Gender Difference in Perceived of E-Learning in Sherubtse College

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Abstract

E-learning is fairly a new concept in general and especially in developing country like Bhutan, it is just coming into emergence. E-Learning in the form of online class has been introduced in Bhutan and Sherubtse College in particular during the COVID-19 pandemic. Since then, E-learning had occupied an important place in the institute because of its importance as well as its significance in such trying times. One of the prime purpose and significant goal of this research is to understand and interpret the difference in the perception of boys and girls while learning through E-Learning platform and also to understand the difference in perceived satisfaction of E-Learning in male and female because theories and literatures have suggested a mixed evidences of gender difference and it is crucial the investigate the gender difference in our context too. To examine the difference in perception of E-Learning in boys and girls, we randomly selected 60 students within the college in which 29 are females and 31 are males. By employing Online Learning Self Efficacy Scale (OLSES) our findings indicate that there is no significant gender difference in the general perception of E-Learning. However, we found some slight mean difference in indicators of E-Learning perception, though not significant.

Keyword: e-learning, gender, effectiveness, satisfaction

Chapter 1

Introduction

Learning has been in existence since time immemorial. Because education has been a part of the humanity for a really long time, learning is associated with education in today's world. The path to learning has been the same for ages since the ancient times. However, with advent of modern technology and mechanical advancements from the dusk of 20th century, so many innovations and tools to connect the people around the world has been introduced and particularly E-Learning in particular is now slowly gaining prominence in learning and education. It is true that learning takes place in many setting, but in educational sense, learning is inclusive of both breadth and depth of learning (Wortham, 2003). Because of its diverse setting, E-Learning can be perceived differently by different people. One of the possible difference may be felt by different gender (male and female) due to different expectation and standpoint. If males and females have different perception and response to E-Learning, the different effectiveness and satisfaction among this two gender will pose problem in widening the usage of E-Learning, therefore this problem needs to be assessed by investigating if there is a significant difference in perception of E-Learning between male and female.

Today, the standard method of learning in education is still the traditional classroom learning style, which was adopted and has been there for ages. However, changing times, preferences, needs of the people as well as the global situation are demanding changes that has to be adapted by respective educational institutions and places. With modern tools at an abundant disposal, the use of internet, computers, devices and gadgets are becoming more prominent. The reason for its prominence and rise is mainly due to the need of changing times and shift in paradigm in the field of learning and education. That is why, even though, the traditional method of teaching is still prevalent and considered as standard method, it has been threatened by the emergence of online learning, also known as E-Learning, as stated by (Goyal, 2012). Prior literatures on E-Learning was done on wide array of topics starting from the importance of E-Learning, evolution of E-Learning to gender differences in E-Learning. Though a dilemma exists among the minds of general public on how effective and satisfying E-Learning has been for the young learners, and especially in our Bhutanese education system, since e-learning is a new concept and the literature are scarce, several studies to understand the effectiveness has been carried out in the last decade, elsewhere. The studies done by the researchers and scholars like Arkorful & Abaidoo (2014), Hameed *et al.* (2008), Strother (2002), Gogos (2013) and Zeitoun (2008) in general and broad sense presents the effectiveness and convenience among the people from those particular place of study. Studies done by researchers like Patrick & Powell (2009), have shown that developed nation and those in global north are finding the e-learning really effective without any significant difference in gender. The cost, time, convenience and the content of online learning are found to align perfectly according to their need and preferences. However, studies done by Dhawan (2020) and Khan (2005) in developing countries and particularly in global south have shown different result. With most finding showing unfavorable result for both male and female. Previous literature have found mixed evidence and result when it comes to gender gaps in E-Learning. In a research by McSporran and Young, their finding suggests that women have fared well in the

usage and effectiveness of E-Learning (2001), whereas, study by Dorman suggest men tend to perceive E-Learning more favorable and responded well in E-Learning environment (1998). However, no single literature have decided on one particular finding as the final outcome.

Most of the literatures available were of studies done decades ago when E-Learning was emerging and at its peak (McCoy & Heafner, 2004). Moreover, today's E-Learning platform includes the use of Zoom, Google Classroom, Google Meet, etc. which are not there during the research done in early days of E-Learning. Due to difference in tools employed in E-Learning the previous studies might not be feasible to determine the perception today. Secondly, the studies were carried out largely in countries of Global North where technological advancement and progress were made drastically since the dusk of 21st Century. The result from those countries cannot be generalize in countries such as Bhutan. Another potential reason for gender difference is due to gender role and stereotype. Research by Venkatesh & Morris atrributed the gender difference to gender stereotype, viewing men as more open to exploration of technology whereas women were viewed as less keen and curious in exploring technologies and features of E-Learning (2000). However, different society have different gender stereotype and functions on different basis of gender roles and idea of gender division. Therefore, such study and research needs to be conducted in our context to understand the true sense of gender differences in E-Learning.

The research on this subject is extremely important for educational institutions, academicians, and academics to understand the dynamics of E-Learning and gender differences. In general, this study highlights the gender difference in perceived effectiveness, perceived usefulness, perceived satisfaction and self-efficacy. Through such studies, implementation of E-Learning can be made easier and gender sensitive. Moreover, there is a stereotypical notion that attributes female with poor knowledge in technology usage and men with superior knowledge and interest in operating gadgets and technologies that are used in E-Learning. The study aims to identify the perception of male and female in E-Learning through the usage of Online Learning Self Efficacy Scale under which there are four sets, namely, Perceived Effectiveness, Perceived Usefulness, Perceived Satisfaction and Perceived Self-Efficacy. By collecting data through the questionnaire base on the scale, the research can provide a picture of difference in gender when it comes to how people perceive E-Learning from the given population and basically to determine the gender difference in E-Learning perception.

Furthermore, the main purpose of this research is to help in understanding the difference in gender and the indicators of E-Learning perception in Sherubtse College. This study on the perception of e-learning would also help the general people in recognizing the myths and reality as well as expectation and reality of E-learning. Moreover, the study could determine the different factors and variables that impacts the effectiveness of e-learning and could also determine which factors are highly influential in perception of e-learning in general and among male and female.

Chapter II

Literature Review

This chapter seeks to discuss the corresponding literature about E-Learning. This chapter starts with a literature review on the concept of E-Learning and its prospect. Next, the literature on benefits and the complications of E-Learning were also reviewed. After that, a literature review of the variables in this research and their relationships is conducted. The study's independent and dependent variables are analyzed to determine the parameters and relationships between them. The related relationship's past studies and observations will be addressed. Finally, the chapter concludes with a proposed research structure and hypothesis.

E-Learning Definition and its Prospect

Definition

According to Goyal (2012), E-Learning is defined as the science of learning without paper or any printed instructional material. The world as we know is being bombarded with so many global issues and challenges today, which is substantially caused by the advancement of technology, evolution of time as well as other natural phenomenon. For all those issues, E-Learning seem to be one of the answers to those questions (Arkorful & Abaidoo, 2014). For that matter, the advantages and the feasibility of E-learning is wide and increasing, and the future looks bright for the prominence of E-Learning. Different literature describe and identify E-Learning differently. E-learning is described by the European Commission (2001) as "the use of emerging multimedia technology and the Internet to improve the quality of learning and teaching by facilitating access to facilities and resources, as well as remote exchanges and collaboration." In 2003, the Joint Information Systems Committee (2003) proposed a similar concept, describing e-learning as "learning enabled and assisted by information and communications technology. Similarly, Clark and Mayer (2003) described e-learning as instruction delivered on a computer via CD-ROM, internet, or intranet with the following characteristics: containing content relevant to the learning objective; using instructional methods such as examples and practice to support learning; and using media elements such as words and pictures to transport and deliver the information. Nonetheless, there are disagreements about the concept of e-learning among other professionals working in this area, such as Dublin and Cross (2003) and Oblinger and Hawkins (2005), who argue that no definition is universally agreed by all scholars. To summarize, emerging innovations such as computer networks, interactive media, digital technologies, and the internet greatly expand the scope of e-learning provision. It encourages and allows students to communicate and collaborate with one another, as well as with their teachers, at any moment, and it has created a global market.

Prospect

One of the global concern for the planet is the global warming and climate change which is caused by the advancement of technologies and the increasing population. In education, materials like papers and other teaching and learning materials are widely used and such heavy usage causes huge burden to the environment which just adds to the list of contribution to global warming. A data released by National Wildlife Foundation (2020) in the

United States of America states that 60 percent of wastes produced by educational institutions consists of paper waste, from which, a ton of paper waste is equivalent to sixteen fully grown trees.

Secondly, the COVID-19 pandemic of 2020 has led to an important realization on the importance of E-Learning and its future. A study by (Dhawan, 2020) has found that online learning might be here to stay beyond the pandemic. According to (Li & Lalani, 2020), the pandemic has challenged the old method of learning and globally, more than a billion students were forced out of face-to-face learning in school. With that, E-Learning was the resort for educational institutions worldwide through remote teaching and learning. The studies have also suggested that E-Learning is time-saving and cost cutting method that is able to retain more data and information compared to traditional face-to-face learning (Li & Lalani, 2020). Their research has focused on how the importance and practicality of e-learning has increased in the time of pandemic by taking into account of factors and variables. With the change and evolution, the pandemic may disappear one day but the importance of E-Learning is here to stay and that us what the studies and researches have shown.

Benefits of E-Learning

E-Learning has gained prominence because just as we are concerned with traditional classroom learning, Research by (Klein & Ware, 2003) showed that, E-Learning also has its share of benefits and convenience that is enjoyed by the scholars who uses the E-Learning platforms. First of all, according to (Nguyen, 2015), E-Learning is highly cost effective when compared to the cost of post-secondary and tertiary education around the world. His research stated that today, mobile data, broadband and other means of internet access are cheaper than it used to be some years ago, and for E-Learning, apart from the need of mobile phone and a computer, internet is a must. With easier access to the internet, the cost of e-learning became really affordable compared to on-campus school fee. A study by Hall and LeCavalier (2000) has also found that converting from traditional method of learning to E-Learning method is highly cost effective and was able to deliver twice the content traditional learning offers. In the year 1999, IBM saved as much as US $200 million by employing E-Learning method and delivering five times the learning at one third the cost of classroom traditional learning method (Strother, 2002). By going through the studies done by scholars, researchers and experts and also going through the statistics provided by various organizations, E-Learning seem to be more lucrative in the eyes because of its cost cutting character.

Secondly, the use of E-learning in education means it is highly flexible in terms of time as well as setting. According to Smedley (2010), when E-Learning method is employed, the learners have the luxury of time and the place of learning. By recording the lectures and the lesson, the learners can view and go through the contents of the lesson whenever it is convenient for them. That is why, the flexibility of timing provided by the e-learning is unmatched. Then, there is also the flexibility of setting while attending lessons through e-learning. In fact, (Li & Lalani, 2020) stated that it is one of the most crucial factor that lead to the prominence of e-learning during the time of COVID-19 pandemic. According to Raba (2005), through E-Learning, the aims and objectives of the learners as well as the teachers can be met in a short duration with minimal effort. Because, in e-learning, both the learner as well the teachers will be able to meet the objectives and keep up with the growth as they go on obtaining and gaining

new experiences hassle free due to the absence of the need to meet face-to-face. This according to Khan (2005), is because, the E-learning environment is very tolerant and offers equal access to everyone who wants to access it, irrespective of their place of residence as well as other factors like caste, ethnicity, gender and beliefs. Hemsley has also stated that E-Learning is beneficial to everyone who are part time workers as well as full time students or even for distant learners due to its flexibility. (2002).

Thirdly, it is found by Wortham (2003) that the E-Learning environment also encourages the learners to fully depend on themselves on finding the additional information, since the teachers are not physically available to aid the learners individually. This allows the learners to be their own guides and facilitator in exploring, discovering and clearing their own doubts and expand their knowledge beyond work plan and curriculum Alsalem (2004). Zeitoun (2008) has stated that because of the fact that learners have to depend on themselves in exploring further and doing case studies, E-Learning eventually helps learners to prepare for a larger responsibility in the future as a part of a society and also in communicating globally and taking part in exchanging dialogues with others. A research done by Singh (2001) found that E-learning is highly beneficial to the learners as E-Learning enable more advanced and well maintained interaction between the learner and teacher as well as among the learners themselves in keeping up with new information and exploring and facilitating their own objectives of learning. This claim is further supported by Smith & Tavares (2005).

Complications of E-Learning

Despite the benefits and advantages that E-Learning provides to both the learners as well as the teachers in the field of education, research by people like Collins *et al.* (1997), Klein & Ware (2003) and Hameed *et al.* (2008) has found that E-Learning has its own complications and problems associated with teaching and learning. Still then, the disadvantages of E-learning when compared to its advantages and benefits are relatively smaller and less (Nguyen, 2015). Dowling (2003) argues that, despite the claims that e-learning can improve the quality of the education among the learners, the mode of assessment can only be collective in nature and the materials made available on the internet can only be used for a specific form. Song & E. S. Hill (2004) have also found grave concern when it comes to assessment method. The tests for assessment in e-learning can be done possibly using a proxy, it will be not an easy job to regulate and condemn such activities and it literally promotes cheating due to the possibility of proxy.

Also, Mayes (2002) enquired if e-learning is just a support tool and a method to aid the pre-existing traditional classroom method of teaching and learning because the lack of face-t- face interaction between the teacher and learner is one noticeable condemnation of e-learning. E-learning in education forces the learners to go through contemplation and a lack of face-to-face interaction due to its remoteness. Therefore, the learners require a strong sense of motivating factor and good self-management skills to reduce the negative impact of remoteness and contemplation (Arkorful & Abaidoo, 2014). Arkorful & Abaidoo (2014) has also highlighted the problems of mismatch in academics knowledge and the skills to deliver it. That is, even if the learner has an excellent knowledge of the academics and subject matters, the learner may lack the skills to express it and interpret others knowledge

via e-learning platform. Not only that, but some learners might be deprived of privileges to access e-learning platforms and its instruments. Klein & Ware (2003) argued the fact that learners getting flexible timing is also a constraint as it lead to complacent attitude from the learners. The flexibility of the setting and place will also trouble the students because the online lectures can often be unengaging and monotonous, which will led to loss of concentration and attentiveness in class (Alsalem, 2004).

Also, Song & Hill (2004) argues that the process of learning via the electronic devices will never meet its full potential unless the learners take it seriously by practicing what they learn. Another potential problem with e-learning is regarding the materials and equipment. Dhawan (2020) has highlighted on the internet issue and the unexpected and unpredictable behavior and inconsistency of the internet. Dhawan in his research has stated that technological issues like error in downloading, installation issues, login credential problems and so on makes the experience as well as the effectiveness of e-learning really stressful.

Gender Difference in E-Learning

Gender is described as "the set of socially formed roles and relationships, personality characteristics, attitudes, behaviors, beliefs, relative authority, and control that society ascribes to the two sexes on a separate basis." Sex is relational—gender roles and attributes are described in relation to one another and in the relationships between women and men, girls and boys." Simply put, sex corresponds to biological distinctions and gender to social differences (Vlassoff, 2007). In the last decade or two, considerable number of studies relating to gender differences were carried out in the field of health (Vlassoff, 2007), social behavior (Vigil, 2008), social media usage (Mazman & Usluel, 2011) and more. Unfortunately, there is currently too little literature on gender engagement gaps in E-Learning systems to provide scholars with a point of comparison for their current study. The majority of the experiments were at least ten to fifteen years old, clearly undertaken at the height of the introduction of online learning and learning management programs, and a large portion of them focused on information technology courses (McSporran & Young, 2001). However, there are some noteworthy observations, such as Clark and Jones' discovery in their work that the learning environment did indeed affect interaction as well as gender (2010). About the fact that females have historically represented a lower percentage of either engineering, electronics, or computer course, McSporran and Young discovered that females outperformed males in both evaluation and final exam during a four-semester sample in one internet-based course (2001). In a study by Dorman (1998) Gender disparities have been identified, with men being more likely to use computers and new media than women as well as differences in how men and women evaluate and use technologies (Venkatesh & Morris, 2000). Women see computers as social media, and they are more interested in communicative practices than men.

There is evidence that men and women show different levels of fear, recognition, and curiosity in emerging technology over time (McCoy & Heafner, 2004), and the difference in gender is shrinking over time (Shaw & Gant, 2002). Access and preparation have been listed as factors that lead to closing the gender gap. Girls, on the other hand, favor communicative practices when it comes to computers as social networking. Thus, the growth of web 2.0, with its emphasis on networking and social tools, has resulted in an increase in the number of female Internet

users (Adamus, Kerres, Getto, & Engelhardt, 2009). Adamus et al. also reported that the feminine emphasis on contact and teamwork has a significant impact on learning circumstances. Men prefer to make longer and more repetitive comments, while women are more receptive to other people's ideas and able to collaborate. Women tend to work in pairs, while men prefer to solve problems on their own (2009). However, a study by (Price, 2006) found that stereotypical view against women in E-Learning and the claim that women are disadvantaged by technology in learning can be challenged. Her research has also found that women are independent learners just as much as men and were equally satisfied and well performing in E-Learning platforms.

By going through the literatures, the long term possibilities, benefits for the larger number of people and even the drawbacks and complications associated with the e-learning were all reviewed. The literatures suggest that E-learning could make its way to be a necessity for the education sector in near future, not far from now. The literatures also asserts the benefits and merits of employing and standardizing E-learning as a primary method of teaching and learning.

Theoretical Perspectives

In conducting a research, explanatory and predictive concepts and theories can be derived from empirical evidence, making it more usable. This will be encouraging in making broad generalizations at the abstraction level, allowing researchers to move beyond very particular local contexts. Finding a valuable theory would enlighten and mold ones academic endeavors. As a result, a good hypothesis will provide us with a collection of "interconnected constructs, concepts, and propositions that provide a structured interpretation" of what we're doing (Kezar, 2006).

One of the theories, which can be related is the expectations states theory which founded around the idea that people adhere to social expectations of success based on their gender. It is derived from organizational psychology which is most commonly based on objective statistics (Balkwell, 1991). If males are considered to be better at using computers, for example, their gender's "status characteristics" (the term used by this hypothesis to define gender, age, qualifications, and experience) are important to their personal expectation of their computer abilities. It's most often seen in organizations where the association between goals and success is being investigated. It has also been used to investigate societal gender stereotypes, such as pay disparities between men and women in Israel (Moore, 2006) and gender gaps in students' views of ICT use (Adibifar, 2007). The theory tends to be more effective in our context because it broadens the emphasis beyond gender to include other aspects of an individual's background. Furthermore, feminist standpoint theory is another highly relatable theory as it look at the universe from the eyes of a single person's viewpoint, point of view, or observations. According to this viewpoint, a person's viewpoint affects how people socially develop their society, which is influenced by the social communities of which they participate. As a result, diverse socioeconomic classes have different perspectives. Women's views are the starting point of feminist standpoint theory, which is based on the premise that women's lives and roles in society are different from men's; women view it differently because of their sociological status in society (Brown & Czerniewicz, 2017).

As a result, there are several specific research papers about gender and E-Learning satisfaction in my literature review. However, there is no strong difference between these topics, so it will add to the current literature. As a result, the aim of this paper is to see if there is any difference between boys and girls, and if so, how it affects their perceived sense of satisfaction in E-Learning.

Hypothesis

H_1: There is a significant differences between genders in perception of E-Learning.

H_2: There is a significant difference between genders in perceived satisfaction of E-Learning.

Chapter 3

Method

Participants

For my research, the participants are strictly those students who were studying in Sherubtse College, Royal University of Bhutan. That is because, the students of Sherubtse College have adequate experience of E-Learning, its challenges, benefits and user experience. Students from other sister colleges of Royal University could not take part due to far propinquity and lack of reliability in remote data collection. Though lecturers are also involved in E-Learning as a facilitator, they were not included because the main idea of the study is to understand the effectiveness perception of the learners.

Sampling

The simple random sampling technique was used in my research. First, I have checked the name list of all students enrolled in the college, and then I selected the participants using simple random sampling from the first, second, and third years. This approach ensured that all students studying in Sherubtse have a fair probability of being chosen, and hence the results obtained would be impartial. Furthermore, generating a simple random sample is much less complex than other approaches. Similarly, each unit of the population has an equivalent chance of being included in basic random sampling (Creswell, 2013). However, there are certain drawbacks, such as the difficulties of accessing a wider demographic list since some schools or colleges are unable to include a full list of students or professors for study. Similarly, individuals seeking to perform random sampling must collect information from various sources, which is time consuming.

Materials and Procedure

As aforementioned, for an accurate and convenient collection of data for my research, I have employed quantitative approach. Since the study is based on quantitative method, there are variables. The satisfaction of E-learning is the dependent variable and on the other hand, the gender and other demographic information was used as the independent variable. To measure the students' satisfaction of E-Learning, I have used a modified version of Online Learning Self Efficacy Scale (OLSES) Questionnaire originally developed by Zimmerman and Kulikowich

(2016). The modified scale though is adopted from (Chou, 2014). The scale is a 21 item self-report measure on which the participants were provided with 4-point Likert scale ranging from 1- Strongly Agree, 2- Agree, 3- Disagree and 4- Strongly Disagree. Another material that was employed is the structured questionnaires since survey method was employed for this study. Questionnaires are great method to collect and obtain data from any group of people in a short period of time. It also aligned well in answering the multiple choice question and scale based responses like Likert scale. Furthermore, the key tool in collecting data was Google Forms. Google Form is an essential tool in collecting responses from the respondents. Another essential material that I have referred to is the book by Creswell, titled, "Research Design, Qualitative, Quantitative and Mixed Method Approaches (2013), because, the book provides an in-depth information and steps in conducting social science research for undergraduates.

Finally, due to the possibility of non-response in this sample, since non-response will delay or contradict the validity of the quantitative study's results, to minimize non-response and prevent non-response errors, I have given the participants at least two days to answer in accordance with their hectic schedule. Similarly, while running the survey, I tried to include as few questions as possible that demand a short amount of time, such as a few minutes. However, few of the participants did not answered within the specified time frame, and therefore, I have given the priority to those who are willing to participate in this study.

Research Design

For this analysis, the quantitative approach was used because the data was accurate and could be applied to a wider population. The data was obtained using Google Forms and a cross-sectional research method, which was much more efficient than the other options available for the report. It contained specially built self-completion survey questionnaires. The questionnaires were created to see if there was a disparity in satisfaction level of E-Learning between men and women. For my research, the dependent variable is E-Learning satisfaction, and the independent variable is gender.

Data Analysis

The answers to each questionnaire were compiled and exported into Microsoft Excel. After validating the results, it was analyzed using descriptive statistics with the help of the Statistical Package for Social Sciences (SPSS) version 21. Finally, the collected results were evaluated statistically using the Independent t-test. In addition, descriptive statistics and a t-test with a significance level of P 0.05 were used to interpret the results. As the study tried to assess if there was a substantial gap in perceived satisfaction with E-Learning between the two different classes, the t-test was used (male and female).

Limitations

The data obtained from this study and the related results are only limited to sample from Sherubtse College and therefore, one cannot draw conclusion and general assumption from this particular study. Not only that, but the

limited sample even from the college fail in providing a clear and concrete result as to how much gender difference there is in E-learning satisfaction.

Ethical Considerations

The ethical consideration and anonymity of the respondents will also be respected and taken into consideration. To avoid such conflicts related to ethical consideration and maintenance of anonymity, I will be issuing a consent form with certain terms and condition that not only protects the respondents from anonymity issue but also protect myself from other issues in the future.

Results

In my study, the respondents were chosen at random using a simple random sample, therefore, the gender is the nominal level of measurement (as male or female). Likewise, the dependent variable (E-Learning Perception) was assessed using a four-point Likert scale at the interval level. However, in the case of gender normality, the A Shapiro- Wilk's test was used to determine whether the data were approximately distributed normally. Similarly, if the sample size is greater than 30, we frequently assume that the measures derived from the sample will be normal. Still, it's a good idea to test for the normality assumption. For example, we assumed that the same level of E-Learning satisfaction was observed in both males and females in the college based on the table below, where both p values are above 0.05, the variables are normally distributed in the population, and the level of E-Learning satisfaction is slightly equivalent but does not vary significantly from normality between males and females in the college.

Table 1.1 Tests of Normality

	N	Gender	Shapiro- Wilk Statistic	df	Sig.
Total of Online Learning Self Efficacy Scale Questionnaire (OLSES) (QTotal)	60	Male	0.96	31	0.32
		Female	0.86	29	0.01

A total of 60 students were selected at random from a total of 1531 students in the college to participate in this report. There were 31 men and 29 women among the 60 people who responded. To begin, a descriptive statistics test was run in the Statistical Package for the Social Sciences (SPSS) program to see whether there were any substantial differences between the independent variable, gender, and the dependent variables such as Perceived Usefulness (UseTotal), Perceived Effectiveness (EffTotal), Perceived Satisfaction (SatTotal) and Self-Efficacy (SETotal) to see if there were any gender differences in E-Learning satisfaction between male and female college students. According to the descriptive statistics below, there is no major difference in perception of E-Learning between male and female students, but there are minor differences.

Table 1.2 Descriptive Statistics

	N	Mean	SD	Median	SEM	Min	Max	Skewedness	Kurtosis
Gender	60	1.48	0.50	1.0	0.65	1	2	0.68	-2.06
UseTotal	60	22.40	3.13	23.50	0.40	16.00	30.00	-0.49	0.29
EffTotal	60	13.40	22.18	14.50	0.28	9.00	20.00	-0.17	-0.69
SatTotal	60	10.1	1.90	10.0	0.24	5.0	14.0	-0.63	0.95
SETotal	60	11.50	1.92	12.00	0.24	7.0	16.0	0.04	0.58

H$_1$: There is a significant differences between genders in overall perception of E-Learning.

To investigate the first hypothesis, "There is a significant differences between genders in overall perception of E-Learning" an independent sample t-test was used in the Statistical Package for the Social Sciences (SPSS) program to compare and observe the disparity in E-Learning perception between male and female college students. The test (Table 1.5) found no statistically significant difference in overall E-Learning perception between men (M = 57.03, SD = 8.95) and women (M = 57.96, SD = 5.65), t (47) = -0.47, p = 0.63, 95 percent CI [-4.83 to 2.96]. As a result, I retained my null hypothesis, since there is no significant differences between gender and E-Learning perception among male and female college students.

H$_2$: There is a significant differences between genders in perceived satisfaction of E-Learning.

To investigate the second hypothesis, "There is a significant differences between genders in perceived satisfaction of E-Learning" an independent sample t-test was again conducted in SPSS to compare and observe the disparity in perceived E-Learning satisfaction between female and male college student. The test (Table 1.6) show no significant difference in perceived satisfaction between men (M = 10.12, SD = 2.18) and female (M = 10.24, SD = 1.59) t(22) = -0.22, p = 0.82, 95 percent CI [-1.10 to 0.88]. As a result, I retained my null hypothesis, since there is no evidence of significant difference in male and female's perceived satisfaction of E-Learning.

Additionally, the Statistical Package for the Social Sciences (SPSS) software was used to examine and observe the gender difference in E-Learning perception based on E-Learning indicators such as perceived usefulness, perceived effectiveness, perceived satisfaction, and self-efficacy. In the mean of these four E-Learning indicators, there was no statistically significant difference between the two genders (male and female students).

Table 1.3 Comparisons of Indicators of E-Learning satisfaction between Male and Female Students

Indicators of E-Learning Satisfaction	Gender	N	Mean	Std. Deviation	Std. Error Mean
Perceived Usefulness	Male	31	22.25	3.50	0.62

	Female	29	22.55	2.74	0.50
Perceived	Male	31	13.22	2.30	0.41
Effectiveness	Female	29	13.58	2.06	0.38
Perceived Satisfaction	Male	31	10.1	2.18	0.39
	Female	29	10.24	1.59	0.29
Perceived	Male	31	11.41	2.50	0.44
Self-Efficacy	Female	29	11.58	1.05	0.19

The test also revealed that, female students scored slightly higher on the indicators such as perceived usefulness (UseTotal), perceived effectiveness (EffTotal), and perceived satisfaction (SatTotal), however, none of the indicator showed any significant difference in level of E-Learning perception between the two genders based on Total of Online Learning Self Efficacy Scale Questionnaire (OLSES), despite the slight difference in general, as shown in the figure below.
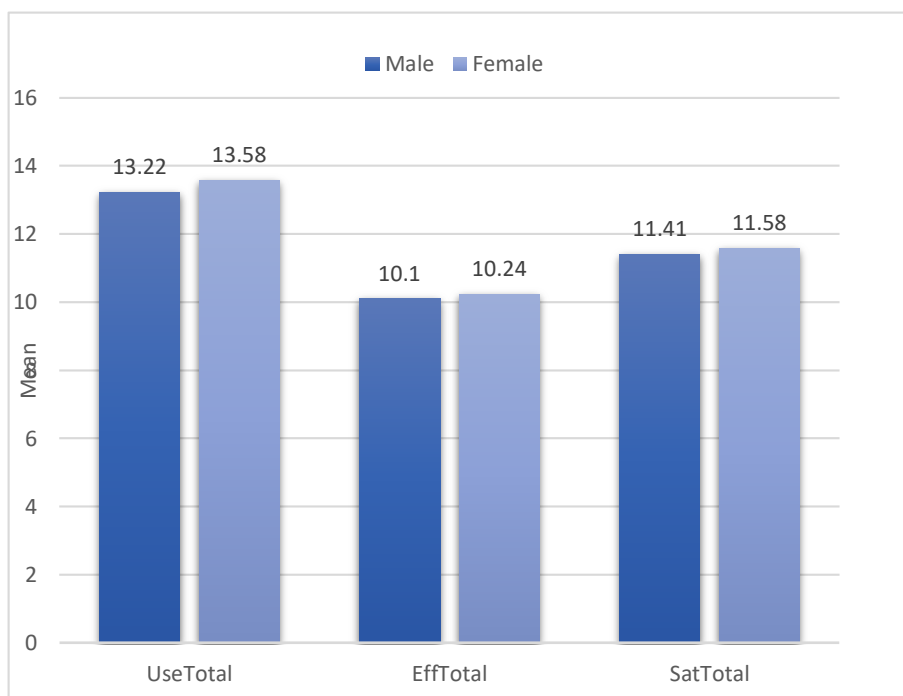

Figure 1.1 Mean Difference in the indicators of E-Learning Perception

Discussion

The results of this study revealed that there is no significant difference between gender and overall perception of E-Learning among male and female college students because the statistical independent t-test value of $p > 0.05$ (p = 0.634) is greater than 0.05; thus, my null hypothesis was retained. Furthermore, based on four indicators, i.e. Perceived Usefulness, Perceived Effectiveness, Perceived Satisfaction and Self-Efficacy, the results show that there is no gender difference in perceived E-Learning satisfaction, implying that both males and females have the same level of perceived satisfaction with E-Learning. Particularly for perceived satisfaction of E-Learning,

with a p value of 0.82, which is greater than 0.05, the null hypothesis was once again retained. Furthermore, the findings of this study revealed that female have scored higher on the Likert scale and therefore, female have perceived E-Learning more favorable compared to Male. Moreover, according to the findings of this study, the overall perception of E-Learning is more positive and favorable in both the genders.

In general, there was mixed evidence in the prior literature that there is a gender difference in E-Learning satisfaction. Similarly, some research suggests that there are gender differences in E-Learning, though others disagree. However, my research discovered that female students have a slightly higher perceived satisfaction score, whereas male students have a slightly lower perceived satisfaction score. Nonetheless, my research found that the difference is insufficient to reject the null hypothesis. As a result, there is no statistically significant difference between male and female college students in perceived E-Learning satisfaction. Therefore, this result does not fit with the theory of expectations state which states that people in the society adheres to specific status characteristics base on their gender. However, despite being inclusive of both the gender equally, the result came out with no significant difference.

For this, the limitation of this study are such as the fact that not all students are equally good with words, and some respondents may have misinterpreted the statement. If the use of E-Learning is prolonged, the experience and perception could change. Because students come from a variety of fields of study, generalizing its findings and reports to the entire college population will be difficult. This study, on the other hand, will debunk the gender-based stereotype in E-Learning in our society. The generalization of this result is further limited by the fact that, the students of Sherubtse College have a limited experience with E-Learning in the form of Online Class and the usage of Virtual Learning Environment. Further study on this topic is required to generate findings that is applicable and generalizable to a bigger geographical area as well as to do research on finding a concrete evidence and indicators that influence the satisfaction, effectiveness and implementation of E-Learning in Bhutanese institutions, not only that, but also, further study can be done on topics such as effects of socioeconomic and social capital on the effectiveness and convenience of E-Learning, etc.

Conclusion

As E-Learning is gaining ground and reaching new heights, it has become crucial to understand and study the effectiveness of the E-Learning in Sherubtse environment and Bhutan in general. Moreover, how the young student perceive the use of ICT and especially online class to learn is also important. By running several statistical test on SPSS, this paper established that among the 60 samples in this study, no significant difference between genders (male and female) in perceived E-Learning satisfaction were found. Moreover, when comparing the perceived usefulness, effectiveness, satisfaction and self-efficacy, the result suggest that, not only there is slight difference but also both the genders scored high in those questionnaires, thus bringing the conclusion that E-Learning has been effective, useful, and satisfying among the Sherubtse students. Future research into E-Learning and other interactive educational aids should concentrate on gaining a better understanding of how various factors, other than gender, shape and affect the perceptions of such learning platforms. Furthermore, although this study

looked at gender differences in E-Learning satisfaction, more observational studies are needed to gain a better understanding of different patterns and indicators of E-Learning—for example, to see whether socioeconomic background influences overall satisfaction with E-Learning or if the reliability and convenience of E-Learning is influenced by their level of education.

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Appendix 1: Questionnaire

Part 1: Demographic Information

1. Specify you gender.

   Male

   Female

   Other

2. In which year are you studying?

   First Year

   Second Year

   Third Year

3. Did you take part in online classes during the pandemic?

   Yes

   No

4. What type of area were you resided in during the time of online classes?

   Rural

   Urban

Part 2: Perceived Usefulness

This part assesses your perception of online learning's usefulness in general.

Please indicate the extent of your agreement or disagreement with each of the following statements.

Sl. No.	Questionnaire	SA	A	D	SD
1	I am satisfied with the learning contents	1	2	3	4
2	I am satisfied with multimedia instruction	1	2	3	4
3	I believe the e-learning contents are informative	1	2	3	4
4	I believe e-learning is a useful learning tool	1	2	3	4
5	I believe the e-learning contents are useful	1	2	3	4
6	I intend to use e-learning to assist my learning in future	1	2	3	4
7	I intend to use e-learning content to assist my learning in future	1	2	3	4
8	I intend to use e-learning as an autonomous learning tool	1	2	3	4

Part 3: Perceived E-learning Effectiveness

This part assesses your perception of the effectiveness of E-learning.

Please indicate the extent of your agreement or disagreement with each of the following statements.

Sl. No.	Questionnaires	SA	A	D	SD
1	I believe e-learning can assist teacher-learner interaction	1	2	3	4
2	I believe e-learning can assist learner-learner interaction	1	2	3	4
3	I believe e-learning can assist learning efficiency	1	2	3	4
4	I believe e-learning can assist learning performance	1	2	3	4
5	I believe e-learning can assist learning motivation	1	2	3	4

Part 4: E-learning System Satisfaction

This part assesses the extent of your satisfaction with the system of E-learning in general.

Please indicate the extent of your agreement or disagreement with each of the following statements.

Sl. No.	Questionnaires	SA	A	D	SD
1	I am satisfied with the e-learning functions	1	2	3	4
2	I am satisfied with the Internet speed	1	2	3	4
3	I am satisfied with the e-learning content	1	2	3	4
4	I am satisfied with e-learning interaction	1	2	3	4

Part 5: Perceived Self Efficacy

This part assesses your perception of self-efficacy of E-learning.

Please indicate the extent of your agreement or disagreement with each of the following statements.

Sl. No.	Questionnaires	SA	A	D	SD
1	I feel confident about using the Moodle system	1	2	3	4
2	I feel confident about using the online learning contents	1	2	3	4
3	I am satisfied with using e-learning as a tool to assist learning	1	2	3	4
4	I am satisfied with using the e-learning functions	1	2	3	4

Appendix 2: SPSS Output Table

Table 1.4 Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Total of Online Learning Self Efficacy Scale	Male	31	57.03	8.95	1.60
Questionnaire (OLSES) (QTotal)	Female	29	57.96	5.65	1.05

Note: N= Sample Size

Table 1.5 Independent Samples Test

QTotal	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	4.27	0.04	-0.47	58	0.634	-0.93	1.94	-4.83	2.96
Equal variances not assumed			-.48	51.10	0.629	-0.93	1.92	-4.79	2.92

Table 1.6 Independent Samples Test

Perceived Satisfaction	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	1.99	0.16	-0.22	58	0.82	-0.11	0.49	-1.10	0.88
Equal variances not assumed			-0.22	54.83	0.82	-0.11	0.49	-1.09	0.87