

## **Effect of Professional Development on Enhancing the Knowledge Level of University Teachers in Pakistan**

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Professional development refers to skills and knowledge attained for personal development in career advancement. In Pakistan the professional training for a university teacher is not the prerequisite. There was no systematic mechanism for in-service training of university teachers as well. In the recent past, HEC established Learning Innovation Division (LID) as a hub for in-service faculty professional development. LID is imparting training to university teachers through short and long duration courses. Researchers felt the need to investigate the effect of training on the mindset and knowledge of the teachers. The present study was an effort to find out the effectiveness of training on the knowledge and skills of university teachers. The study was evaluative in nature; quantitative approach was used to achieve the objectives. Twenty eight participants of FPDP-14 were the sample of the study. The written test developed by the LID, HEC was used as tool of the research for data collection. It was used both as pre and post assessment of the participants. Marking rubric was developed by the researchers and the scoring was performed by two educationists. The average score of the two raters for both pre and post assessment was used to justify the difference in the knowledge level of the participants before and after the training of professional development. Paired sample t-test was employed. It highlighted that the scores on post assessment were two standard deviations higher than the pre assessment. Therefore, it may be concluded that the difference in the knowledge may be due to the professional training of the participants.

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### **Introduction**

In this changing world the knowledge is not being considered as static. As the situation changes it demands new knowledge and the skills from the individuals to survive in the society. Similarly the teachers of the present time may not remain effective, if they have not learnt new skills and knowledge. The same was emphasized by Holmes, (2005) in the words that “there is no stagnation in the level of knowledge as it changes after every moment and one has to keep abreast accordingly”. The method by which we were taught by our teachers are not working today and the way teachers teach today may not work in future, therefore there is a need that the teachers should keep them updated to the new knowledge and skill.

Guskey (2000) was of the view that professional development is an intentionally designed, ongoing and systematic process that aims to enhance the individual’s professional knowledge, skills and attitude so the students learning outcomes can be improved.

In their report House of Common Report (2012) explored that no education system can be better than the quality of its teachers. As the world changes and with the new global knowledge the government and new educational institutions are focusing to educate their workforce so that they can meet the international standards and also try to meet the international competitors so that they can produce the highest quality of teachers through continuous development.

The key element of successful teaching is to understand, acquire enough knowledge regarding subject matter a teacher is going to teach in the classroom, so the students can learn better and enhance their in-depth learning about the content and gain success in their examinations (Jadama, 2014).

There are many ways in which a teacher can teach creatively and effectively. He uses a variety of skills and various kinds of knowledge throughout his

career as a teacher. He may find that his teaching spirit changes as he moves from one job to another or from one classroom to another. . Attending to how he recognizes his role, his strengths, and his abilities is an important part of preparing to teach effectively (Sharp, 2009).

Professional development refers to skills and knowledge attained for both personal development and career advancement. Professional development encompasses all types of learning opportunities, ranging from college degrees to formal coursework, conferences and informal learning opportunities. There are a variety of approaches to professional development, including consultation, coaching, communities of practice, lesson study, mentoring, reflective supervision and technical assistance etc. Teachers' professional development is defined as, "activities that develop teachers' skills, knowledge, expertise and other characteristics as a teacher" (OECD, 2009, p. 49).

Bubb (2004) highlighted in her study that there is clear distinction between professional education, professional training and professional support.

1. Professional education consists of long courses, focusing theory and research based knowledge.
2. Professional training, may include short courses, workshops, conferences and practical information and skills.
3. Professional supports based on the activities that aim to develop on the job understanding and performance.

Every profession has its basic issues, challenges, ideas and limitations which vary in different locations and environments. If teachers may recall their own respective teachers, they will find that few were good teachers and few were bad. Most students believe that they can identify the good teacher and the bad one as well. Most trainers and school managers also claim that they can also differentiate between good and bad teacher. Then the next logical question is what makes a good teacher and what is that which do not make a good teacher. A number of expert investigators observing the same teaching performances have also failed to reach agreement about its quality. Standards for assessing

teacher effectiveness shift from age to age, from community to community, from urban to rural within one country, from one expert to other in the same society (Ornstein & Miller, 1980, p.252). Irrespective of age, community and region, teacher is considered the backbone of teaching learning process. Recently, a study has highlighted the central role of teachers and expressed, "the quality of an education system cannot exceed the quality of its teachers" and that "the only way to improve outcomes is to improve instruction" (Barber and Mourshed, 2007). But it's not only the teachers there are other factors that contribute to the teaching learning process. The important is the classroom interaction. With the increasing experience, training and mindset positivity the learning may be more rapid and authentic. Therefore, most of the universities across the globe offer professional development programs aimed to impart training, having experimental setting experience and positive mind set.

Developing teacher education programs based on the best research is like playing with nested dolls; inside each layer is embedded another layer. Good teacher education programs have to be based on several layers of knowledge. One layer deals with the learning process of the students with reference to their needs and capabilities. The second layer deals with the learning of teachers themselves in relation to their respective students. The next layer is how to combine the other two layers into a coherent teacher education program. The fourth layer deals with the delivery of knowledge and skills in an effective manner. The last layer is the different context of the teacher education; the school, college and university (McIntyre & Byrd, 2000).

Bubb (2004) pointed out that professional development consists on all kinds of activities that increase of an individual's knowledge, skills and understandings to improve the efficiency and organizational effectiveness.

In Pakistan, efforts have been made to train the teachers' up-till secondary school level and the professional training is the prerequisite for getting jobs as teacher in any government school. Desired standard of teacher training will remain a dream till the point basic factors like, quality of teachers' academic background, status of a teachers, mindset of teachers, qualified and motivated trainers,

resources and selection of training materials (see figure 1).



**Figure 1** Some factors influencing quality

In Pakistan the professional training for getting the job as university teachers is not a prerequisite so far. Even there is no systematic system for in-service teacher training at university level. In the recent past, HEC established Learning Innovation Division (LID) as a hub for in-service faculty professional development. LID is training the university teachers through short and long duration courses. Newly appointed university teachers may not exhibit the pedagogical skills up to the desired level. In the beginning of the career they may face certain problems which can be resolved with professional training. They also observe their senior trained colleagues which is a further source of motivation to join professional training courses as soon as possible. Quality at all levels and stages has to be ensured while imparting professional training, it include the quality of contents for training and trainers which can ultimately confirms the quality of teaching learning process. It is felt to explore the effect of training being imparted on the mindset of the teachers because any amount of training will remain useless if the mindset of the teacher does not change to be in line with the desired goals of training. The present study is a humble effort to find out the effectiveness of training on the knowledge and skill of university teachers being imparted through LID.

### **Approaches to Teacher Development**

There are different approaches to teacher training or improving the teaching force. Hargreaves

and Fullan (1996) have explained three approaches in chapter one of their book, 'Understanding Teacher Development' which are:-

- Teacher development as knowledge and skill development.
- Teacher development as self-understanding, and
- Teacher development as ecological change.

The first approach deals with providing the opportunity to teachers to equip them with knowledge and skills that will give them the confidence to teach their students in a better way and increases their ability at the same time. There are numerous challenges for the teacher in the classroom which can only be faced if teachers are fully equipped with the knowledge of latest teaching strategies and skills. The achievements of pupils can only be ensured if the teaching force is more skilled and flexible in its teaching strategies.

Teacher development aims at changing the beliefs and behavior of teachers. . To build the belief there are many contributory factors which play pivotal role. It is not done overnight. Beliefs are made by the efforts of generations after generations. One cannot focus on behavioral skills without basing on attitudes and beliefs.

The context in which teacher development takes place is the base and the success of the program depends on the context. The nature of this context can make and break teacher development efforts. It is important for the teachers to give priority to understand the ecology of the teacher development. The context of teachers' working environment and the context of teaching itself provide conditions in which teacher development initiatives succeed or fail.

Craft (2000) has suggested following to enhance professional learning :

- Action research
- Self-directed study
- Using distance-learning material
- Receiving and/or giving on-the-job coaching
- School based and off-site courses
- Job shadowing and role rotation
- Peer networks
- School cluster projects

- Personal reflection
- Experimental assignments

Seyoum (2011) while endorsing the Guskey (2000) point of view on the need for professional development of teachers for educational reforms stated, "in the present view, this goal can only be realized by ensuring that teachers are equipped with subject matter knowledge and an evidence-and-standards-based repertoire of pedagogical skills" (p.381). Seyoum's (2011) perception of staff members who participated in professional training was significantly correlated with their performance in teaching. In another study conducted by Minale (2006) found that with the acquisition of new knowledge; and skills the university teachers reported behavioral changes after the training. The findings of a study (Wossenu, 2009) concluded that most of the teachers of higher education learn teaching skills from experiences. It implies that learning of teaching skills without having basic theoretical knowledge of teaching could probably instill unacceptable skills.

A number of research studies (Seyoum, 2011; Komba & Nkumbi, 2008; Fekadu, 2008; Lesseing & De Witt, 2007) have reported positive attitudes of university teachers towards professional training. On the basis of the findings of these studies, it can be inferred that professional development has the potential to make university teachers equipped with the necessary pedagogical skills and keep them up-to-date to cope up with the current technology.

It is assumed that mindset change improves the productivity. This change process leads toward progress and the progress is seen as a transformation from one state to better state. This change ultimately is called improvement and requires from an individual to see things from new angles. Smith and Holfer (2003) concluded in a study of 100 basic education teacher that experience in the field contributed towards the amount of change in teachers. They reported that teachers with less length of service experience changed more after attending professional development programs. It is assumed after reviewing the related literature and research studies that a basic premise of professional development is to equip the faculty members with the necessary professional knowledge and skills in their years of their teaching career for teacher change.

## Contributions of Learning Innovation Division in Teacher Training

Learning Innovation Division (LID) is one of the branch of Higher Education Commission (HEC) which was established in 2003 as an 'In-service Continuous Professional Development (CPD) for the Higher Education Teaching Faculty and university administrators across Pakistan to assist them in maintaining their academic excellence and qualitative governance by supporting their professional needs through open and customized programs.

A dire need was felt to start the training of teachers at university level as there is no pre-requisite training standard at the induction time of new lecturers and even there were no arrangements for in-service training. There are about more than 17000 university teachers and it was very difficult to train them at once. LID started teacher training at two levels, one by going to the doorsteps of different universities and giving the training there and secondly by inviting volunteer teachers at LID Islamabad.

LID consists of three departments:

- LI Dept – Learning Innovative Department
- NAHE – National Academy of Higher Education
- ELTR – English Language Teaching Reforms

LID is responsible for running five types of programs which are Faculty Professional Development Program (FPDP), Capacity Building of HEC Employees, NCES Seminars/Workshops, Short Term Faculty Professional Development Program and Modern University Governance Program in which 346, 696, 401, 3871 and 221 (total-5542) individuals from various universities have been trained respectively.

NAHE is responsible to organize three types of programs, namely Staff Development Courses, ICDL/ITE and Workshops/Seminars in which they have trained 3726, 246 and 120 (total-4092) individuals respectively.

ELTR is assigned to run two programs namely, Long Term Fellowships and Short Term Workshops/Seminars in which they have trained 161 and 1343 (total-1504) individuals respectively.

### **Master Trainers-Faculty Professional Development Program**

An eight to 12 Week faculty professional development program, held at LID Islamabad, is designed for Higher Education teaching faculty to develop their research skills and requisite professional skills.

Fifteen such batches of FPDP have been organized so far by LID in which faculty members of different Public and HEC Funded Private Sector Universities got professional certification in their teaching as well as research & management skills.

The faculty members developed as Master Trainers disseminate similar training in their respective institutions. So far more than 500 Higher education faculty members have benefited from it and they are serving as Master Trainers in their respective institutions.

### **Need to Assess and Evaluate**

HEC has undertaken the challenging task of giving training to university teachers through LID and they have successfully completed sixteen professional development courses up to November 2011. However, the impact of the training has not been assessed so far although LID seeks to improve the each new course training. The researchers have undertaken the subject study with the help of LID to see the impact of training imparted to university teachers. Assessment is not the end but the starting point of future course of action. As suggested by Anderson, Brown & Race, 1998 we carried out the assessment to diagnose faults and rectify mistakes at all levels

- give feedback to all stake holders
- motivate and encourage ongoing training process in right direction
- provide statistics for future planning
- consolidate learning

### **Context of the Study**

Teachers at all levels play a pivotal role in the development of the nation. Japan and China who have same life after coming on world globe as of Pakistan are in leading countries of the world. One of the basic factors of their rapid development is strong education system. Good education system depends on realistic objectives and policies, economy and sincere professional teachers. Both the

countries focused on teacher training at all levels. Pakistan could not do much in the field of education due to many reasons. At provincial level, teacher training has been imparted at school level. There was no training for university teachers in Pakistan at any level other than the one job experience and coaching by the senior faculty members at departmental level. HEC for the first time felt the need and started the training for university teachers. After passing through the different stages, Innovation Division of HEC has developed teacher training courses at different level. One of the courses for teacher training is Master Trainer Faculty Professional Development Course which is for eight weeks at Islamabad under arrangement of Innovative Division. In the present study, researcher will assess the effectiveness of the training on the participants in different areas. The areas under focus are the extant of knowledge achieved during the program, learning and teaching skills & its application on ground and the change in mindset of teacher at different stages like before and after the professional training. Therefore the researchers tried to investigate the Effectiveness of professional development programs on enhancing the knowledge level and skills of university teachers.

### **Procedure used**

The aim was to evaluate the levels of knowledge and pedagogical skills of university teachers before and after attending the professional development training courses run by HEC and see if there was any measurable change in the levels of knowledge and pedagogical skills of university teachers arising from their participation in the professional development training courses.

Overall, some 469 university teachers from 93 universities have participated. LID has developed a written test to measure course effectiveness. A random sample of 28 teachers was selected for this study and their responses to the written test before and after participation were measured. The researcher coordinated the pre-test (standard test prepared by HEC) on the first day of the course and then conducted the post-test on final day. All papers for both pre- and post-tests were marked by the same panel of 'experts' to ensure impartiality.

### **Data Analysis and Interpretation**

The scores were coded into SPSS software for data analysis. The summary of the descriptive statistics of

pre-test and post-test is given in Table 1 below.

**Table 1 Descriptive Statistics of the Sampled Participants Scores on Pre-Test and Post Test**

Type	N	Minimum	Maximum	Mean	Std. Dev.
Pre-Test	28	07	19.5	13.2	1.56
Post-Test		14	25.0	18.2	3.42

The above table indicates that the participants score on post-test increased significantly.

In order to investigate the effect of training on the knowledge and skills of the participants of paired sampled t-test was used summary is as shown below.

**Table 2 Paired Sample t- statistics of the Participants Scores on Pre-Test and Post-test**

Type	Mean	Mean Difference	Std Error Mean	t-Value	Significance
Pre-Test	13.2				
Post-Test	18.2	5.0	0.38	13.3	p < 0.001

The t-test value shows a very significant improvement in performance when the post-test data are compared to the pre-test data.

### Results and Conclusions

The data analysis revealed that the scores of the participants were higher on the post-test as compared to the pre-test. This indicated the positive effect of the MT-FPDP training on the participants' knowledge and skills. The scores of posttest were 2 sigma higher than scores on the pretest. It is clear that, based on the HEC developed test; performance has improved very markedly following the course.

This suggests that the course has been effective in achieving its goals. More research on the other factors of the pedagogy and the contents of the training may be conducted in order to identify specific required interventions for optimizing the effectiveness of the faculty professional development program

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â€° Satisfactory levels of teacher subject knowledge and pedagogical content knowledge are essential to student learning. High-quality, pre-service teacher education programs provide opportunities for teachers to develop both through coursework and school experiences.Â school level as teachers collaboratively engage in planning, assessing and evaluating student progress, innovation and reflection. â€° Delivering high-quality professional learning to teachers depends significantly on the skills of trainers and their understanding of the importance of providing in-school support in conjunction with training programs. â€° Excellent leadership at school level is probably the most important school-based factor in promoting and facilitating teacher in-school professional learning. Curriculum development is a local, regional, or state/provincial level process that student teachers often have difficulty comprehending ( Hansen, Fliesser, Froelich, & McClain, 1992 ). In their eyes, it is something undertaken by authorities (e.g., regional advisory committee members or school board writing teams) with years of experience in the school system.Â The experiential base for this paper was a technological teacher development project completed recently at The University of Western Ontario. The project involved a program modification that altered the way technological education teachers were recruited, prepared, and placed in the school systems of southern Ontario.

Increasing graduation rates and levels of educational attainment will accomplish little if students do not learn something of lasting value. Yet federal efforts over the last several years have focused much more on increasing the number of Americans who go to college than on improving the education they receive once they get there. By concentrating so heavily on graduation rates and attainment levels, policy makers are ignoring danger signs that the amount that students learn in college may have declined over the past few decades and could well continue to do so in the years to come. The reaso

Part 2 examines teaching in discipline-specific areas and includes new chapters on engineering, economics, law, and the creative and performing arts. Part 3 considers approaches to demonstrating and enhancing practice. Written to support the excellence in teaching required to bring about learning of the highest quality, this will be essential reading for all new lecturers, particularly anyone taking an accredited course in teaching and learning in higher education, as well as all those experienced lecturers who wish to improve their teaching.

Effect of professional development on enhancing the knowledge level of university teachers in Pakistan. *Journal of Research and Reflections in Education*, 8(2), 162–168. Google Scholar. Siddiqui, Z. S., Jonas-Dwyer, & Carr, S. E. (2007). Chan M.S.C., Kong S.C. (2017) Development of an Effective Staff Professional Development for the Enhancement of Student Learning. In: Kong S., Wong T., Yang M., Chow C., Tse K. (eds) *Emerging Practices in Scholarship of Learning and Teaching in a Digital Era*. Springer, Singapore.

Keywords Professional competence • Assessment methods • Assessment programs. D.E.H. Tigelaar (\*) Graduate School of Teaching, ICLON-Leiden University, P.O. Box 905, 2300 AX Leiden, The Netherlands e-mail: dtigelaar@iclon.leidenuniv.nl. the extent to which a teacher, as a professional, takes deliberate and appropriate decisions (based on personal knowledge, skills, conceptions, etc.), within a specific and complex professional context (students, subject matter, etc.), resulting in actions which contribute to desirable outcomes, all according to accepted professional standards. (in Bakker et al. 2011, p. 125). Miller's "does" level calls for assessment of how professionals perform their daily tasks in realistic settings.

Competence and professionalism. Teacher expertise and the development of competences. Competences and professional standards. 2 The value of frameworks of teacher competences.Â Â· arranging the provision of professional learning opportunities so that teachers continue to develop their competences throughout their whole careers. 6 The guidance and advice expressed in the following pages stem from a process of "peer learning"™ between experts on teacher education nominated by 26. 5. countries and by European stakeholder bodies.Â The knowledge, skills and commitment of teachers, as well as the quality of school leadership, are the most important factors in achieving high quality educational outcomes.