ASSESSING THE IMPACT OF HIGHER EDUCATION COMMISSION'S TRAINING ON UNIVERSITY TEACHERS' PERFORMANCE: CASE STUDY OF UNIVERSITY OF SINDH

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ABSTRACT

University teachers are considered valuable resource to impart quality education. A large body of academic research has shown that training university teachers has positive and significant impact on student learning. Under HEC initiative of FPDP a large number of public sector university teachers were provided training with intent to enhance student learning, research productivity and meet modern higher educational standards. As a result, this study aimed at assessing the Impact of Higher Education Commission's Training on University Teachers' Performance. In this study, we present initial findings of pilot testing of data collection instrument. Preliminary findings reveal the need that in order to keep up the pace with modern education standards and be able to compete with rest of the world, HEC and universities' authorities need to devise relevant teachers training programs to update the pedagogical and research skills of university teachers. The training given by HEC Pakistan under FPDP have significantly improved overall confidence of trained teachers in their perceived abilities and skills to better perform teaching and research tasks. Further policy implications of findings are discussed in last section of the article.

Key Words: *University Teachers, Training, Faculty Professional Development Program, Higher Education Commission, Pedagogical and Research Skills.*

INTRODUCTION

The most valuable resource in universities is the teachers who are considered critical in raising the standards and quality of higher education. The improving educational efficiency in universities largely depends on ensuring that faculty members are well-resourced, highly skilled, and better motivated to teach and research at their best. The survey conducted by OECD, (2006) categorically evidenced that improving teaching performance through training as a policy direction substantially enhances student learning. The assessment of training needs and then providing it to the teachers

has been central to the continuous enhancement of efficiency of teachers in universities. It is very essential to assess university teacher's strength and to identify their practice areas which could be further developed. From this perspective, the higher education teachers training programs are vital to enhance teaching, researching, and effectiveness in higher education institutions. The teacher profession has become the subject of rapid changes which have influenced almost all aspects of teaching and researching methods in higher education. According to Leary, et al, (2013) rapid globalization, advanced development of educational science & technology, and fundamental changes in social institutions & social relations, all have forced policy makers to redefine the characteristics, roles and responsibilities of teaching profession in higher education institutions. As a consequence, almost across the globe higher education institutions are developing and executing teacher training programs aimed to improve teachers' teaching, & researching skills. However, Saulnier, et al, (2008) observed that owing to the lack of the research, the positive impact of training on university teachers' performance is not adequately evidenced. Similarly, Gilbert and Gibbs, (1999) argued that there is a serious need to determine and establish the effectiveness of trainings in improving university teachers' teaching and research skills.

Teaching Approaches:

Teaching approach in the classroom is very important as it is strongly related with the students' learning outcomes. The past research have evidenced that if a university teacher's focus is to just transfer information in the class then it is more likely that students adopt a surface learning approach, whereas if a university teacher takes a more student-centered teaching approach in the class then it is more likely that students adopt a deep and achieving approach to learning which result in deeper understanding of subject knowledge by the students (Entwistle, et al., 2000; Trigwell, et al., 1999). In a research study on the impact of training on university teacher's teaching approach & student's learning. Gibbs and Coffey (2004) evidenced that students adopted a deep & achieving learning

approach to a significantly greater extent when they were taught by trained teachers. They argued that this was because after training, teacher's approach widely shifted from teacher-centered to student-centered. However, Simona, et.al., (2014) showed possibility that in certain cases, a teacher's student-centered approach does not automatically make students to adopt deeply an effective learning approach. Teacher's teaching approaches, especially in higher education are greatly influenced by their degree of taking teacher as a professionalism. There has been a range of variation in conception of teaching by university teachers. These variations range from taking teaching as presentation of structured information in the classroom to taking teaching as facilitating critical thinking, bringing about a conceptual change and development of intellect in students (Kember & Kwan, 2002).University teachers who perceive teaching as passing information tend to often adopt a teacher-centered teaching approach, while university teachers who perceive teaching as facilitating critical thinking among students, are more likely to take

student-centered approach to teaching. According to Lisa, et al, (2007) teacher centered approach focuses on mere transfer of knowledge where students are passive recipients of that knowledge and a teacher plays a role of a primary information provider. It gives no room for a students' intellectual development. Whereas, student centered teaching approach emphasizes on the students' perspective, experiences, interests, talents, and needs. It creates an environment, conducive to learning where teacher-student interaction results in deeper understanding of the subjects and promotes critical thinking among all learners.

Teacher training and its impact in higher education:

There have been diverse findings on the extent by which university teachers' trainings influence their performance. Coffey & Gibbs, (2000) in a comprehensive study on the impact of university teachers' training evidenced that after training, the trained teachers showed significant advancements and improvements in teaching methods, researching techniques, learning

motivation, enthusiasm, and commitment to institution. Similarly, Prosser & Trigwell, (1999) researched and examined the effectiveness of teachers' trainings in 22 universities. They found that the group of trained teachers became more student-centered and less teacher-centered in their teaching approaches during the post training period. Additionally, it was evidenced that trained teachers' teaching skills improved signifycantly as assessed by their students using (SEEQ) Students Evaluation of Educational Quality scale. The students taught by the trained teachers adopted a deep and achieving learning approach, to a higher level. Gould and Miller, (2004) found that training has more positive impact on the pedagogical skills of participant teachers. They reported that in interview, more than 50% of respondent teachers reported that training has increased their awareness to new & innovative teaching methods. 30% of the respondents were of view that in training they got more new ideas, increased theoretical knowledge, and got more motivated to use new & productive teaching approaches.

Mulder, et al., (2009) also found a little evidence to report a positive impact of training on teaching behavior of university teachers. Their study was based on the sample of 50 teachers who had taken higher education trainings on teaching and learning in comparison with the group of 72 university teachers who had not received training. Gibbs and Coffey (2004) reported many important findings with respect to impact of trainings on the performance and quality of university teachers. Most importantly, they found that training derives a teacher to adopt more often a student-focused teaching approach. Without training, a teacher tends to continue adopting teacher-focused teaching to a greater level. Secondly, they found overall trainings improve all aspects of a teacher's researching and teaching skills. Without training, a teacher is more likely not to change for better. Thirdly, training has potential to change the teacher at a level where student's quality of learning-outcome improves significantly. Without training support, a positive change in student's learning outcome was not evidenced. Rikvin, et al, (2005)

found that in an institutional culture where teachers often use traditional teacher focused teaching methods and they resist to change, in such cases, trainings are very effective means to provide alternative institutional culture to change the mind-set of teachers. However, contrary to these findings Liisa, et al., (2007) found no evidence for teachers' trainings to have a positive impact on teaching and researching behavior of trained teachers.

The researchers have used different characteristics and aspects to determine the competency and performance of a teacher in university education. Lukas, et al, (2014) determined university teachers' performance through measuring a degree of performance professional skills and professional knowledge. Rice (2003) established a teacher's competency through assessing subject-related knowledge and instructional skills. Fakhra (2012), identified the areas (such as, teaching skills, pedagogical skills, research skills, management and assessment skills, personal development and motivational disposetion) that could be improved through imparting teacher

training programs. In another study Fakhra and Akhter, (2014) examined the impact of university teachers' training on their competencies in Pakistan. They strongly evidenced that trained teachers were significantly more competitive in teaching, research, communication, management and assessment skills than the teachers who had no training. Through in-depth interviews with professional teacher's trainers, Coffey and Gibbs (2000) developed a framework of goals (e.g improving teaching skills, teacher's positive perceptions of teachers and learning, and consequent improvements in student's learning) that could be achieved through trainings at higher educational institutes. Le, T., (2003) also evidenced that training improves a teacher's self-confidence and self-efficacy. According to Gould and Miller (2004) self-efficacy refers to the beliefs, a teacher has about his / her ability to carry out teaching and research tasks at job. They evidenced that teachers with higher self-efficacy are more likely to use a wide range of productive teaching methods than their counterparts with low self-efficacy in teaching.

Based on the belief that the quality in higher education can only be achieved through continuously improving the quality of teachers, Higher Education commission of Pakistan (HECP) started FPDP (Masters Trainer Faculty Professional Development Program) under which teachers of higher education are given eight to twelve week in-service trainings. FPDP is aimed to develop and enhance professional development of teachers and importantly to improve their pedagogical skills, management skills, assessment skills, and research skills. The main objective of this paper is to pilot-test the survey questionnaire which is developed to assess the extent by which trainings given to higher education teachers under FPDP have achieved its intended objectives.

Materials and Methods

There have been various scales and methods used to evaluate the competencies of teachers' teaching skills and performance. Of them, student evaluations have been most popularly used to determine teaching competencies in the higher education institutes across the globe (Prosser & Trigwell, (1999); Toland, & De Ayala, 2005; Balam, & Shannon, 2010; Benton, & Cashin, 2012; Kember, & Leung, 2008; Kuzmanovic, et al, 2013). Berk (2014) argued that although student evaluations are essential but they are not adequate and suggested it should be complemented with teachers' self-evaluation and reports of people outside an institution. Xu Y., (2012) suggested that in order to have a comprehensive evaluation of teaching performance, the comparison of work colleagues is also necessary. Therefore, as suggested in the literature, in this study the impact of FPDP trainings on teachers' competencies have been examined through trained teachers' self-evaluation report, their students' assessment and performance of their colleagues who had no such training. Based on a comprehensive review of literature and opinions of experts who had extensive field-work experience in the subject matter, a 24-item survey questionnaire was developed which was grouped into four categories (i.e pedagogical skills, management & assessment skills, research skills and communication skills). In addition, the teacher

respondents were asked to provide additional data for their research publications and the frequency of their attendance in research conferences / seminars / workshops in last 12 months and the impact of those activities on their professional development and teaching skills.

Before collecting full scale data the pilot taste of survey instrument is conducted on a small sample of the teachers and students in order to determine its ease of understanding, internal consistency, and reliability. In pilot study, the separate survey questionnaire was administered on a sample of 45, which consisted 13 teachers trained under FPDP who were selected randomly, 12 teachers having no training were selected through purposive sampling technique to match faculty discipline of trained teachers and 20 students who were taught by trained teachers, were randomly selected. The teachers were asked to rate themselves and the students were asked to rate their teachers' teaching performance. All the participants easily understood the instructions of survey questionnaire and no item was found to be unclear and ambiguous. Cronbach Alpha was applied to determine inter-item consistency and reliability of scale.

Analysis and Discussion:

1. **Profile of Respondents:** Of trained teacher respondents 15.4% were each lectures and Associate Professors, 46.2% Assistant Professors and 23.1% were Professors. 38.5% of respondents were from each age group of 31-40 and 41-50 and remaining 23.1% were from 51 and above age group. 53.8% were male and 46.2% were female respondents. The average job experience was 14.85 years with SD 5.8 years. Whereas for non-trained teacher respondents 25% were lectures, 41.7% Assistant Professors and 16.7% were from each Associate Professors and Professors. 33.3% of respondents were from each age-cohort of 25-50 and 31-40, 25% from 41-50 and remaining 08.3% were from 51 and above age-cohort. 58.3% were male and 41.7% were female respondents. The average job experience was 8.5 years with SD 7.18 years.

Table 1
Profile of Respondents

Designation	Trained Teachers	Non-Trained Teachers
Lecturer	15.4%	25.0%
Asst. Prof.	46.2%	41.7%
Associate Prof.	15.4%	16.7%
Professor	23.1%	16.7%
Age Group		
25 – 30	00%	33.3%
31 – 40	38.5%	33.3%
41 – 50	38.5%	25.0%
51 and above	23.1%	8.3%
Gender		
Female	46.2%	41.7%
Male	53.8%	58.3%
Job Experience	In years	In years
Mean	14.8462	8.5000
Std. Deviation	5.80306	7.17952

Source: This Study

Pedagogical skills:

The trained teachers have been found to apply a wide range of teaching methods tailored to the needs of students than the teachers who have not been given a teaching training (Coffey & Gibbs, 2000). The pedagogical skills generally refer to the cognitive knowledge required to create an efficient and effective teaching, researching and learning environment. Shulman, (1987) categorized pedagogical skills into two broader categories i) general pedagogical knowledge that includes principles, rules, and methods to organize and manage class room activities which are generally cross-curricular in nature. ii) Pedagogical content knowledge that includes an efficient integration of a subject's content knowledge and pedagogical know-how to teach the contents of that subject. Voss et.a.l, (2011) determined that pedagogical skills have five major components i) classroom management knowledge (such as efficient use of instructional time, better handling of activities in classroom, and teaching at a pace understandable to students) ii) teaching method knowledge (such as extensive knowledge of effective teaching strategies and practical knowledge of how and when to apply them in classroom) iii) class room assessment knowledge (such as knowledge and applications of various summative and formative assessment methods which drive students towards deep and effective learning iv) Structure (such as structuring of goals and objectives of lessons' plan, process and evaluation) v) Adaptability (such as a better handling of diverse learning groups). The mean scores in the table 2 show that the teachers who took training believed that

they improved their pedagogical skills. In nine out of ten items measuring pedagogical skills, trained teachers perform better than their counterparts who had no training. The highest mean difference was evidenced in the item "I teach effectively to achieve learning outcomes" where trained teachers outperformed by a greater margin. The least difference was observed in the item "I provide explicit course information (including contents, objectives, teaching and assessment methods, consulting timings, etc.) in the beginning / first class session" where trained teachers did better job than non-trained teachers by a smaller margin.

Moreover, the students who were taught by the trained teachers, assessed that their teachers performed better but not to the extent of trained teacher beliefs. This difference of perception is statistically highly significant as shown in independent samples t-test (see table 3). The average mean difference is positive by 0.73 with lower margin of difference (0.24) and upper margin of difference (1.21) indicating that trained teachers perceived their performance higher in pedagogies than their actual performance assessed by their classroom students.

Table-2
Pedagogical skills: A comparative analysis

Sr. No.	Pedagogical Skills	Trained Teachers Mean (SD)	Non-Trained Teachers Mean (SD)	Student Mean (SD)
1.	I take teaching profession as an opportunity of service for students	4.69 (.63)	4.36 (.98)	3.75 (1.16)
2.	I recognize the students learning as my primary responsibility for learning	4.85 (.38)	4.23 (.49)	3.75 (1.16)
3.	I provide explicit course information (including contents, objectives, teaching and assessment methods, consulting timings, etc) in the beginning/ first class session	4.23 (1.01)	4.13 (.49)	3.45 (1.32)
4.	My course knowledge is based on referring textbooks and research journals	4.15 (.69)	4.02 (.49)	3.6 (.94)
5.	I upgrade the basic contents of course with latest information	4.23 (.73)	4.11 (.98)	3.5 (1.24)
6.	I integrate subject matter of course with real life situation/applications	4.62 (.51)	4.33 (.49)	3.45 (1.23)
7.	I apply a variety of innovative teaching methods in order to meet specific learning objectives rather than on my own convenience	4.23 (.73)	4.00 (.85)	3.2 (1.44)
8.	I use diagrams, analogies, case studies, projects, simulation teaching techniques, etc to make subject matter interesting and to facilitate learning	3.92 (.86)	3.67 (1.30)	3.65 (1.09)
9.	I teach effectively to achieve learning outcomes	4.38 (.65)	3.67 (1.30)	3.7 (1.03)
10.	The style of my teaching method has stimulated students' enthusiasm for further learning	4.08 (.64)	4.33 (.49)	4.05 (1.39)

Reliability Statistics: Cronbach's Alpha (0.80) for the sample of (N=13) trained teachers
Reliability Statistics: Cronbach's Alpha (0.89) for the sample of (N=12) teachers who have no training.
Reliability Statistics: Cronbach's Alpha (0.85) for the sample of (N=20) students who were taught by trainedteachers
Source: This Study

Table-3
Independent Samples Test for mean comparison

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Pedagogical skills	Equal variances assumed	1.950	.173	3.059	31	.005	.72846	.23812	.24281	1.21411
	Equal variances not assumed			3.453	30.183	.002	.72846	.21094	.29777	1.15915
Management & Assessment skills	Equal variances assumed	.589	.448	1.225	31	.230	.23558	.19231	-.15663	.62779
	Equal variances not assumed			1.185	22.909	.248	.23558	.19884	-.17585	.64700
Research skills	Equal variances assumed	2.419	.130	1.332	31	.193	.47949	.36009	-.25493	1.21390
	Equal variances not assumed			1.458	30.999	.155	.47949	.32895	-.19142	1.15039
Communication skills	Equal variances assumed	1.530	.225	2.749	31	.010	.71429	.25983	.18435	1.24422
	Equal variances not assumed			2.896	29.770	.007	.71429	.24662	.21045	1.21812

Source: This Study

Management and Assessment Skills:

In order to develop students' deep and achieving focus to learning, appropriate assessment methods must be used by a teacher. Teachers have often been using traditional methods of assessment which prefer on testing of cramming or memorized facts rather than assessing how deep understanding a student has about the subject under study. Prosser & Trigwell, (1999) argued that teaching assessment methods should focus on measureing a student's acquisition competencies of higher order and critical thinking processes. Greater emphasis should be placed on aligning assessment techniques with instructed information and provide students with feedback of their learning. The management and assessment practices applied in classroom, significantly add value to the learning of students (Biggs, 1997). Schneider and Gowan, (2013) argued that in essence, the core aim of assessment is to stimulate students towards deep learning. Assessment is generally done to determine if desired learning objectives of a course are achieved and to give creative and meaningful feedback to students on their subject-activities which subsequently make them aware of their strengths and weaknesses and sub-

sequently enable them to enhance their future learning outcomes. Torrance, (2012) argued that assessment methods can also be used to motivate students to perform a task in an efficient manner and to determine the effectiveness of teaching too. The descriptive results in table 4 show that in three out of four items measuring management and assessment skills, trained teachers perform better than non-trained teachers. In one item both categories of respondents on average scored the same. Although self-perceived competence with respect to management and assessment skills, trained teachers reported higher score than their actual performance assessed by their students but this difference is not statistically significant (see table 3). Teachers in higher education have choices of using summative, formative and continuous assessment methods where summative assessment focuses on improving students' competence in achieving higher grades in their courses, formative assessment emphasizes students' deep and intellectual learning of a given subject and continuous assessment focuses on a series of customized assignments which

are individually assessed. Teachers have to select a blend of assessment methods suitable to subject contents, and students' learning needs. The assessment methods determine the approaches students take to their learning (Trigwell and Prosser, 2004), therefore, a teacher has to make assessment strategies more efficient, effective, adaptable, and interesting so that students' learning could be intellectually enhanced.

Table-4
Management and Assessment Skills.
A comparative analysis

Sr. No	Items	Trained Teachers Mean (SD)	NT Teachers Mean (SD)	Student Mean (SD)
11.	I adopt a variety of assessment methods that apply to students' different learning styles to evaluate students' learning	4.31 (.63)	3.33 (1.30)	3.80 (.70)
12.	I apply the results of students' assessment to improve teaching and learning of students	4.08 (.64)	3.33 (.98)	4.15 (.75)
13.	I give feedback and provide appropriate counselling to students to enhance their learning	4.00 (.82)	4.00 (.85)	3.95 (.60)
14.	My assessment criteria are objective and fair	4.31 (.63)	4.33 (.98)	3.85 (.67)

Reliability Statistics: Cronbach's Alpha (0.89) for the sample of (N=13) trained teachers

Reliability Statistics: Cronbach's Alpha (0.95) for the sample of (N=12) teachers who have no training.

Reliability Statistics: Cronbach's Alpha (0.73) for the sample of (N=20) students who were taught by trained teachers
Source: This Study

Research Skills:

Research refers to a thorough and systematic examination of a problem, issue or any phenomenon to understand and increase knowledge. The fundamental operation of a higher education institute is to undertake research and disseminate that knowledge. Research skills of teachers help build research capabilities in students. Blackmore and Fraser (2007) argued that teachers with effective research skills tend to build strong connections to the contents of subject with practical implications in the society and that result in intellectual learning for students. Research-skilled teachers often include cutting-edge research-results in their course contents which develop and improve students' analytical and critical thinking. Research-skilled teachers tend to adopt experiential and inquiry-based teaching methods which are linked to positive and deep learning outcomes for students. The descriptive statistics in table 5 show that in all of three items measuring research skills, the trained teachers are doing better than un-trained teachers which significantly implies that training motivates a teacher to do more research and

link research findings with classroom teaching. Moreover, teachers' self-perceived competence for their research skills after training are higher than objectively assessed by their students. However, this difference is not statistically significant (see table 3).

Table-5
Research Skills: A comparative analysis

Sr. No.	Items	Trained Teachers Mean (SD)	NT Teachers Mean (SD)	Student Mean (SD)
15.	I actively participate in national and international academic and/or professional activities, (such as conferences, seminars, workshops, etc).	3.92 (1.04)	3.00 (.85)	3.05 (1.43)
16.	I link teaching with research applications	3.54 (.78)	3.67 (.49)	3.35 (1.14)
17.	I foster research and critical thinking skills in students	4.08 (.64)	3.67 (.49)	3.70 (1.30)

Reliability Statistics: Cronbach's Alpha (0.87) for the sample of (N=13) trained teachers.

Reliability Statistics: Cronbach's Alpha (0.92) for the sample of (N=12) teachers who have no training.

Reliability Statistics: Cronbach's Alpha (0.86) for the sample of (N=20) students who were taught by trained teachers
Source: This Study

Communication skills

Communication skills are essential in making an expert teacher as learning is fundamentally a communication process. For that process to generate an

effective learning outcome depends on teachers' competencies in communication (Pehlivan, 2005). According to Christélle Ekron, (2015)communication skills in higher education teaching are assessed at two levels i) inter-personal communication aspects which involve communication apprehension, nonverbal immediacy, and degree of self-perceived competence to communication ii) instructional communication aspects which involve immediacy, creativity and clarity in instructions. Training enhances a teacher's communication skills which enable him/her to apply efficiently-structured non-verbal and verbal means in classroom to effectively stimulate the fundamental contents of a course in students' minds. Teaching should be interactive while observing existing conceptions of students and where students are encouraged and motivated to construct and frame their own understanding & knowledge and that ultimately facilitate a student to become an independent learner (Lindblom and Nevgi, 2003).Teachers have to make learning interesting & easier for students and that could be done when teachers thoroughly organ-

ize their teaching and structuring the content information in a way which is interesting & easier to remember (Kember & Kwan, 2002; Samuelowicz & Bain, 2001). The descriptive results in the table 6 show that four out of seven items measuring communication skills, the trained teachers perform better than the teachers who had no training. In an important finding, it is evidenced that in three items which measured the use of ICT (information communication technology) in their classroom communication process, the teachers with no training scored higher than the trained teachers. This could be explained as the respondent group of un-trained teachers, were from relatively younger age than the respondent group of trained teachers. The use of ICT is more widespread in younger teachers in higher education. Moreover, the self-perceived competence in communication skills by trained teachers, are higher in all seven items than objectively assessed by their students. This difference in perceived and actual performance is statistically highly significant (2tailed $p<0.05$) in the table 3. This higher perception on the part of trained teachers,

positively influence their development and applications of communication skills.

Table-6
Communication skills:
A Comparative analysis

Sr. No.	Items	Trained Teachers Mean (SD)	NT Teachers Mean (SD)	Student Mean (SD)
18.	I use ICT (information and communication technology) to enhance teaching and learning	3.77 (1.09)	4.13 (.98)	3.00 (1.41)
19.	I am able to present complex concepts and ideas in simple form in the class	4.38 (.51)	4.03 (.49)	3.85 (1.14)
20.	I allow and encourage class discussion of the students	4.69 (.48)	4.30 (.49)	4.15 (1.14)
21.	I try to satisfy students when they ask questions in the class	4.77 (.44)	4.67 (.49)	4.00 (.92)
22.	I adapt content to suit students understanding capacity	4.38 (.65)	4.33 (.49)	3.50 (1.10)
23.	I use technology in collaborating and networking	3.38 (1.26)	4.08 (.85)	2.70 (1.30)
24.	I create and manage course website (with calendar, contents, assignments, material, discussion tools, etc.) for class students	3.61 (1.45)	4.00 (.81)	2.80 (1.64)

Reliability Statistics: Cronbach's Alpha (0.80) for the sample of (N=13) trained teachers
Reliability Statistics: Cronbach's Alpha (0.95) for the sample of (N=12) teachers who have no training.
Reliability Statistics: Cronbach's Alpha (0.75) for the sample of (N=20) students who were taught by trained teachers

Source: This Study

Post-training activities of teachers:

Teachers were asked that with the aim of your professional development as a teacher, did you take part in any of the activities shown in table 7 during the last 12 months? If yes then indicate the extent of impact it had upon your professional development as a teacher.

Table-7
Post-training activities of teachers:
A Comparative analysis

Items	Trained teachers Mean (SD)	Non Trained teachers Mean (SD)
Courses / workshops for professional development of teachers	2.91 (.54)	2.50 (.71)
Research conferences / seminars (where teachers and / or researchers present and discuss their research findings	3.27 (.79)	2.75 (.50)
Reading professional literature (e.g. journals, research papers, thesis, etc)	3.31 (.75)	3.20 (.79)
Engaging in formal / informal talks with your colleagues / administration on how to improve your teaching at higher education institutes	2.62 (1.04)	2.58 (1.08)
Overall satisfaction level with your teaching job	4.00 (.71)	3.50 (.67)

Source: This Study

These activities were identified through literature review which greatly influence professsional development and overall teaching skills of a teacher in higher education (Benton, & Cashin, 2012; Kuzmanovic, et al, 2013; Khong, 2104). In all four categories trained teachers outperformed their counterparts who had no training. In last 12 months, 84.6% of trained teacher respondents (in comparison to 66.7% of untrained teacher respondents) attended workshops

aimed for their professional development, 92.13% of trained teachers (in comparison to 83.3% of untrained teacher respondents) attended research seminars to discuss their research findings, and all the respondents of both categories said they have been reading professional literature and have been engaged in either formal or informal discussions with their colleagues on improving teaching at universities. Most importantly, results in table 7 show that the attendance and involvement in all the four category-events had a greater impact upon the professional development of group of trained teachers than untrained ones. It implies that a trained teacher is motivated to get more involved and to become more receptive in attending workshops, research conferences, and in subsequent discussions. Furthermore, the training improves teaching skills which in turn increases satisfaction level as reported in the table 7 that trained teachers are more satisfied with their teaching jobs than untrained-teachers.

Conclusion:

Changes in higher education teaching are so rapid and continuous that it is extremely challenging to policy makers at higher institutes to devise relevant training programs to keep up with change and to update the pedagogical and research skills of university teachers. The training given by HEC Pakistan under FPDP have significantly improved overall confidence of trained teachers in their perceived abilities and skills to better perform teaching and research tasks. According to Shaneyfelt, et al, (2006) self-perceived competence serves as a strong motivating tool in improving and maintaining the skills of a person at job place. Self-perceived competence is found to have strong correlation with actual performance. A teacher with strong self-perceived competence tends to perform better in class. It is evidenced that the difference in teacher-students perception regarding teachers' pedagogical skills and communication skills are statistically highly significant. Whereas that difference in relation to management, assessment and research skills, are found to be statistically insignificant. Brown (2008) argued that student centered teaching approach gives students a sense of ownership over their learning

and students are made free to make value judgments for the relevance of the teacher's contexts and contents to their own interests and lives. Moskal, et al, (2008) reported that teacher trainings have been one of the most effective tools to bring about paradigm shift of teaching from traditionally teacher centered teaching approach to student centered teaching approach in university settings. Walsh and Vandiver (2007) found that trained teachers give a say to students in learning process and they act mainly as facilitators, consequently students academically perform much better. It is concluded that after training, a teacher tends to get more motivated towards researching & teaching. An increased motivation serves as an effective tool that derives a teacher towards professional development and gives rise to a teacher's self-efficacy. Therefore, in-service teacher training programs are very essential to update teaching and research skills in higher education institutes.

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