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E-learning Readiness among Secondary Student Teachers in relation with their Gender, Academic level and Area of Residence

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Abstract

Information and communication technology (ICT) opened new paradigm of education in which entire teaching-learning process occurs with the help of electronic devices and supportive soft-wares. ICT provides a new form of learning named E-learning, is gradually being accepted in the field of education. E-learning can be defined as the process in which learner learn with the help of electronic gadgets connected with internet facility. The main purpose of E-learning is to provide the alternative opportunity to learn and makes learning environment learner friendly. It makes learning process much open and learner friendly in which students can feel more comfortable, in the sense of time, speed, place and other socio-economic factors. This study was conducted to know the present status of readiness towards E-learning of secondary student teachers in the context of their gender, academic level, and area of residence. Secondary student teachers form four universities were taken as the sample for present study. The findings of the study showed that secondary student teachers were showing differences in the E-learning readiness in the context of their area of residence.

Key words: E-learning, secondary student teachers

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Introduction

E-learning has important place in the education system of 21st century. The mode of teaching-learning process is being changed very fast due to advancement in ICT. Advancement in the field of ICT provided new tools, techniques and platforms to make teaching-learning process more effective, assessable and natural. ICT opened new paradigm of learning process in which entire learning process occurs with the help of electronic devices and supportive soft-wares. A new form of ICT based learning named E-learning, has been established in the field of education. It is a learning system based on formalised teaching with the help of electronic resources such as computers, tablets and cell phones connected to the internet.

E-learning

E-learning can be defined as the process in which learner learn with the help of electronic gadgets connected with internet facility. It mostly viewed as a learner cantered learning process. Early developments in E-learning focused on computer assisted learning, where all of the learning content is delivered and received digitally. More recently the pedagogical requirements make E-learning prominent. E-learning comprises all forms of electronically supported learning and teaching. The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process (Jethro et.al., 2012).

E-learning readiness is the ability of individuals to utilize e-learning resources and multimedia technologies to improve the quality of learning (Kaur and Abas 2004). A learner having readiness towards E-learning, shows the information about electronic learning

gadgets, skill to use these electronic gadgets, understanding of learner role in process of e-learning and acceptance of the importance of e-learning.

Importance of E-learning: E-learning is considered as the most useful learning mode in 21st century because of its blended nature. E-learning mode has the good characteristics of both formal and non-formal education system. It provides a formal environment of classrooms as virtual classes, where teacher and learner can interact spontaneously and in the same time learner has the opportunity to record it and learn according to his/her requirement and comfort as learner has the opportunity in non-formal education system.

The importance of e-learning was much understood in the time of covid-19 pandemic, not only in India but in entire world. When all formally running education programme in academic campuses were shut down, it was the E-learning that provides the chance to continue teaching-learning process. Among the many benefits of e-learning; flexibility, cost effectiveness, variety of learning opportunity, availability free learning materials, and development of self-responsibility as well as the sense of self -directedness in own learning of individuals are some most important features that makes e-learning popular among new generation. E-learning provides much autonomy in deciding learners own schedule in the context of time, pace and geographical need.

Basically, in higher education, students are required to initiate, accelerate, evaluate and take responsibility of their own learning process. E-learning provide number of career advancement opportunities from where learners can initiate and manage their new learning endeavours. It provides an opportunity of personalized education and develop a sense of collaboration, responsibility and the skill to manage their own learning. To manage access to e-learning materials, consensus on technical standardization, and methods for peer review of these resources requires that they be highly motivated and committed to learning, with less social interaction with peers or an instructor (Chitra, A. & Raj, M.. 2018; Huynh et al., 2003). *Students in online courses tend to do as well as those in classrooms, but there is higher incidence of withdrawal or incomplete grades (*Sarvestani, et al. 2019*).* Based on above discussion it will be beneficial to make our students more ready to use e-learning in their day-to-day learning process. In this context it would be better to organize orientation and training programmes to prepare the learners of formal education system. Several important studies reveal that the basic reason for failure in implementing E-learning is the unpreparedness to implement e-learning (Coskun et al., 2018.). In this context this study was carried out to explore the readiness of secondary student teachers.

Objectives of the study

1. To explore the E-Learning readiness of secondary student teachers.
2. To explore the E-Learning readiness of secondary student teachers in the context of their gender, academic level and area of residence.

Hypotheses of the study

Three null hypotheses were tested in this study. They are given follows-

1. There is no significant difference between the obtained mean scores of female and male secondary student teachers on E-learning readiness scale (ELRS).
2. There is no significant difference between the obtained mean scores of secondary student teachers on ELRS based on their academic level (UG and PG).
3. There is no significant difference between the obtained mean scores of secondary student teachers on ELRS based on their area of residence.

Methodology

The present study falls in the domain of descriptive study as it intends to investigate the E-learning readiness of secondary student teachers. Survey method was used in this study.

Population and sample

Secondary student teachers of four universities' department of education and affiliated college of education, situated in Ahmedabad and Gandhinagar district of Gujarat, were identified as the population of the study.

The sample of the study was randomly selected with the use of Cluster sampling technique. Four units of B.Ed. student of educational institutes were selected as the sample. Total 183 secondary student teachers were selected in the sample. There were 128 female and 55 male students in the sample.

Tool of the study

ELRS constructed and validated by researcher was used to know the readiness of E-learning readiness of secondary student teachers. There are 26 items in the ELRS scale. There were five points (5 = Strongly Agree, 4 =Agree, 3 = cannot say anything, 2 =Disagree, and 1= Strongly Disagree) allotted to response on the scale. The values of Cronback Alpha reliability and Split-half reliability were 0.82 and 0.79 respectively. Scale has Face validity. According to experts' opinions, all items were found fit to measure students e-learning readiness. The value of cliffs' Consistency index's 'C' for ELS scale was 0.41. The value of cliffs' Consistency indices 'C' was indicating the good uni-dimensionality of the scale.

Procedure of the collection and analysis of the data

With the prior permission of the HOD/principal, researcher sent the link of google seat to the randomly selected B.Ed. colleges to share among student teachers. Secondary student teachers were requested to respond on the scale. After responding on ELRS Secondary Student Teachers were submitting the scale. In this way responded scale sheet were collected and create a master data sheet with the help of Excel.

Descriptive and inferential statistical techniques were used to analyse the data. Mean, median, S.D., kurtosis, and skewness were calculated in descriptive statistics. t- ratio was used to test the hypothesis of the study. All calculation was conducted with the help of JASP (an open soft were for statistical analysis).

Analysis and interpretation of the data

The details of data analysis and its interpretation is discussed according to the objectives of the study.

Objective-1

The first objective of the study was to find out the orientation towards e-learning readiness of Secondary student teachers. To solve this purpose the ELRS was administered to the sample. The responses on five points scale were assigned with the score as 5, 4, 3, 2, and 1 marks for strongly agree, agree, cannot say, disagree, and strongly disagree respectively. There were 26 items in the scale and the maximum score for each item was five. It was possible to score 1 to 130 , and 65 could be the average score for each respondent. The detail description of data is given in table-1.

Table-1 : Descriptive Statistics

	Total
No. of participants	183
Mode	102.000
Median	102.000
Mean	103.301
Std. Deviation	13.328
Skewness	-0.057
Kurtosis	-0.540
Minimum	70.000
Maximum	128.000

The result of the study shows that the range of achieved score on ELRS by secondary student teachers was 70 to 128. The Mean and SD of the score were 103.3 and 13.33 respectively. The value of skewness and kurtosis were -0.057 and -0.540 respectively. The value of skewness was showing negative skewness of the data, means the number of high

scorer secondary student teachers were more than low score achiever in respect of mean score of the data on ELRS. Above description can be seen in figure-2 too.

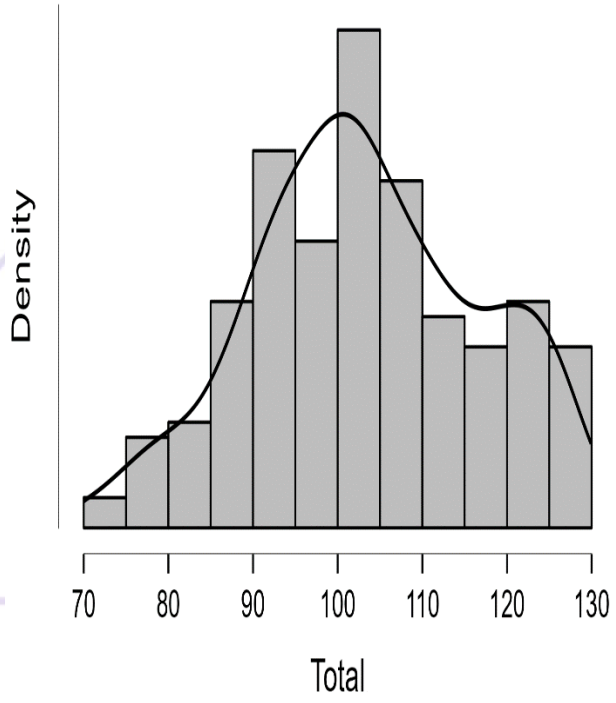

Figure 1: Frequency histogram of score obtained on ELRS

Secondary student teachers were classified in three groups (Low, Moderate and High readiness E-learning group) based on Mean +/- 1 SD (103+/-13.33). There were 12.57%, 68.75% and 18.68% secondary student teachers were related with Low, Moderate and High readiness E-learning group respectively.

Objective-2

There were two null hypotheses tested to serve the purpose of second objective of the study. Null hypotheses-1 was tested to know the readiness of secondary student teachers in the context of their gender at 0.05 level of significance. The detail of the testing of the hypothesis is given in table-2.

Table 2: Mean, SD, and t-ratio in reference to gender

Gender	Number of Secondary students Teachers	Mean	SD	Df	t-ratio	P-value
Female	128	103.2	13.19	181	0.163	0.87
Male	55	103.55	13.77			

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The observation of the Table 2 shows that there were 128 female and 55 male secondary student teachers in the sample. The t-ratio of the mean difference was 0.163, which was not significant at 0.05 level. So the null hypothesis-1 was accepted and it was found that there were no difference in the E-learning readiness of female (M=103.2, SD= 13.19) and male (M=103.55, SD= 13.77) secondary student teachers.

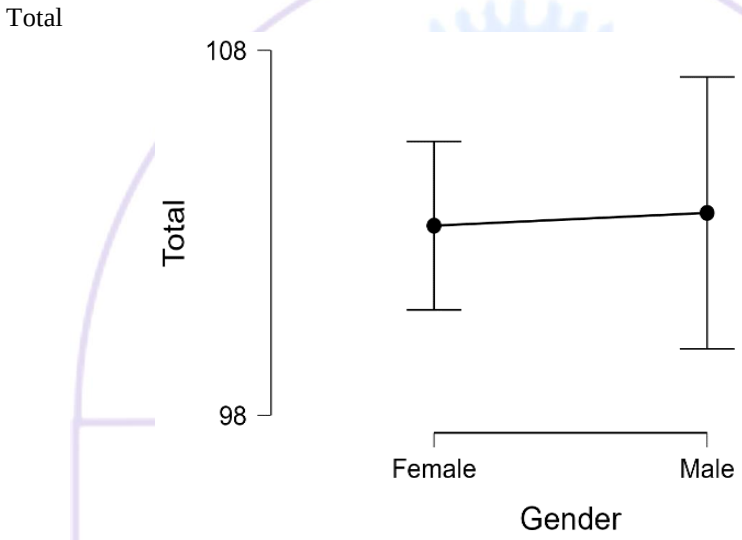

Figure 2: Mean score of Female and Male secondary student teachers

Ho_2. Null hypotheses-2 was tested to know the readiness of secondary student teachers in the context of their academic level (UG and PG) at 0.05 level of significance. The detail of the testing of the hypothesis is given in table 3.

Table 3: Mean, SD, and t-ratio in reference to gender

Gender	Number of Secondary students Teachers	Mean	SD	df	t-ratio	P-value
PG	112	103.25	12.63	181	0.64	0.95
UG	71	103.38	14.45			

The observation of the table-3 shows that there were 112 PG and 71 UG secondary student teachers in the sample. The t-ratio of the mean difference was 0.64, which was not significant at 0.05 level. So, the null hypothesis-2 was accepted and it was found that there

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were no difference in the E-learning readiness of PG (M=103.25, SD= 12.63) and male (M=103.38, SD= 14.45) secondary student teachers. This thing can bee seen in figure 2 too.

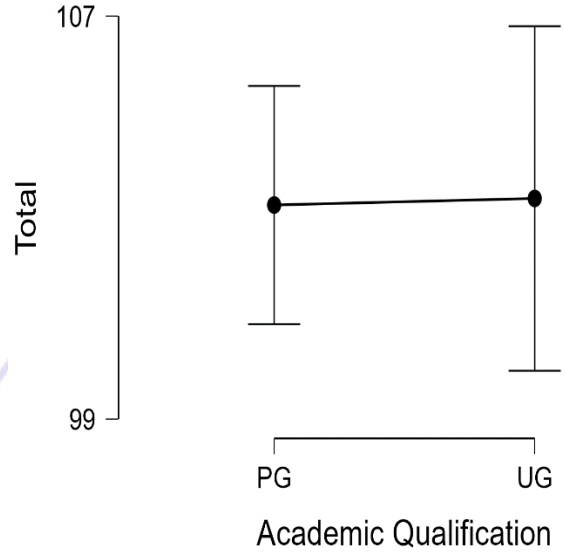

Figure 3: Mean score of PG and UG secondary student teachers

Ho_3. Null hypotheses-3 was tested to know the readiness of secondary student teachers in the context of their area of residence (Rural and Urban) at 0.05 level of significance. The detail of the testing of the hypothesis is given in table-4.

Table 4: Mean, SD, and t-ratio in reference to gender

Gender	Number of Secondary students Teachers	Mean	SD	Df	t-ratio	P-value
Rural	78	99.77	12.96	181	3.17	0.01
Urban	105	105.92	13.05			

The observation of the Table-4 shows that there were 78 rural and 105 urban areas' secondary student teachers in the sample. The t-ratio of the mean difference was 3.17, which was significant at 0.05 level. So, the null hypothesis 3 was not accepted and it was found that there was a significant difference in the E-learning readiness of secondary student teachers in the context of there area of residence. Urban area secondary student teachers (M=105.92; SD=13.05) were found more ready towards E-learning than rural areas' secondary student teachers (M=99.77, SD= 12.96). This thing can be seen in figure 2 too.

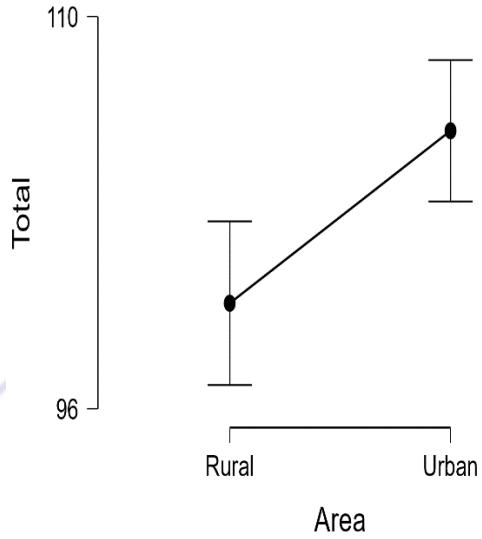

Figure 3: Mean score of Rural and Urban areas secondary student teachers

Findings of the study

1. Majority of secondary student teachers were showed moderate level of readiness towards E-learning.
2. There was no difference in the E-learning readiness of secondary student teachers in the context of their gender.
3. There was no difference in the E-learning readiness of secondary student teachers in the context of their academic level.
4. Urban areas' secondary student teachers were found more ready towards E-learning than rural areas secondary student teachers.

Conclusion of the study

Though the secondary Student teachers showed moderate level of E-learning readiness but their average score on ELRS was just 103.17. The highest score, they could be achieved on ELRS was 130. Therefore, orientation and training program should be organized to make our secondary student teachers more ready towards E-learning. A significant difference was found between the readiness towards E-learning of urban and rural areas' secondary student teachers. Urban areas secondary student teachers were found more ready than rural areas secondary student teachers. Therefore, there is a need to pay more attention on rural secondary student teachers during training and orientation programs.

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