for each subject matter. The supervisor visits the school once a week and meets with the coordinator and check whether teachers of that subject matter are applying the suggested ideas and activities appropriately. Sometimes the teacher is observed by both the coordinator and the supervisor. The coordinator usually relates what has been discussed in the weekly meetings with the supervisor to the other teachers of the same subject matter. The supervisor tries to connect (XY) schools together by communicating new ideas that have been applied in one of the (XY) schools to the other schools.

Concerning workshops that are offered by other institutions, the principal usually sends one of the teachers to be a representative of the school and then repeats the workshop in the school for the other teachers. Sometimes, if workshops are free most teachers go and attend. If they have to pay to attend, then it is optional. In general, there is a good system of coordination and supervision in the (X) school and teachers try to benefit from workshops they attend.

Moreover, teachers said that previously teaching was traditional and the student used to be a passive receiver, but now teaching has become student centered and based on hands-on activity and more exploratory methods. This was the result of attending workshops and becoming aware of the new educational curricula. Teachers were able to apply these new strategies and activities that they have acquired through workshops, which affected students' motivation to learn. Students became more engaged in the learning process, on task and willing to participate in extra-curricular activities and show their creativity and competence. The routine part has diminished a lot and hence teachers now feel more comfortable in their relationship

with students because they are able to adapt their teaching to students' needs.

Furthermore, teachers were able to produce change in students' outcomes as a result of new ways and strategies that they have acquired in workshops. They acquired new ways of evaluating students' achievement. Previously, evaluation was based on the student's grade in summative tests given at the end of the chapter or unit. Recently, evaluation is formative and summative. This keeps the student prepared consistently and keeps the teacher aware of whether the lesson objective has been acquired by the student or not and whether she needs to repeat the lesson or give students extra practice. Another way that helped them in producing change in students' outcomes was through an enhancing system in which they try to diagnose weaknesses of each low achiever and provide him/her with extra practice work and extra care. They've acquired this idea also through workshops.

Finally, teachers in (X) school have acquired professional development through workshops, sharing ideas and activities together, and working within professional communities. This influenced their practice and increased their confidence in their abilities to use innovative methods, motivate students, and produce change in students' achievement. Hence, they feel more comfortable in their relationship with students and in their teaching in general. The exhaustion element has diminished.

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#### *Suggestions for further studies*

Future researchers can apply this study on a sample of schools rather than being limited to this unique small school. They can conduct a larger number of observations, interviews and questionnaires to obtain more reliable results. Moreover this study could be changed into a longitudinal study in which students' outcomes could be checked at the beginning, middle and end of the year to examine students' progress, and hence to examine the influence of

professional development on teachers' abilities to produce change in students' achievement.

Also, observations could be conducted inside classrooms to check the influence of professional development on teachers' use of innovative methods and on students' motivation.



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