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Impact of teachers' professional development on school improvement—an analysis at Bangladesh standpoint

Kazi Enamul Hoque · Gazi Mahabubul Alam · Abdul Ghani Kanesean Abdullah

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Abstract This study seeks to describe the teachers' professional development activities in Bangladesh and explores the hypotheses about the relationship between teachers' traditional professional development activities and school improvement. Data from a representative sample of City secondary schools from Bangladesh ($n = 127$) were gathered through questionnaires from 127 principals and 694 teachers. Hierarchical multiple regression analysis was used in this research. This study found significant impacts of some of teachers' professional development activities on school improvement. Also found that the maximum school improvement can be achieved if schools put more emphasis on teachers' collaboration, in-service training and classroom observation and less emphasis on individual action enquiry. The findings of this study provide important information for the policy makers, educational managers and especially for the headmasters and teachers concerned with the improvement of teachers' quality in secondary schools of Bangladesh. This study adopts a concurrent approach of data collection and analysis.

K. E. Hoque
Faculty of Education, University of Malaya, Kuala Lumpur, Malaysia

K. E. Hoque (✉) · G. M. Alam
Department of Educational Management, Planning and Policies, Faculty of Education, University of Malaya, 50603 Kuala Lumpur, Malaysia
e-mail: tffr2004@yahoo.com

A. G. K. Abdullah
School of Educational Studies, University Sains Malaysia, Penang, Malaysia

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Introduction

Teachers' professional development is the most effective when it is ongoing process (Carrington and Robinson 2002) that create change and new understandings within schools that are quietly, yet most certainly revolutionary (Cardno 2006). Professional development (PD) means continually process of learning to enrich and enhance oneself with age and concurrent demand of information whilst engaged in job at any institution. In this sense, teachers' professional development means increasing teaching technique, broadening subject knowledge, creating responsibility and commitment with gathering latest information to prepare their students according and based to the needs of contemporary society. As cited by Hewton (1998:89), "A staff development programme is a planned process of development which enhances the quality of pupil learning by identifying clarifying and meeting the individual needs of the staff within the content of the society as a whole".

Professional development practices develop not only a new mind set by which one learns to promote and market one's skills, networking and cultivating relationships but also self-insight and a range of competencies (Watkins and Drury 1994). The ultimate aim of professional development in schools is to improve the quality of learning and teaching. A school ensures opportunities for teachers to update his or her knowledge and skills. It also provides scopes for reflection and learning from experiences as well as training and development for new roles and responsibilities to ensure the effectiveness of the individual teacher

in the development of the whole school. In order for achieving a desired school improvement, teachers need to commit to change, progress and democratic discussion of current belief and practices (Carrington and Elkins 2002). This study aims at exploring in what extent and what professional development activities influence on school improvement.

Literature review

Impact of teachers' professional development

Professional development can provide a platform that portrays itself as a catalyst for school improvement. Barth (1990) describes a school as 'four walls surrounding a future'. Teachers' work as architects, in the process of building the basis of future architects of the nation and society as well. Wenger (1998) addressed the teachers' community as the key to transformation who reflect people's lives. This is a heavy and sensitive responsibility requires the teachers to instil themselves with the quality of dedication and being resourceful (Alam and Hoque 2010; Alam et al. 2010). For this, they are essentially required to be engaged in some professional development activities which will have the positive impact on teachers' knowledge, teachers' attitude and beliefs, teaching practice, school level practice and last of all student achievement.

The aspect of professional development increases teachers' knowledge about content or content standards and instructional skills, classroom management or assessment. It enables teachers to reflect critically on their practice and fashioning new knowledge and beliefs about contents, pedagogy and learners. Smylie (1995) noted that learning subject matter and instructional technique alone are not enough; side by side, they have to change their beliefs and theories of action. Guskey (2000) argued that change in beliefs and attitudes occurs subsequently in the change in practice and results from teachers observing the impact of changes in their practices on student outcomes.

Professional development does make a difference in the quality of teaching in schools and in the achievement of students. National Center for Education Statistics (1998) reveals, in a national survey of US education department, that two-third of teachers report that professional development activities have caused them to change their approaches and methodology of teaching. A second national survey found that teachers who participated in professional development focused on standards were more likely to describe teaching in ways, consistent with the standards than teachers who did not participate in the professional development activities. Cohen and Hill (1998) found that the greater the amount of professional development exists, the more practice was influenced. Greenwald et al. (1996) found more gain spending money for professional development rather than reducing class size or increasing teachers' salary keeping it in mind that all students can learn and communicate (Mujis and Reynolds 2001:65).

Conceptual framework on teachers' professional development activities

There is no rigid dimension of professional development. Different researchers viewed different ideas. However, some common basic components are essential in teaching improvement. Hopkins et al. (1994) held two strategies in staff development for school improvement: first, the ongoing practices in the school; and second, the link and strengthening other internal features of the school organization. These strategies need peer observation, clinical supervision, coaching or in-service training.

Pfannamstiel et al. (2000) have developed a survey instrument for the US Department of Education's Principles of high-quality professional development where they have mentioned traditional and job-embedded professional activities. Traditional professional development activities are attending workshops, college courses, conferences and meeting whereas job-embedded activities are observing demonstration lessons, coaching or mentoring, participating in study groups, reflecting specific classroom practices, conducting action research, planning lessons jointly with other staffs and collegial sharing of best practices.

Harris (2002) sorted out some major components of effective staff developments, namely teacher collaboration, action enquiry, classroom observation and personal reflection, which include the curricular focus and teachers' study habit. Abdul Jalil Ali (2004) framed five characteristics of successful teachers' professional development: professional development design, professional development delivery, professional development content, professional development context; and professional development outcomes. Professional development delivery includes expert presentation, clinical supervision, and skill training and action research as some of the knowledge delivery methods.

King and Newmann (2001) examined that policies and programmes of professional development are designed to build school capacity that includes teachers knowledge, skills, dispositions, professional community with emphasizing on shared purpose, collaboration, reflective enquiry and influence programme coherence. They added that school capacity is enhanced when its programmes for staffs learning are coherent, focused and sustained. The objectives of all kind of professional development activities are to develop teachers in above-mentioned areas. Different materials according to subject matters are used to achieve the same objectives.

From extensive literature review, it is revealed that professional development activities have had the positive impact on teachers' change. Borko and Putnam (1998) have researched on nine articles from a number of educational scholars in regards the impact of teachers' professional development on the various domains of school capacity i.e school improvement and found the continuous growth and change of teachers irrespective of subjects either history, English, mathematics, science or even geography (Kolnik 2010). Recent study on traditional teachers' development efforts in Japan aiming at improving mathematics and science learning of secondary school learners concluded with a reflection of the outcomes (Ono and Ferreira 2010). Borko (2004) has suggested finding the separate influences of various programme, school and individual factors on teacher and student learning. From this point of view, the researchers had an attempt to find the separate or collective impact of some traditional professional development activities on school improvement.

Teachers' professional development survey

For the purpose of this study, the researchers have developed a quantitative research instrument adapted from Pfannamstiel et al. (2000) to measure the degree to which schools' teachers participate in professional development activities and to what extent it influences the school improvement.

The first dimension of professional development 'teachers' collaboration' denotes how collaboration in dialogue and action plan can provide sources of feedback and comparison that prompt teacher to reflect their own practices. As each school, subject area and classroom is unique, reflective teachers develop their practices through engaging in enquiry and critical analysis of their teaching and teaching of others. Teachers participate in peer coaching (Joyce and Showers 1988) and act as mentor and mentee. They have good opportunity to discuss the students work and select the best one to promote the maximum outcomes. Nias (1989) sorted out that by working collaboratively teachers are able to consider the different ways in which the subject matter can be taught. In this way, school effectiveness and school improvement discourses depict teacher collaboration as a product of overall management led by the school's principal (Lavie 2006). Dole et al. (1999) found that teacher collaboration brought together to develop a package of exemplary assessment tasks, rich in potential to provide data on students' mathematical understanding and knowledge, and relating to a new assessment framework.

The second dimension is the 'in-service training'. It denotes that the more frequently the teachers participate in meetings, workshops or conferences of professional organizations, government-sponsored workshop, school-sponsored workshops and regional-sponsored workshops or conferences, the more competent they will be in their field of work. Joyce (1992) viewed that the workshop is the training ground for developing new skills and knowledge of professional qualification. Saiti and Saitis (2006) have found in-service training as the key factor for teachers' professional development.

'Action research', the third dimension of teachers' professional development survey, denotes how well teachers identify problems, collect information, analyse information and take decision accordingly for further improvement. This evaluating impact of action renovate to the next step. Action enquiry is increasingly valued as a vehicle for collaboration and critical evaluation for school improvement (Cardno 2003; Posch 2003). Markward and Marino (2008) showed the success of collaborative action enquiry rather than individual initiative.

'Classroom observation', the fourth dimension of teachers' professional development, denotes the process by which teachers can understand and give meaning to what they see and drawing their own knowledge and experience. Under this dimension, teachers gain feedback from independent observer, record and review their classroom behaviours, develop their awareness of the impact of their actions, observe others in action and expand their repertoire of routines. In term of teachers' professional growth, Enaut (1994) suggested to record and review teachers' own classroom behaviour and to develop awareness of the impact of own action. Hopkins (1993) straightly pointed that observation plays a crucial role in supporting the professional growth of teachers. Card's (2006) study also had the strong evidence of the influence of classroom observation on school improvement.

The fifth dimension of teachers' professional development is 'curricular focus'. It denotes that teachers deeply involve in latest curriculum and its focusing areas. It also denotes the degree of teachers' planning and implementation of lessons, discussion on educational change and behaviour, meeting in pedagogic actions and missions and participating in grade level or contest area meeting on instructional issues. Rudduck and Hopkins (1995) focused on curriculum, as it is the medium through which the communication of knowledge in schools takes place.

'Study', the sixth dimension of teachers professional development, explains the degree of participating teachers in reading academic journals, reading academic journals related to their field of competence, reading journals that deal with teaching method, viewing professional audio-video tape, discussion with colleagues in their subject matter. Stenhouse (1981:16) noted that it is not enough that teachers' work should be studied; they need to study it for themselves.

The attempts of teachers' professional development survey are taken to assess some important dimensions of

teachers' professional development practicing in school process. It is important to clarify what determines an overall meaning of the six dimensions does not carry the overall idea. At a minimum, this quantitative survey of the instrument will sketch the introductory picture about the teachers' improvement by participating in professional development activities in individual school. These dimensions and included items of each can be useful in collecting all kinds of data either qualitative or quantitative.

School improvement

School improvement (SI) is a journey towards excellence on some changing process. These changing domains can be identified from the works of distinguished researchers who worked on different areas of school improvement since a decade. Most of the subject matters are almost common but they explained them in different ways. Some of the researchers have emphasized on changing of the school culture. In school culture they have included learning condition and related internal condition, teacher and leadership development and classroom improvement (Barth 1990; Fullan 1991; Miles et al. 1987; Scheerens 1992).

Some others define 'school improvement' as multilevel intervention and mobilizing change at school, department and classroom level (Fullan 1993; Hopkins et al. 1994; Hopkins and Harris 1997). Creemers (1994) has highlighted teaching and learning process as main determinants of school improvement; and Hopkins (2001) suggested onto adopting the management arrangements within the school to support teaching and learning as a strategy for educational change for real improvement whereas Harris (2002) highlighted some valuable findings on the successful process of successful school change such as teacher development, leadership development, improving the learning condition and the school culture.

Hopkins (2001) draws a framework of school improvement and school excellence where leadership and management, professional pathways, teaching, environment, evaluation, students learning, collaborative planning, curriculum assessment of learning are the elements of changing. Australian Capital Territory (2004) utilized some relevant elements for its school improvement framework of teaching practice, learning and assessment, curriculum, student focus and leadership behaviour and included Hopkins' (2003) framework as the basic guidelines.

In spite of obvious contextual differences and definitional and measurement issues, there is wide consensus that teachers professional development has the greater impact on school improvement. Thus, it is important to understand and determine the influential factors of teachers' professional development activities that have impact on school improvement.

Overviewing the studies of prominent and pioneer researchers in respect of school improvement, the researchers have developed an instrument adapted from Ubben and Hughes (1992) that was the integration of time management, school climate, basic commitment of teachers and staffs, teachers' improvement, headmaster's leadership improvement, curriculum development and student evaluation.

Hypotheses

Based on literature review, the following hypotheses have been generated.

- H1 Teachers' experience is positively related to school improvement
- H2 Teachers' collaboration is positively related to school improvement
- H3 The more the teachers participate in in-service training, the more the school will improve
- H4 Action enquiry has no influence on school improvement
- H5 Classroom observation is positively related to school improvement
- H6 Curricular focus is not related to school improvement
- H7 Teachers study habit is not directly related to school improvement

Methodology

The study "Impact of teachers' professional development activities on school Improvement" is considered a correlation because the exploration of the relationship between teachers' professional development activities and school improvement is the focusing main objective of this study. Therefore, it is not a causal study as it is to set the relationship between the independent predictor variable (teachers professional development activities) with the dependent variable (School improvement).

Gay (1996) depicted that correlation research involves collecting data to determine whether, and to what degree, a relationship exists between two or more quantifiable variables. The obtained relationship either predicts or set relationship between variables.

Population and sampling

The population of the study was the headmasters and teachers of the secondary schools of Dhaka city in Bangladesh. There are four mega cities in Bangladesh namely Dhaka, Chittagong, Rajshahi and Khulna. The city of Dhaka was chosen through random sampling. Dhaka is the

capital city of Bangladesh and it comprises the highest number of schools than all other cities. The total number of secondary schools in this city is 338 with 10,634 teachers (BANBEIS 2003). Secondary schools were chosen because the deterioration of the quality of secondary education is now the provocative question in Bangladesh.

Gay (2000) recommended 10% of the population is the acceptable sample size for descriptive research. The researcher was also conscious enough that the number of teachers would vary school to school. The participants to respond the questionnaire were chosen according to the Gay recommended 10% of the total teachers from every individual school. Teachers who had been serving less than 2 years were not included to respond the questionnaires, as they were too new to comment on the subject matter. The schools that had 10–20 teachers had been chosen at least 3 teachers. A total of 1,050 sets of teachers' and 200 sets of headmasters' questionnaires were sent to 200 secondary schools with the target of having responses from 177 schools of Dhaka city in Bangladesh. But a total of 715 teachers' and 132 headmasters' responses were returned from 132 schools. The researchers have sent follow-up letter for three times to remind them about the questionnaires. The researchers also contacted over phone with the headmasters of some schools who were reluctant to respond the questionnaires albeit sending follow up letter. Most of them had the excuses of tight schedule of themselves and teachers and a few of them returned the responses at the late hour (after analysis). Altogether, 18 teachers' and 5 headmasters' responses from 5 schools were excluded from subsequent analysis due to incomplete return. The reply response rate was 68.09% for teachers and 66% for headmasters. Five schools were dropped from the returned responses as 5 headmasters sent incomplete reply working for those schools. So finally, 697 teachers' and 127 headmasters' responses from 127 schools (63.5%) were used for the purpose of this study with the aggregated mean of teachers' responses at school level.

About sampling, Gay (1996) says, "for correlational, causal-comparative, and experimental research, some experts consider the magic 'general guideline' to be 30. Thus, for correlational studies at least 30 subjects are needed to establish the existence or non-existence of a relationship." From this point of view, the responses (132 for headmasters and 715 for teachers) are enough justified to represent the population under study.

Unit of analysis of the study

The study aims to identify the relationship between teachers' professional development activities and school improvement in secondary schools of Dhaka city. The school is considered as the unit of analysis.

Instruments: their validity and reliability

Questionnaires on school improvement and teachers professional development activities were used to collect the quantitative data for this study. The sources of these questionnaires were the adapted version of the questionnaires of Pfannamstiel et al. (2000) for teachers' professional development activities and Ubben and Hughes (1992) for school improvement. The validity of the content had been determined through expert opinions who were specialists in the content area selected for this study. The preliminary versions of both questionnaires were tested in a pilot study on a random sample of 30 secondary schools. The result from this pilot study confirmed that the items in both questionnaires were relevant, although some minor alternations were required.

To verify the convergence validity of the instrument used for this study, multi-item scales were analysed based on factor analysis. The scales include 6-predictor variables such as teachers' collaboration, in-service training, action enquiry, classroom observation, curriculum focus and study with one criterion variable 'school improvement'. Underlying assumptions were observed before proceeding to the subsequent phases of factor analysis.

Confirmatory factor and reliability analysis were also done to determine the dimensionality for Teachers Professional Development Activities and school Improvement content. The results of factor analysis for teachers' professional development activities came up with six factors with factor loading ranging from .615 to .917 using principal component analysis and varimax rotation procedures amounting for 89.67% of total variance (Table 1).

In case of school improvement measurement, direct Oblimin rotation method was used due to the failure of Varimax rotation method to get clean factor. Factor analysis on 26 items about school improvement showed one-dimensional factor with the factor loading ranging from .59 to .76. This factor cumulatively captained 76.70% of the variance in the data, with explanatory power as expressed by the eigenvalue 11.29. The factor loadings were acceptable (Table 2). In other words, these 26 items were internally consistent, all measuring the same basic construct.

Table 3 is the summary of reliability test of the measures. According to the table, the Chronbach alphas of the measures were all above the lower limit of acceptability (Chronbach alpha $>$ .60) (Nunnaly 1978). Hence, all the measures were highly reliable.

Table 1 Confirmatory factor analysis for teachers' professional development activities

Items		Factors					
		1	2	3	4	5	6
Factor 1: teachers collaboration (Chronbach Alpha = 0.89)							
2	Critical analysis of teaching	.75					
6	Group examination and discussion of student work	.64					
11	Feedback loop	.78					
17	Peer coaching	.84					
23	Mentoring	.63					
29	Collaboration in dialogue	.66					
Factor 2: in-service training (Chronbach Alpha = 0.83)							
4	Participating in meeting, workshops	.88					
12	Participating Govt. Sponsored workshop	.77					
20	School sponsored workshop	.87					
28	Regional workshop	.62					
Factor 3: action enquiry (Chronbach Alpha = 0.74)							
1	Identifying problem	.84					
7	Collecting information	.74					
13	Analysing information	.85					
19	Taking decision about action	.71					
25	Evaluating impact of action	.87					
Factor 4: classroom observation (Chronbach Alpha = 0.76)							
8	Gaining feedback	.82					
14	Recording and reviewing classroom behaviour	.62					
21	Developing awareness	.71					
27	Observing other in action	.73					
30	Expanding repertoire of routines	.80					
Factor 5: curricular focus (Chronbach Alpha = 0.81)							
5	Planning and implementation	.82					
10	Discussion on educational change	.79					
16	Meeting on educational concept	.89					
18	Meeting in pedagogic action	.91					
31	Content area meeting	.61					
Factor 6: Study (Chronbach Alpha = 0.79)							
3	Reading academic journal	.70					
9	Reading own field oriented journal	.82					
15	Reading journal on teaching method	.81					
22	Viewing professional video	.18					
24	Discussion with colleagues	.82					
26	Study in general	.72					
Eigenvalue		15.43	4.86	2.32	1.97	1.84	1.36
Percentage of variance explained		49.78	15.67	7.50	6.38	5.95	4.39

Data analysis

All the data gathered for this study were processed and analysed using the software developed for statistical package for the social sciences (SPSS). To test the formulated hypotheses, hierarchical multiple regression analysis was used taking Teachers' Experience, Teachers' Collaboration, In Service Training, Action enquiry, Classroom Observation, Curricular Focus, and Study as independent variables and school improvement as dependent variable. The researchers have employed hierarchical multiple regression analysis deliberately as this analysis is used to examine the relationships between a set of independent variables and a dependent variable, after controlling for the effects of some

Table 2 Confirmatory factor analyses for school improvement

No	Items	Factor 1 (Chronbach Alpha .897)
1	Students have favourable attitudes towards school and learning.	.708
2	Student learning is frequently evaluated using curriculum-referenced materials.	.665
3	The staff has high expectations for the students and adults with whom they work.	.738
4	A climate of order and discipline has been established	.720
5	Limited time is used in maintaining order.	.610
6	Classroom management tasks have been 'reutilized" to maximize available instructional time.	.650
7	The school staff has made a commitment to maximize learning time by reducing impediments to learning and interruptions of the school day.	.601
8	Students and parents receive regular feedback regarding the student's progress.	.630
9	Student's attendance rates are high.	.680
10	The school believes in an academic focus.	.720
11	The school believes that all students have the ability to learn	.640
12	The school stands for an expectation that each student will learn	.620
13	The school has high expectations for each student.	.640
14	Teachers regularly utilize techniques to assure that all students are learning.	.702
15	Staff members are evaluated regularly.	.591
16	Programmes and varied instructional techniques are provided in order to respond to each child's individual needs and differences.	.710
17	Students feel valued and successful.	.765
18	Individual help is provided to students when needed.	.630
19	School staff members exhibit a high degree of concern and commitment for the achievement and well being of each student.	.626
20	The headmaster understands the process of instruction and accept the responsibility for being an instructional leader.	.760
21	The headmaster is an able manager.	.654
22	The headmaster has high attainable expectation for the students and adults with whom I work	.690
23	Curriculum is well defined.	.601
24	Curriculum Emphasizes mastery of basic skills.	.620
25	The headmaster recognizes the importance of (and actively involves) the people who work in and who are served by the school	.743
26	The headmaster assists the school staffs in implementing sound instructional practices.	.678
Eigenvalue		11.291
Percentage of variance explained		76.702

Table 3 Reliability test

Variables	Number of Items in Questionnaire	Reliability
Teachers' collaboration	6	0.896
In-service training	4	0.897
Action enquiry	5	0.947
Classroom observation	5	0.764
Curricular focus	5	0.815
Study	6	0.787
School- improvement	26	0.897

other independent variables on the dependent variable. In this study, the researchers have controlled the effects of other two variables such as teachers' 'age' and 'gender'.

Results

Intercorrelation of study variables

Table 4 is the presentation of correlations among study variables. The table depicts the significant correlations between the predictor variables (Teachers' Experience, Teachers' Collaboration, In-Service Training, Action enquiry, Classroom Observation, Curricular Focus, and Study) and criterion variable school Improvement. In table 4 it is seen that most of the predictors correlated significantly ($P < .05$) with school improvement. The results also showed that the intercorrelations among the independent variables were mostly significant and high in some cases.

Table 4 Intercorelations of all study variables

Variables	E1	I1	I2	I3	I4	I5	I6	D
Experience E1								
Teachers collaboration (I1)	.34							
In-service training (I2)	.23	.05						
Action enquiry (I3)	.12	.09	.15					
Classroom observation (I4)	−0.16	.26	.09	.05				
Curricular focus (I5)	−.17**	.03	.06	.05	.06			
Study (I6)	.10	.02	.07	.03	.02	.56		
School improvement (D)	.56**	.62**	.23**	.07	.52**	.47	.12	

Note: $^{**}P < .05$

Result of hypotheses testing

The results of hypotheses testing are summed up in Table 5.

The table 5, as a whole shows the significant ($F = 12.35, P < .01$) of the model. The adjusted R^2 values of .351 points that 35.1% of the variation in school improvement can be made by the predictor variables of professional development. There found no significant relationship between teachers' experience and school improvement, contrary to H1. The results also showed the very significant relationship between teachers' collaboration and school improvement ($\beta = .953, P < .01$). So hypothesis 2 is strongly established. The relationship of other predictor variables such as in-service training ($\beta = .469, P < .01$) and classroom observation ($\beta = .512, P < .01$) resulted the highly significant relation with school improvement as hypothesized in H3 and H5. Curricular focus ($\beta = -.133, P < .01$) showed the significant negative relation with the course of school improvement, contrary to H6. But two other predictor variables Action enquiry and Study ($\beta = .395, -.274$,) did not show any positive or negative significant impact on school improvement as hypothesized H4 and H7.

Limitations

Like many other empirical studies (Devos et al. 2007), this study has both strengths and weaknesses. The researchers did not have enough information to use some other demographic variables such as teachers' grade level, subject area, and students' socio-economic background in the analysis. The inclusion of these variables could make this study more result oriented. Sample population was selected from the capital city of Dhaka where most of the parents are well educated and financially sound. Most importantly, the government subsidizes educational expenses. The government pays even 100% of teachers' salaries of non-government high schools. Therefore, students' socio-economic background is considered same in this study. Despite limitations, this study is the unique in its nature in Bangladesh that has revealed the individual impact of teachers' traditional professional development activity on school improvement.

Discussion

Teachers' professional development and school improvement

The main research question 'what is the relationship between teachers' professional development activities and school improvement?' was formulated to examine the impact of teachers' professional development on school improvement. The overall findings have determined the partially supported positive significant relationship between teachers' professional development activities and school

Table 5 The relationship between teachers' professional development and school improvement

Variables	Ustd corelation	Std error	Standardized beta	*t*-value	Sig
Teachers experience	.030	.028	.079	1.075	.285
Teachers collaboration	1.371	.415	.953**	3.30	.001
In-service training	.600	.307	.469**	1.956	.053
Action enquiry	.497	.305	.395	1.626	.106
Classroom observation	.766	.294	.512**	2.601	.010
Curricular focus	−1.802	.687	−.1311**	−2.622	.010
Study	−.417	.48	−.274	−.867	.387
R^2	.382				
Adjusted R^2	.351				
F	12.35				
Significant F	.000				

Note: ** $P < .01$, * $P < .05$

improvement. The discussion is extended with six fragmented indicators for various teachers' professional development activities.

Influence of teachers' collaboration on school improvement

Teachers' collaboration is one of the most important activities of developing teachers' professionalism. Teachers' collaboration, a critical component of organizational learning (Moran et al. 2000), has very positive and significant effect on school improvement. The reason behind it is that crucial practices among teachers include reflective dialogue, open sharing of classroom practices, the development of a common knowledge base for improvement and collaboration on the development of new material and curricula. As teachers collaboration in problem solving critically analyse of teaching, discuss student work and participate in peer coaching, their thinking process enrich and transform individual knowledge into organizational knowledge. This practices increase the level of professionalism by changing what teachers actually do during the course of the day. Such collaborative activities became routine and authentic means of school growth and improvement.

This finding is similar to Leithwood and Steinbach's (1995) study result where they mentioned that teachers' collaboration was more likely experiencing the long term growth enough to lead to quality school improvement. This finding is also in the alignment of some other researchers (Putnam and Borko 1997; Little and McLaughlin 1993; Louis and Kruse 1995; Johnson and Fargo 2010) who experienced the same significant effect of teachers' collaboration on school improvement.

Influence of teachers in-service training on school improvement

There is found direct significant effect of teachers' in-service training on school improvement. The fact behind it is that in-service training is an essential element for teachers' professional growth. Teachers participate in school or government sponsor workshop and conferences to enhance their teaching quality. This capability directly contributes to view their work from a new vantage point to meeting the classroom needs on the way to school improvement. Ramsey (2000) has suggested to provide more appropriate and practical forms of in-service training that can meet wider range of students' needs (Fisher et al. 1999) in classrooms.

This study finding can be considered the parallel of some other findings (Moore 2000; Guskey 1986; Litte 1993) that found the effective change among teachers after receiving the in-service training and this development of teachers definitely influence the organizational outcomes (Baker et al. 2009; Carrington and Robinson 2002).

Action enquiry and school improvement

Action enquiry, as a practice of individual teacher professional development, has been found no significant positive or negative effect on school improvement. This is because schools are awash with routine data processing activity with collaborative responsibility. Its no more an individual job rather collaborative. And collaborative enquiry is the heart of knowledge-creating process (Louis and Kruse 1995) that is essential to underpin improvements in teaching and learning (Lieberman 1988; Rosenholtz 1989). Thus, action enquiry as an individual effort does not influence in any way on school improvement.

Cain and Milovic (2010), in their very recent study in Croatia, found that whilst educational action research is not unknown, its use is not wide spread. This finding is supported by some other studies (Joyce et al. 1999) who recommended for reappraisal of central action enquiry system for balanced school improvement. This study's result indicates that action enquiry which is considered individual job in Bangladesh city secondary schools must recognize as collaborative job to have the positive influence on school improvement.

Classroom observation and school improvement

Classroom observation has direct significant positive effect on school improvement. Under classroom observation, teachers gain feedback of their classroom activities. All schooling activities are centred round student learning, and students have the direct contact with teachers. If classroom teaching is successful, then the total schooling effort is successful. So, from classroom observation, teachers can record and review their classroom behaviour, can develop their awareness, can observe other in action and choose the best teaching technique for themselves. Quality teaching ensures the quality learning. Quality learning makes a quality school. That means quality schools need a set of quality teachers. Thus, classroom observation creates quality teachers and impacts directly on school improvement.

The other alignment study (Louis 1998) has found the strong association between classroom observation and the elements of school improvement. The result of this study has been in the line of some other findings (Veenman et al. 1998; Bailey and Wicks 1990) that revealed that classroom observation was effective. Side by side, they recommended that this observation would be more effective if headmaster's active participation and support were provided generously. This is because headmaster is the administrative authority who directly involves with school improvement programmes.

The finding of this study shows that effective classroom observation prepares teachers for better classroom teaching and better teaching produces quality student outcomes (Bailey and Wicks 1990) that lead to school improvement.

Curricular focus as professional development activity and school improvement

Teachers' absolute focus on curricula for their professional development has had negative significant effect on school improvement. The result indicates that if teachers always confined themselves in that specific prescribed curricula, it does not increase their professional growth. This is due to the fact that in Bangladesh, teachers are very much enthusiastic to limit themselves in that prescribed curricular. But the contents were designed 100 years before mostly for colonial interest. The world is not there where it was even 15 years before. If teachers follow that curriculum, it cannot have any use in this contemporary technological advanced age. Thus, the result shows that if teachers does not follow epoch-oriented curricular, it brings inverse effect on teachers' learning and their professional growth and so on the students. And then negative effect on school improvement is obvious.

This finding is in the line of Marzano (2003) who recommended two ways to avoid mistakes in building school improvement plan. One of the ways is to make contemporary curriculum. So why Tramaglini (2005) termed curriculum as 'Backward Design for Forward Action' and suggested that educators must identify desired results, analyse multiple sources of data and determine appropriate action plan. After that, a contemporary curriculum can be produced that can be the good source of school improvement.

The result of this study points that faulty curriculum can demolish the schooling objectives and outcomes. Researching on 208 Curriculum Laboratory schools in Turkey Donmez (2003) indicated that the project failed to have any outcomes in spite of having some technical opportunities. This study's finding is congruent with Yager (2000) that asserts that by integrating problem solving skills into the curriculum teachers will be better equipped to deal with the school improvement issues.

Teachers study habit for their professional growth and school improvement

Regarding the impact of teachers study habit for their professional growth, we find that it has no direct impact on school improvement. This finding indicates that the city secondary school teachers of Bangladesh have not built any study habit. They never read any academic or teaching methodology or own field-oriented journal. They seldom view any professional video or rarely discuss with colleagues on contemporary educational issues. So, study is not reflecting any positive result on their professional growth and so onto school improvement.

The finding of this study is the congruent with Hansen (2001) that studied out that teachers need to agree on a set of labels and determine how they will teach those skills in the classrooms and the answer definitely will be 'study'.

Implications of the study

As far as theory for understanding is concerned, a range of insights into the work of teachers professional development activities within the contents of city secondary schools of Bangladesh has been illustrated from just one city namely Dhaka.

In Bangladesh, there is lack of empirical research in overall educational field let alone at secondary level and most particularly in the area of secondary teachers' professional development. Although a project for teachers' quality improvement (TQI) has been under operation for some years, there is found no research evidence on this specific field or related areas either in the Institute of Educational Research (IER), National Institute of Educational Management and Administration (NIEAM) or Bangladesh Institute of Development Studies (BIDS). This particular study contributes to the development of teachers' professionalism theory by adding to the existing body of contents in a form of literature on the subject. It takes an important step, may be pioneer, in the direction of empirical research development in Bangladesh. This work constitutes a precise description of the extent of growing teachers' professionalism practicing in the city secondary schools of Bangladesh. The researcher believes that these insights are sharpened by the realistic depiction of professional development activities to understand the complexity of their work by making the abstract and accessible (Noddings and witherell 1991).

This study suggests that, for the secondary schools of Bangladesh to achieve desired improvement, the emphasis on quality without improving the teachers quality system would be like building castle in the air. In Bangladesh, the opportunity for teachers' site level professional training is scanty. Headmasters and teachers can emphasize on the practice of teachers' collaboration and classroom observation at site level. These types of site level professional development activities can be easily practiced in a poor country like Bangladesh as they do not need to spend much money. Developing and monitoring these capabilities require conscious effort both from headmasters and teachers. The headmasters must know the variables that strengthen teachers' capacities to shunt their insight views. This study can work as feeder in their thinking.

In general, in Bangladesh city secondary schools, teachers do not have access at all to study professional related journals, periodicals and watching professional videos that can upgrade their own ideas and teaching techniques. It is important for the government to take positive and rapid initiative to ensure the availability of these study materials within the reach of secondary school teachers. Then only they will realize where they are and where the world is. The world is changing rapidly. The information they had 10/15 years before, the touching of globalization has taken it far more away. By linking these knowledge-generated teachers with this global content through journals and internet, the Bangladesh government can make them able to prepare their mind set at global level and context. Because teachers should be dynamic to be in the swim for the sake of new generation. They must remember that this generation is already global fit with mentality and creativity for the contribution of satellite.

Furthermore, the study also denotes the weakness in the curriculum to establish relationship with school improvement. The government should revamp the colonial curriculum to create knowledge-based world class generation. In this perspective, there is need for the Bangladesh government to reformulate and/or review their policies with regard to curriculum if they intent to compete with the global trend.

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