Journal of Development and Social Sciences
www.jdss.org.pk

RESEARCH PAPER

Effect of Information and Communication Technology (ICT) in ESL Learning at College Level

¹Misbah Iqbal* Mahreen Riaz and ² Rakhshanda Rashid

1. M. Phil English (Linguistics) Lahore Leads University, Lahore, Punjab Pakistan
2. Ph.D. Scholar, Department of Education, The Islamia University of Bahawalpur, Punjab, Pakistan
3. Ph.D. Scholar, Department of Education, The Islamia University of Bahawalpur, Punjab, Pakistan

*Corresponding Author: mzs414153@gmail.com

ABSTRACT

In the contemporary period, Information and Communication Technologies (ICTs) are used in all educational fields. The present research aims to analyze the effect of Information and Communication Technology (ICT) in ESL learning at college level in Pakistani context. The population of this experimental research was the students of government gradate college for women Marghazar Lahore. For this experimental research researcher selected 60 ESL undergraduate students for sampling their level of education were same. These students were divided in two equal groups each group was equally contained on 30 students; named as control and experimental groups. In pre-test the score of both groups was almost same. After that control-group was taught in traditional method while the experimental-group was treated by using Information and Communication Technology (ICT) approach. The two months treatment period was given by the same teacher. The post-test results show that the students of the experimental-group performed better than the students of control- group. The results disclosed that Information and Communication Technology (ICT) is better approach for ESL learning than the traditional method.

Introduction

"The innovation of new technologies has influenced the educational system, and these new emerging technologies have made teaching and learning methods easy for students" (Ahmad, Iqbal, Rao, 2023). Information technology (IT) is a set of related fields that encompass computer systems, software, programming languages, and data and information processing and storage. IT forms part of information and communications technology (ICT). Technology helps English language learners by using both videos and pictures and allows students the opportunity to learn in a way, other than words, that may work best for them while also demonstrating that they know how to correctly use a computer and can find reliable sources that help them gain a deeper understanding of the topic. Technology has impact on learning English language as computer programs can increase the motivation for learners to develop their vocabulary and reading skills. The Internet is certainly a modern technological way for persons hope to develop their English language skills (Rasheed et al., 2021; Ahmad et al, 2022). The benefits of using technology in the classroom include greater engagement, access to resources, personalized learning, and the ability to cater to different learning styles. Technology integration in English language learning has shown benefits such as improved scores in English tests, collaborative learning, in depth.

We use English language information technology on a personal level to connect and communicate with others, play games, share media, shop and be social. From a career perspective, information technology is largely responsible for much of our business operations and spans nearly every industry. The English language is important in information technology because fluency in English improves connection, collaboration and

knowledge sharing in technology teams (Jalbani et al., 2023; Maitlo, et al., 2023). Private classes specialized in the tech area, opportunities to lead meetings and maintain informal conversations in English are ways to encourage the command of English in the team (Abbas, 2016; Rao et al., 2023).

The idea of Information and Communication Technology (ICT) can be traced back to the nineteenth century with the advance of the telegraphs and the telephones. These two discoveries reformed the manner individuals functioned and interrelated on a social basis by making it possible for one person to communicate with another person in a different location in real or near-real time. Computer scientists from France, England, and Japan were involved in the design of the Internet protocols in the 1970s, and academic computer networks in Europe and Asia connected with the US Internet in the 1980s to provide international email networks well before the Internet itself had become global (Farhat, 2019; Ullah et al., 2020).

Information and Communication Technologies (ICTs) are the various sets of technological equipment and properties used in communicating, creating, disseminating, and collecting evidence. Information and communication technology has rendered a substantial impact not merely in educational setting, but in numerous other fields. Information and communication technologies are also helping English language teachers and English language learners by providing many facilities in the both English language teachers and learners (Arnesen, 2010; Çakıcı, 2016).

Concise and clear summary of the research problem is called problem statement generally it contained on a single paragraph; its main purpose is to detect the problem related to the research (Ahmad et al., 2021; Mughal et al., 2023). In Pakistani context English language learners face problems consequently there is need a method which is easy and convenient in ESL learning. After getting efficient understanding of information communication technology, it has been identified; it is effective in enriching the educational system as well as instructional approaches. But still there is unclear question in the minds of English language teachers and students that these technological approaches or old style of learning which is more favorable for English language learning. To find the solution of this problem the researcher conducted this research.

Literature Review

Literature review is an overview of the earlier published works on a theme. It considers methodology, sampling, and outcomes of the research. Moreover, it also forms literature from themes and conceptions (Ahmad, Jeevan & Rao, 2023; Younus et al., 2023). Identify patterns, trends, and gaps in the existing research. Summarize key findings and arguments from each source. Following is the literature review for the present study which is contained on Information and Communication Technology (ICT) in education, Information and Communication Technology (ICT) in higher education and Information and Communication Technology (ICT) in English language learning, followed by some previous works related to the current topic. These previous researches were conducted on national and international levels in different settings and different times by different researchers and scholars.

ICT in Education

Information and communication technologies have been used by educators on all educational levels providing knowledge and information to the students. Computers and internet is used primary by showing students shapes, color and paint concepts on the computers to the students (Adeyemo, 2010). Internet is made use of to watch cartoons or movies, observing pictures, images and so forth. In secondary and senior secondary schools, students usually begin to learn the basics of computers. At the initial stage, they may feel vulnerable, but with thorough practice are able to enhance their technical skills. After they have learned the concepts, participation in regular practice would help them in honing their technical skills. The teachers encourage students to make use of internet to

augment their understanding in terms of various concepts (Bhutto, Zafar & Ullah, 2023). The students take pleasure in making use of technology and prepare assignments, reports, projects and other documents (Hashemi, 2016; Akram et al., 2022).

ICT in Higher Education

In higher educational institutions, in the pursuance of Bachelor's, masters and doctoral programs, technology has been regarded as an integral part of education. When the professors are required to take lectures on certain topics, they make use of technology and internet to prepare their learning materials (Lone et al., 2011).On the other hand, when students are required to prepare assignments, reports or projects or even when they need to prepare themselves for the test or exam, they make use of technologies. In the pursuance of doctoral programs, the individuals are required to work on thesis. Hence, to acquire effectual understanding in terms of the topic, and to commence the project report, individuals make use of technologies. Giving presentations on various topics is regarded as an integral part of education in primarily secondary, senior secondary and higher education (Ramzan et al., 2023). These can be implemented, when individuals are well-aware of technologies. Hence, to achieve academic goals in an appropriate manner, it is essential for the individuals to augment their technical skills.

ICT in English Language Learning

ICT, or information and communication technology (or technologies), is the infrastructure and components that enable modern computing. Among the goals of IC technologies, tools and systems is to improve the way humans create, process and share data or information with each. ICT was the first technology to give humankind the ability to transcend physical space and, in doing so, made it possible for us to create a platform that has spurred global economic growth and facilitated the spread of new ideas and technologies. By using ICT in teaching and learning English the students can find language learning materials such as e-books, journals, articles for enhancing their reading and writing skills; and videos, conversations, and discussions for improving listening and speaking skills. The role of ICT in education in English enriches understanding and knowledge. ICT tools such as interactive whiteboards, digital textbooks, and multimedia presentations make learning more engaging and interactive. They cater to different learning styles, whether visual, auditory, or kinesthetic, ensuring that all students can benefit. Technology is important in English language teaching because technology is an integral part of today's English language teaching landscape, providing tools to further facilitate learning. With advances in AI, adaptive response capabilities, and other machine learning, English language teachers can reduce course preparation time and deliver targeted, effective instruction. The advantages of information technology in teaching English language are clear in terms of creating an experience that can be personalized for each student or group of students: Greater student involvement. Better learning with virtual whiteboards, online exercises such as homework or reinforcement exercises. ICT is important in English language teaching and learning because it helps them to create such an environment for collaborative activities. In such activities, the students can feel more relaxed and comfortable to share, discuss, and debate than in teacher dominated classroom.

Thamarana (2015) in Indian context studied that how information communication technology is continuative in English language teaching and learning. The research findings revealed that the information communication technology is a valuable approach in English language teaching and learning. Hidayati, (2016) in Indonesian context examined the integration information communication technology in English language teaching and learning. The results revealed that integration of information communication technology enables teachers and learners to find valuable material for English learning. Malagón & Pérez, (2017) in the context of Spain analyzed information communication technology in English classroom at secondary school level. The findings of the research displayed that information communication technology is very effective approach in

English language teaching space. Bakeer, (2018) in the context of Palestine analyzed the effects of information and communication technology and social media in emerging learners' writing skill at university level. The main purpose of the researcher was to analyzed the problems of writing skill and the effects of social media on writing skill of undergraduates of Al-Quds Open University Palestine. The research findings revealed that information communication technologies and social media have positive effects on students writing skill.

Khan and Kuddus, (2020) investigated the integration of information communication technology in English language teaching in the context of Bangladesh. The research was quantitative in nature. The population of the study was English language teachers of secondary school level. Randomly total one hundred English language teachers were selected from both genders the sixty-seven were males and thirty-three were female English language teachers to contribute this research. The close ended questionnaire was used as a research tool for the purpose of data collection and five point likert scales was used. The questionnaire was contained on three parts the first part was contained on demographic information of the participants; the second part was contained on thirteen and third part was contained on eleven close ended questions. The collected data was analyzed by using Statistical Package of Social sciences abbreviated as SPSS and presented in tables in numbers. The overall results revealed that English language teachers face different kinds of hurdles while integration of information communication technology in English language teaching.

Zafar, Akram & Shakir, (2017) analyzed the integration information communication technology in teacher educational programs, learning's, motivations and understanding. Zafar & Ullah, (2020) in a descriptive nature study analyzed the role of information communication technology in teachers' motivation, professional skills and performance at public sector universities in Pakistan. Population of the study was five public sector Pakistani universities. Sample size involved the 20 professors, 40 associate professors, 80 assistant professors and 160 lecturers. In this way total 300 participants contributed in this research, majority of the faculty members stated that information communication technology motivate teachers, advance professional skills and bring improvements at public universities.

Material and Methods

"Methodical study of process is known as the research method" (Ahmad et al., 2021, p.194). The population of this experimental research was the students of government gradate college for women Marghazar Lahore. Research population is a set of individuals, data, or items from it a statistical sample is selected (Yousaf et al., 2021). the researcher is English lecturer in this college for this experimental research she selected 60 ESL undergraduate students for sampling their level of education was same. These students were divided in two equal groups each group was equally contained on 30 students. These groups were named as control and experimental groups. Pre-test was taken in which the score of both groups was almost same. After pre-test control group was taught in traditional method while the experimental group was treated by using information and communication technology (ICT). The treatment period was two months and treatment was given by the same teacher. After two months treatment post-test was taken the results were analyzed by using Statistical Package of Social Sciences abbreviated as (SPSS) software latest version and presented in tables in numerical form. The post-test results show that the students of the experimental group performed better than the students of control group. The results disclosed that Information and Communication Technology (ICT) is better approach for ESL learning than the traditional method.

Results and Discussion

Table 1
Demographic Information of the Research Participants

Groups	Frequency	Gender	Level of education
Control	30	Female	14th
Experimental	30	Female	14th

Demographic statistics comprises frequency, gender, education, ages, and locality of the participants. The above table one shows that there were total 60 students participated to contribute this research. These students were equally divided in two equal groups each named control group and experimental group. Each group contained on 30 ESL students. All participants belong to female gender and were studying in 14th class. The ages and location of the participants is not presented because the researcher felt there is no need of this information for this research.

Table 2
Pre-Test of Control and Experimental Group of English Language Skills

Group	N	M	SD	SEM
Control Pre-test	30	182.2963	12.23430	2.35449
Experimental Pre-test	30	177.5357	10.40827	1.96698

Table two shows the control group and experimental group sample size, mean scores, standard deviation and standard error. It shows that total sample size (N) is 60 and control group contains 30 (N) ESL learners and experimental group contains 30(N) ESL learners. Mean scores (M) of control group is 182.2963 and (M) of experimental group is 177.5357 and standard deviation of control group is (SD) 12.23430 and (SD) of experimental group is 10.40827 and standard error of control group is (SEM) 2.25449 and (SEM) of experimental group is 1.96698. All these values show that both the groups are approximately identical statistically.

Table 3
Group statistics of the post-test of control and experimental group

Group	N	M	SD	SEM
Control post-test	30	184.0000	11.92605	2.29517
Experimental post-test	30	379.6429	20.27992	3.83254

Table three describes the control group and experimental group post-tests statistics which shows that control group N is 30 and experimental group N is also 30. Mean scores of control group post-test is 184.000 and experimental group M= 379.642 which show the significant difference between the post-tests scores of control and experimental group. And the standard deviation of control group is 11.296 with standard error = 2.295 while the standard deviation of experimental group post-test is 20.279 with standard error = 3.832. The difference of mean and standard deviation values of the both groups shows that there is significant difference between the post-test scores of control group and experimental group.

Table 4
Independent Sample T-Test of the Post Test of Control and Experimental Group

	Levene's Test for Equality of Variances		t-test for equality of means					95%CI	
	F	Sig	t	df	Sig. 2 tailed	MD	SED	95%CI	
Equal variances assumed	12.548	.001	- 43.4 03	53	.000	- 195.6 4286	4.5076 4	- 204.6 8403	- 186.6 0168
Equal variances not assumed			- 43.7 95	43.9 67	.000	- 195.6 4286	4.4672 4	- 204.6 4617	- 186.6 3954

Table four explains the independent sample t-test of the post-test of control and experimental group. It explains the t-test for equality of means and Levenes's test for equality of variance. Table four shows that F value which is 12.548 with significance level

0.01.it shows that there the result is significant because 0.01 <0.05 which is the significance standard. In the same way t-value is 43.303 with 53 v degree of freedom which shows the significant difference p- value 0.000<0.005 the difference is significant. MD is the 195.6 with SD 4.50 and this explains the difference of the sample. Regarding to confidence interval CI = 204.6-186.6 which shows the significant difference of control and experimental group means scores.

The findings which are mentioned above show that the results of t-test for equality of means and Levene's test for equality of variances show the significant difference between the mean gain scores of control group post-test and experimental group post-test.

The values of mean and standard deviations show that there is significant difference between two groups. The findings which are drawn from table four shows that the hypothesis one is accepted which was based on the point that ESL learners who are taught ICT approach perform better in language skills than the students who are not taught through ICT approach. Because the results of both the tests show the significant difference between the scores of control and experimental group post- tests and it can be said that the difference was due to the intervention of ICT approach.

Discussion

The present research was conducted in Government girls. Demographic statistics comprises frequency, gender, and education, of the participants. The above table one shows that there were total 60 students participated to contribute this research. All participants belong to female gender and were studying in 14th class. The result of the table number two displays the sample size, mean scores, standard deviation and standard error control-group and experimental-group. The sample size was 60 divided equally in two groups named experimental group and control-group. In pre-test result the mean scores, standard deviation and standard error all these values show that both the groups are approximately identical statistically. Table number three shows the post-tests statistics of the both groups the difference of mean and standard deviation values of the both groups shows that there is significant difference between the post-test scores of control group and experimental group. It means the experimental-group performed better after achieving two months treatment by means of ICT method. While in the pre-test results the scores of both groups was almost same. These results show that ICT is an effective approach in English language learning.

Some results of present research match with the research of Banu, (2000) analyzed the importance of ICT in English language teaching and learning and Dwivedi & Sharma, (2021) investigated importance of ICT in improvement of skills of English language among the businesspersons; similarly in the present study the effect of ICT method is analyzed in English learning at college level students. The results of the present study matches with the results of these researches that ICT is significance and effective approach in English language learning. But difference is that in these researches significance of ICT method is investigated but in present research effect of ICT method in English language learning is investigated.

Conclusion

In educational system settlement of information communication technology has immense impact in bringing developments through several techniques. In educational institutions faculty members are talented to improve their knowledge and activities in effective way. Information communication technology is not only valuable in educational setting but it is also useful in learning skills of English language. Information communication technology approach provide a better chance to the educationists and English language teachers to provide better material to the students in better manner. Moreover, learners become interested in the direction of English language learning. This experimental research was the conducted in Government Graduate College for Women Marghazar Lahore. The researcher is English lecturer in this college for this experimental

research she selected 60 ESL undergraduate students for sampling there level of education was same. The control group was taught in traditional method while the experimental group was treated by using information and communication technology (ICT). After two months treatment post-test was taken the post-test results show that the students of the experimental group performed better than the students of control group. The results disclosed that Information and Communication Technology (ICT) is better approach for ESL learning than the traditional approach of learning. In the end on the base of these results researcher presented some recommendations.

Recommendations

     The researcher recommends that Information and Communication Technology (ICT) should use in ESL instruction for some reasons:

- Firstly Information and Communication Technology (ICT) provide opportunities for ESL students to learn language influential manner in suitable settings.

- Secondly the use of Information and Communication Technology (ICT) ESL classroom is built on the prospects it afford for teamwork.

- Thirdly the by employing Information and Communication Technology (ICT) approach in ESL teaching space provide vision to ESL lecturers as a result they can teach students in effective way.

- ESL learners can record presentation and can watch it several times to recognize weakness for development.

- Recorded lectures and audio material can aid ESL learners to progress listening ability.

- Integration of Information and Communication Technology (ICT) in ESL setting is valuable together lecturers and students.

- Use of several websites and applications aids ESL students' practice language in pleasurable mode.

- The young researchers and scholars must take responsibility to conduct more and more researches in this field.

- Management of institutions must equip the laboratories according to the need of modern age

References

Abbas, T. (2016). *Hedging and turn taking by Pakistani politicians: media discourse analysis* (Doctoral dissertation, University of Management and Technology Lahore).

Adeyemo, S. A. (2010). The impact of information and communication technology (ICT) on teaching and learning of physics. *International journal of educational research and technology*, *1*(2), 48-59.

Ahmad, A., Iqbal, B., & Rao, I. S. (2023). Efficacy Of Blended Learning Technique in Enhancing ESL Students' Linguistic Skills. *Global Language Review, VIII*(II), 9-21. https://doi.org/10.31703/glr.2023(VIII-II).02

Ahmad, A., Khokhar, M. I., Shaheen, R., Ali, H., & Maitlo, S. K. (2021). Stylistic Analysis of the Amrita Pritam's Poem "I Call upon Waris Shah Today.""Ajj Aakhaan Waris Shah Nu. *Remittances Review, 6*(2), 192-205. https://doi.org/10.33182/rr.v6i2.1585

Ahmad, A., Maitlo, S. K., & Jeevan, S. (2023). Exploring The Challenges and Solutions in Doctoral Dissertation Writing and Defense Faced by Pakistani ESL Scholars. *Global Educational Studies Review, VIII*(I), 397-409. https://doi.org/10.31703/gesr.2023(VIII-I).35

Ahmad, A., Maitlo, S. K., & Rao, I. S. (2022). Teachers' Perceptions on the Use of PowerPoint Presentations in ESL Classrooms at University Level in Lahore. *Pakistan Languages and Humanities Review, 6*(3), 489-499. https://doi.org/10.47205/plhr.2022(6-III)42

Ahmad, A., Maitlo, S. K., Rasheed & Soomro, A. R., Ahmed, A. (2021). Impact of Phonological Instructions in the Enhancement of ESL Learners' Pronunciation. *Remittances Review, 6*(1), 94-109. https://doi.org/10.33182/rr.v6i1.125

Akram, M., Aziz, S., Zafar, J. M., & Asghar, M. (2022). Conceptual Difficulties of Elementary School Students in the Subject of General Science. *Pakistan Journal of Humanities and Social Sciences, 10*(1), 43-49. https://doi.org/10.52131/pjhss.2022.1001.0172

Arnesen, T. (2010). *The role of ICT in the teaching of English as a Foreign Language in Norwegian lower secondary schools: a study of ICT use and patterns of associated factors* (Master's thesis). https://www.duo.uio.no/handle/10852/32414

Bakeer, A. M. (2018). Effects of information and communication technology and social media in developing students' writing skill: A case of Al-Quds Open University. *International Journal of Humanities and Social Science*, *8*(5), 45-53.

Banu, S. N. (2000). Significance of ICT in English Language Teaching and Learning. *Bodhi International Journal of Research in Humanities, Arts and ScienceI*, 2(1), 42-45.

Bhutto, Q. Z., Zafar, J. M., & Ullah, N. (2023). Need of Guidance and Counselling Framework for Improvement of Students' Learning Outcomes. *Global Social Sciences Review, VIII*(II), 455-462. https://doi.org/10.31703/gssr.2023(VIII-II).42

Çakıcı, D. (2016). The use of ICT in teaching English as a foreign language. *Participatory educational research*, *4*(2), 73-77. https://dergipark.org.tr/en/download/article-file/778411

Dwivedi, M., & Sharma, A. (2021). Significance of ICT in Enhancement of English Language Skills among the Entrepreneurs. *Language, Culture & Digital Media: Emerging Trends & Challenges*, 22-24.

Farhat, P. A. (2019). The Effect of Computer Assisted Language Learning (CALL) on English Language Learners' Pronunciation in Secondary School in Pakistan. https://etd.uum.edu.my/8134/1/s95301_01.pdf

Hashemi, A. (2016). The impact of information and communication technology (ICT) on teaching English to college students. *EFL Journal*, *1*(3), 203-218.

Hidayati, T. (2016). Integrating ICT in English language teaching and learning in Indonesia. *JEELS (Journal of English Education and Linguistics Studies)*, *3*(1), 38-61. https://doi.org/10.30762/jeels.v3i1.173

Jalbani, A. N., Ahmad, A., & Maitlo, S. K. (2023). A Comparative Study to Evaluate ESL Learners' Proficiency and Attitudes towards English Language. *Global Language Review, VIII*(II), 446-455. https://doi.org/10.31703/glr.2023(VIII-II).36

Khan, N. M., & Kuddus, K. (2020). Integrating ICT in English Language Teaching in Bangladesh: Teachers' Perceptions and Challenges. *Rupkatha Journal on Interdisciplinary Studies in Humanities*, *12*(5), 1-10. : https://dx.doi.org/10.21659/rupkatha.v12n5.rioc1s23n1

Lone, A. H., Shakir, M., & Zafar, J. M. (2011). An Analysis of University Teachers' Understanding about their Profession and Expectations for Their Professional Development in Pakistan. *International Journal of Learning and Development, 1*(1), 72-81.

Maitlo, S. K., Tumrani, G. A., & Farhat, P. A. (2023). Comparative Analysis of ESL Learning in Public and Private Sectors at Primary Level in District Khairpur. *Global Language Review, VIII*(I), 216-227. https://doi.org/10.31703/glr.2023(VIII-I).21

Malagón, C. G., & Pérez, M. L. (2017). ICT in the English classroom. Qualitative analysis of the attitudes of teachers of English towards its implementation in Secondary Schools. *Procedia-Social and Behavioral Sciences*, *237*, 268-273. https://doi.org/10.1016/j.sbspro.2017.02.074

Mughal, Z., Zafar, J. M., & Ullah, N. (2023). The Role of Principal as Instructional Leader: Effects on Teaching and Learning Practices and Activities on Students' Achievement at Institutes of Sukkur IBA University. *Pakistan Social Sciences Review, 7*(3), 399–413. https://doi.org/10.35484/pssr.2023(7-III)32

Ramzan, M., Zafar, J. M., & Hussain, M. (2023). Effect of Blended Learning Strategies on University Students'skill Development. *Pakistan Journal of Educational Research, 6*(2), 263-278. https://doi.org/10.52337/pjer.v6i2.801

Rao, I. S., Jeevan, S., & Ahmad, A. (2023). Impact of Metacognitive Strategies on Creative Writing of ESL Students at College Level in District Lahore. *Global Language Review, VIII*(I), 315-324. https://doi.org/10.31703/glr.2023(VIII-I).29

Rasheed, B., Sarwat, S., & Shahzad, S. K. (2021). Investigation of grammatical cohesion errors in written paragraphs made by ESL students of Khwaja Fareed University of Engineering and Information Technology (KFUEIT). *Linguistica Antverpiensia,20*(3) 4996-5006.

Thamarana, S. (2015). An overview of the Contribution of ICT in English Language Teaching and Learning. *International Journal of English Language, Literature and Humanities*, 3(*4*), 441-447.

Ullah, N., Zafar, J. M., Sarwat, S., & Bhuttah, T. M. (2020). Preferences about job and business: a challenge for entrepreneurship culture in Pakistan. *International Journal of Management (IJM), 11*(11), 1622-1629. https://doi.org/10.34218/IJM.11.11.2020.154

Younus, J., Farhat, P. A., & Ahmad, A. (2023). Analyzing The Factors Involvement in Declining Kalasha Language. *Pakistan Journal of Humanities and Social Sciences, 11*(3), 3520-3529. https://doi.org/10.52131/pjhss.2023.1103.0633

Yousaf, S., Shahid, N. A., Zafar, J. M., & Ullah, N. (2021). Severity of Stress; Moderate Association between Empathy, and Psychological Distress among Teachers. *Linguistica Antverpiensia, 10*(1), 7728-7737.

Zafar, J. M., & Ullah, N. (2020). Role of ICT in Teachers' Motivation, Professional Skills and Performance at Public Sector Universities in Pakistan. *Journal of Research in Social Sciences, 8*(2), 18-32.

Zafar, J. M., Akram, M., & Shakir, M. (2017). Integrating ICT in Teacher Education Prorams: Learning, Motivation and Knowledge Dissemination of Prospective Teachers. *Journal of Quality and Technology Management, 14*(II), 174-185