





Perceptions of Teachers Regarding Online In-Service Training in their Professional Development in Khyber Pakhtunkhwa, Pakistan

Irfan Ullah Khan [*]	Saif Ullah Khan [†]	Mati Ullah Khan [‡]
Vol. V, No. I (Winter 2020)	Pages: 52 - 63	DOI: 10.31703/gesr.2020(V-I).06

Abstract: The present study was conducted to find out the perceptions of teachers regarding online in-service training in development of their professional skills in Khyber Pakhtunkhwa. The study was descriptive in nature. The population of the study consisted of selected districts of Khyber Pakhtunkhwa. Five hundred respondents were selected as a sample from the population, which is 8073, in which female population is 1828 and male population is 6245, the researcher was taken female from Urban which is 22% and 387 from male which is 88% of both the populations respectively. Data was collected through questionnaire having five points for the agreement level of the respondent 'strongly agree', 'agree', 'undecided', 'disagree' and 'strongly disagree' carrying values 5, 4, 3, 2 and 1 respectively. Data was entered into SPSS (Version 22.0). The size of sample was taken according to John Curry (1984) formula. Simple linear regression was used for data analysis.

Key Words: Teachers Perceptions, Online In-Service Teachers Training, Professional Skills Development

Introduction

p- ISSN: 2708-2113

Online in-service training is the need of time and plays dominant role in teachers' professional skills development. Mardani (2009) rightly said that in-service teacher training is useful for teachers' professional skills development and awareness about the new knowledge. In service training is useful for teachers in this regard that those teachers who get opportunities of in-service training may improve their professional skills and they can perform their classroom activities and evaluation of students properly (Ekpoh et al, 2013). The importance of in-service training may not be neglected but so far as the online system is concerned then we may say that online sources like internet-based sources make the training system easy for teachers. Evaluation and management of schools may be improved through inservice training of teachers because during the in-service training teachers get awareness about the new skills and methods of management and evaluation in light of experts and then implement it according (<u>Frederick & Stephen 2010</u>). <u>Gegenfurtner et al.</u> (2020) also clearly mentioned that the rapid progress in digital learning and use of technology basically opens new ways of learning for learners and facilitation for leaners. Freifeld, (2018) stated that 93.3 % of training hours being delivered via blended learning it is due to technology. Here it refers to the usefulness of technology in training and development reported in the training industry reported by the association for Talent Development. Similarly, Mishra and Koehler (2006) also presented the same idea through media-didactical competence and content knowledge through technological pedagogy. On the other side professional development of teachers or adults is also very important. Adults' educators' professional development is increasing because it plays vital role in education (Lattke & Jütte, 2014). Strauch et al. (2010) also described the importance of teachers' professional development and its importance in light of modern techniques of education. However, media-related competencies have played only a minor role in these concepts (Rohs et al., 2019).

[‡]Lecturer, Department of Education & Research, University of Lakki Marwat, KP, Pakistan.



Assistant Professor, Department of Education & Research, University of Lakki Marwat, KP, Pakistan. Email: thescholaredun@gmail.com

[†]Lecturer, Department of Education & Research, University of Lakki Marwat, KP, Pakistan.

However, in different competency models the role of media and technology is mentioned which shows its usefulness. In adult educators the importance of professionalism is always highlighted (Lattke & Jütte, 2014). In light of uses and gratification theory of media online sources play an important role in learning process. It is a fact that unlike other theories of media uses and gratification theory of media describes this aspect of media that how and why people actively use specific media to satisfy specific needs. It is totally different from traditional theories of media when the audience was passive listeners and they have no power to use media for their own personal needs. But in light of this theory we see that now social media is an example of this theory because in social media the audience role is active and they may use it according to their own way. The following are some characteristics of uses and gratification theory of media which make it distinguish from other theories of media and highlight its role because uses and gratification theory of media is different from other theories of media:

The method of using social media for English language learning was first created in Barcelona Spain. It is important language learning. Social media language learning consists of applying interactive social media channels to language learning, which will in turn enable the language learners to improve their communication and the four basic skills of language learning i.e. listening, speaking, reading, and writing while using the various sources of social media (Obar, 2015). The most important benefit of this method is that it provides the language learners the opportunities of participating in various communication activities, actual and real time relevant conversation taking place online, and thus through this way the language learners do practice of language learning with the help of experienced teachers.

The CLT (communicative language teaching) method of teaching language provide basis for social media sources in English language learning, because the main reason behind this method is that communicative approach is not in favour of grammar or structure learning for language learning but rather the communicative language teaching method gives emphasis to this aspect of language learning, that language is a tool or source of communication means exchange of thoughts, and ideas with other. Therefore, it is necessary to in light of communicative approach to learn language in communicative environment rather than to learn old and traditional structure of English language for its learning purpose. Irfan et al, (2013) has clearly mentioned in his research study that language is a source of communication and EFL learners may learn communication in such type of atmosphere which is suitable for him/her to express ideas, feelings, emotions, and thoughts without any resistance in the target language in order to improve the fluency of speaking skills. If the language learner is thinking about the rules of structure then how he/she will be able to share ideas or do practice of communication with other friends and fellows in free and friendly mood. Grammatical structure learning is also very important because previous studies on language learning described that language learning required both accuracy and fluency means that structure and fluency both are necessary for learning of second or foreign language. Communicative approach preferred to fluency rather than accuracy because in light of this linguistic idea that fluency first and accuracy second in target language conversation proficiency development (Obar, 2015).

Review of Literature

Thalhammer, (2014) highlighted the importance of the use of digital technologies in training and adult educators that it facilitates training. Likewise, Gengenfurtner, et al, (2018) also stated the same idea of digital learning that it plays vital role in training. The use of learning management system (LMS) in use of digital learning especially for employee's support (Dowling Hetherington et al. 2020). Similarly, the same point is also stated by (Testers et al., in press). Ebner & Gegenfurtner, (2019) the increasing use of digital learning or technology-based instruction regarding facilitation of employees and use of LMS for learning purposes. Similarly, digital video-based scenarios (Dowling-Hetherington et al., 2020). Kraiger et al., (2020) revealed that instead of digital advancement and use of online sources in our day to day life the development of human resource may not be neglected but if they learning digital technology and then through these sources, they learn new things or ideas then it is also quite helpful for them. The importance of digital learning is that it facilitates them to learn they how learning through online sources or digital sources they feel and their experiences about it when they receive training (Koehler et al., 2014; Oberländer et al., 2020; Rohs et al., 2019; Schmidt-Hertha & Rohs, 2018).

There are different sources of social media like Facebook, Twitter, WhatsApp, LinkedIn, Flicker, etc. All these sources of social media totally depend upon the internet. For example, we may not use Facebook without the internet, similarly, the same is the case of Twitter, Flicker and LinkedIn also because social media is basically computer mediated online source used for variety of purposes. Thus, we may get help from social media tools like YouTube various English language videos shared by various experts. Khalid (2017) also mentioned the importance of social media sources in film industry and learning.

There was no concept of social media sources like Facebook and other social media sources like WhatsApp, LinkedIn, Skype, Flicker and others tools which are used as social media sources before 10-15 years ago. The use of social media was not so common in past like now in this present technological era. Now the numbers of Facebook users are increasing day by day according to articles posted about the users of Facebook. In light of this article the active users of Facebook go beyond 800 million and their daily active users exceed 400 million (Facebook a, 2012). Now social media looks like a necessary part of our lives because we are habitual of social media. We share updated information and receive information about the whole world through social media sources like Facebook. The most important regarding the use of social media is that it provides us the opportunity to know about the new people and to maintain relationship with those who are already in contact with us. It is our need to maintain relationship with friends and relatives and to share information with others (Buttner, 2016).

It is described by Kaplan and Haenlein (2010), that social media is basically a group of internet based online application which are used to build on ideological and technological foundations of Web 2.0 and similarly, the other important point is that it allows its users to create new things and similarly, exchange their ideas with others regarding various things on mobile and other web-based technologies. Thus, through this way they create highly motivated platforms and share information (Ahlqvist, 2008). Piskorski (2011) argues that social media is used for successful business also because different companies set their own business platform and then through this way, they share their products for display and for competition in the market. It means that it is also one another aspect of social media use for business. Nowadays most of the people do purchase through social media. They like items through internet online sources and then through various courier services they receive it through mail service (Michael, 2010).

The range of social media is very widespread like Internet forums, weblogs, social blogs, microblogging, wikis, podcasts, pictures, video, and rating. In 2010 Kaplan and Haenlein formed the classification different social media types in a very clear and systematic manner. They created and classified the social media types into six different types. These types of social media are collaborative projects, blogs and micro blogs, content communities, social networking sites, virtual game worlds, and virtual communities. These all play a significant role in different fields of life. These technologies cover blogs, picture-sharing, vlogs (video blogs), wall-postings, email, instant messaging, music-sharing and others. These social media sites are also called social networking platforms. The above-mentioned classification also describes the importance of social media sources in six different directions (Kaplan & Haenlein, 2010).

There are different social media sites like Facebook, Twitter and WhatsApp, and You Tube etc. all of these social media sites are common nowadays and play an important role in various aspects of life. The internet users use these social networking sites a number of activities like sharing their videos, important and interested ideas and so many other activities online (Dieu & Stevens, 2007). Social media use is now a new phenomenon in World Wide Web and especially it is an interesting way for the English language learners to share their view and ideas with others in an easy way as compare to other traditional methods of sharing information with friends or relatives. These online social media sources are not only useful for English language learners but also for teachers because teachers may use these social media sources in order to facilitate their students. The teacher may record their lecturers and then they may share it with students. Similarly, You Tube is such social media tool which enables its users to show their activities at worldwide audience and facilitate them to share their talents (Morrell, 2013).

There is one another aspect of social media which may not be neglected in English language learning process which is that we most commonly read in previous research studies that information

communication technologies (ICTs) play a pivotal role in education. Information communication technologies play pivotal role in education because it makes the teaching learning process easy and interested for learners (Khan et al, 2017). Similarly, in past people used different sources for communication but now in this present technological era various information communication technologies are used for communication (Hussain, 2004). Similarly, (Wikitext, 2010) also highlighted the information communication technologies and its role and identified its role in day to day life of people. Now in light of the above views of various experts about information communication technologies the role of social media may not be neglected in our daily routine life. Social media is most commonly used not only at specific time but in twenty-four hours of our life get updates from social media. (Esfandiari, (2012) also highlighted the importance of worldwide social networking and its role in daily routine life. Like the above-mentioned statement Noor ul Amin (2013) and Long (2001) also described the various information communication technologies and claimed that it plays pivotal role in quality of education. (Guma & Haolader, 2013) also highlighted the role of ICTs in teaching learning process and clearly mentioned that these advance tools are quite helpful in teaching learning activities (Lowther, 2008). Thus, in light of other experiences and trainees to adults and knowledge of contents to trainees it is important to facilitate them through digital learning and use of digital technologies (Bonnes et al., 2020). And the same idea is used by (Rohs et al., 2020).

Importance of Skills Development

Professional skills development is useful for teachers because skill is necessary in each and every field of life similarly, in adults' educators also teachers' professional development is useful. Skills prepare students beyond schools but for practical life (Fisher, 2003). Education is the most powerful capital for human development and may not be neglected but rather we should give preference to education. The system must be set in such a way which is useful for education and for proper transformation of education to societies (Kolo, 2013). Imogie, (1992) at that time highlighted the benefits of in-service training time which are the following:

- First benefit of in-service training for teachers is that it enables them to update their knowledge and skills in order to achieve their objectives properly.
- To provide trained and qualified teachers for schools and improve in-service programmes.
- The next benefit of in-service training for teachers is to increase the number of trained teachers for all levels.
- Providing additional source of income to staff members participating in the programmes.
- To facilitate and help them in new areas and needs of time according to modern trends in education.

However, in- service teachers training or staff development are used interchangeably because the objectives of both staff development or in- service teachers training are same. Thus, it is important for in-service teachers because through professional skills of teachers can be improved and they may get new knowledge and method of utilization of their previous knowledge through better way to promote their level of teaching according to national and international standards. It is basically related to continuous professional development and may not be neglected because due to it they may be able to grow professional y according to modern trends and innovations in education system (Cooper,2008). Teachers' professional skills development is necessary part of their skills learning and professional growth. It should be comprehensive and should be properly arranged. There should be no disconnection in these trainings (Garet, Porter & Desimone, 2001)

Online Teachers Professional Development and its Reported Benefits

It is true that online courses or teaching learning are not like real classroom environment but it is also reality that it enables learners to share their knowledge and get knowledge from multiple sources and improve their skills easily without the hesitation of place time and distance (<u>irfan et al, 2016</u>). Similarly, <u>Boling & Martin, (2005)</u> also described the same point and stated that online learning is considered one of the most suitable and easy sources of learning. It is increasing day by day and having great role in

facilitation of teachers in teachers in teaching learning process. <u>Dede, (2006)</u> also stated that online sources are useful for teachers to improve their professional skills. Teachers training through online means is not like traditional method of training but it is different from traditional/conventional method of training in this type of training there are different levels and online technologie. Thus these mentioned tools or sources of online internet facilitate teachers to approach their professional development training without the hesitation of time and distance. In TPD there are two main features of benefits for teachers which may not be neglected but rather appreciated that are time and distance because these are two major factors of facilitation for teachers which is due to online internet sources. It is great achievement or benefit for teachers that in online TPD they can attend online training without travel, leave, and their classrooms also may not be affected due to their training but even in free time they can attend training even at home in free time (Boling & Martin, 2005). Similarly, the other important point is that some facilities are not even available at local training but in online training they may avail easily (McCloskey, 2009).

Purpose of the Study

The thrust of this study therefore, was to find out about the perceptions of teachers about the effectiveness of online in-service trainings on their professional development in Khyber Pakhtunkhwa, and to highlight the importance of online sources like internet in this present competitive era for the best interest of teachers and their facilitation in in-service training and professional development.

Significance of the Study

Keeping in view the immense global importance of online sources and increasing use of information communication technologies in all walks of life the said study was conducted to know about the views of in-service teachers regarding their interest about online training that is why this study was conducted. Therefore, this study will useful for teachers as well as training instructors to know about the importance of online training which is free of time, place but accessible for them. This study will helpful in this regard that it will highlight the importance of online training conduction instead of traditional methods of adults' education and training.

Similarly, this study will beneficial for teachers because online training will helpful for them to learn and improve their professional skills without hesitation of time, access and resistance in their daily routine activities. When they attend online training then they may connect even from their homes and get help from online sources and can improve their professional skills in light of advance methods of teaching and learning in this modern era.

Objectives of the Study

Following are the major objectives of the study:

- 1. To find out the views of teachers regarding the importance of online in-service training on their professional development in Southern districts of Khyber Pakhtunkhwa, Pakistan.
- 2. To highlight in light of previous research studies the importance of online in-service training.
- 3. To put some valuable suggestions regarding online in-service training of teachers.

Research Questions

Following were the research questions for the study:

- 1. Is there any importance of online in-service training on teachers' professional development as perceived by teachers themselves?
- 2. Is there any significance difference between online in-service training and traditional methods of in-service trainings for teachers' professional development in southern districts of Khyber Pakhtunkhwa Pakistan?

Research Methodology

Study Design

The study design was descriptive in nature because descriptive research report the way things are. It usually investigates people's opinions, views, perceptions, beliefs, and attitudes towards individual, organization, events or procedures that is why the study design was descriptive in nature. In social sciences mostly descriptive research is conducted that is why here also the researcher used the same method of research and to properly investigate the perceptions of teachers about online in-service training for the development of their professional skills.

Proper selection of research design plays an important role in completion of the research work in a proper and systematic way to reach the highest possible outcomes of the study and timely completion of work within the specified time. That is why the researcher gave preference to this method as compare to other methods of research.

Population of the Study

It is true and have been observed in light of previous research studies that population plays an important role in proper completion of research and justification of the research study that is why selection of population and sample are necessary and important parts of research process that is why population of this study was only primary schools teachers of southern districts in Khyber Pakhtunkhwa. The researcher selected only southern districts due to this reason that southern districts climate, resources, and other things are mostly same that is why the researcher selected only southern districts rather than all the primary schools of Khyber Pakhtunkhwa.

Sampling

Sample is also an important stage in research process the proper selection of sample in research process is important. It is basically that group of respondents through which a researcher generalize result to the whole population.

Therefore, the researcher selected 500 respondents out of 8073 according to John Curry (1984) formula of rule of thumb was used for sample collection.

Table 1. The Sampling Framework

Gender	Total	Frequency	Percentage
Male	6245	387	88%
Female	1828	113	22%
Total	8073	500	100%

Data Collection

The researcher collected data from the selected population and used multiple sources for data collection like through post office, personally, and also with the help of colleagues. The researcher used self-developed questionnaire as a research tool for data collection, and similarly, for validity of reliability of data tool collection tool (questionnaire) pilot study and expert opinions were used properly in order to check the validity and reliability of the data collection tool.

Measurement Scale

A five pointliker's scale'strongly agree', 'agree', 'undecided', 'disagree' and 'strongly disagree' carrying values 5, 4, 3, 2 and 1 respectively was used to measure the opinions of respondents. The scale is shown in the table below:

Table 2. Diagram of Scale Used for Data Collection

Version	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
Numerical Values	5	4	3	2	1

After successful completion of data from the selected respondents through data collection tool (questionnaire) the data was set, coded, and then put the data in SPSS version 22. Then statistics used for analysis of data were frequency, percentage, and linear regression.

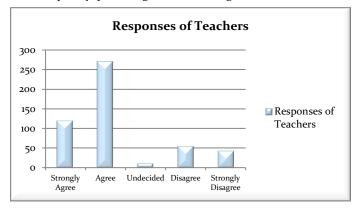


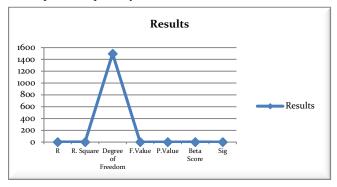
Table 4. Responses of Primary School Teachers Regarding the Effectiveness of Online In-Service Training on their Professional Development

Teachers' R	esponses					
Scale used						="
Level	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Total
Frequency	120	271	11	55	43	500
Percentage	24.0	54.0	2.0	11.0	9.0	100

Table 4 shows the wives of the respondent about online in-service training and its effect on their professional development at primary level in Khyber Pakhtunkhwa. Thus, the responses of respondents clearly indicate that the total number of the respondents were 500(100%). 43(9%) respondents strongly disagrees to the online in-service training and its effects on their professional development at primary level in Khyber Pakhtunkhwa. 55 (11%) respondents of the selected sample disagreed, 11(2%) respondents show undecided, 271(54%) respondents of the present sample were agreed and 120(24%) respondents were strongly agree about the effectiveness of online in-service training and its effect on their professional development at primary level in Khyber Pakhtunkhwa.

Results of the Study

The following table shows the result of the study that is online in-service teachers training and their professional skills development at primary level.



Regression of Online In-Service Training and Teachers Professional Development at Primary Level

Dependent Variable	Predictor	R	R Square	Df	F-Value	P-Value	Beta Score	Sig.
Professional	Online in-	.896ª	.802	1498	2017.127	.000ª	.896	.000
development	service training	.090	.002	1490	2017.127	.000	.090	.000

Significance value of P> .05 shows insignificance and <.05 shows significant influence > greater than, < lower than Result of the linear regression used to analyze the effect of online in-service training on teacher's professional development at primary level in the given table 4.1. The value of R square (.802) explains variance which is actually the square of multiple R (.896a) 2 and demonstrates a correlation of independent variable or predictor (teachers' professional development) with the dependent variable (online in-service training). In fifth (df) column of the table, upper value (1) indicates the number of independent variable(s) and the lower value cites the total number of complete responses for all the variables in the equation (N-K-1=number of respondents- number of independent variables-1) i.e.{(500-1-1)} = (498). F-value produced in the sixth column (2017.127) has been found significant at (.000) level of significance. Similarly, the Beta score (.896) has also been found significant at (.000a) level of significance, given in the eighth column of the mentioned table. The above inferences reveal the rejection of Ho, which means that the sampled population perceives a significant relation or influence of teacher's professional development on online in-service training to teachers at primary level in Khyber Pakhtunkhwa, Pakistan.

Discussion

The present study was conducted in light of previous research studies like Virginia Tucker, (2019) in A Case Study of "Virtual Collaboration in Distance Learning Environments" described the importance of group activities through technology. <u>Insung Jung</u>, (2001) in "Issues and Challenges of Providing Online Inservice Teacher Training: Korea's experience" also mentioned the various issues in online in-service teacher training and highlighted the role of technology and online sources application. Lawrence A. Tomei, Robert Morris University, USA and Douglas Nelson, Seton Hill University, USA (2019) "The Impact of Online Teaching on Faculty Load – Revisited: Computing the Ideal Class Size for Traditional, Online, And Hybrid Courses" `also stated the use of online sources facilitation in faculty load. This clearly indicates the usage of online tools and its facilitations to faculty members in greater extent. Bliss Cornelius Sedega, et al. (2019) in "Perception of Teachers on The Effectiveness of In-Service Education and Training at The Basic Schools in Akatsi District of Ghana" stated the importance of online teachers training and also recommended that for online teachers training or instructions qualified and trained teachers are necessary because it is technical work that is why trained and qualified instructors are necessary for its application will greatly affect the adults educators. Roofia Galeshi, Radford University, Radford, USA and Hamid Reza Taimoory, Virginia Tech University, Blacksburg, USA (2019) in "Online Education: Influencing Teachers' Perception of Professionalism" highlighted the influence of online education on perceptions of teachers and use of online system in facilitation of teachers regarding free of place, time and access. Tina Lim, Zoraini Wati Abas & Norziati Mansor (2019) in "Online In-service Teacher Professional Development in Malaysia: A New Possibility" indicated the importance of online training in teacher's professional development. Carolina Costa, Helena Alvelos, & Leonor Teixeira, (2019) in "Investigating the Use and Acceptance of Technologies by Professors in a Higher Education Institution" stated the use technology in higher education and its acceptance for application regarding new way of teaching learning. Andreas Gegenfurtner, Bernhard Schmidt-Hertha and Paul Lewis, (2020) in "Digital technologies in training and adult education" described the importance of digital technologies role in adult's education and training. Digital learning is a new and easy way of learning which facilitate adults' educators and especially quite useful in online training of adults in this modern era. Caroline Bonnes et al, (2020) in "The relationship between trainers' media-didactical competence and mediadidactical self-efficacy, attitudes and use of digital media in training" also highlighted the same idea of media didactical competence and self-efficacy. Alec Sithole, Missouri et al, (2019) in "Expectations, Challenges and Suggestions for Faculty Teaching Online Courses in Higher Education" stated the faculty teaching online courses in higher education. Which is 'quite useful for them and may not be neglected. Gabrielle T. Lee & Tzu-Fen Chang, (2019) in "Evaluating the Use of an Online Video Training Program to Supplement a Graduate Course in Applied Behavior Analysis" stated the online video training and its effectiveness in graduate course in applied behavior analysis which is quite different and may not be neglected. Indicated that in online video program the students get equally help form it like in textbooks but the main point is that here they enjoy also the contents to greater extent because of interested themes. Similarly, Eduwen Friday Osamwonyi and, Ekiadolor-Benin (2016) in "In-Service Education of Teachers: Overview, Problems and the Way Forward" highlighted the importance of in-service training and its facilitation for teachers or adults' educators. It enables them to get new knowledge and skills about various ideas and skills in light of modern trends in education system. Roger Neil, (2006) in "Current Models and Approaches to In-service Teacher Education" also described the importance inservice training and its importance for teacher's professional skills development. Govinda Ishwar Lingam, (2012) in "Beginning Teachers' Perceptions of Their Training Programme" discussed teachers education etc. that is why keeping in view the above mentioned previous studies the this said study was conducted to highlight the role of online in- service training effectiveness on teacher professional development through the perceptions of teachers.

Conclusion

In light of the findings of the study the following conclusions were set up which are the following:

- The findings of the said study clearly indicated the importance of online in-service training to teachers as compare to previous traditional methods of training delivery to trainers that are new methods of digital learning may be introduced to instructors who deliver training to teacher's time to time for their professional development.
- 2. It was also concluded in light of teacher's perceptions to trained them about online apps applications like Skype, You Tube, Zoom, Google plus, LinkedIn, and various mobile apps which facilitate getting online training.

Limitations of the Study

This study was conducted only in quantitative form and data was collected from teachers through data collection tool (Questionnaire) that is why if qualitative study may be conducted in the same topic and record the opinions of teachers regarding online in-service and how can we implement it through easy way which helpful for them then it will also be useful study in this regard.

References

- Ahlqvist et al, (2008). Social media roadmaps exploring the futures triggered by social media, VTT Tiedotteita Valtion Teknillinen Tutkimuskeskus (2454): 13.
- Alec Sithole, Missouri et al, (2019). Expectations, Challenges and Suggestions for Faculty Teaching Online Courses in Higher Education. *International Journal of Online Pedagogy and Course Design*, *9*(1), January-March 2019.
- Andreas Gegenfurtner, Bernhard Schmidt-Hertha and Paul Lewis, (2020) in "Digital technologies in training and adult education" International Journal of Training and Development 24:1 ISSN 1360-3736 doi: 10.1111/ijtd.12172.
- Boling, C. J., & Martin, S. H. (2005). Supporting teacher change through online professional development *The Journal of Educators Online*, 2(1). Retrieved March 19, 2009, from http://www.thejeo.com/BolingFinal.pdf
- Bonnes, C., Leiser, C., Schmidt-Hertha, B., Rott, K. J. and Hochholdinger, S. (2020), 'The relationship of trainers' media didactical competence and media didactical self-efficacy, attitudes and use of digital media', *International Journal of Training and Development*, 24, 1.
- Buettner, R. (2016). Getting a Job via Career-oriented Social Networking Sites: The Weakness of Ties. 49th Annual Hawaii International Conference on System Sciences. Kauai, Hawaii: IEEE.
- Carolina Costa, Helena Alvelos, & Leonor Teixeira, (2019). Investigating the Use and Acceptance of Technologies by Professors in a Higher Education Institution. *International Journal of Online Pedagogy and Course Design*, 9(2).
- Caroline Bonnes et al, (2020) in "The relationship between trainers' media-didactical competence and media-didactical self-efficacy, attitudes and use of digital media in training" International Journal of Training and Development 24:1 ISSN 1360-3736 doi: 10.1111/ijtd.12171.
- Cooper, J. D. (2008). Professional development: An effective research-based model. Boston: Houghton Mifflin Harcourt Supplemental Publishers. Retrieved March 2, 2009, from http://www.greatsource.com/GreatSource/pdf/ProfessionalDevelopmentResearch.pdf
- Dede, C. (2006). Online professional development for teachers. Harvard Education Letter, 22 (4) Retrieved April 27, 2009, from gseweb.harvard.edu/~uk/otpd/Dede research agenda final.pdf
- Dede, C., Ketelhut, D. J., Whitehouse, P., Breit, I., & McCloskey, E. M. (2009). A research agenda for online teacher professional development. Journal of Teacher Education, 60 (1), 8 –19.
- Dieu, D., & Stevens, V. (2007). Pedagogical affordances of syndication, aggregation, and mash-up of content on the web. TESL-EJ, 11(1), 1–15.
- Dowling-Hetherington, L., Glowatz, M., McDonald, E. and Dempsey, A. (2020), 'Business students' experiences of technology tools and applications in higher education', International Journal of Training and Development, 24, 1.
- Ebner, C. and Gegenfurtner, A. (2019), 'Learning and satisfaction in webinar, online, and faceto-face instruction: a meta-analysis', Frontiers in Education, 4, 92. https://doi.org/10.3389/feduc.2019.00092
- Eduwen Friday Osamwonyi and, Ekiadolor-Benin (2016) in "In-Service Education of Teachers: Overview, Problems and the Way Forward" Journal of Education and Practice ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol.7, No.26, 2016.
- Esfandiari. (2012). Improving multi agent systems based on reinforcement: J. Cain, Online Social networking issues with in academia and pharmacy education. American Journal of Pharmaceutical Education, 72, 10.
- Frederick, B.J.A., & Stephen, O.O., (2010). Teachers' Perceptions of Staff Development Programmes As It Relates to Teachers' Effectiveness: A Study of Rural Primary Schools' in Kenya, Educational Research & Review, 5(1).
- Freifeld, L. (2018), '2018 training industry report', Training, 55, 6, 18–31.
- Gabrielle T. Lee & Tzu-Fen Chang, (2019) in "Evaluating the Use of an Online Video Training Program to Supplement a Graduate Course in Applied Behavior Analysis" International Journal of Online Pedagogy and Course Design Volume 9 Issue 2 April-June 2019.

- Gegenfurtner, A. and Ebner, C. (2019), 'Webinars in higher education and professional training: a metaanalysis and systematic review of randomized controlled trials', Educational Research Review, 28, 1, 100293. https://doi.org/10.1016/j.edurev.2019.100293.
- Gegenfurtner, A., Schmidt-Hertha, B. and Lewis, P. (2020), 'Digital technologies in training and adult education', International Journal of Training and Development, 24, 1
- Gegenfurtner, A., Schwab, N. and Ebner, C. (2018), "There's no need to drive from A to B": exploring the lived experience of students and lecturers with digital learning in higher education', Bavarian Journal of Applied Sciences, 4, 310–22. https://doi.org/10.25929/bjas.v4i1.50.
- Gegenfurtner, A., Zitt, A. and Ebner, C. (2020), 'Evaluating webinar-based training: a mixed methods study on trainee reactions toward digital web conferencing', International Journal of Training and Development, 24, 1.
- Govinda Ishwar Lingam, (2012) in "Beginning Teachers' Perceptions of Their Training Programme" International Journal of Online Pedagogy and Course Design, 9(1).
- Guma, A., & Haolader. F. A, (2013). The role of ICTs to make teaching-learning effective in higher institutions of learning in Uganda. *International Journal of Innovative Research in Science, Engineering and Technology, 2 (8),* 4061–4073.
- Harwell, S. H. (2003). Teacher professional development: It's not an event, it's a process. Waco: CORD Hussain, I. (2004). A study of emerging technologies and their impact on teaching learning process and
- their impact on teaching learning process, 286.
- Insung Jung, (2001). Issues and Challenges of Providing Online Inservice Teacher Training: Korea's experience. *The International Review of Research in Open and Distributed Learning*, 2(1). https://doi.org/10.19173/irrodl.v2i1.30.
- Irfan et al (2016) "The role of Social Media in Development of English language Vocabulary at university level. *International Journal of Academic Research in Business and Social Sciences*, 6(12), 590-604.
- Khalid, S,et al, (2017) Social Media Technologies and Their Impact on Film making for Students' of Digital Media Specialization in College of Applied Sciences NIZWA. Gomal University Journal of Research (GUJR) Special Issue I ISSN 1019-8180 Pp 9-17.
- Khan et al, (2017) "Utilization of ICTs in Teaching Learning Process at University Level in Khyber Pakhtunkhwa" *Gomal University Journal of Research [GUJR], Special Issue III,* ISSN: 1019-8180 Pp 1-12
- Koehler, M. J., Mishra, P., Kereluik, K., Shin, T. S. and Graham, C. R. (2014), 'The Technological Pedagogical Content Knowledge Framework', in J. M. Spector (ed), Handbook of Research on Educational Communications and Technology (New York: Springer), pp. 101–11.
- Kraiger, K., Cavanagh, T. M. and Willis, C. M. G. (2020), 'Why do cognitive prompts hurt learning in older adults?', International Journal of Training and Development, 24, 1.
- Lattke, S. and Jütte, W. (eds). (2014), Professionalisation of Adult Educators: International and Comparative Perspectives (Frankfurt am Main: Peter Lang Edition).
- Lawrence A. Tomei, Robert and Douglas Nelson, (2019) "The Impact of Online Teaching on Faculty Load
 Revisited: Computing the Ideal Class Size for Traditional, Online, And Hybrid Courses"
 International Journal of Online Pedagogy and Course Design, 9(3).
- Long, S. (2001). Multimedia in the art curriculum: Crossing boundaries. *Journal of Art and Design Education*, 20 (3), 255-263.
- Lowther, D. L. (2008). Does technology integration work when key barriers are removed? *Educational Media International*, 45, 195-213.
- Mardani K, L. (2009). An examination of the relationship between the in-service trainings and the effectiveness of the staff (case study: Ahwaz Oil Company). Unpublished MA thesis, University of Tehran, Qom branch.
- Mishra, P. and Koehler, M. J. (2006), 'Technological pedagogical content knowledge: a framework for teacher knowledge', *Teachers College Record*, 108(6), 1017–54.
- Morrell, E., Duenas, R., Garcia, V., & Lopez, J. (2013). Youth and Critical media Production in 21st centurey. In Critical Media Pedagogy: *Teaching for Achievement in City Schools*. Columbia, New York: Teachers College Press.

- Noor, S. (2013). An effective use of ICTs for education and learning by drawing on worldwide knowledge, research and experience. *ICTs as a Change Agent for Education*, 1–13.
- Obar, Jonathan A.; Wildman, Steve (2015). "Social media definition and the governance challenge: An introduction to the special issue". *Telecommunications policy* 39 (9): 745–750
- Oberländer, M., Beinicke, A. and Bipp, T. (2020), 'Digital competencies: a review of the literature and applications in the workplace', Computers & Education, 146, 103752. https://doi.org/10.1016/j.compe du.2019.103752.
- Neil, R. (2006) "Current Models and Approaches to In-service Teacher Education" Journal of In-Service Education ISSN: 0305-7631 (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/rjiei8.
- Rohs, M., Bolten, R. and Kohl, J. (2020), 'Between adoption and rejection: attitudes of adult educators towards digitalization in Germany', *International Journal of Training and Development*, 24(1).
- Rohs, M., Schmidt-Hertha, B., Rott, K. and Bolten, R. (2019), 'Measurement of media pedagogical competences of adult educators', RELA *European Journal for Research on the Education and Learning of Adults*. Prepublished. Available at http://www.rela.ep.liu.se/pre_publi shed. asp (accessed 30 August 2019).
- Rohs, M., Schmidt-Hertha, B., Rott, K. J. and Bolten, R. (2019), 'Measurement of media pedagogical competences of adult educators'. *European Journal for Research on the Education and Learning of Adults*, 10(3), 307–324, https://doi.org/10.3384/rela.2000-7426.0js393.
- Galeshi, R. & Taimoory, H. R. (2019). Online Education: Influencing Teachers' Perception of Professionalism" International Journal of Online Pedagogy and Course Design Volume 9 Issue 4 October-December 2019.
- Schmidt-Hertha, B. & Rohs, M. (2018), Editorial: Medienpädagogik und Erwachsenenbildung. Medienpädagogik, 30, i–viii.
- Schmidt-Hertha, B., Rohs, M., Rott, K. J. and Bolten, R. (2017), 'Medienpädagogische Kompetenzanforderungen an Erwachsenenbildner/innen: Fit für die digitale (Lern-) Welt?', DIE Zeitschrift, 3, 35–37.
- Sedega, et al. (2019). Perception of Teachers on The Effectiveness of In-Service Education and Training at The Basic Schools in Akatsi District of Ghana. *British Journal of Education*, 7(1), 1-19.
- Strauch, A., Radtke, M. and Lupou, R. (2010), Flexible Pathways Towards Professionalization: Senior Adult Educators in Europe (Bielefeld, W. Bertelsmann).
- Thalhammer, V. (2014), 'E-learning: An Opportunity for Older Persons?', in B. Schmidt-Hertha, S. JelencKrašovec and M. Formosa (eds), Learning across Generations in Europe. *Contemporary Issues in Older Adult Education* (Rotterdam, Boston, Taipei: Sense Publishers), pp. 47–58.
- Lim, T., Abas, Z. W., & Noriati Mansor, N. (2019). Online In-service Teacher Professional Development in Malaysia: A New Possibility" open university Malaysia. Penang, Malaysia ISBN 978-1-880094-79-2 Publisher: Association for the Advancement of Computing in Education (AACE)
- Tucker, V. (2019) "A Case Study of "Virtual Collaboration in Distance Learning Environments" International Journal of Online Pedagogy and Course Design. 9(4).