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GENDER PERSPECTIVES ON LECTURERS' EXPERIENCES IN THE COVID-19 EMERGENCY REMOTE TEACHING AND PERCEIVED PROSPECTS OF ONLINE TEACHING

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Abstract
The fifth sustainable development goal (SDG) projected the global aim to empower all women and girls in the enhanced use of information and communication technology (ICT) in all fields of life before the COVID-19 pandemic. However, the COVID-19 lockdown forced higher education teachers worldwide to switch to emergency remote teaching (ERT), which was ICT-driven. This study assessed the gender perspectives on the experiences of lecturers in the College of Education (now the University of Delta), Agbor, in the online ERT in terms of its acceptance, the associated challenges, success, and the prospects of teaching online post-Covid-19 era. The study employed a quantitative descriptive survey, and data were collected via a structured questionnaire with a Cronbach alpha reliability index of 74..Using a total population sampling technique, 230 out of 240 lecturers completed the questionnaires. The results indicated that there were no gender differences in the perceptions that: the online ERT was necessary, was not embraced; the lecturers' challenge was inadequate preparation and not lack of ICT skills for the ERT; it exposed the importance of ICT in education and the awareness of levels of the virtual orientation of institutions; online teaching should continue in a blended mode in future with the provision of adequate internet access. Gender difference in the perceived success of the ERT, with the females perceiving it as successful contrary to the males, was obtained. The paper discussed the implications of the results.

Keywords: COVID-19 lockdown, emergency remote teaching, gender differences, gender and ICT skills, higher education, online teaching.

Introduction

The fifth sustainable development goal (SDG 5) aimed to empower all women and girls in the enhanced use of information and communication technology in the global community prior to the Covid-19 pandemic. The ability of women to be more productive in both the formal sectors, like educational institutions and informal private sectors, by changing their perspectives and opportunities through ICT is deemed beneficial to every society (UNWOMEN,2017). The position of the UNWOMEN (2017) stemmed from the fact that ICT skills are especially relevant today in a rapidly changing field of work and in shaping future employment opportunities in the 21st-century economy. In the current digital revolution featuring artificial intelligence (Al) and machine

learning in the education industry, it is evident that ICT-skilled teachers will replace those who lack ICT skills at all levels. The global experience of the disruption of in-person classroom teaching during the (ERT) in response, which is ICT-driven, fully buttressed the need for digitally competent teachers across gender. During the Covid-19 pandemic lockdown, the federal government mandated higher institutions in Nigeria to commence teaching online (Adepetun & Lawal, 2020). In compliance, the College of Education, (now the University of Delta), Agbor continued teaching in the second semester of the 2019/2020 session, through Emergency Remote Teaching (ERT), during the lockdown, after an orientation program organized for lecturers. The orientation program aimed to acquaint lecturers with the required ICT competence for the shift to online teaching as the "new normal" and to enable them to adjust effectively. Egede (2021) reported the details of the compulsory training of the lecturers to implement the ERT. This study assessed the gender perspectives of the lecturers' experiences in online emergency remote teaching (ERT) and their consequent perceptions of the future use of online teaching.

The paper includes a review of related literature, the theoretical background to the study, research questions, the methodology, results, and discussions. It includes recommendations that are incidental to the results of the study. Several studies have been conducted to explain possible gender differences in various dimensions of learning, use of, and dispositions towards ICT since the digital explosion period. This section presents the studies on ICT and gender prior to the Covid-19 pandemic, including those related to ERT. In addition, the global expectation of gender equality in the acquisition and use of ICT skills, which forms the basis of this study, will be elucidated.

From the global perspective, women require the enabling power of ICT to achieve personal security, access to healthcare, education, desirable jobs, and financial inclusion and improve deficiency in their service delivery in all spheres of life (ICC, 2017).These indices dene gender equality when women have an equal opportunity of access as much as men. Furthermore, in this 21st century, efficient education delivery through online education requires clever use of ICT. Although the Covid-19 pandemic brought the potential of online education to the limelight, the OECD emphasized the importance of studying lecturers' perceptions of the use of ICT in education prior to it (OECD, 2008). This emphasis was to empower every teacher, irrespective of gender, to deliver online education effectively and efficiently. Therefore, OECD (2008) specifically proposed the study of gender differences in lecturers' perceptions of using ICT in teaching. This study examined the gender perspectives of lecturers' perceptions of the future use of online teaching, post-Covid-19, from their ERT experience. Gender and ICT in teaching and learning. At the secondary school level, teachers did not appear to differ by gender in their use of ICT in teaching (Gebhardt, Thomson, Ainley, & Hillman, 2019). At the higher education level, Guillen-Gamez Mayorga-Fernandez, & Contreras-Rosado (2021) found no significant gender difference in the intention of 1704 teachers in Spain to use ICT. This study focuses on higher education lecturers' perceptions of their experiences with emergency online teaching.

The dimensions of health, well-being, stresses, adjustment, and protection during the pandemic influenced gender equality in learning in favor of males (UNESCO,2021). In the same vein, Grifths (2021) reported that women, as home keepers, were subjected to more significant anxiety, burn-out, and mental challenges, that adversely affected their teaching and learning, especially at the early childhood care and education level. Specifically, Global Young Academy (2021) pointed out that the inequalities in the extra pressure brought by family responsibilities

during the lockdown influenced gender differences in the higher education experience for both students and teachers. The recent study by (Sargo, Crnkovic, Gabrovec, Cesar, &Selak, 2022) confirmed that the levels of perceived stress between gender were statistically significant among postsecondary students during the pandemic. The Alberta Teachers' Association (2022) also corroborated the inequality in primary family responsibility during the lockdown and its consequent adverse influence on females' participation in online teaching activities at all levels. This study surveyed the possible effects of gender on lecturers' experiences in the online ERT during the COVID-19 lockdown.

From the learners' angle, significant gender differences were found in the perceptions of how students coped with remote instructions in favor of males who reported that the transition to online learning was more manageable in the university studied (Prowse, Sherratt, Abizaid, Gabrys, Hellemans, Patterson, & McQuaid, 2021). There was a gender difference in the influence of the perceived value of remote learning on perceived academic performance in favor of female university students (Dang & Zhang, 2021). Male students were more pessimistic about the online learning experience than female students, who appeared to have benefited more from the shift from the study of Per, Jennifer, Karim, Torgny, & Christina. (2022). In addition, distress levels during ERT in higher institutions were higher for females (El-Sakaran, Salman, & Alzaatreh., 2022). Nevertheless, Nichols, Xia, Bailey, & Parco (2022) found the average participation in synchronous online ERT, both verbally and by chat, to be higher for males. Levels of perceived stress were significantly higher for postsecondary female students (Sargo, et al, 2022), and voluntary responses and active participation in the language learning process were in favor of male students (Yavani, Rizka, Aisyiyah, & Ibnus.,2021). A study of 1500 teachers from 118 countries showed no significant gender difference in the teachers' perceived ability to cope with emergency online remote teaching in higher institutions (Jelinska & Paradowski, 2021a). In another multinational study, the researchers (Jelinska & Paradowski, 2021b) also found that students of male teachers were coping better with remote instructions than those of female teachers. Gender had no significant effect on teachers' belief in the online teaching presence and school support for emergency online learning during the pandemic (Nikolopoulou & Kousloglou, 2022). Similarly, there were no significant gender differences in the perceived individual and institutional preparedness for the ERT (Melnyk, Pypenka, & Maslov, 2020), teachers' perception of intention to implement technology in their lessons in a post-Corona era (Irene, Omid, Ellen, & Stan, 2020)

The results of these studies showed that generally, there were no significant gender differences in motivating factors like belief in the online ERT, preparedness, and intention to engage in the ERT among teachers who are the focus of this study. However, there is gender balance reported on variables that were crucial to the thriving of online teaching during the pandemic and could also influence the post-Covid-19 era in higher institutions. Therefore, this study probed further the influence of gender on the actual experience of the lecturers in the ERT and how they consequently perceived the prospect of online teaching in the higher institution. Sandra Bern (1981) developed the gender schema theory as a social-cognitive perspective on gender development. From cognitive psychology, schema is a concept that explores the way people think, perceive, and process information. The schema describes the general knowledge an individual possesses about a particular issue and typically guides perception in addition to aiding the remembrance of information (SAGE Publications, 2022). Bern (1981) proposed in the theory that

each person possesses a knowledge structure known as gender schema, Which is a set of gender-linked associations.

The gender schema prompts a person to be predisposed to process information in terms of gender. Bern (1981) argued that gender schema is associated with people's culture, which shapes the developmental process in children. With gender schema, new information, such as emergency remote teaching using ICT skills during the Covid-19 pandemic lockdown, is filtered on gender. In the emergency lockdown situation during which women's families' females perceive the emergency remote teaching experience. Some subjects like Science, Mathematics, and Technology were regarded as male subjects based on gender schema, which could rub off on the use of ICT and the internet. Based on social anxiety and problematic internet use. Other studies employed the influence of gender schema on self-perception (Reilly, Neumann, &Andrews,2022; Martin & Slepian,2021). Since this study investigates the perceptions of the lecturers' ERT experiences and the prospects of online teaching from gender perspectives, the influence of gender schema on perceptions justifies the study.

Statement of the problem

Specifically, this study is aimed at determining the gender perspectives of the lecturers' experiences in online emergency remote teaching (ERT) and their consequent perceptions of the future use of online teaching in the 'new normal'. The study assessed gender differences in the lecturers' acceptance of the ERT and their perceived challenges during the period.

Research Questions

1. Are there gender differences in the perceptions of the lecturers about the necessity, and acceptance of the online ERT, their challenges in the online ERT, and the success of the online ERT?
2. Are there gender differences in the lecturers' perceptions about The future use of online teaching, and the incidental awareness created by the online teaching experience?

Methodology

This study used a quantitative descriptive survey. The descriptive survey is suitable because the lecturers had already formed their perceptions before the study period (Mc Combes, 2020). In addition, a structured questionnaire with numerical response sets satisfied a quantitative method (Streefkirk, 2021). The population consists of two hundred and forty (240) lecturers in the College of Education, Agbor, Delta State, in the 2019/2020 session. The number of males was 164 while that of females was 76. They participated in the online ERT, and the researchers could contact them within the study period. Hence, the total population sampling method (Stephanie, 2018). is used to include all of them in the sample for the study. The researchers constructed a Likert-type questionnaire and validated it for the study. The questionnaire, Perceptions about the Online Emergency Remote Teaching (POERT), is a 19-item instrument made up of two sections, A and B. Section A called for information on split variables, the gender, and subject specialization of the lecturers. In contrast, section B has items drawn from the variables in the research questions on a four-point Likert-type scale. Likert-type scales that use the levels of agreement are considered suitable for assessing perceptions in a quantitative
research method (Moura, 2020). The levels of agreement ranged from "Strongly agree" (4), "agree" (3), "disagree" (2), to "strongly disagree" (1). The items were stated with positive polarity

(e.g., online teaching should replace F2F) and negative polarity (e.g., online teaching should not be stopped) to avoid response set bias. The face validity of the questionnaire was achieved by the review from a specialist in Educational Evaluation. Using a single administration of the questionnaire to the respondents, which was most suitable in the pandemic period of the study, Cronbach's alpha reliability index was obtained using SPSS 23.0. The computed value, $\propto$ =.74,is considered appropriate for this study.

The researchers collected data through a personal administration of the questionnaires. Two hundred and thirty (230) were retrieved, giving a response rate of 96%, which is acceptable and adequate for educational research (Morton et al., 2012). Using SPSS 23.0, the data were analyzed to obtain mean and standard deviation values, in addition to the non-parametric test, the Mann-Whitney U test, to answer the research questions. The proposal of Jonald (2019) for a four-point Likert scale guided the interpretation of mean values. For the four-point Likert scale, the computed mean values are grouped in the following intervals, with the associated interpretation in terms of the level of perception: 1.00-1.75 (Not much perception); 1.76-2.51 (A little perception); 2.52 - 3.27 (Some perception); and 3.28-4.00 (High perception).

Results

Research question1. Are there gender differences in the perceptions of the lecturers about the necessity, and acceptance of the online ERT, their challenges in the online ERT, and the success of the online ERT?

Table1. Mann-Whitney U test for gender differences on the perceptions of the lecturers' acceptance, necessity, success, and personal challenges during the online ERT.

Measure/ Perceptions	**Online ERT was not embrace**	**Online ERT was not necessary**	**Lecturers lacked ICT skills**	**Lecturers were inadequately prepared**	**Online ERT was successful**	**It showed the importance of ICT in education**	**The planning was insufficient for success**
Mean of the sample (N=230)	2.95	1.97	2.50	2.95	2.32	3.33	3.59
Mean for females (N=68)	2.80	1.82	2.64	2.88	2.73	3.47	3.53
Mean for Males (N=162)	3.04	2.00	2.44	3.00	2.09	3.24	3.61
Mann-Whitney	3737.5	2687.5	3937.5	4300.0	2362.5	4412.5	4162.5
Wisconsin W	6567.5	4227.5	11812.5	7540.0	8467.5	1228 7.5	11422.5
Z	-2.84	-1.26	-1.21	-1.39	-5.30	-2.29	-1.32
Sig.(p)	.005*	.206	.228	.166	.000*	.022*	.185

***Significant at 0.05 level**

The results of the Mann-Whitney U test in Table 1 indicated that the mean scores for the perception of the female lecturers about the necessity of the online ERT (M=1.82) is less than that of the males (M =2.00) but the difference is not statistically significant, U

(Nf=68,Nm=162)=2687.5,z=-1.26,p=.206>.05.The mean scores of the females (1.82) and that of the males (2.00) are in the range of "not much perception." Hence, both the female and male lecturers perceived that the online ERT was necessary, as indicated in the results in Table 1. Secondly, the results also indicated a significant difference between the perception of the females about the acceptance of the online ERT and that of the males, U (Nf=68, Nm=162) = 3737.5,z=-2.84,p=005<.05. However, the mean scores of the females (2.80) and that of the males (3.04) is in the same range that is described as "some perception" Hence, both the females and males perceived that the online ERT was not embraced, but that of the males was significantly higher in the same range. (ii). There is no significant difference between the perceptions of the female and male lecturers about the challenge of lack of ICT skills, U(Nf=68, Nm=162)=3937.5.z = -1.21, p=228≥ 05. There is also no significant difference in the perceptions of the female and male lecturers about the challenge of inadequate preparation for the online ERT, U (Nf =68, Nm = 162) = 4300.0 z = -1.39, p = .166 > .05. Both females and male lecturers perceived that they had the challenge of inadequate preparation for the online ERT.

Research Question 2. Are there gender differences in the lecturers' perceptions about: The future use of online teaching, and the incidental awareness created by the online teaching experience?

Table 2. Mann-Whitney U test for gender difference on the perception of the future use of online teaching.

Measures	Perception: on line teaching should …					
	Not to be stopped	Not replace F2F mode	Be blended/hybrid mode	Be planned with stable and strong internet access/provision	Be operated with personal ownership of ICT devices by lecturers and students	Be included in the NCE curriculum
Mean of the sample (N=230)	3.53	3.33	3.57	3.83	3.46	3.36
Mean for females (N=68)	3.77	3.31	3.82	3.87	3.69	3.53
Mean for Males (N=162)	3.36	3.32	3.38	3.79	3.33	3.22
Mann-Whitney U	2337.5	3537.5	2600.0	4162.5	3100.0	3250.0
Wilcoxon W	8642.5	5682.5	9860.0	11422.5	10360.0	9920.0
Z	-3.72	-0.14	-7.80	-1.32	-4.90	-3.21
Sig.(p)	.000*	.885	.000*	.185	.000*	.001*

Significant at 0.05 level.

The results in Table 2 indicated significant differences in the perceptions of females and males about the use of online teaching in the future in the following indices. Online teaching should not be stopped, U (Nf = 68, Nm = 162)=2337.5, z= -3.72, p = .000 <.05. Online teaching should be in blended/hybrid mode, U (Nf=68, Nm=162) =2600.0, z= -7.03, p=.000 < .05. Online teaching should be operated with every lecturer/student owning required personal ICT devices, U (Nf = 68,

Nm=162) = 3100.0, z = -4.90, p= .000 < .05. Online teaching should be included in the NCE curriculum, U (Nf = 68, Nm = 162) = 3250.0, z= -3.21, p=.001< .05. There is no gender difference in these lecturers' perceptions that, in the future, online teaching should not replace F2F and be implemented with the provision of stable and robust internet access. Moreover, the mean scores in Table 2 indicated that the significant differences represent only the strength of their perceptions in the same
range of high perceptions for both females and males. Hence both females and males perceived that online teaching should be used in the future.

Table 3. Mann-Whitney U test for gender differences on the perception of incidental awareness from the online ERT.

Measures	**Perception: Online teaching …**	
	Could enhance virtual conferencing skills	**Showed the levels of institutions' virtual orientation**
Mean for the sample (N= 230)	3.59	3.31
Mean for females (N=68)	3.71	3.25
Mean for males (N=162)	3.52	3.36
Mann-Whitney U	3987.5	4125.0
Wilcoxon W	10557.5	7365.0
Z	-2.62	-0.82
Sig. (p)	.009*	.411

Significant at.05 level

The results of the Mann-Whitney U tests shown in Table 3 indicated that both female and male lecturers had high perceptions that online teaching could enhance their virtual conferencing skills and that it exposed the levels of the virtual orientation of institutions.

Discussion of the findings

A look at the analysis presented in Table 1, research question 1 indicates that there is no gender difference in the lecturers' perceptions of the necessity and acceptance of online ERT. Both female and male lecturers perceived that ERT was necessary, and at the same time, both perceived that the lecturers did not embrace ERT. This result is in line with those of Guillen-Gamez et al. (2021) during the Covid-19 lockdown and Gebhardt et al. (2019) prior to the Covid-19 pandemic. The attitudes and beliefs of these higher education lecturers towards the pedagogical use of ICT during the lockdown were similar for the females and males within the same institutional environment.

There is no gender difference in the lecturers' perception of their challenges in the online ERT. Both female and male lecturers perceived the challenge of inadequate preparation for the ERT, unlike the challenge of lack of ICT skills. The results of Jelinska & Paradowski (2021a) on higher education teachers' engagement in coping with the ERT supported the result of this study. The results of Melnyk et al. (2020) and Nikolopoulou & Kousloglou (2022) corroborate that of this study also that there was no gender difference in the preparation and support teachers believed they had. Despite the observation that females were more occupied during the pandemic (The Alberta Teachers' Association, 2022), it did not give the males a significant edge on the challenges of ERT.

There is a gender difference in the lecturers' perception of the ERT's overall success. While the female lecturers perceived that the ERT was successful, the males perceived it as unsuccessful. This result implied that male lecturers were more pessimistic about the ERT's success, like Per

Warfvingeet al. (2022) findings for male students. On the other hand, this implied that thefemale lecturers successfully implemented the ERT within the limits of the challenges. This result also relates to the observation that perceptions of the male lecturers about the non-acceptance of online ERT and the challenge of inadequate preparation were higher than that of the females. There are no significant gender differences in the lecturers' perceptions about the future use of online teaching from their experience of the ERT. Both female and male lecturers are predisposed to perceive high prospects for the use of online teaching in the post-Covid-19 era, although the females' perceptions are higher than those of males. These results support those of Irene et al. (2020), which showed that gender played a non-significant role in teachers' resolution to implement technology in their lessons in a post-corona era in the Netherlands. The result of Guillen-Gamez et al. (2021), which indicated no gender difference in the intention of higher education teachers to use ICT, corroborates this study's findings. This finding relates to the result that there is no gender difference in the lecturers' significant and high perceptions of the importance of ICT in education as exposed by the ERT experience. This result is desirable in the present situation that requires digitally competent teachers in higher education, irrespective of gender, to facilitate the learners' acquisition of digital skills for development.

There is no gender difference in the lecturers' perceptions that online teaching could enhance virtual conferencing skills and portray institutions' level of virtual orientation. This encouraging result indicates hope for the general acceptance of the potential of online teaching and the pursuance of and support for the digitalization of higher institutions by academics for education delivery for sustainable development. Furthermore, the lecturers perceived that online teaching should not be stopped. Rather, it should be operated in blended/hybrid mode with adequate internet access and ICT devices, without gender bias. The results satisfied the proposal of OECD (2008) to probe the gender perspectives of teachers' use of ICT in education and the expectations of the UNWOMEN (2017) that there should be a perspective of gender balance in the opportunities to use ICT in the 21st-century economy.

Recommendations

The results of this study have implications for digital education delivery in higher institutions.

1. Higher education teachers should be encouraged to acquire digital competence irrespective of gender since both females and males perceived the necessity of online teaching.
2. Providing adequate ICT infrastructure in institutions and society to enhance online teaching activities, as perceived by the lecturers of this study, is necessary.
3. Research on gender perspectives of online education should be enhanced in both private and. public higher institutions of various categories to provide more generalizable results that are more impactful beyond the limited ones from the study of only one institution like this study.

Conclusion

This study aimed to assess the gender perspective of lecturers' perceptions about their online ERT experience during the Covid-19 lockdown in terms of their acceptance, challenges, success, and prospect of online teaching. The lecturers embarked on the ERT to counter the disruption of F2F classroom teaching during the lockdown by engaging students online. The analysis of the lecturers' perceptions showed no gender differences in all six variables except in the success of the ERT in the institution used for this study. The females perceived that the ERT was successful, while the males perceived it as not. The ERT exposed female and male lecturers to the same challenges, so

there was no gender difference in their expectation to use online in future teaching. It is concluded that the gender perspectives of the lecturers' perceptions of the ERT experience from the results of this study are encouraging enough to expect success in digital education delivery in higher institutions with good virtual orientation. The results indicate that, in the context of this study, higher education teachers, irrespective of gender, are predisposed to implement online teaching.

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