p- ISSN: 2708-2113 e-ISSN: 2708-3608 L-ISSN: 2708-2113 URL: http://dx.doi.org/10.31703/gesr.2020(V-III).34

Citation: Wattoo, R. M., Malik, N. J., & Shahzad, M. A. (2020). E-Learning Resources for Effective Teaching Learning Practices at University Level during COVID-19. *Global Educational Studies Review, V*(III), 350-358. http://dx.doi.org/10.31703/gesr.2020(V-III).34

E-Learning Resources for Effective Teaching Learning Practices at University Level during COVID-19

Rashid Minas Wattoo [*] | Navid Jamil Malik [†] | Muhammad Asif Shahzad [‡]

Vol. V, **No.** III (Summer 2020) | **Pages:** 350 – 358 | **DOI:** 10.31703/gesr.2020(V-III).34

Abstract: *The frequent use of E-learning resources in academia has dramatically altered the role of pedagogical practices and their effectiveness. The below are the aims: 1) to find out E-learning resources at the university level 2) To explore teachers' perceptions about E-learning resources for effective teaching-learning practices. The study population consisted of teachers from universities in the districts of Okara, Sahiwal and Vehari. The researchers also selected 200 university teachers using simple random sampling methods. In order to collect information, a questionnaire was used. The study's results are taken into consideration, and it is clear that ICT services play a part in successful university education. The department offers educational support through the internet. According to the results, the teaching productivity of university professors using ICT technology such as digital, YouTube and social media during lectures is increasing. ICT facilitates the gathering and sharing of ideas by transforming teachers into effective communicators.*

Key Words: Effective Teaching, ICT, University Level

Introduction

Suppose a country can achieve the educational system's social and economic targets; it has achieved educational achievement. Thus, those responsible for ensuring quality education are more creative; since education must address service, equity, expense, and achievement, those organizations are more innovative. The use of technology to educate and learn is daily as the twenty-first century progresses. As in third-world nations, it is in the early stages of information and communication technology (ICT) adoption. According to Johnson, Becker, Cummins, and Freeman, ICT testing and training programs have a significant impact on research and training and teaching methods. Additionally, Johnson, Becker, Cummins, Estrada, Freeman & Hall (2016) demonstrate that C&T-released analyses indicate that both testing and teaching programs significantly affect the overall research and teaching-learning processes.

Limited and incomplete knowledge of ICT technology, educational institutions' capabilities and expertise, human computing competencies and talents, undifferentiated skills, and general computing Students do not believe that these modern information technology techniques can aid in their learning, which may result in a decrease in their use of these technologies. Recent research on Aduwa-Ogiegbean and Lyamu (2005) asserts that many Adu organizations lack existing internet connectivity (due to their inability to afford such computers), and therefore expensive ICT technologies such as internet-based trading system remain undeveloped. The financial, social, and educational implications of information and communication technology are dependent on these three elements, and they broaden the scope of handcrafts for designing, stocking, processing, and trading (Ali, Hoalder & Muhammad, 2013). All students have access to networked devices that enable them to access, create, build, and exchange information about their applications, such as computers. Teachers will have outstanding learning experiences for their pupils now that there are modern and improved teaching resources, emerging

[*] Department of Education, University of Sialkot, Sialkot, Punjab, Pakistan. Email: rashid_minas@yahoo.com
[†] Head, Department of Education, University of Sialkot, Sialkot, Punjab, Pakistan.
[‡] Department of Education, Visiting Faculty, University of Education, Vehari Campus, Punjab, Pakistan.

technology. This task would provide students with an extraordinary educational experience and a long-lasting career, and teachers should fulfil this work flawlessly. As long as teachers are taught how to use modern technology, it is assumed that they should be provided with the necessary instruction (Najam & Ali, 2019).

Information technology has various effects on education, ranging from its usefulness in encouraging additional scholarly study to its utility in facilitating collaboration with other organizations. According to the following formula: The following considerations are presented in the following order: Supply/train public administration on belief/ideas, inclusion/aspiration, open-administration beliefs, flexible/adoption-centred teaching, the inclusion of equipment, assistive technology, and openness in addition to IT use, security safeguards, instructional technology, recognition, IT infrastructure, and IT platform confirmation, and training, respectively, on the use of new technology. Teachers and school ICTs (information and communication technologies) inspire them and enable them to use technology efficiently, enabling teachers to adopt modern technology early.

Without access to computers, students cannot excel. Students demonstrate growth in a variety of exciting ways as a result of new technical advances. The utilization of comics, short stories, poems, and images assists in broadening the interests of children (Albirini, 2006; Agyei, 2013). Incorporating technology into the educational process is taking place in all of Pakistan's provinces. Both teachers and students use information technology to teach, and students utilize it for instructional and academic purposes (Ali, Riaz & Wattoo, 2018). Laptop-educated students are provided with laptops in order to increase their effort in ICT. Finally, it has been asserted that the education ministry is concerned with the quality of educational and communication records. Proposes that government-funded training systems be developed to provide teachers with cutting-edge information and communication technologies (ICT) (Ali, Nargis, Yasmeen, & Iqbal, 2015).

This time, developed nations equip their teachers with opportunities, such as improved infrastructure, to ensure that their students have an enhanced educational experience. To the point that they are insufficient in several developing countries and the United States, but this nation has not yet been able to afford the electronic, internet, and information and technology facilities that it should. However, the biggest impediment to better learning in today's era of digital computing is our ubiquitous access to sophisticated technologies. Teachers adhere to standardized educational principles that align with those of the twenty-first century. Additionally, they are disadvantaged because their offices lack sufficient information and communication technologies (ICT). Thus, our activities in these two fields of concentration and the near future will be concentrated on those two robust foundations of coordination, which are well-known to be highly effective tools for facilitating faculty and student collaboration. The primary objectives of the studies were intended to be the following:

- To find out E-learning resources at the university level
- To explore the teachers' perceptions about E-learning resources for effective teaching-learning practices

Review of Related Literature

In recent years, much focus has been paid to using computers and the internet to develop efficient and effective pedagogical approaches at the university level. The growth of ICT expertise and skills of students at the university level gives them opportunities later in life (Cacheir-González, 2011). It has been a motivational tool for those around the world who wish to further their education. In terms of different facets of life, ICT may be explained in terms of educational environments; the way E-resources are presented will differ from how it is interpreted in health or engineering. For example, in the United States, technology and education technology are also used interchangeably for ICT purposes (Aduwa-Ogiegbaen & Lyamu, 2005). Hismanoglu (2012) attributes the ICT idea to modern media, which is also referred to as ICT in everyday literacy. The use of ICT in education supports the teaching-learning process, according to Kaware & Sain (2015), which leads to better learning outcomes for the students. Students in an ICT-enhanced setting will take lessons directly from anywhere and anytime as long as Internet connectivity is active.

A computer and internet connections offer a wide range of current information that is readily available, easy to comprehend and affordable (Ojo & Adu, 2018). The pervasive implementation of ICT has influenced many aspects of human life, including education. ICT is the guiding force behind the new educational system, namely public- and e-schools (Bakar & Mohamed, 2008). When we mix ICT with other factors of pedagogical practices, teacher training is a dependent consideration. In addition to learning for students, ICT is used to increase achievement, interaction, and knowledge exchange.

It was reported that ICT was used for educational purposes, including note-taking, teaching and testing. These three approaches demonstrated that, as discussed above, the use of ICT for teaching involved taking notes and seeking education and learning opportunities. It enables users to view a range of info. It is also suitable for preparation tests. Using ICT does not first and foremost encourage teachers to change their teaching methods at the university level. Mwalongo (2012) says that it is urgently necessary to look at the simple use of embedded ICTs and engagement by students to change the learning of students (Mwalongo, 2012).

A trainer is a crucial figure in the successful use of ICT in the classroom. If teachers are omitted, the other students will not be allowed to access any of the ICT facilities available independently. Teachers must also vigorously promote the use of ICT in the classroom and the culture. In order to achieve this aim, they need to be trained to use information technology technologies properly. The teacher believes that Student thinking and revolutionary perspectives can be created by integrating ICT into classroom instruction (Bakar & Mohamed, 2008). The use of ICT has affected the essential elements of education and learning in general. It moves to a web-centred approach (i.e. more use of CDROMs, electronic journals, online sources of materials, etc. New and cheaper computers have been the primary justification for concentrating on ICT literacy with innovative technologies. Webliography extends to academic resources such as online publications and e-books. ICT programs may be helpful for several purposes in pedagogical practices (Cacheiro-Gonzalez, 2011).

One of the most common challenges to using ICT in education is that the emphasis is not on academic needs but technological potential. Higher education is facing significant problems on all levels, from the grassroots to the top, with stakeholders focusing on ensuring the technological ability to address the current needs of higher education in the region. A research paper explains the significance of educational technologies in providing alternative means of resolving the severe environmental and educational challenges of higher school education educators and students (Jaffer, Ngambi & Czerniewicz, 2007). The use of ICT during the teaching process in advanced countries is not a new trend but a relatively recent development that has attracted the interest of educational researchers. Teachers and educators struggle to determine whether embedded training tools are helpful in teaching and teaching practices (Ali, Hoalder & Muhammad, 2013).

Informational Information and Communication Technology (ICT) Until recently, the teacher-centred (chalk and speech) method (Agyei, 2013) was the paradigm used to teach in classrooms, where teachers do most of their speeches and academic work and students receive passive information. Institutions in higher education emphasize the use of ICT in teaching and learning (Ministry of Education, Science and Sports, 2010). Many findings have shown the relevance of ICT in teaching and learning. For example, the use of technology in the classroom, according to Bingimlas (2009), allows students to focus on approaches and answers research.

In their pre-service programs, ICT awareness is also required, and this integrated technological expertise enables prospective teachers to understand better technology and how it can be used to support students in the future. Innovative initiatives focusing on real-world issues and programs are now being introduced to change schools and classes, delivering tools for strengthening teaching and empowering teachers and students with more input facilities and forums. ICT also supports the cooperation between administrators, students and parents (Bhattacharjee & Deb, 2016). These inventions manifest from computers, the internet, broadcast networks (the radio and television) and telephony. ICT refers to IT used to meet individual desires or objectives, such as data formatting and sharing. In the future of education, the importance of information and communication technologies cannot be overestimated (Kaware & Sain, 2015; Bakht, Shahzad, Ali, 2019). ICTs can provide new and

imaginative means of providing a wide variety of educational opportunities, particularly for traditionally disadvantaged persons, such as migrant areas, women overcoming social barriers and students with disabilities.

ICT has enhanced the competitiveness of our work by helping us to create more value with less physical inputs while increasing productivity. Knowledge and communication systems are used to make the teaching process more effective. The teaching approach is more commonly used for projectors, displays and other similar instruments. In education, the use of information and communication technology (ICT) is on the increase. As a social enterprise, ICTs are a powerful instrument for disseminating information and expertise, which is a vital part of the instructional process, and teachers have traditionally been the centrepiece of the teaching-learning process. ICTs can increase access and diversity dramatically in the education sector in general and higher education. These programs also profit from the constant growth in university registration, which pushes them in that direction. The higher education sector is expected to rocket in the next few years under the influence of these factors. ICTs are an excellent tool to bridge this gap, and both conventional and distance learning systems can be supplemented (Neeru, 2009) ICT-enabled curriculums will necessarily stress that ICT behaviour will improve significantly in the work of both the teacher and the pupil (Balasubramanian, Clarke-Okah, Daniel, Ferreira, Kanwar, Kwan & West, 2009; Kirkup, & Kirkwood, 2005).

Research Methodology

The technique which makes the study more smooth is known as the research procedure. The goal of the research study was to examine e-learning resources for effective university-level teaching and learning process. This study was built using the descriptive research method and the data obtained by the survey method, while the research population included all faculty members teaching at universities in Okara, Sahiwal and Vehari. The researchers selected a sample of university teachers for the analysis from the target population. The researchers used a simple random sampling approach to choose the university teachers to participate in the survey. Cohen, Manion and Morrison (2000; p. 94) cited a Krejcie and Morgan table (1970), indicating the sample size is 190 if the population is 380. The researcher collected data from 200 university teachers. The detail of questionnaire is as under;

- E-learning resources (15 items)
- E-learning resources and teaching-learning practices (13 items)

Gay (2012) says that the questionnaire is a medium to address questions using a form that respondents fill out on their opinions. It is a list of questions subject to population sampling and which require detail. They can be delivered in person or sent to respondents. The questionnaire was reviewed by experts before data from interviewees were collected, then analyzed, tabulated and interpreted in light of the study's objectives. The primary objective of pilot testing is to ensure that the specifications of the research instrument are accurate, that they are carried out and that problems are detected and resolved. The text, syntax, form, length, directions or coding problems can be found in the pilot study and, if necessary, corrected. To ensure the authenticity of the instruments, five ICT experts examined the first draft of the questionnaire. Data were also collected from 25 faculty members not included in the research sample to evaluate the instrument's reliability. The Alpha of Cronbach was 0.83 for all the questionnaire items.

The developed research method was transmitted directly to respondents after approval was obtained from the required authority, requiring that it be filled out at a specified data collection site. The testing instrument (questionnaire) was completed and returned independently, resulting in an answer score of 100%. The researcher tried to collect reliable and trustworthy results. In order to achieve the average overall score on the study objectives, data obtained from the requisite respondents through the analysis instrument (questionnaire) was tabulated, evaluated and represented using relevant statistical techniques in terms of frequency, percentages, and the mean score system.

Data Analysis

The study's objective was to learn more about e-learning resources and their role in university teaching-

learning practices.

Table 1. E-learning Resources

Statements	A	UD	DA	Mean	SD
Teacher can scan material through webliography	169 84.5%	25 12.5%	6 3.0%	4.18	0.939
Teacher is informed about conferences schedule through webliography	145 72.5%	46 23.0%	9 4.5%	3.95	.875
Multimedia/projector is in the classroom	176 88.0%	2 1.0%	22 11.0%	4.26	1.012
Teachers are provide with list of journals, books and articles.	175 82.5%	9 4.5%	16 8.0%	4.29	.901
Teacher subscribes academic links e.g. conferences, seminars and workshops	170 85.0%	16 8.0%	14 7.0%	4.05	.901
Teacher use YouTube for video presentations	163 61.5%	26 13.0%	11 2.5%	4.08	.902
Teacher use Twitter and other social networks for	149 74.5%	33 16.5%	18 9.0%	3.93	.975
University has free access to paid online journal	42 21.0%	36 18.0%	122 61.0%	3.84	1.006
Teacher has free access to academic software	150 75.0%	34 17.0%	16 8.0%	4.05	0.994
Teacher has access to free E-books through webliography	137 68.5%	34 17.0%	29 14.5%	3.81	1.082
The institution has internet facility to support teaching	175 67.5%	4 2.0%	21 10.5	4.32	1.005
University data center provide adequate data storage	98 49.0%	56 28.0%	46 23.0%	3.52	1.82
Teacher use academic blogs and wikis	142 71.0%	41 20.5%	17 8.5%	3.82	.925
Teacher use online questionnaire for better teaching	129 64.5%	46 23.0%	25 12.5%	3.79	1.068
Teacher use educational repositories for effective teaching	138 69.0%	29 14.5%	33 16.5%	3.71	1.193

University teachers' views towards E-learning resources in universities are seen in Table 1. The mean score and standard deviation from (3.52 to 4.32) and (0.875 to 1.82) in the table mentioned above indicated that the majority (more than 70%) of university teachers agree with the arguments. Most teachers (88%) assume that multimedia/projector is in the classroom. Teachers (85%) are more likely to follow academic links, such as seminars, lectures and workshops. The bulk (84.5%) of university professors use webliography to locate articles. In addition, the vast majority of teachers (82.5%) admit that a list of journals, books, and publications has been submitted to them. The majority (75%) of teachers have free access to educational software, while the teacher (61%) disagree that they have free access to paid journals, and 74.5% use Twitter and other social media platforms. The previous research reports that teachers (72.5%) locate conferences through webliography. In addition, teachers use academic logs and wikis (71%). University teachers have been determined to make the most of the ICT programs available in their universities. However, they could be less likely to use other resources, including Youtube, e-books, the Wiki, data collection, online questionnaires and instructional archives, more straightforward, more precise instructions due to their confusion and lack of ICT skills.

Table 2. E-Learning Resources for Effective Teaching-Learning Practices

Statements	A	UD	DA	Mean	SD
E-learning resources provide an easy access to subject-matter knowledge	160 80.0%	25 12.5%	15 7.5%	4.14	1.029
E-resources creates awareness for teaching	175 87.5%	15 7.5%	10 5.0%	4.11	.823
E-learning promotes collaborative learning	142 71.0%	52 26.0%	6 3.0%	3.97	.861
E-resources provides quick communication among teaching staff	151 75.5%	38 19.0%	11 5.5%	4.04	.948
E-resources helps users in getting quick feedback	152 76.0%	42 21.0%	6 3.0%	4.01	.839
E-resources motivates teachers to learn more	170 85.0%	21 10.5%	9 4.5%	4.19	.859
E-resources makes teachers efficient communicator	157 78.5%	35 17.5%	8 4.0%	4.01	.814
E-resources provide opportunity to participate in professional networks	160 80.0%	32 16.0%	8 4.0%	4.18	.943
E-resources facilitates information gathering and dissemination	163 81.5%	28 14.0%	9 4.5%	4.11	.823
E-resources improves coordination related to teaching tasks	166 83.0%	26 13.0%	8 4.0%	4.14	.863
E-resources supports teaching-learning process	158 79.0%	24 12.0%	18 9.0%	4.02	1.121
Teacher and students share information through E-resources	172 86.0%	22 11.0%	6 3.0%	4.16	.771
E-learning resources helps in sorting out modern methods of teaching	166 83.0%	26 13.0%	8 4.0%	4.22	.892

Table 2 demonstrates teachers' views on using E-learning resources for effective teaching and learning practices in universities. The ranking and standard deviation from (3.97% to 4.22%) and (0.771 to 1.121%) in the table above showed that the majority of university teachers (more than 80%) complies with the statements. Teachers (86%) agree that information is communicated through E-resources between them and their pupils. While teachers acknowledge that E-resources increases teacher awareness (87.5%) and encourages them to learn more (85%), they also recognize that E-resources motivates them to learn more. According to most university teachers, E-resources increases collaboration on teaching and helps sort out new teaching strategies (83%). The majority of teachers (81.5%) confirmed the importance of E-resources in knowledge gathering and sharing, and teachers (81%) endorse the role of ICT in providing easy access to topical skills. ICT also plays a crucial role in encouraging individuals to participate in networks of specialists. However, several other ICT roles need to be worked on, including collaborative learning, swift communication between teaching personnel, helping to get prompt answers, making teachers good communicators, and enabling teachers to play an active role in the teaching-learning process.

Findings

A detailed description of the findings revealed from the results of the study is given below:

Objective No.1 E-Learning Resources

Results show that 84.5% of university teachers agree that teachers use webliography to locate articles. According to the survey findings, 72.5% of university teachers agree with the statement that 'teachers are informed about conferences through webliography' while university teachers (88%) agree that

multimedia/projector is existed in the classroom, according to the study results. 87.5% of university teachers backed the statement that teachers have a list of newsletters, books and blogs. According to the survey results, 85% of teachers agree that teachers are committed to academic linkages such as seminars, conferences and workshops. Eighty percent of teachers say they use Youtube in their schools, according to the study results. According to the report, 74,4% of teachers believe that teachers use Twitter and other social media websites. According to the report, 71% of teachers agree that the university has free access to payment journals online. According to the report, 75% of teachers believe that teachers have free access to academic applications. According to the survey results, 68% of university teachers think they should get free e-books. According to the report's conclusions, 87.5% of teachers believe that the school has an Internet teaching centre. According to the report, 68.5% of teachers agree that the university data centre provides adequate data storage. According to the survey results, 71% of teachers believe that teachers use wiki and academic blogs. 64.5% of teachers think teachers should use online questionnaires to better their instruction, based on the study results. According to the survey results, 69% of teachers think that teachers use educational libraries for teaching.

Objective No. 2 E-Learning Resources for Effective Teaching-Learning Practices

According to the results, university teachers (81%) agree the E-resources provide a greater level of expertise in pedagogical practices. According to the report, 85% of university teachers agree that E-resources enhances the understanding of teaching. Seventy-one percent of university teachers found the point that E-resources are essential for teachers to promote collaborative learning to be true. According to the results, 75.5% of teachers believe that E-resources makes quick communication between educational workers while the poll informed 76% of teachers agree that E-resources helps users get fast feedback and according to the other results, 84.5% of teachers believe that E-resources motivates teachers to learn more. Based on the survey results, 78.5% of university teachers agree that modern E-resources improves teachers' communications efficiency. Eighty percent of university teachers found the point that ICT offers resources to participate in professional networks. According to the survey results, 81.5% of teachers agree that E-resources facilitates the collection and distribution of information, and 83% of teachers think ICT improves teamwork in teaching. According to the survey results, teachers (79%) agree that E-resources encourages the learning process. According to the survey results, 86% of university teachers agree that teachers and students use ICT equipment to share information. It has been found that 83 percent of university teachers believe that ICT helps to work out new methods of education.

Conclusions

In prevailing the COVID-19 pandemic, universities strengthened their manpower with technological tools and provided the faculties with more resources. The first objective is to find out about E-learning resources at the university level. Answers from teachers showed that multimedia/projectors (88%) were available in classrooms. It has also been concluded that university professors attend bibliography conferences and journals. Most university teachers (85%) stick to institutional relationships such as seminars, lectures and workshops held worldwide. The results show that their universities have free access to paid online journals and educational apps, while university teachers (68%) have free access to e-books for good teaching and lecture preparation. According to the study results, teachers use educational libraries and online questionnaires to provide more precise and effective teaching.

The second objective is to figure out teachers perception about E-learning resources and how they can be more effective at university levels for the teaching-learning practices. Teachers (85%), according to the results, agree that ICT plays a significant role in the understanding of teaching and (81 percent) access to subject-matter knowledge. In the society of today, information and communication technology (ICTs) play a vital role in both school and institutional mutual learning. In this technological era, ICT devices allow university professors to communicate faster. According to this survey, ICT motivates teachers (84 percent) to learn more, and ICT lowers hard copy pressure. ICT allows teachers (78%) better communicators and (82%) more effective intelligence gatherers and disseminators.

References

Aduwa-Ogiegbaen, S. E., & Lyamu, E. O. S. (2005). Using Information and Communication Technology in Secondary Schools in Nigeria: Problems and Prospects. *Educational Technology & Society*, *8* (1), 104-112.

Agyei, D. D. (2013). The effect of using interactive spreadsheet as a demonstrative tool in the teaching and learning of mathematics Concepts. *International Journal of Educational Planning and Administration*, *3*(1), 81-99.

Albirini, A. (2006). Teachers' attitudes toward information and communication technologies: The case of Syrian EFL teachers. *Computers & Education*, *47*(4).

Ali, G., Hoalder, F. A., & Muhammad, K. (2013). The role of ICT to make teaching learning effective in higher institutions of learning in Uganda. *International Journal of Innovative Research in Science, Engineering nd Technology,2* (8), 4061-4073.

Ali, M. Q., Nargis, N., Yasmeen, R., & Iqbal, Z. (2015). ICT Use for Effective Teaching-Learning Process in Secondary Schools in Punjab Province. *Asian Journal of Social Sciences & Humanities,4*(3), 138-142.

Ali, M. Q., Riaz, H., & Wattoo, R. M. (2018). Role of Information Communication Technology in Developing Academic Intimacy among Secondary School Students. *International Journal of Distance Education and E-Learning, 3*(2), pp. 1-12.

Bakar, R., & Mohamed, S. (2008). Teaching using information and communication technology: Do trainee teachers have the confidence? *International Journal of Education and Development using ICT*, *4*(1), 5-12.

Bakht, M. I., Shahzad, A. H., & Ali, M. Q. (2019). Novice teachers use of ICT for teaching purposes at secondary school level. *Al-Qalam, 24*(1), 377-387.

Balasubramanian, K., Clarke-Okah, W., Daniel, J., Ferreira, F., Kanwar, A., Kwan, A., & West, P. (2009). ICTs for higher education.

Bhattacharjee, B., & Deb, K. (2016). Role of ICT in 21st Century's Teacher education. *International Journal of Education and Information.*

Bingimlas, K. A. (2009). Barriers to the successful integration of ICT in teaching and learning environments: A review of the literature. *Eurasia journal of mathematics, science & technology education*, *5*(3).

Cacheiro-González, M. L. (2011). ICT Resources for Educational Purposes, in" education in a technological world: communicating current and emerging research and technological efforts", A. *Méndez-Vilas (Ed.)*, 252-259.

Cohen, L., Manion, L., & Morrison, K. (2002). Research methods in education. *routledge*.

Gay, L. R., Mills, G. E., & Airasian, P. W. (2012). *E*ducational research: competencies for analysis and applications plus MyEducationLab with Pearson eText.

Hismanoglu, M. (2012). Prospective EFL teachers' perceptions of ICT integration: A study of distance higher education in Turkey. *Journal of Educational Technology & Society*, *15*(1), 185-196. https://idahoat.org/services/resources/ict

Jaffer, S., Ngambi, D., & Czerniewicz, L. (2007). The role of ICTs in higher education in South Africa: one strategy for addressing teaching and learning challenges. *International Journal of Education and Development using ICT, 3*(4), 131-142. Open Campus, The University of the West Indies, West Indies. July 13, 2019 from https://www.learntechlib.org/p/42220

Johnson, L., Becker, S. A., Cummins, M., Estrada, V., Freeman, A., & Hall, C. (2016). NMC horizon report: 2016 higher education edition (pp. 1-50). The New Media Consortium.

Kaware, S. S., & Sain, S. K. (2015). ICT application in education: an overview. *International Journal of Multidisciplinary Approach & Studies*, *2*(1), 25-32.

Kirkup, G., & Kirkwood, A. (2005). Information and communications technologies (ICT) in higher education teachinga tale of gradualism rather than revolution. *Learning, Media and Technology*, *30*(2), 185-199.

Mwalongo, A. (2012). Teachers' perceptions about ICTs for teaching, professional development, administration and personal use. *International Journal of Education and Development using ICT*, *7*(3), 36-49.

Najam, M. K. U., & Ali, M. Q. (2019). E-Leadership: Secondary school heads and contemporary needs. *International Journal of Distance Education and E-Learning, 4*(2), pp. 18-25.

Neeru, S. (2009). ICT in Indian Universities and Colleges: Opportunities and Challenges, Management and Change, Vol. *13*, No. 2, 2009, pp. 231 – 244.

Ojo, O. A., & Adu, E. O. (2018). The effectiveness of Information and Communication Technologies (ICTs) in teaching and learning in high schools in Eastern Cape Province. *South African Journal of Education*, *38*(1).