

<http://epistemology.pk/>

IMPACT OF CONTINUOUS PROFESSIONAL DEVELOPMENT ON TEACHERS' CONTENT MATTER KNOWLEDGE, TEACHING SKILLS AND DISPOSITION: A CASE OF PUBLIC SECTOR UNIVERSITIES IN PAKISTAN

Jam Muhammad Zafar¹, Dr. Naeem Ullah²

ABSTRACT

The objective of the present research is to investigate the impact of continuous professional development on university teachers' content matter knowledge, teaching skills, and dispositions in the public sector and recommended measures for the betterment of continuous professional development at the university level in Pakistan. The study is a descriptive and simple random sampling technique is used for data collection through a questionnaire. The 40 faculty deans, 80 chairpersons, 120 professors, 200 associate professors, 320 assistant professors, and 440 lecturers were the respondents of the study who were serving in public sector universities of Pakistan. It was found that 56% of respondents agreed that university teachers have content knowledge, pedagogical skills, and professional training. It is concluded that university teachers serving in public sector universities were used to avail opportunities for in-service training and attended different professional pieces of training. This practice has a significant impact on teachers' content knowledge and pedagogical skills. The study is recommended that teachers must be updating their content knowledge and pedagogical skills for professional competence and expertise to compete with global challenges.

Keywords: In-service training, content knowledge, pedagogical skills, skills.

1. Introduction

Professional development (PD) provides the interminable augmentation to increase and sustains skills, proficiencies, and practices. Teachers' PD amassed concrete knowledge about the right and wrong decision to promote learning. The literature supported that PD helps get awareness, teaching skills and has an impact on student's learning outcomes (e.g., Garet et al., 2008, 2011; O'Dwyer et al., 2010; Powell et al., 2010; Hassan & Dzakiria, 2020).

All over the world governments are investing a huge amount in traditional activities of teachers continuous professional development such as special seminars, experts' talk, training workshops, and research conferences (Gersten, Dimino, Jayanthi, Kim, & Santoro, 2010; Yoon, Duncan, Lee, Scarloss, & Shapley, 2007).

¹Assistant Professor Department of Humanities & Social Sciences, Khwaja Fareed University of Engineering & Information Technology, (KFUEIT), Rahim Yar Khan, Pakistan
Email: dr.zafar@gmail.com

²Lecturer Department of Humanities & Social Sciences, Khwaja Fareed University of Engineering & Information Technology, (KFUEIT), Rahim Yar Khan, Pakistan
Email: naeemullahdeenpuri@gmail.com

<http://epistemology.pk/>

Therefore high-quality PD has features elements of autonomy and choice like; designing, active learning opportunities, exploration, reflection, contexts for collective participation and collegial sharing, constructive and non-prescriptive feedback, and follow-up support after program completion (Bautista et al., 2015; Desimone, 2009; Sherin & Han, 2004) (Putnam & Borko, 2000; Hassan & Dzakiria, 2018).

Teachers are needed to extend periods for process and reflect on the new ideas presented in class by discussions with their colleagues. PD is truly fostered teachers' learning and changing needs to be exhaustive and constant, instead of short and sporadic. If teachers are involving significant numbers of contact hours over long periods; it helps to improve their professional skills and competencies. Activities with longer duration provide greater opportunities for comprehensive analysis of subject content, pedagogies, and student thinking (Garet et al., 2001; Hassan, & Aziz, 2019). Similarly, activities range is more than 20 hours of contact generally more effective (Desimone, 2009).

There are a few distinct types of PD for teachers like; workshops, coaching and mentoring, educational courses, seminars, research, online training, higher education, collaborative networks, educational conferences.

Many foreign scholarships, inclusion research facilities in institutions, the National Academy of Higher education, research grants, and much more undoubtedly, said initiatives played their imperative role in the professional development of teachers.

2. Research objectives

The objectives of the study were:

- To investigate the impact of continuous professional development on content matter knowledge of university teachers
- To examine the impact of continuous professional development on pedagogical skills of university teachers
- To assess the impact of continuous professional development on the disposition of university teachers
- To endorse certain measures of continuous professional development of university teachers

4. Research Methodology

The study is descriptive and the following procedures are adopted. The population of the study is included in deans, chairpersons, professors, associate professors, assistant professors, and lecturers serving in public sector universities of Pakistan. The simple random sampling technique is adopted and the Sample of the study was contained on forty (40) faculty deans, eighty (80) chairpersons, one hundred and twenty (120) professors, two hundred (200) associate professors, three hundred and twenty (320) assistant professors and four hundred and forty (440) lecturers of public sector universities in Pakistan. The data was collected by a questionnaire and analyzed through the Statistical Package for social science (SPSS-20). The test of frequency, percentage, means score, and the standard deviation is applied for the required information.

<http://epistemology.pk/>

Table.1. Factor.1 Content Knowledge

Themes	Disagree		Agree		Mean	S.D	df	Sig.
	F	P	F	P				
Subject Knowledge	350	29%	850	71%	1.58	0.990	118	0.152
Create Material Reference Material	580	48%	620	52%	1.22	1.159	118	0.729
Context Knowledge	560	48%	640	52%	1.16	1.223	118	0.528
Total	580	48%	620	52%	1.06	1.159	118	0.618
Total	2070	43.25%	2730	56.75%	1.18	1.133	118	0.389

Note: Frequency: F, Percentage: P

Table .1 revealed the opinion of respondents about the content knowledge of university teachers regarding teaching. According to data, 71% of respondents are agreed that they had subject matter knowledge. Almost 52% of respondents stated that they created material; nearly 52% of respondents are indicated that they used reference material, and 52% of respondents specified that they had context knowledge. Overall 56.75% of respondents exposed that they had content knowledge. Mean score 1.18 and SD=1.133 showed an inclination towards agreed and verified that university teachers had content knowledge.

Table.2. Factor.2 Pedagogical Skills

Themes	Disagree		Agree		Mean	S.D	df	Sig.
	F	P	F	P				
Lesson Plan	560	47%	640	53%	1.62	1.223	118	0.526
Concept sequence	780	65%	420	35%	1.58	1.056	118	0.364
Motivation	520	43%	680	57%	1.34	1.287	118	0.324
Teaching variety	530	44%	670	56%	1.32	1.302	118	0.337
Teaching strategy	560	47%	640	53%	1.54	1.223	118	0.513
Suitable technique	300	25%	900	75%	1.34	1.292	118	0.324
Learning problem	600	50%	600	50%	1.32	1.296	118	0.337
Traditional method	540	45%	660	55%	1.34	1.357	118	0.324
Active learning	530	44%	670	56%	1.32	1.202	118	0.337
Time management	580	48%	620	52%	1.54	1.138	118	0.513
Total	5500	45.8	6500	54.2	1.52	1.238	118	0.413

Note: Frequency: F, Percentage: P, S.D: Standard deviation, df: the degree of freedom

Table.2 signifies the respondents' opinion about the pedagogical knowledge of university teachers regarding teaching. Just about 53% of respondents are approved that they did lesson planning, around 65% of respondents claimed that they do concept sequencing, near to 57% of respondents reveals that they are motivated toward teaching, almost 56% of respondents are agreed that they taught in a variety, nearly 53% respondents taught with different strategies, approximately 75% faculty teachers adopted suitable teaching techniques, nearly 50% of respondents assessed students learning problems, approximately 55% of respondents used traditional methods, 56% of respondents ensured active learning, and 52% of respondents ensured time management. The overall majority had pedagogical knowledge. A mean score of

<http://epistemology.pk/>

1.238 showed an inclination towards agreed, that showed and verified that university teachers had pedagogical knowledge. The value of the standard deviation of 0.413 also supported the findings.

Table.3: Factor.3 Professional Training

Themes	Disagree		Agree		Mean	S.D	df	Sig.
	F	P	F	P				
ICT Training	600	50%	600	50%	1.58	1.287	118	0.152
Pedagogy training	580	48%	620	52%	1.22	1.208	118	0.729
Leadership training	350	29%	850	71%	1.16	0.990	118	0.528
CPD	580	48%	620	52%	1.06	1.159	118	0.618
Total	2110	43.75%	2690	56.25%	1.18	1.161	118	0.389

Note: Frequency: F, Percentage: P

The table. 3 signifies the respondents' opinion about the professional training of university teachers regarding teaching. Results showed that 50% of respondents attended ICT training, while 52% attended pedagogical training, almost 71% of the respondents are claimed that they attended leadership training, just about 52% of the respondents agreed that they attended CPD events. The overall majority of 56.25% attended professional training. The mean score of 1.18 showed an inclination toward agreed to that verified that university teachers attended professional training. The value of the standard deviation of 0.389 supported the finding.

Table.4: Factor.4 Conference/ Seminar/ Workshop

Themes	Disagree		Agree		Mean	S.D	df	Sig.
	F	P	F	P				
National Conference	600	50%	600	50%	1.58	1.296	118	0.152
International Conference	540	45%	660	55%	1.22	1.357	118	0.729
Seminars	600	50%	600	50%	1.16	1.287	118	0.528
Workshops	580	48%	620	52%	1.16	1.208	118	0.528
Symposium	350	29%	850	71%	1.06	0.990	118	0.618
Total	2670	44.4	3330	55.6	1.18	1.227	118	0.389

Note: Frequency: F, Percentage: P

Table 4 displayed the respondents' opinion conference/ seminar/ workshop of university teachers regarding teaching. According to data, 50% of defendants are approved that they attended national conferences/ seminars/ workshops, about 55% are attended international conferences, around 50% be present seminars, nearby 52% joined workshops, and 71% are going to symposiums. Overall majority 55.6% are attended conferences/ seminars/ workshops. Mean score 1.18 and standard deviation 1.227 exposed inclination toward agreed and verified that university teachers are attended conferences/ seminars/ workshops etc.

6. Discussion

Higher education institutions are needed to show character in undertaking creativities to foster teachers' training culture in universities. This study was an attempt to "the impact of in-service training on content knowledge and pedagogical skills of university teachers serving in public

<http://epistemology.pk/>

sector universities of Pakistan”. A total of 1200 university teachers of public sector universities of Pakistan participated in the study. The study was descriptive and the data was collected and analyzed through SPSS. The findings of this study revealed that professional training has a positive impact on the content knowledge and pedagogical skills of university teachers. The study found that different CPD practices were necessary for improving the content knowledge and pedagogical skills of university teachers.

6. Conclusion

In the existing research, we strained to bring out the important conclusions for further progress in the concerned area. It is concluded from the finding of the study that university teachers have content and pedagogical knowledge. Current analysis results indicated that the Majority of teachers be present in professional training and Conference/ Seminar/ Workshop.

7. Implications

The practical implications of this research may help university teachers to reinforce competencies i.e. content matter knowledge and pedagogical skills in their job description for upholding and enhancing the worth of teaching and learning. The authorities may implement new initiatives for the professional development of university teachers in the shape of imparting essential expertise and competencies in staff for producing outstanding academic achievements of students. This study is supported that universities should upgrade the academic skills of university teachers to meet world-class professional growth and strategies global context.

8. Recommendations

Recommendations of the study were as follows:

- Continuous professional development for university teachers should be conducted at the university level to transfer updated content knowledge through training mechanism.
- The in-service training for university teachers should be organized at the university level to transfer updated pedagogical knowledge through in-service training for university teachers.
- The technical pieces of training for university teachers should be organized at the university level to transfer updated technical knowledge through technical pieces of training for university teachers.
- The conferences/ seminars/ workshops for university teachers should be organized at the university level to transfer research-based knowledge through conferences/ seminars/ workshops for university teachers.

REFERENCES

- Apple, M. W. (2001). Comparing neo-liberal projects and inequality in education. *Comparative Education*, 37(4), 409-423.
- Avalos, B. (2011). Teacher professional development in teaching and teacher education for over ten years. *Teaching and Teacher Education*, 27(1), 10-20.
- Ball, D. L. (1995). Developing mathematics reform: What don't we know about teacher learning -- but would make good working hypotheses? Paper presented at the Conference on Teacher Enhancement in Mathematics K-6, Arlington, VA.
- Barber, M., & Mourshed, M. (2007). *How the world's best-performing school systems come out on top*. London: McKinsey and Company.
- Bautista, A., Cañadas, M. C., Brizuela, M. B., & Schliemann, A. D. (2015). Examining how teachers use graphs to teach mathematics in a professional development program. *Journal*

<http://epistemology.pk/>

- of Education and Training Studies, 3(2), 91-106.
<http://redfame.com/journal/index.php/jets/article/view/676/624>
- Bautista, A., Tan, L. S., Ponnusamy, L. D., & Yau, X. (2015). Curriculum integration in Arts Education: Connecting multiple Art forms through the notion of 'space'. *Journal of Curriculum Studies*. DOI: 10.1080/00220272.2015.1089940
- Bautista, A., Wong, J., & Gopinathan, S. (2015). Teacher professional development in Singapore: Depicting the landscape. *Psychology, Society and Education*, 7(3), 311-326.
- Borko, H. (2004). Professional development and teacher learning: Mapping the terrain. *Educational Researcher*, 33(8), 3-15.
- Burnafor, G. E., Brown, S., Doherty, J., & McLaughlin, H. J. (2007). Arts integration. Frameworks, research, and practice: A literature review. Washington, DC: Council of Chief State School Officers.
- Carpenter, T. P., Fennema, E., Peterson, P. L., Chiang, C. P., & Loef, M. (1989). Using knowledge of children's mathematics thinking in classroom teaching: An experimental study. *American Educational Research Journal*, 26, 499-531.
- Darling-Hammond, L. (2010). Teaching for deeper learning: Developing a thinking pedagogy In A. P. C. Avila, C. Hui, J. H. Lin, J. C. Peng Tam, & J. C. Lim (Eds.), *Rethinking Educational Paradigms: Moving from Good to Great*. CJ Koh Professorial Lecture Series No. 5 (pp. 13-18). Singapore: Office of Education Research, National Institute of Education.
- Darling-Hammond, L., Chung Wei, R., & Andree, A. (2010). How high-achieving countries develop great teachers. *Stanford Center for Opportunity Policy in Education ~ Research Brief*, 1-8.
- Darling-Hammond, L., Chung Wei, R., Andree, A., Richardson, N., & Orphanos, S. (2009). Professional learning in the learning profession: A status report on teacher development in the United States and abroad. *Stanford University, CA: National Staff Development Council*.
- Dede, C., Ketelhut, D. J., Whitehouse, P., Breit, L., & McCloskey, E. M. (2009). A research agenda for online teacher professional development. *Journal of Teacher Education*, 60(1), 8-19.
- Desimone, L. M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181-199.
- Desimone, L. M., & Garet, M. S. (2015). Best Practices in Teachers' Professional Development in the United States. *Psychology, Society and Education*, 7(3), 252-263.
- Desimone, L. M., Porter, A. C., Garet, M. S., Yoon, K. S., & Birman, B. F. (2002). Effects of professional development on teachers' instruction: Results from a three-year longitudinal study. *Educational Evaluation and Policy Analysis*, 24(2), 81-112.
- Fullan, M. G., & Miles, M. B. (1992). Getting reform right: What works and what doesn't. *Phi Delta Kappan*, 73, 745-752. Garet, M. S., Cronen, S., Eaton, M., Kurki, A., Ludwig, M., Jones, W., . . .
- Sztejnberg, L. (2008). The impact of two professional development interventions on early reading instruction and achievement (NCEE 2008-4030). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

<http://epistemology.pk/>

- Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Kwang, S. Y. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, 38, 915-945.
- Garet, M. S., Wayne, A. J., Stancavage, F., Taylor, J., Eaton, M., Walters, K., & Doolittle, F. (2011). Middle school mathematics professional development impact study: Findings after the second year of implementation. (NCEE 2011-4025). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- Gersten, R., Dimino, J., Jayanthi, M., Kim, J. S., & Santoro, L. E. (2010). Teacher study group: Impact of the professional development model on reading instruction and student outcomes in first-grade classrooms. *American Educational Research Journal*, 47, 694–739.
- Guskey, T. R. (2002). Professional development and teacher change. *Teachers and Teaching: theory and practice*, 8(3/4), 381-389.
- Hassan, M.U. Dzakiria, H. (2018). Pakistani EFL Adult Learners' Beliefs towards Corrective Feedback in Cooperative Learning Strategy. *The Journal of Social Sciences Research*, 5, 749-753.
- Hassan, M.U. Dzakiria, H. (2020). Investigating English teachers' organizational integrity and obligation in Pakistani universities. *Hamdard Islamicus*, 43 (1), 130-144.
- Hassan, M.U & Aziz, A.A. (2019). Impact of Motivational Achievement for EFL Learning Strategies: A Case of Pakistani University Students. *Al-Qalam*, 24 (1), 104-114.
- Hill, H. C., Beisiegel, M., & Jacob, R. (2013). Professional development research: Consensus, crossroads, and challenges. *Educational Researcher*, 42(9), 476–487.
- Kaur, B. (2012). Equity and social justice in teaching and teacher education. *Teaching & Teacher Education*, 28, 485-492.
- Kazemi, E., & Hubbard, A. (2008). New directions for the design and study of professional development: Attending to the coevolution of teachers' participation across contexts. *Journal of Teacher Education*, 59(5), 428-441.
- Knight, P. (2002). A systemic approach to professional development: learning as practice. *Teaching and Teacher Education*, 18(3), 229-241.
- Lam, B. H. (2015). Teacher Professional Development in Hong Kong Compared to Anglosphere: the Role of Confucian Philosophy. *Psychology, Society and Education*, 7(3), 295-310.
- Ling, L. M., & Mackenzie, N. M. (2015). An Australian perspective on teacher professional development in supercomplex times. *Psychology, Society and Education*, 7(3), XXXX.
- Little, J. W. (1993). Teachers' professional development in a climate of educational reform. *Educational Evaluation and Policy Analysis*, 15(2), 129-151.
- Martín, E. (2015). Pathways that converge in teacher professional development: Are they present in Spain? *Psychology, Society and Education*, 7(3), 327-342.
- Niemi, H. (2015). Teacher professional development in Finland: Towards a more holistic approach. *Psychology, Society and Education*, 7(3), 279-294.
- O'Dwyer, L. M., Master, J., Dash, S., De Kramer, R. M., Humez, A., & Russell, M. (2010). E-learning for educators: Effects of on-line professional development on teachers and their students: Findings from four randomized trials: Retrieved from http://www.bc.edu/research/intasc/PDF/EFE_Findings2010_Report.pdf.
- Odden, A., Archibald, S., Fermanich, M., & Alix Gallagher, H. (2002). A cost framework for professional development. *Journal of Education Finance*, 28(1), 51-74.

<http://epistemology.pk/>

- Opfer, V. D., & Peder, D. (2011). Conceptualizing teacher professional learning. *Review of Educational Research*, 81(3), 376–407.
- Penuel, W. R., Fishman, B. J., Yamaguchi, R., & Gallagher, L. P. (2007). What makes professional development effective? Strategies that foster curriculum implementation. *American Educational Research*, 44, 921–958.
- Powell, D. R., Diamond, K. E., Burchinal, M. R., & Koehler, M. J. (2010). Effects of an early literacy professional development intervention on the head start teachers and children. *Journal of Educational Psychology*, 102(2), 299-312. DOI:10.1037/a0017763
- Putnam, R. T., & Borko, H. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational Researcher*, 29(1), 4-15.
- Schwab, K. (2015). World Economic Forum's Global Competitiveness Report, 2014-2015. Retrieved from: <http://reports.weforum.org/global-competitiveness-report-20142015/>. Switzerland: World Economic Forum.
- Sherin, M. G., & Han, S. Y. (2004). Teacher learning in the context of a video club. *Teaching and Teacher Education*, 20, 163-183.
- Tan, C. Y., & Dimmock, C. (2014). How a 'top-performing Asian school system formulates and implements policy: the case of Singapore. *Educational Management Administration & Leadership*, 1741143213510507.
- Todd, R., J. (2010). Curriculum integration. Learning in a changing world. Victoria, AU: McPherson's Printing Group. Wei, R. C.,
- Darling-Hammond, L., Andree, A., Richardson, N., & Orphanos, S. (2009). Professional learning in the learning profession: A status report on teacher development in the United States and abroad. Dallas, TX: National Staff Development Council. Downloaded from: <http://edpolicy.stanford.edu>.
- Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. L. (2007). Reviewing the evidence on how teacher professional development affects student achievement. Washington, DC: National Center for Educational Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.