

Muhammad Ayaz *

Rooh Ul Amin Khan[†]Salman Khan[‡]

Analysis of Online Workshop as a Medium of Instruction and Communication: A Case Study of Allama Iqbal Open University Islamabad

Abstract

Education is unavoidable for the survival of humans being. Allama Iqbal Open University (AIOU), Islamabad, is one of the institutions which plays an effective role in the cause of education. The objective of the study is to see the perception and level of satisfaction of the students and Resource Persons (RPs) about the online workshop offered by the AIOU for the Spring Semester 2020 (SS-2020). Data was collected through questionnaires. The population consists of B.Ed (Bachelor of Education) students and RPs who have conducted the online workshop. A sample of 300 students, including 200 male, 100 female students and 20 RPs, were chosen for the study. A convenient sampling technique was applied to the study. The study was a descriptive quantitative in nature. The data were analyzed by applying percentages. Results revealed that the majority of the students and RPs were satisfied with the online workshop as it provided an inclusive environment of learning and supported their learning. It shows that online workshop plays a momentous role in the delivery of education. The study in hand was significant for the teachers and students of AIOU.

Key Words: Distance Education, Perception, Satisfaction, RPs

Introduction

Education is the constitutional right of every citizen of Pakistan. Different institutions of our country are busy with the sacred cause of education of citizens. Amongst those educational institutions, AIOU is offering great services for the cause of education of students through distance education, commonly known as non-formal education (Qadir & Hameed, 2013, p. 2395). In AIOU, almost those students are getting an education who are unable to get an education in formal education institutions. Non-formal or distance education is defined by different authors distinctly. According to Perraton (1988), distance education is a form of education in which the teachers and students are not involved in the face-to-face learning process. Rather, they correspond with each other through postal means.

According to Simonson (2006), distance education is an organization-based program in which students and teachers are removed from each other. However, for the interaction, they employ telecommunication in order to cause learning. It was analyzed from the abovementioned definitions that in distance learning, there is a total separation of students from the teacher, and the institute is involved only for the linkage of teachers and students. According to Qadir and Hameed (2013), distance education plays an essential role in the education of those students who cannot get their regular education in a classroom environment. Information communication technology has accelerated the delivery of the services, and in the contemporary era, its use is unavoidable. Competent teachers are available who can run computers and know the usage of information communication technology in the teaching-learning process.

According to Bukhsh (2010), the essential ingredients of distance learning in AIOU are; course books; tutors; tutorials; technical support; assignments; workshops; internship, final examination. To obtain the degree of B.Ed from AIOU, a student is required to write assignments, attend tutorial meetings, give written examination and to attend the workshop. All these elements are essential to obtain a degree of B.Ed from AIOU. In the workshop, five hours per day for consecutive three days (total 15 hours) is attributed to disseminating topics already decided by the university for a single subject. For evaluation of assignment, tutors are hired by AIOU, and according to Masrur (2010), for the conduct of the workshop, expert RPs in the relevant field are hired. Generally, the workshop is conducted in face-to-face mode; however, due to the

*PhD Scholar, Department of Education, Qurtuba University of Science & Information Technology, Peshawar, KP, Pakistan.

[†] Assistant Professor, Department of Media and Communication Studies, International Islamic University, Islamabad, Pakistan. Email: roohul.amin@iiu.edu.pk

[‡] PhD Scholar, Department of Education, Qurtuba University of Science & Information Technology, Peshawar, KP, Pakistan.

pandemic of Corona Virus Disease 2019 (Covid- 19), AIOU has decided to conduct an online workshop for the SS-2020 in order to continue its services incessantly. In order to continue the learning process, the AIOU developed the Aaghi Learning Management System (LMS) Portal for online submission of assignments and workshops for certain programs like B.Ed etc. The online workshop of B.Ed SS-2020 was also conducted through the Aaghi LMS Portal. In an online workshop, 10 days (ninety minutes per day) was attributed to each subject and total of 15 hours were given for teaching a single subject. The duration of face-to-face workshop and online workshop is similar; however, in an online workshop, days were expanded to ten, and per-day time was decreased to one hour.

LMS showed the attendance of those students who were online and were hearing the lectures of RPs. They can also save the attendance of students. The lecture presentation slides were visible, and the voice of the RP was audible to students. For any query/question the students have the option to send a message to the RP. Different groups were made by the AIOU, and expert RPs were hired by the university in order to conduct the online workshop. Workshop, according to Bukhsh (2010), is arranged at the end of the course in order to create essential skills in the students by the RPs/experts of the subject. A workshop is conducted in order to fortify the learning process.

According to Bartley and Golek (2004) online learning, electronic learning or e-learning is called distance education or distance learning which remains part of the education system of the America for long period of time but currently it has taken place as largest sector in the form of distant learning in recent years. Hoic-Bozic, Mornar and Boticki (2009) say that online courses are those which are completely dependent on internet in which online face-to-face classes are held like traditional classes; learning through the use of the internet and learning that is supported by technology come under the domain of online learning or e-learning. The online workshop is also aimed to transmit knowledge through the use of the internet by using the LMS portal. Masrur (2010) says that nowadays, the whole scenario has been changed by information communication technology due to its sound influence. An experimental study conducted by ibid investigator and reached the conclusion that resources or material learnt by employing the web has augmented the experimental group's achievement.

Objectives of the Study

To know the perceptions of students and RPs about online workshop of AIOU for SS-2020.

To investigate the level of satisfaction of students of B.Ed and RPs who delivered lectures in online workshop of SS-2020.

Hypotheses

- i. **H₀₁**: There is no significant difference in the perceptions of students and RPs about online workshop of AIOU for SS-2020.
- ii. **H₀₂**: There is no significant difference in the level of satisfaction of students of B.Ed and RPs who delivered lectures in online workshop of SS-2020.

Review of the Related Literature

The AIOU is one of the biggest Open University in South Asia (Khan, Khan & Ali, 2018). AIOU is rendering great services in the field of distance education. AIOU offers its services to those citizens of the country who are unable to get their regular education in real classroom in the form of formal education. AIOU offers a handful of online programs. There are four important phases to get a degree which are writing assignments, attend tutorials, attend the workshop and to give a final examination (Khan et. al., 2018; Shah & Baloch, 2017; Qadir & Hameed, 2013). Prior to the pandemic disease of COVID-19, workshops of B.Ed were conducted in face-to-face mode by the university; however, during the pandemic of COVID-19, the university has extended its favor to conduct an online workshop for SS-2020. As the study is restricted only to the online workshop of B.Ed students of SS-2020, therefore, the investigators are to analyze the perceptions of students and RPs towards online workshop rendered by AIOU in SS-2020.

According to Khan et. al. (2018), workshops are conducted by the university in order to transfer the desired topics to the students so as to enrich them in their field of study. In the workshop, special and important topics are delivered to the students. The online workshop is conducted solely through the use of technology and the internet. Thus, it can be summed up that an online workshop is a sort of online or distant learning having two-way communication (non-face-to-face mode). In his study, Iqbal (2009, p.123) sketched out three channels of communication amongst which an RP is to take the most appropriate channel. Channels are as follows:

Two way: face-to-face (classroom situation)

Two way: non-face-to-face (distance mode)

One way: non face-to-face (distance mode, reports, letters).

It is obvious that workshop conducted through face-to-face mode will be more valuable, however, due to pandemic of COVID-19, face-to-face workshop was impossible, and the university decided in favor of an online workshop. It is clear that in such like workshop, the two way: non-face-to-face (distance mode), will be applied. In such a channel of communication, and RP delivers his lecture on the LMS portal, and students are listening to the lecture of his teacher/RP. Students were encouraged to ask their questions in writing, to which RPs replied and provided feedback. According to Iqbal and Ahmad (2010, p.93), learning through the use of a computer is called e-learning. Generally, e-learning is delivered through computers in order to educate, train and give information. Lulea (2001) defines that e-learning can be named in different kinds like web-based training, computer-based training and video conferencing. From a computer perspective, electronic learning is the presentation of contents on a computer aimed to inculcate skills and knowledge in the individual.

The government of Pakistan aims to promote the concept of e-learning. Teachers involved in the distant learning process should be given necessary training in technology so as to enrich them in the use of the internet, computer and other related areas of Information and Communication Technology (ICT). The government is to spend fund on the promotion of the use of ICT in the field of education. In distant learning programs, online assessment and examination of the students should be welcomed so as to increase the quality of performance of students in the examination and assessment etc. (Iqbal & Ahmad, 2010)

In their study, Iqbal and Ahmad (2010) pointed out that due to dis-connectivity of internet online learning cannot take place effectively. He upholds that government should prioritize the literacy of ICT for both teachers and students. Shah and Baloch (2017) conducted a study and came to the conclusion that students viewed that ICT is helpful for educational purposes and relevant to their studies. Khan et. al. (2018) concluded that time duration of workshops is very short and it is impossible for RPs to teach the given topics in the assigned time and suggested more time for the workshop of B.Ed and other programs. They concluded that time provided for the workshop of the most programs are very short that the same cannot be covered within the allotted time. They recommended increasing the time duration of workshop so that students get the full-fledged opportunity of learning.

A study was conducted by Bukhsh (2010) regarding the workshop and came to the conclusion that the majority students considered that workshop enhanced their learning; RPs were well-timed and regular in workshop and the lectures delivered to them were sufficient for enhancement of learning; the syllabus was covered in workshop; students were not satisfied from duration of class; students fully satisfied from the skills and knowledge of the RPs. The referred study was conducted on face-to-face workshop while the present study is about the online workshop. The present study is aimed to view the perceptions of both students and RPs and their level of satisfaction in respect of online workshop.

Research Methodology

The current study is quantitative in nature. According to Kothari (2004), quantitative research measures amount or quantity. A descriptive quantitative research design was applied to the study. Gall, Borg and Gall (2003) indicated that in descriptive research study, existing educational phenomenon is cautiously described. They uphold that in this type of research, the question of “what is” studied. Most reforms have been brought on the basis of findings of descriptive research studies into the field of education.

Research Tool

In order to collect data, two questionnaires were designed; one for students and the other for RPs. The research tool was gone through by other scholars and experts in the field of education. The investigators personally collected the research data from students and RPs. According to Gall, Borg and Gall (2003), in a descriptive study questionnaire is primarily used for data collection purposes. Guidelines for Designing a Questionnaire described by the ibid authors in their book “Educational Research” have been followed by the investigators.

Population

All the students of SS-2020 enrolled in B.Ed program all over Pakistan, and all the RPs who were hired to deliver an online workshop for SS-2020 constituted the population of the study.

Sample and Sampling Technique

Three hundred students of the Peshawar Region were chosen as a sample of the study. Out of 300 students; 200 students were male and 100 were female students. From RPs only 20 were chosen from Peshawar Region as sample for the study. Convenient sampling technique was applied in the present study. The students and RPs belong to different areas of the Khyber Pakhtunkhwa province that's why convenient sampling technique was applied to the study.

Data Analysis

The questionnaire items were coded as SA (Strongly Agree), A (Agree), UD (Undecided), DA (Disagree) and SDA (Strongly Disagree). Two questionnaires were developed for the purpose of collection of data, one for students and the other for RPs. Both the questionnaires contained 30/30 questions, out of which 15 questions were related to perceptions towards the online workshop and 15 questions were related to the level of satisfaction for both students and RPs. Data were analyzed by applying percentages through SPSS Version 26. The collected data of descriptive research can be analyzed by applying percentage (Gall, Borg & Gall, 2003).

Table 1. Students' Perception Towards Online Workshop and Their Level of Satisfaction

Students' Perception Towards Online Workshop						
S. No	Questions	SA%	A%	UD%	DA%	SDA%
1	LMS was working smoothly	1%	15%	0	14%	70%
2	Students were trained how to run LMS	0	2%	1%	49%	48%
3	Every student had easily accessed LMS	0	21%	0	47%	32%
4	Login credentials were timely provided	3%	29%	3%	37%	28%
5	There was no hurdle in login into LMS	1%	9%	0	18%	72%
6	Students were timely informed about workshop	34%	56%	0	10%	0
7	Students could easily check their attendance	37%	47%	9%	4%	3%
8	Duration of class was enough	58%	38%	1%	2%	1%
9	Presentations were relevant	74%	23%	0	2%	1%
10	Whiteboard was used for interaction	10%	23%	0	54%	13%
11	Class time was well managed by the RPs	50%	37%	0	13%	0
12	There was no internet problem from University	1%	5%	0	35%	59%
13	Every participant had internet source	82%	18%	0	0	0
14	Participants took interest in the online class	70%	10%	0	11%	9%
15	There was continuous interaction among RPs and students	60%	10%	0	20%	10%
Level of Students' Satisfaction						
1	Students warmly attended online workshop	71%	21%	0	5%	3%
2	RPs were well-prepared for class	70%	20%	0	10%	0
3	RPs used class time efficiently	56%	24%	1%	10%	9%
4	RPs presented materials in a clear manner	13%	41%	7%	33%	4%
5	Students were encouraged to participate in class	70%	27%	1%	2%	
6	RPs stimulated interest of students in the subject	54%	40%	1%	4%	1%
7	Students learned more than they expected.	40%	30%	0	25%	5%
8	The slides were visible and easy to understand	60%	18%	3%	12%	7%
9	The shared contents were updated and latest	45%	41%	5%	8%	1%
10	RPs effectively explained course concepts	74%	23%	0	2%	1%
11	RPs' feedbacks were helpful and improved understanding	22%	68%	3%	6%	0
12	Students were able to access RPs outside of scheduled class time for additional help.	45%	49%	0	5%	1%
13	RPs created inclusive learning environment.	85%	14%	0	1%	0
14	The syllabus was covered in an online workshop	91%	6%		3%	
15	Students satisfied from online workshop	50%	35%	2%	4%	9%

The respondents who are in the majority in DA and SDA are less; therefore, only they are discussed in order to maintain the brevity of the study. Table 1 indicates that in six different questions relating to students' perception towards online workshop was found in DA and SDA which are; LMS was working smoothly DA (14%) and SDA (70%), students were trained how to run LMS DA (49%) and SDA (48%), students had easy access to LMS DA (47%) and SDA (32%), login credentials were timely provided DA (37%) and SDA (28%), there was no hurdle in login into LMS DA (18%) and SDA (72%), the whiteboard was used for interaction DA (54%) and SDA (13%); there was no internet problem from university DA (35%) and SDA (59%). The percentages of the rest of the responses, i.e., SA and A, show that students perceived and viewed the online workshop to be fruitful, beneficial and they were fully satisfied from the online workshop.

Table 2. RPs' Perception Towards Online Workshop and their Level of Satisfaction

Perception towards Online Workshop						
S. No	Questions	SA%	A%	UD%	DA%	SDA%
1	LMS was working smoothly	50%	10%	0	0	40%
2	RPs were trained to run LMS	90%	10%	0	0	0
3	There was no hurdle in login time	0	15%	0	70%	15%
4	RPs had easy access to LMS	35%	55%	0	10	0
5	Log in credentials were timely provided	20%	80%	0	0	0
6	RPs were timely informed about workshop	23%	70%	0	7%	0
7	Individual class meetings were well prepared	20%	80%	0	0	0
8	Students easily accessed to online classroom	0	5%	0	85%	10%
9	Students could easily check their attendance	85%	15%	0	0	0
10	Presentations were visible to students	81%	18%	0	1%	0
11	White board was used for interaction	5%	15%	0	75%	5%
12	Class time was well managed	45%	30%	0	25%	0
13	There was no interruption in the class	0	5%	0	70%	25%
14	There was no internet problem from university	5%	0	0	70%	25%
15	Every student had internet source	67%	23%	0	10%	0
Level of Satisfaction						
1	LMS was better for online workshop	47%	43%	0	5%	5%
2	RPs used class time efficiently	44%	44%	4%	8%	0
3	RPs organized the material logically	71%	23%	2%	4%	0
4	Lectures/presentations were easy to understand	80%	15%	0	2%	3%
5	Students were encouraged to participate in class	77%	23%	0	0	0
6	Lectures/slides were presented in a clear manner that facilitated understanding	80%	18%	0	1%	1%
7	Learning activities were well-organized	60%	30%	0	10%	0
8	RPs satisfied from students' interest in the class	60%	30%	0	10%	0
9	RPs satisfied from feedback provided to students	25%	45%	0	13%	17%
10	Duration of class time was enough	80%	20%	0	0	0
11	There was continuous interaction between RPs and students	33%	27%	0	23%	17%
12	The lectures/presentations enhanced students' learning	63%	17%	7%	10%	3%
13	Students questions/enquiries were resolved	45%	45%	0	10%	0
14	RPs satisfied from students' attendance checking in LMS	77%	13%	0	5%	5%
15	RPs satisfied from online workshop	60%	23%	0	7%	10%

The respondents who are in the majority in DA and SDA are less; therefore, only they are discussed in order to maintain the brevity of the study. Table 2 reveals that in five different questions relating to RPs towards online workshop was found in DA and SDA which are; there was no hurdle in login time (DA 70% and SDA 15%); students easily access to the online classroom (DA 85% and SDA 10%); whiteboard was used for interaction (DA 75% and SDA 5%); there was no interruption in the class (DA 70% and SDA 25%); there was no internet problem from university (DA 70% and SDA 25%). The rest of the responses, i.e., SA

and A, show that RPs perceived the online workshop to be fruitful and they were fully satisfied from the online workshop.

Major Findings

Findings of Students' Perception toward the Online Workshop

The majority of the students' perception towards online workshop ticked SA and A (percentages show SA and A collectively) were; they were timely informed about the workshop (90%); they could easily check their attendance (84%); duration of class of enough (96%); presentations were relevant (97%); class time was well-managed by the RPs (87%); every participant had internet source (100%); participants took an interest in the online class (80%), and there was continuous interaction between RPs and students (70%)

The majority of students who were not satisfied in some of the aspects of the online workshop and ticked DA and SDA (percentages show DA and SDA collectively) were; that LMS was not working smoothly (84%); they were not trained how to run LMS (97%); they have not easily accessed LMS (79%); login credentials were not timely provided to them (65%); there was a hurdle in login into LMS (90%); whiteboard was not used for interaction (67%), and there was internet problem from university side (94%).

Findings Related to the Level of Satisfaction of Students

All the students were satisfied with the online workshop of SS-2020. The responses with percentages (both SA and A collectively) are mentioned here for easy reference. Students warmly attended online workshop classes (92%); RPs were well-prepared for class (90%); RPs used class time efficiently (80%); RPs presented course materials in a clear manner (54%); students were encouraged to participate in class (97%); RPs stimulated students' interest in the subject (94%); students learned more than they expected (70%); the lecture/presentations were clear (78%); the shared contents were updated, and latest (86%); RPs explained course concepts (97%); RPs' feedback was helpful and improved understanding (90%); students were able to access the RPs outside of scheduled class time for additional help (94%); RPs created inclusive learning environment (99%); the syllabus was covered in online workshop (97%) and the students satisfied from the online workshop (85%).

Findings of RPs' Perception toward Online Workshop and their Level of Satisfaction

Findings Related to an Online Workshop

The majority of the RPs' perception towards online workshop ticked SA and A (percentages show SA and A collectively) were; LMS was working smoothly (60%); RPs were trained to run LMS (100%); RPs had easy access to LMS (90%); RPs were timely informed about the workshop (93%); individual class meetings were well-prepared (100%); students could easily check attendance (100%); presentations were visible to students (99%); class time was well-managed (75%); every student had internet source (100%).

Majority RPs who were not satisfied in some aspect and ticked DA and SDA (percentages show both DA and SDA collectively) were; that there was a hurdle in login to LMS (85%); students could not easily access the online classroom (95%); whiteboard was not used for interaction (80%); there was an interruption in the class (95%), and there was internet problem from university (95%).

Findings Related to the Level of Satisfaction

All the RPs were satisfied with the online workshop of SS-2020. The responses with percentages (both SA and A collectively) are mentioned here for easy reference. LMS was better for online workshop (90%); RPs used class time efficiently (88%); RPs organized the material logically (94%); lectures/presentations were easy to understand (95%); students were encouraged to participate in class (100%); course materials were presented in a clear manner that facilitated understanding (98%); learning activities were well-organized (90%); RPs satisfied from students' interest in the class (90%); RPs satisfied from feedback provided to the students (70%); duration of class time was enough (100%); there was continuous interaction among RPs and students (60%); the lectures/presentations enhanced students' learning (90%); students questions/enquiries were resolved (90%); RPs were satisfied from students' attendance checking in LMS (90%); RPs were satisfied from the online workshop (93%).

Discussion

In six aspect of perception toward the online workshop, the students were found dissatisfied. Similarly, in five aspects of perception toward the online workshop, the RPs were found dissatisfied. The majority of

students who were not satisfied from online workshop perceived that LMS was not working smoothly; they were not trained how to run LMS; students have not easily accessed LMS; login credentials were not timely provided to them; there was a hurdle in login into LMS; whiteboard was not used for interaction, and there was internet problem from university side. Likewise, the majority of RPs who were not satisfied with the online workshop in some aspect perceived that there was a hurdle in login time; students could not easily access the online classroom; whiteboard was not used for interaction; there was an interruption in the class, and there was internet problem from the university.

Overall study shows that in all the remaining aspects of the online workshop and level of satisfaction, the majority of the students and RPs were satisfied and perceived the online workshop as a good move towards continuity of the learning process.

The present study is in-line with the study of Bukhsh (2010), who conducted a study and collected opinions of the students about the workshop and reached the conclusion that the majority of students were of the opinion that the workshop supported their learning; RPs were regular and punctual in the workshop, and their lectures were beneficial and fruitful for the purpose of learning; the contents, of course, were covered in the workshop; students viewed that duration of the class in the workshop was not sufficient; students were satisfied from the skills and professional knowledge of RPs; students perceived that access to the workshop was easy. Sabir, Akhtar, Bahadur & Sajjad (2014) conducted a study and concluded that the majority of the students were highly satisfied from the face-to-face workshop. The present study is also in-line with these studies. The only difference is that the present study is about online-workshop, and in this study too, both the students and RPs were satisfied with the conduct of online workshop almost in each aspect.

Conclusion

On the basis of the findings of the study, it is concluded that online workshop provided a suitable learning environment to the students; they saved time and monetary expenses of students; syllabus was covered, and learning of the students was enhanced. It was founded that both students and RPs were fully satisfied with the online workshop. It is concluded that the students' attendance checking system was a good step. It is concluded that almost all the students were present and attended the online workshop. The online workshop provided ample opportunity for the students to attend and appear in the workshop, which is a basic component of a program. It was also concluded that the RPs were fully prepared and managed class time efficiently.

It is concluded that the university has not timely provided the LMS login credentials to students, who created great hurdles to the students and that they were also not trained how to run LMS. It is also concluded that no training was given to students so as to effectively conduct online workshop; students queries/questions were not timely solved, and no helpful feedback was given to them as it was pointed out that the students asked questions through text message and no healthy feedback was given to them; therefore, this aspect of feedback was not good, and this needs improvement.

On the basis of findings, we reject the null hypotheses H_{01} and H_{02} .

Recommendations

On the basis of the findings of the study, the following recommendations are made:

1. Proper training for using LMS must be given to the students.
2. Syllabus/contents may be given at least 10 days prior to starting the online workshop so that RPs can prepare well-organized lectures/presentations.
3. Attendance of students must be continuously checked so that to ensure the incessant presence of the students during the online workshop.
4. Video lectures may be delivered to the students through the online workshop.
5. RPs must use a whiteboard during the online workshop.
6. The trend and practice of online workshop may be strengthened.

References

- Bartley, S. J., & Golek, J. H. (2004). Evaluating the Cost Effectiveness of Online and Face-to-Face Instruction. *Educational Technology & Society*, 7(4), 167–175.
- Bukhsh, Q. (2010). A study of student's perception regarding teacher education through distance learning in Pakistan. *International Journal of Digital Society*, 1(1), 53-59. doi: 10.20533/ijds.2040.2570.2010.0009
- Clark, R. (2002). Six principles of effective e-Learning: What works and why. *The e-learning developer's Journal*, 6(2), 1-10.
- Gall, M. D., Borg, W. R., & Gall, J. P. (2003). *Educational research – An introduction*. (7th ed.). Boston, USA: Allyn & Bacon.
- Hoic-Bozic, N., Mornar, V., & Boticki, I. (2009). A Blended Learning Approach to Course Design and Implementation. *IEEE Transactions on Education*, 52(1), 19–30. doi:10.1109/TE.2007.914945
- Iqbal, M. J. (2009). Status of Communication in Workshops at Allama Iqbal Open University: Students View. *Pakistan Journal of Education*, 26(1), 121-138.
- Iqbal, M. J., & Ahmad, M. (2010). Enhancing quality of education through e-learning: the case study of Allama Iqbal Open University. *The Turkish Online Journal of Distance Education*, 11(1), 84-97.
- Khan, I., Khan, F. N., & Ali, A. (2018). Issues in Teachers' Education through Distance Education: A Case Study of Allama Iqbal Open University Islamabad, Pakistan. *Global Social Sciences Review*, 3(4), 142-155. doi: 10.31703/gssr.2018(III-IV).10. Retrieved from URL: [http://dx.doi.org/10.31703/gssr.2018\(III-IV\).10](http://dx.doi.org/10.31703/gssr.2018(III-IV).10)
- Kothari, C., R. (2004). *Research methodology- Methods & techniques*. New Delhi: New Age International (P) Limited, Publishers.
- Luleå (2001). *Computer based e-learning*. retrieved from <http://www.outreach.utk.edu/weblearning>
- Masrur, R. (2010). The Impact of Web Based Resource Material on Learning Outcome in Open Distance Higher Education. *Turkish Online Journal of Distance Education*, 11(2), 118-124.
- Nguyen, T. (2015). The effectiveness of online learning: Beyond no significant difference and future horizons. *MERLOT Journal of Online Learning and Teaching*, 11(2), 309-319.
- Perraton, H. (1988). A theory for distance education. In D. Stewart, D. Keegan, & B. Holmberg (Eds.), *Distance education: International perspectives* (pp. 34–45). New York: Routledge.
- Qadir M. J., & Hameed A. (2013). Effectiveness of ICT Training Workshop for Tutors of Allama Iqbal Open University, Pakistan. *World Academy of Science, Engineering and Technology International Journal of Educational and Pedagogical Sciences*, Vol:7 (8), 2395-2398.
- Sabir, R. I., Akhtar, N., Bahadur, W., & Sajjad, M. S. (2014). Impact of distance education on student performance: a case of Allama Iqbal open university. *Middle East Journal of Scientific Research*, 21(3), 472-476. doi: 10.5829/idosi.mejsr.2014.21.03.12377
- Shah, B. H., & Baloch, G. S. (2017). ICT Usage among Allama Iqbal Open University Students (Exploring Reliance and Relevance of ICT). *Global Media Journal: Pakistan Edition*, 10(1).
- Simonson, M. (2006). Design-based research. *Quarterly Review of Distance Education*, 7(1).