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To cite this article: Mona Nabhani , Rima Bahous & Zeina Hamdan (2012) School-based professional development in one Lebanese school: how much is too much?, Professional Development in Education, 38:3, 435-451, DOI: [10.1080/19415257.2011.639077](https://doi.org/10.1080/19415257.2011.639077)

To link to this article: <http://dx.doi.org/10.1080/19415257.2011.639077>



Published online: 30 Jan 2012.



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School-based professional development in one Lebanese school: how much is too much?

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(Received 11 March 2011; final version received 6 November 2011)

This case study examines the attitudes of the secondary and middle school teachers at one school in Lebanon regarding the effect of the school's professional development (PD) programs on the quality of their teaching practices and motivation. It also examines teachers' attitudes regarding PD as well as their recommendations to improve the quality of the PD program provided by their school. Questionnaires, focus group interviews and observations were conducted to collect and triangulate data results. Results show that teachers regard PD in their school as beneficial in general but able to be enhanced further. Although the attitude of novice teachers towards PD is more favorable than that of veteran teachers, findings show that the overall teachers' attitude towards PD is a negative one. Modifications and suggestions to improve the quality of the PD activities are proposed by the teachers. The school offers a prosperous PD program, but its fruitfulness will remain limited unless an organizational structure is created.

Keywords: professional development; schools; Lebanon

Introduction

Schools' effectiveness and progress depend on their leaders' ability to create learning environments that offer sufficient opportunities for teachers to collaborate, learn from each other and face professional challenges together (McLaughlin and Talbert 2001). Effective educational organizations are characterized by a high-quality teaching staff and a well-designed professional development (PD) program (Perie *et al.* 1997) that provides teachers with the necessary skills and tools to teach for conceptual understanding (Sarros and Sarros 2007). PD includes mandatory and/or self-chosen activities ranging from formal activities and in-school training to informal and/or off-campus activities (Nabhani and Bahous 2010).

Purpose and rationale of the study

The purpose of this study is to explore teachers' attitudes towards PD activities offered at their school and to investigate the influence of teachers' attitudes on their practices and motivation. It examines the attitudes of teachers with different profiles (discipline, grade level and years of experience), and elicits their views on strengths

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and weaknesses of their PD and suggestions for modifications to enhance its productivity. Newell and Cunliffe (2003) found that teachers' attitudes are usually influenced by the professional experience they have gained, and their appreciation of PD is substantially derived from the professional attitudes they have developed over the years. To gain a better understanding of the effect of the school PD program on teachers, the subjects themselves were asked about their attitudes and reactions (Hustler *et al.* 2003). Despite the variety of its PD programs, the school in this study makes no structured attempts to investigate the impact on teachers' practices of any of the PD activities.

Research context

The school is among very few others that have established nationwide prestige and secured its community's trust over more than a century. It offers challenging academic programs from preschool to secondary school. Students learn English, French and Arabic, and most of them are trilingual. At the secondary level, students enroll in one of four educational systems: the Lebanese, French or International Baccalaureate (IB), or the College Preparatory Program. The school also offers distinguished programs in the fields of sports, arts, music, counseling and guidance, and community service. The school follows a non-sectarian admissions policy, admitting students regardless of race, religion, color, gender, nationality or political affiliation. It regards its mission as an assiduous attempt to prepare students to become critical thinkers and active citizens in society, who endorse values of justice, tolerance and respect for others.

The school is famous in the community for its effectiveness and stakeholders. It follows a strict policy in recruiting staff and students, so one may say that these represent a middle to upper social class population regarding parents' income and educational background. Teachers are recruited from graduates of prestigious private educational institutions, are often trilingual and have good social backgrounds.

The school's PD center organizes a wide range of PD activities every year. Some activities are planned by the teachers while others are designed by experts from Lebanon or abroad. In general the activities provided by the PD center are divided into internal activities held on campus (information technology [IT] workshops, outreach program, study groups, in-service days, fundamental strategies workshops and curriculum writing project) and external activities (IB workshops and international conferences).

One of the researchers has been teaching chemistry at the site school for the past five years and has experienced the various PD activities. Through informal conversations and observation, she sensed inconsistency in PD policy and in teachers' engagement despite the richness of resources and the variety of provided experiences. The desire to explore this further guided this study.

The study is of interest because previous studies on PD by the researchers (Nabhani and Bahous 2010) showed teachers' dissatisfaction with the available PD activities due to expense, quality and timing, and because some schools spend money on PD for teachers but without needs assessment or follow-up. The current school provided teachers with a variety of quality PD opportunities that address different needs and interests, and still teachers complained.

Literature review

The authors reviewed available literature on PD and teachers' attitudes and motivation to create a framework for the study, and found rich western literature but only few studies in the region.

Findings often show that effective schools are those in which well-trained, motivated and professionally growing teaching staff function in a culture of partnership, risk-taking and continuous learning; PD improves the teacher–student relationship and enhances teachers' efficacy (Talbert and McLaughlin 1994) and their subject knowledge, curriculum planning skills and teaching potentials (Office of School Education 2005), which enables them to fulfill their roles (Shaukat 2004).

Consequently, preparing well-trained teachers ought to be a social, political and educational need (Darling-Hammond *et al.* 2009). However, PD is not a 'quick fix' for all school problems, but a long-term process that should be studied closely and applied appropriately to induce positive change (Hargreaves and Hopkins 1994).

The term 'continuous professional development' integrates teachers' knowledge acquired from university education and knowledge gained 'on the job' (Gray 2005). In this paper, the terms PD and continuous PD will be used interchangeably. Both describe a regular and continuous chain of learning experiences, during which teachers enroll consciously to improve the quality of their planning skills, critical knowledge, emotional intelligence, teaching practices and communication with colleagues (Robb 2000). Kelchtermans (2004) contends that PD affects teachers' actions and skills as well as their perceptions of their strategies and themselves. Since teachers' actions are partly driven and guided by their thinking and attitudes, it can be argued that PD should target teachers' actions, beliefs and motivation (Richardson and Placier 2002).

A common form of PD activity is structured in-service training, which now comprises technical and instructional workshops that provide teachers with new skills, knowledge and teaching strategies. These workshops are particularly fruitful when they include hands-on activities tailored to address specific teachers' needs in their schools' contexts (Valarie 1997). However, based on Vygotsky's theory of development, Eun (2011, p. 323) proposes that teachers receive ongoing guidance until they internalize what was presented to them, otherwise this new learning will not become 'part of the repertoire' of their practice.

Some schools add 'recreational workshops' such as stress and anxiety management, theater and music, and retreat workshops to relieve teachers from their work stress, recharge their energy, and enrich their creative and artistic faculties. Their importance lies in their influence on the 'professional self' aspect of teachers' growth (Kelchtermans 2004) and on motivation, creativity and awareness of their impact on students' lives (Milner 2002).

Reflective practices boost the gains from PD (Moon 1999) as teachers compare their own practices to the practices of successful practitioners and engage in self-reflection, group reflection and action research (Ferraro 2000). Self-reflection flourishes in professional communities, where teachers share conceptions and experiences through discussions, dialogues and debates (Andrews and Lewis 2002), leading to collegiality, productive learning environments and a healthy school culture (Harris 2002). Another benefit of reflection is presented by Field (2011), who argues that during a PD activity, teachers' exposure to knowledge and skills should be coupled with reflection as they implement the new learning and assess its impact

on their teaching, and this fosters their empowerment and emotional development. Poekert (2011) also recommends teacher inquiry as PD activity because it involves reflecting on one's practice, allowing teachers to judge whether the newly-learned strategies are valid for their classes. His study of six teachers who were guided through inquiry by a facilitator found that this PD method enhanced their learning and practice.

Study groups are also reflective practices among teachers from the same or different grade levels related to any educational topic that can affect their teaching, provided they are obligatory for all teachers and administrators, are regular and convenient, and the number of teachers per group does not exceed six (Joyce and Showers 1995). Similarly, action research allows teachers to improve their rational, social and educational practices by learning from their own experiences in a strictly directed and inquiry-based environment (Ponte 2005). It can have a positive effect on teachers' practices because it is practical, easy to conduct and includes a smaller sample size. The teacher is a major participant in the research by identifying a problem, formulating a series of clear researchable questions to be investigated, reviewing the literature regarding the targeted issue, collecting and analyzing data, and communicating answers to the school community so that everyone can benefit from the findings (Ross-Fisher 2008).

PD also requires training teachers on the uses of technological tools (Cole and Styron 2006). A well-planned program in educational technology provides time for assimilating and practicing the learned material, consideration for teachers' different needs, collaborative development, remuneration, teacher recognition and sustained staff development. It also needs a link between technology and educational objectives, intellectual and professional stimulation, and supportive administrative actions (Brand 1997).

Another PD approach engages teachers in the development of new instructional material and methodologies (Anderson 1992). Parke and Coble (1997) led a five-year study in which American middle-grade science teachers participated in curriculum design, and the results confirmed teachers' awareness of the value of curriculum writing as a PD activity. It improves teachers' practices provided it is well planned, and teachers work in a collaborative and collegial school culture supportive of change (Anderson 1992).

Moreover, participation in a large number of workshops leads to the creation of an investigative classroom culture and advancement of inquiry-based teaching practices (Supovitz and Turner 2000). Similar findings emerged from a study by Porter *et al.* (2000). However, the teachers' career phase, age and the subject matter they teach can influence their attitudes to PD. If this experience is tailored to fit their needs, the reception and perception are expected to be favorable (Hustler *et al.* 2003).

Discrepancies that exist between middle and secondary teachers also pose limitations to their professional development. 'Most middle school teachers see themselves as teaching the whole child first, teaching a specific curriculum second' (Knight 2000, p. 10). Knight's (2000) study shows that middle school teachers work on instructional teams where teachers of sciences, mathematics and social studies plan and collaborate at the same grade level. Secondary school teachers differ in that they put more emphasis on individual subject matters and curriculum academic demands. This explains why secondary teachers tend to be less cooperative and more reluctant towards PD scenarios (Knight 2000).

Ruberto (2003) supports the claims regarding the experience-related attitude fluctuations between teachers. Veteran teachers, empowered by experience stability, fear the unavoidable changes that PD promises to bring. Designers of PD programs in schools ought to understand and address teachers' 'career cycles', each defined by specific needs, concerns and capacities (Steffy *et al.* 2000). Moreover, teachers believe that PD helps them learn new methods, techniques and skills, but they commonly correlate between positive attitudes towards PD relevance and applicability of the presented activities (Hustler *et al.* 2003).

Several criteria for high-quality PD are presented in the literature. A PD activity is valuable and effective if it meets teachers' needs (Lee 2005, Deal and Peterson 2009), focuses on content knowledge, provides an opportunity for dynamic learning, and observes important structural features, namely the form, duration and heterogeneous nature of activities (Garet *et al.* 2001). Lee (2005) emphasizes teacher-administration joint efforts in planning PD activities. Deal and Peterson (2009) recommend an efficient communication system to build cultural networks to expand experiential gains. Studies conducted by Ruberto (2003) and Charles and Shane (2006) suggest that successful PD programs are research-based, challenging, relevant to the school's culture, aligned with the school's mission statement and subject matter, technology-oriented, appreciative of the role of assessment, and consistent with national educational standards and international strategies. They are also designed, supported and led by PD experts who are competent, charismatic and capable of building on teachers' prior knowledge. Successful PD programs are also regularly evaluated and updated. Bubb and Earley (2009, p. 25) deduced 'ten factors of success' from their research on PD, one of which states that schools' 'staff development should be monitored and its impact needs to be evaluated'.

Method

The study is a mixed-method case-study research, where the collected data are based on opinions and insights as well as facts and figures (Fraenkel and Wallen 2008). The purposive sample includes all the school's 80 middle teachers and 80 secondary teachers. The participants have different backgrounds in terms of nationalities, professional expertise, cultures and work experience, but they share belonging to the same school culture and educational system (see Table 1). The population is large enough to represent the authentic variations, experiences, and attitudes of virtually all the teaching body at the school (Hoepfl 1997).

Data were collected during the school year 2009/10 over a period of six months beginning in November and ending in April, after securing the school's permission and the faculty's agreement to participate. Fictional names were used to protect participants from any possible harm.

Instruments

Questionnaires, observations and focus group interviews were used for data collection. Items were derived from the research questions and reviewed literature. Often, analysis of school documents was an asset in preparing items for the instruments. The questionnaire's first part is based on a Likert scale: teachers read and evaluate the statements before they respond. In the second part, teachers answer open-ended questions related to each of the PD activities offered at the school. This gave

Table 1. Demographics of middle and secondary teachers.

Demographic	Percentage
Gender	
Male	45
Female	55
Teaching at the school	
Less than 5 years	15
5–10 years	30
10–15 years	40
More than 15 years	15
Age	
22–30 years old	20
30–40 years old	40
40–50 years old	30
50–64 years old	10

teachers more space to comment, elaborate, evaluate, explain and suggest, which promoted the authenticity and trustworthiness of the data (Groenewald 2004). The questionnaire was piloted to ensure clarity and that the components of attitude were covered and consequently to increase validity. Simple frequencies and averages were calculated for the first part, revealing teachers' positive, negative or no impact on practices and motivation. Data from the second part were analyzed qualitatively. General and specific attitude trends were underlined and reasons for these were highlighted and so was the impact of these on their practice. Attitudes were compared for middle and secondary, science and non-science, experienced and less experienced teachers.

Focus group interviews were essential to develop a clearer understanding of teachers' authentic views. Interviews were conducted in two one-hour sessions per division. In each session, five middle school teachers or six secondary school teachers, representing different departments, were asked six questions about their attitudes toward the school's PD activities. Participants were chosen for their long experience at school or for their frequent enrolment in PD activities. All interviews were held in the school's teachers' lounge. The interviewees were given the liberty to express their opinions, argue, build on others' comments, and make recommendations in the way and language they have chosen.

The major advantage of this instrument was its cost-effectiveness in terms of gathering primary data. By grouping a large number of participants (five to 12) we were able to receive significant input, feedback and dialogues as they discussed the issues presented to them loudly and collectively. Interviews were recorded and transcribed, and analyzed by categorizing similar concepts in themes, then summarizing these with regard to the research questions. Results were compared with those from questionnaires for triangulation purposes.

Observations were used to collect data from PD activities, namely study groups, in-service days, and outreach workshops, covertly and anonymously. These activities are labeled 'highly important' at the school and are shared between middle and secondary teachers, allowing us to observe simultaneously a large sample of teachers from both divisions. Observation data were collected to validate teachers'

responses on questionnaires and in interviews rather than depending totally on participants' views, which may expose more positive than negative features. Checklist data were summarized to present the extent of teachers' engagement and the level of their appreciation and satisfaction. Their confidence, readiness and thoroughness in presenting workshops to colleagues were also noted. Results were compared with those from questionnaires and interviews, and common trends were highlighted and used to address the research questions.

Results

The impact of PD activities on teachers' practices and motivation

In general, teachers' responses to the questionnaire items reveal that PD activities provided by the school have a positive impact on their practices and motivation, but some activities are more beneficial than others. For example, some teachers attribute more gains to external activities (31.1%); others to internal workshops (32.5%). Data from the Likert-scale-type questions were clustered into thematic categories of 'communication of experiences', 'adequacy and appropriateness of implementation' and 'enhancement of and motivation for further growth'. Average scores are used as indicators for PD's influence on teachers' attitudes.

Activities supporting the 'communication of experiences' have a positive impact on teachers' practices and motivation (average score 3.83/5). Scores of the items related to in-service days, study groups, exchange programs and mentoring of novice teachers are relatively high (between 3.84 and 4.03) as compared with benefits from chairpersons' observations (3.40).

Responses to items that investigate teachers' attitudes to PD's appropriateness for preparing students for official examinations and that assess 'adequacy of implementation' and adaptation of skills offered in fundamental strategies workshops had an average score of 2.90. This means that teachers' attitudes towards the learned techniques and new methodology are in the 'undecided' phase. The second theme of 'enhancement and motivation' has an average score of 3.93, which implies teachers' agreement on the positive influence of the school's PD on their motivation for growth.

All of the interviewees expressed a positive attitude towards PD's impact on their practices and motivation. One coordinator claimed that teachers are benefiting from the PD activities consciously or subconsciously and that their practices are regularly enriched by new methods. A physics teacher considered PD essential for teachers' careers and found the programs dynamic and helpful for maintaining high standards of professionalism. The head of the physical education department argued that the benefits of PD activities depend equally on years of experience and the source of the PD. The mathematics teacher disagreed: 'A well planned PD activity provides new teachers with methods of teaching while it helps veteran teachers see things from a different perspective.' Middle school teachers contended that beneficial PD activities are those tailored to fit teachers' needs and the school's culture.

When asked about attitudes towards the school's PD program, all interviewees agreed that 'Teachers' attitudes are generally negative' due to teachers' overwhelming workloads and the incompatibility between workshops' generality and their specific needs. The secondary school teachers concluded that teachers' attitudes are related to the aspects of teacher's age, workloads and degree of involvement in school life, workshops' scheduling, type and relevance, and incentives for participation. The chemistry department head said: 'Teachers' attitudes would be totally different if the

school creates a reward policy to motivate teachers.’ The IT department head affirmed that: ‘teachers believe that they should benefit and learn new techniques at every minute of the workshop! This is not possible unless we are talking about new teachers. Everyone benefits from workshops even if they are not explicitly noticing it.’

Observation data from the different internal PD activities were divided into two major parts: teachers as participants and teachers as presenters. Observations focused on assessing the quality of teachers’ participation in PD activities in terms of ‘active’ teachers and the frequency of involvement. The terms ‘regularly’, ‘often’, ‘rarely’ and ‘not at all’ were chosen to respectively describe teachers who responded to almost every one, most, some and none of the activities. Checklist items were clustered into three major themes: ‘Performance of tasks’, ‘exhibiting signs of appreciation’ and ‘active engagement and participation’. Data show that IT sessions were appreciated by teachers. Their engagement is relatively high during the PD session but decreases when teachers are required to complete tasks after the session. Teachers also were highly engaged during arguments with the presenters and each other, but showed less motivation when they were required to perform tasks during sessions.

The behavior of teachers as presenters of different workshops was studied to validate the answers of teachers collected in the questionnaire and the focus group interviews. The observation checklist was divided into three themes: ‘confidence, readiness and preparation’; ‘creation of a positive and productive culture’; and ‘maintaining efficient communication and collaboration’. The emerging patterns show that presenters: prepare well for their workshops and create a ‘discussion’ atmosphere during their sessions; make an effort to develop a good relationship with their audience through pleasant communication and regular checks for understanding; but neglect to explain the rationales of proposed strategies and emphasize mechanical applications.

Most beneficial aspects of the different activities

Data from the second part of the questionnaire target the most beneficial aspects of the different PD activities. High coherence between middle and the secondary teachers can be easily noticed since most of the activities are common at both levels. Teachers’ answers were classified into six themes: ‘coordination, exposure, enhancement of awareness’, ‘social interaction’, ‘professional motivation’, ‘developing expertise and finding new resources’, ‘receiving feedback’ and ‘promoting personal reflection’.

Interview results show that both middle and secondary teachers regarded ‘exposure’ and ‘communication’ as the most beneficial aspects of IT workshops. By learning various uses of IT, teachers expand the space of contact with their students. A philosophy teacher commented: ‘In Rome do what Romans Do! This generation of students is addicted to computers and technology. To motivate students, one needs to use their language. . . . use visual aids from the internet.’ All agreed that teachers should be IT-literate to stay up to date with the latest educational techniques, resources and software. The IT department head interpreted the importance of the IT workshops by ‘the supervised interaction with the machine’. He explained: ‘Some veteran teachers have some kind of phobia from the machine and the internet. Immediate help provided in workshops breaks the tension and “dilutes” the resistance towards IT.’

The secondary school interviewees confirmed the importance of the outreach program since it gives teachers good opportunities to share their experiences and learn about other teachers' problems in other schools of the local community: 'It's like community service for teachers . . . since there is no time to do "good" on one's own, . . . chance to help teachers who really need help in the community.' All were confident that leading outreach workshops should enhance teachers' skills and proficiency. When presenters interact with participants, they often have to adapt their presentation to address different needs and backgrounds. This enriches the presenter's experience in terms of skill and subject matter. Middle school teachers found outreach workshops important in making them recognize their professional status as compared with other schools. It is important to note here that this school has a tradition of providing affordable workshops to school teachers in different regions in Lebanon, often in rural and remote areas, who lack the means and chance to seek PD on their own.

Study groups are seen by respondents as 'sessions where teachers have the chance to reflect on their own teaching practices'; all agreed on 'communication' as the most important aspect of a study group and the benefits of the vertical coordination that takes place during study groups' sessions. One teacher commented: 'Secondary and middle school teachers get to work together and explain how they see things from their perspectives. This helps teachers realize the continuum of the different subjects they teach'; and 'Study groups increase our feeling of belongingness to the school.' Secondary school teachers argued that the importance of study groups' discussions lies in the integration of different disciplines leading to synthesis of new learning, ideas and thoughts.

However, most teachers expressed a negative attitude towards in-service days due to 'general or repeated topics' or 'unqualified presenters'. Some teachers suggested a new version of in-service days designed to become 'extended department meetings', with sufficient time for elaborate discussions and performances. The new Arabic and mathematics teachers considered in-service days important, since teachers are given the chance to select what is interesting, appropriate and relevant to them from a variety of topics. The head of the activities department highlighted potentials associated with the 'academic' and 'recreational' sections of in-service days: 'stress is relieved, and stronger bonds among teachers are developed.' The head of the chemistry department asserted that in-service days allow vertical and horizontal coordination in the school. In short, most teachers find that these do not add much to what they acquire from the other PD activities.

Teachers found the curriculum writing project (from 2001 to 2006) very beneficial to them and one of the most important projects done at school as: 'teachers wrote their own curricula for the Lebanese program', 'defined and acquired a better understanding of the objectives, learned new assessment techniques for addressing different perspectives and different learning styles, introduced new teaching methods to be used', 'This project unified the curricula taught . . . and most importantly unified the assessment process' and 'This is how we insure a fair assessment to our students.' One teacher added that this project helped teachers clarify their ideas and have a comprehensive understanding of the curriculum for the subject they are teaching. The outcomes of this project, namely curriculum guides, emphasize how students must be taught. 'If a teacher decides to leave, we, as a school, do not feel any risks, since detailed procedures of how things should be done are written in this project.' Furthermore, secondary school teachers agreed that this project empowered

teachers greatly. The head of the IT department noted that to keep the benefits of this project for a longer period of time and avoid obsolescence, the written curricula should be updated every few years. It is important to note that only the veteran teachers who participated in the writing of the curricula were able to answer this question. It is common knowledge in Lebanese private schools that the textbooks published by the Ministry of Education are inadequate in depth of content and lack exercises for higher-order thinking; so many private schools prepare supplements for each course to ensure better student preparation for the official exit examinations, the Lebanese Baccalaureate.

Moreover, secondary teachers stressed that IB workshops are a must for those who teach the IB program since it differs from common programs in Lebanon in assessment, content and resources. 'In IB you cannot go by the book especially that the program has a large framework and is updated every seven years', indicated the head of the IT department. IB teachers claimed that attending IB workshops is a very rich experience since it provides teachers with resources, skills and methods that are very relevant to their subject matter and to 'what is expected from students and how they will be assessed in official IB exams'. They 'share experiences and resources with different IB teachers around the world' and 'make connections and friendships that could be of great help at different stages of their teaching profession'.

Data about conferences show that exposure to distinguished keynote speakers and specialized features are the most beneficial aspects of this program. The secondary school philosophy teacher said: 'Certain subjects are very theoretical so it helps a lot to hear about these philosophical matters from well-known speakers rather than participating in workshops.' Most agreed that, in addition to exchanging ideas, experiences and useful teaching strategies, participating in conferences allows teachers from different countries to 'prepare and present in front of teachers from different countries and backgrounds which affects teachers' practices and motivation'.

It is evident that the school's PD program is enhanced by experiences and exposure that are not common in Lebanese schools. For example, in addition to funding a number of teachers to attend conferences locally and abroad, the school provides limited opportunities to travel to European schools and observe other IB teachers in action. However, the selection criteria of those candidates are not clear to teachers.

Comparison between attitudes of different groups of teachers regarding PD

Results show that teachers perceive activities supporting the 'communication of experiences' as having positive impact on their practices and motivation (average scores for secondary and middle are, respectively, 3.83 and 3.78), whereas average scores on the 'adequacy and appropriateness of implementation' theme (3.18 and 2.81, respectively) indicate that middle school teachers 'agree' that workshops are applicable in class; secondary teachers are undecided.

Results also show that less experienced and more experienced teachers differ in attitude to PD. Less experienced teachers perceive activities supporting the 'communication of experiences' as enriching to their practices and motivation (average score 4.25/5), whereas more experienced teachers' scores (3.51) indicate that they are in between the 'undecided phase' and the 'agree phase'.

Secondary teachers 'agree' on the positive influence of the 'use of written documents' on their practices and motivation (average score 3.72), whereas middle teachers seem 'undecided' (average score 3.33). Although middle teachers seem to

believe that the experience they gained when working on curriculum guides improved their understanding of the curriculum design and applications (score 4.00), they are apparently 'undecided' on whether these curriculum guides are regularly used by teachers when planning their lessons (3.00).

Less experienced and more experienced teachers' scores (2.70 and 2.98, respectively) indicate that teachers' attitudes regarding 'adequacy and appropriateness of implementation' are within the 'undecided' phase, whereas less experienced and more experienced teachers have similar average scores (3.62) on the 'use of written documents'. This indicates that both 'agree' that teachers benefit from the documents derived from curriculum writing projects.

Moreover, middle and secondary teachers' average scores (3.96 and 3.80, respectively) indicate that teachers 'agree' that the PD offered at the school has a positive impact on their practices and motivation. Also, less experienced teachers seem to 'agree' (average score 4.19) that PD has a positive impact on their 'enhancement and motivation for further growth'. This positive attitude seems to be less pronounced in the case of more experienced teachers (average score 3.68).

In general, the average scores of science and non-science teachers are comparable, indicating no significant attitudinal differences between the two groups. Both seem to 'agree' that activities supporting the 'communication of experiences' have a positive impact on teachers' practices and motivation (average score 3.81 for science teachers and 3.73 for non-science teachers). Furthermore, science and non-science teachers express a positive attitude to 'using written documents' and 'enhancement and motivation for further growth' (respective average scores 3.59 and 3.63, and 3.95 and 3.97). However, both groups do not show positive attitudes and are undecided on the thematic category of 'adequacy and appropriateness of implementation' (2.78 and 2.74, respectively).

In conclusion, findings show that teachers regard the school's PD program as beneficial in general but able to be enhanced further once certain elements are given more attention: scheduling, type and relevance of workshops, and incentives for participation. Teachers expressed satisfaction with certain activities more than others. Secondary school teachers preferred external activities while middle school teachers found more gains from internal workshops. Almost all teachers expressed their dissatisfaction with academic workshops during 'in-service days', which were labeled as 'general', 'repetitive' and 'do not target teachers' needs'. All expressed satisfaction with recreational workshops and all advocated the valuable experience they gained from participating in 'curriculum writing'.

Moreover, teachers' enthusiasm about PD diminishes with increasing years of experience. Yet, although less experienced teachers' attitudes towards PD are more positive, findings show that the overall teachers' attitude towards PD is negative. Less experienced teachers need the PD as a booster for their professional self-concept, while experienced teachers, who have developed a career identity, need experiences that are beyond what traditional workshops offer.

Comparing science and non-science teachers' attitudes shows no significant differences. All agree that teacher's age and experience, workloads and degree of involvement in school life, workshops' scheduling, type and relevance, and providing incentives for participation impact attitude to PD.

For middle and secondary school teachers, findings indicate that the PD activities that emphasize 'communication of experiences' have an evident positive impact on teaching practices and motivation. Similar results are found for those that

emphasize ‘enhancement and motivation for further growth’, which promote teachers’ professional growth, motivation and expertise, professional status and creativity. However, results show that teachers are skeptical about the appropriateness of the PD activities to prepare students for official examinations and doubt the adequacy of implementation and adaptation of ‘fundamental strategies’ in their educational practices. Almost all teachers, especially those who were curriculum writers, acknowledge the benefits of such projects in principle, but confess that curriculum guides do not ‘inspire’ school-wide teaching practices.

Discussion of findings

Findings show that veteran teachers rarely show willingness to devote any extra time, beyond the allocated duration of the workshop or activity, to complete assignments and follow-up on tasks. Most do not appreciate in-service days whereas novice teachers value the interaction with veteran teachers during PD experiences. This observation complies with the ‘career cycle’ theory advocated by Steffy *et al.* (2000) and Ruberto (2003). However, both enjoy recreational activities that promote teachers’ motivation and self-efficacy and are not ‘energy-drainers’ (Milner 2002, Kaufman and Sawyer 2004, Kelchtermans 2004).

Moreover, both groups show an overall negative attitude to the overwhelming workloads and incompatibility between workshops’ generality and teachers’ specific needs. Novice teachers are less negative and more eager to engage in PD workshops and learn new teaching strategies. Teachers’ concerns and reflections align with Knight’s (2000) propositions regarding teachers’ attitude to PD.

Study groups, in-service days, fundamental strategies, IB workshops and curriculum writing projects ensure positive coordination and communication among teachers. In vertical coordination, teachers from different levels (middle, secondary) share experiences that enhance feelings of belongingness to the school identity, an accurate understanding of the different levels’ educational practices and goals, and a clearer vision for the scopes and sequences in terms of content and skills.

Horizontal coordination allows teachers to view issues from various perspectives and plan and work independently and collaboratively at the same time. It facilitates the identification of problems and the implementation of innovative solutions by using inquiry, research methods and synthesized methodologies from different disciplines. Moreover, through exchange and outreach programs, IB and IT workshops and conferences, teachers are exposed to international standards, new educational practices and classroom environments, and interaction with foreign and local teachers, which expands their educational scopes. Teachers feel satisfied when they share values and standards with teachers coming from other schools. They feel proud when they discover their competence as compared with colleagues from other educational settings. Similar results were found by Anatoli (2008) on teachers’ exposure, professional growth and social status. In addition, exposure to educational technology increases their proficiency in addressing students’ interests and learning styles, which enhances student learning (Soloway *et al.* 2001).

PD activities also enhance teachers’ awareness of teaching and learning at different school levels, of the school status as compared with other schools or of educational systems. Awareness and communication impact a school’s culture, and teachers’ practices and motivation (Hopkins 1996), and promote professional dialogues that allow for reflections on teaching and learning (Harris 2002).

Social interaction and professional motivation are essential components of PD programs. 'Building acquaintance with colleagues', 'interaction with different educational cultures', 'recreational workshops', 'building intradepartmental communities', 'assuming instructional leadership roles', 'seeking institutional and self PD' and 'developing local and international professional friendships' all develop a positive attitude towards school and teaching, as also found by Kaufman and Sawyer (2004).

Other findings show that teachers develop expertise and new resources with PD activities that inspire teachers to integrate subjects, acquire new ideas for promoting students' academic and personal skills, learn new pedagogical perspectives and search for new techniques of class management.

In conclusion, findings suggest that the cognitive dimension of teachers' attitudes reflects adequate levels of conceptualization of PD. They acknowledge its importance for their professional status, recognize its advantages and inconveniences, critique its different forms in a constructive manner, and propose legitimate and valuable modifications to its structure and procedures. However, despite teachers' appreciation of PD in principle, there is little evidence that their enrollment in many of its activities is a result of personal intrinsic motivation; or that they regularly and systematically implement what they learn in their classrooms. Consequently, the cost-effectiveness of PD opportunities is not certain. One reason is the poor quality of some PD activities, but the main reason is the absence of a solid organizational structure that makes PD at the school purposeful, systematic, self-developing, specific and relevant, applicable and informative. An organizational structure of any PD program in educational institutions is indispensable for functional planning and allocation of resources, and for creating a school culture in which the cognitive, affective and behavioral components of teachers' attitudes evolve. Unless a strong culture of positive teachers' attitudes is pursued, the potentials of PD programs are going to be limited.

The PD activities are selected and dictated mainly by the school's professional development center and a committee of administrators. Although the general aims of activities might be inferred from their titles, in many cases teachers are left un-informed about the selection rationales and policies, the specific objectives for individual activities, and the school's expectations regarding the time and method of implementation and follow-up procedures. In cases of external workshop opportunities, the school invites applications from teachers and selects a certain number of applicants; however, the selection criteria are not communicated clearly and purposefully to the school community. The inefficiency of communication regarding certain aspects of PD policies produces negative feelings of ambiguity, lack of confidence and carelessness among teachers. One example is the new teachers' ignorance of curriculum guides, created during a school-wide project that was meant to develop a common identity for all the students enrolled in different national and international educational systems.

Teachers also express resentment concerning the absence of a role for them in the school's PD decision-making. Manifestations of such feelings emerge as complaints about the relevance, applicability and scheduling of the PD activities offered by the school. In general, teachers consider themselves as 'front line personnel' who are more knowledgeable about their potentials and weaknesses and more sensitive to students' needs. Since the school does not have an official policy for 'teachers' empowerment' in the domain of PD, many teachers tend to be de-motivated as they regularly comply with 'external school agendas'.

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

No matter how valuable a PD opportunity is and how much effort a school spends to satisfy teachers' professional needs, some factors that govern teachers' negative attitudes are quite uncontrollable. Traits, feelings, cultural attributes, personal experiences and aspirations that shape individuals' profiles and govern their behaviors impose a wide range of variations in teachers' responses towards PD alternatives. Even the same teacher might develop very different attitudes towards PD experiences from year to year.

Teachers' recommendations to improve the quality of their school's PD program: towards a PD framework

In light of the above findings, several recommendations for a more systematic PD program arise.

One recommendation is to conduct a serious needs assessment through documented observations of teaching, surveys and focus group interviews by departments and by levels of teaching experience, so that any planned activity would be purposeful and effective.

Teachers are aware that the school makes noticeable efforts to offer its teachers an extensive PD program characterized by diverse activities and that reveals commitment to PD as a path to school effectiveness. However, the school leadership has to create a PD organizational structure in which teachers' needs and potentials are considered, performance is assessed, change is facilitated and progress is monitored. PD policy and processes are embedded into an overall school strategy for school effectiveness and improvement, connected to the school's philosophy and mission statement.

A general framework of a new structure places PD as a central subsystem with well-defined relationships to other subsystems in the school, all in continuous, dynamic and reversible interaction. It is enhanced by realistic objectives, capable leadership and personnel, rich resources and measurable impact on teachers' performance and students' learning outcomes. In other words, what is recommended is a realistic PD system clearly driven by data from student learning outcomes and teachers' needs. More is not always better.

For example, any framework for PD must exhibit a wise awareness of the cultural, personal and experiential variations in teachers' profiles and the impact of these variations on teachers' potentials, needs and aspirations. Unless these variations are respected by PD developers, negative repercussions will occur on

teachers' attitudes and practices and eventually on their students' learning. Moreover, designers of PD programs must regard relevance and feasibility of activities as two major concerns that must be addressed.

Moreover, school leaders are responsible for creating a vision for PD, but cannot enact it except through a 'chain' of senior leaders or PD coordinators that translate the vision into plans and practical initiatives. They are selected based on well-defined criteria; trained and sensitized to the cultural, personal, structural and career-stage factors that determine individual teachers' needs and attitudes (Hustler *et al.* 2003). Any vision should revolve around improving student learning.

PD is extremely demanding in terms of planning, time, effort and resources, so it is logical to assess the congruence between the outcomes and the demands, and the impact on teaching practices and learning outcomes. However, isolating the improvement that may be solely attributed to any particular PD activity is not easy; it requires identifying target objectives for each PD activity, specifying corresponding observable behaviors for each objective, devising evaluation procedures, and analyzing results and making inferences. Evaluation enhances trustworthiness of the PD programs and has a favorable influence on teachers' confidence in and commitment to PD. A transparent evaluation strategy in a school is not impossible, especially if the burden of the process is distributed among qualified teams of leaders and performance reviewers (Office of School Education 2005).

Subsequently, professional learning communities may develop as collegial groups in the school, uniting to achieve a goal centered on students' learning (DuFour 2004). The community members engage in several activities towards achieving their goal, but all their work originates from a common vision and follows a collaborative trend of inquiry and decision-making. A school system that transforms into a learning community has more chance of success in the domain of PD.

Indeed, a 'paradigm shift' of this kind entails complex and major changes that range from regulations, objectives, leadership style, mentalities and procedures to teachers' workloads. However, the expected benefits deserve the effort. Professional learning communities can transform PD from an 'extra burden' to an ongoing 'daily practice' where teachers are empowered to overcome their negative attitudes and regulate their professional growth (Office of School Education 2005).

Limitations of the study

Certain uncontrollable factors could have affected the reliability and validity of the results. Out of the 160 distributed surveys, only 92 were returned. Also, teachers' integrity could have affected the results of the study. Despite anonymous surveys and covert observations, many teachers might not have voiced their true opinions during focus group interviews.

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