

A Study of the Attitude of Undergraduate Students towards Online Learning in Aizawl

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Abstract

Online learning can serve many students at a significantly lower cost than traditional classroom-based instruction. By utilizing virtual classes and digital resources, educational institutions can reach a wider audience without the constraints of physical infrastructure and logistical limitations. Attitude is a powerful determinant of their predisposition or inclination to respond with positive or adverse reactions. The purpose of the present study was to assess the attitude of undergraduate students towards online learning concerning three variables, viz., Gender, locale, and stream of study—the study sample comprised 150 undergraduate students from Pachhunga University College, Aizawl City. Data were collected through the 'Attitude Towards E-learning Scale (ATLES)' developed and standardized by Dimple Rani. It was analyzed through t-test and two-way ANOVA. The study revealed that most students have average attitudes towards online learning. Further, it is revealed that attitudes towards e-learning among college students were independent of Gender and location, while it is dependent on the stream of the study. Science undergraduate students have a more favorable attitude toward online learning than Arts students.

Keywords: Attitude, Online-learning, Gender, Locality, Stream of the Study.

Introduction

Learning is a multifaceted and dynamic process that involves the acquisition of fresh insights, comprehension, cognitive frameworks, behavioral patterns, competencies, ethical principles, personal inclinations, and preferences. It encompasses a broad spectrum of activities and experiences through which individuals expand their

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intellectual capacity, broaden their horizons, and develop a repertoire of abilities and perspectives that shape their world views and actions.

E-learning encompasses using electronic media and information and communication technologies (ICT) in education. It encompasses various educational technology tools and approaches and is increasingly recognized as an advanced paradigm for higher education. The term E-learning encompasses a wide range of pedagogical methods and strategies that continually evolve to meet the needs of both students and educators. The advent of the internet and its educational applications have significantly impacted how learners approach learning. Newton (2003) states that the e-learning system encompasses three primary domains. Firstly, it aims to enhance access to education and training, making it more widely available and accessible to learners. Secondly, it strives to improve the quality of teaching and learning experiences, employing technological advancements to enhance educational outcomes. Lastly, it recognizes the importance of higher education institutions adapting and maintaining a competitive edge in an evolving market, ensuring they meet students' changing demands and preferences.

Online learning, also known as e-learning, refers to an educational approach that leverages the power of the internet, allowing students to receive instruction and engage in learning activities within an entirely virtual environment. Initially emerging in the 1990s, coinciding with the advent of the internet, online learning gained significant traction in distance education. However, its influence has since expanded, particularly within higher education. Online learning or e-learning primarily utilizes devices such as laptops, smartphones, and tablets, with smartphones being the preferred choice for most students (Muthuprasad et al., 2021).

In its multifaceted nature, attitude encompasses an individual's subjective lens through which they perceive and evaluate a specific concept, entity, individual, or circumstance. It is a powerful determinant of their predisposition or inclination to respond with positive or adverse reactions. As a psychological construct, attitude delves into the intricate processes of perception and evaluation, shaping one's overall outlook and subjective judgment. It goes beyond mere observation and analysis, incorporating deeply ingrained beliefs, values, experiences, and social influences that influence how individuals approach and interpret ideas, objects, individuals, or situations.

Justification of the Study

Recent trends show that online learning has gained massive popularity due to its ease of access (Doley & Das, 2021). It provides the opportunity for students to learn at their comfort and requirements. It accommodates everyone's needs and helps

communicate concepts and ideas. It is cost-effective compared to traditional learning forms because learning through this mode happens quickly and easily (Doley & Das, 2021). Due to the comprehensive set of benefits, online learning has become quite popular and appreciated amongst students world wide. Konwar's (2017) study shows that students who have used e-learning as a learning strategy have gotten higher marks or percentages than the fewer users of the e-learning strategy. Therefore, to improve students' e-learning performance and feel more comfortable using e-resources, it is essential to make them aware of its importance and utility (Konwar, 2017). Hence, the present study helps to know how the students reacted and thought about e-learning and their attitude. A review revealed that most students are showing average level of attitude toward online learning (Dhas2017; Fouzdar & Behera, 2017; Khan, 2017).

Few studies (Dhamija, 2014; Zabadi & Alawi, 2016; Konwar, 2017; Gupta & Sharma, 2018; Sao et al., 2018; Sahu et al., 2022) found that undergraduate male students generally hold less positive attitudes towards e-learning compared to undergraduate female students. Concerning locality, few studies (Konwar, 2017; Ghatak & Das, 2021; Fouzdar & Behera, 2017; Lalsangpuui et al., 2023) reported no significant disparity in attitudes between urban and rural students. However, it is essential to note that Doley and Das (2021) reported a significant difference in attitudes towards e-learning between urban and rural students in their study. According to their findings, urban undergraduate students exhibited a more positive attitude toward e-learning than their rural counterparts. Some variations were reported about the stream as a categorical variable by Periasamy (2019), Nachimuthu (2020) and Lalsangpuui (2023). Periasamy (2019) identified significant differences among Language, Arts, and Science B.Ed. Trainees. The Science trainees hold more favorable attitudes toward online learning. Similarly, Nachimuthu (2020) found a significant difference between the attitude of student teachers belonging to Science and Arts streams towards online learning. Further, Lalsangpuui et al. (2023) reported that science stream prospective teachers have a more favorable attitude towards e-learning than Arts stream.

In contrast, Fouzdar & Behera (2017) reported a significant difference in favor of PG Arts students over PG Science students in their study. On the other hand, Ghatak and Das (2021) discovered no significant difference in attitudes toward online learning among arts and science undergraduate students.

The findings of the studies mentioned above are provided results in both directions with regard to categorical variables. There is a need to conduct more scientific investigation to get clear picture. With regard to geographical location, the investigators found a very limited study (Lalsangpuui et al., 2023) conducted in Aizawl City. Lalsangpuui et al., 2023 conducted study on prospective teachers at primary level. There is much scope to find the attitude of northeast undergraduate students towards

online learning. All of the above-stated reasons encouraged the investigator to conduct the present study.

Objectives of the Study

1. To study the attitude of undergraduate students towards online learning in Aizawl.
2. To compare the attitude of male and female undergraduate students towards online learning.
3. To compare the attitude of urban and rural undergraduate students towards online learning.
4. To compare the attitude of arts, science, and commerce stream undergraduate students towards online learning.

Hypotheses of the Study

1. There exists no significant difference between the attitudes of male and female undergraduate students towards online learning.
2. There exists no significant difference between the attitude of urban and rural undergraduate students towards online learning.
3. There exists no significant difference among the attitude of arts, science and commerce stream undergraduate students towards online learning.

Methodology

Research Design

The investigator adopted a descriptive method for the study. A survey was conducted to study the attitude of undergraduate students towards online learning.

Sampling

In the present study, the population comprises all the students of undergraduate colleges located in Aizawl City. There are 12 undergraduate colleges for traditional courses like Bachelor of Arts, Science, and Commerce in Aizawl city. Out of 12 colleges, Pachhunga University College was selected for drawing samples because this is the only college in Aizawl city where all three streams, i.e., Arts, Science, and Commerce, are available. Stratified random sampling was used to select the undergraduate students from the three streams stated above. A sample of 150 undergraduate students, 50 from each stream, were selected for the present study.

Tool Used

The tool used for the present study was *the Attitude Towards E-learning Scale* (ATLES) developed by Dimpal Rani in 2015. The scale consisted of four major areas, viz., 1. E-Learning interest, 2. Usefulness, 3. Ease of e-learning, and 4. E-learning confidence. The scale is five – a five-point scale with 65 positive and negative items. The reliability of the scale was found by the Test-Retest method. The correlation coefficient was +0.87, which is significant at a .01 significance level.

Procedure of Data Collection

The investigator systematically conducted the tests online, using Google Forms and offline. The students were asked to respond and choose the given options freely related to their attitude towards online learning or e-learning. They have been told that their responses were kept confidential and only used for research.

Analysis and Interpretation

To study the attitude of undergraduate students, the researchers classified the scores of the individual students according to the norms given in the ATLES manual. The Mean score and Standard Deviation were also computed. The objective-wise analysis is presented below;

I. Attitude of undergraduate students towards online learning

Raw scores were converted into z-scores to assess the attitude toward online learning among undergraduate students; the level of attitude ranges from Extremely high, High, Above average, Average, Below average, Low, and Extremely low towards e-learning. Table 1 and Figure 1 present the attitude level of undergraduate students.

Table 1

Level of Attitude of Undergraduate Students Towards Online-learning

Grade	Level of Attitude	No. of Students	Percentage
A	Extremely High	4	2.67
B	High	14	9.33
C	Above Average	25	16.67
D	Average	58	38.67
E	Below Average	40	26.67
F	Low	2	1.33
G	Extremely Low	7	4.67

Table 1 reveals that most undergraduate students (38.67%) have an average attitude toward online learning, followed by those with below-average attitudes (26.67%). It can also be observed that while 1.33 % have a low attitude toward online learning, very few of the undergraduate students have extremely high (2.67%), high (9.33%), above average (16.67%), and extremely low (4.67%) attitude towards online-learning.

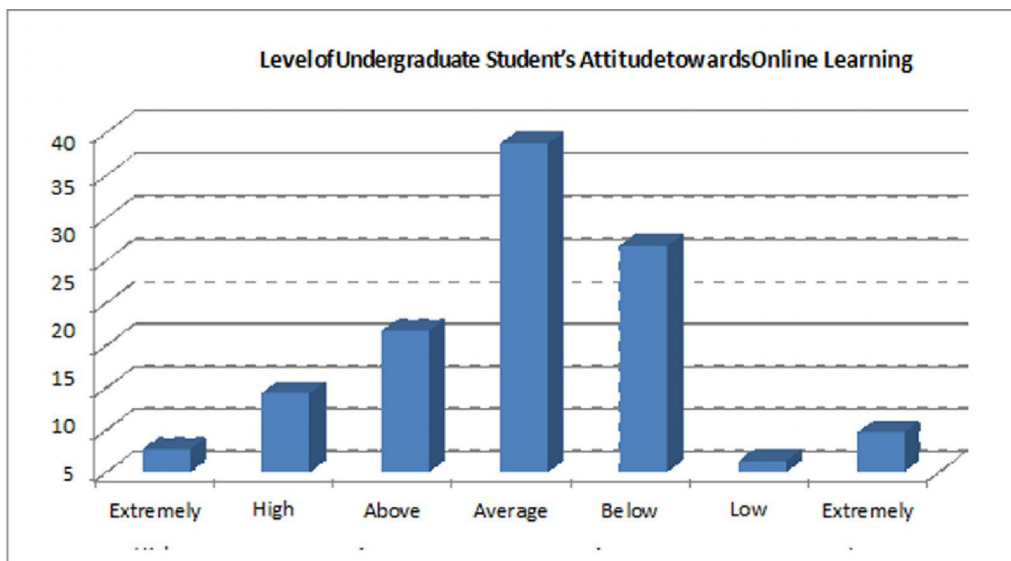


Figure 1 Level of Undergraduate Students' Attitude towards Online Learning

II. Attitude of Undergraduate Students' toward online learning with respect to Gender

The mean scores of male and female students are presented in Figure 2, which shows a difference concerning Gender. The mean score of female undergraduate students (208.3) toward online learning is greater than that of male students (206.71). A t-test was applied to study the significance of the difference. Table 2 compares the level of attitudes towards online learning with respect to Gender.

Figure 2 Attitude of undergraduate students towards online learning with respect to Gender.

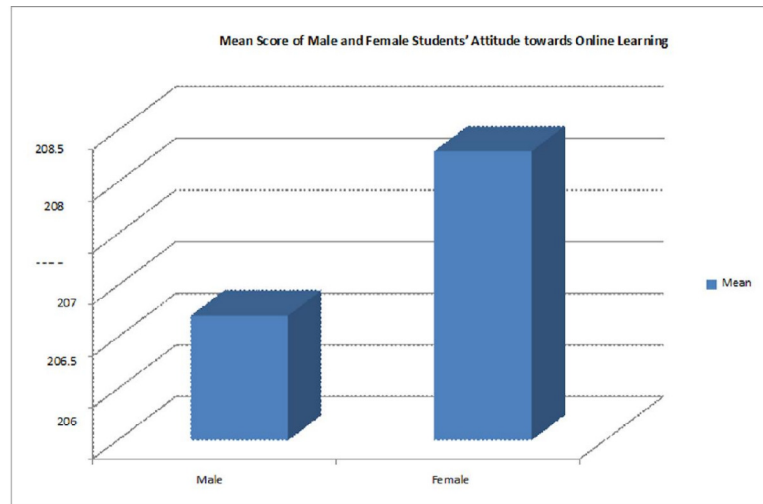


Table2

The Attitude of Undergraduate Students towards Online Learning with respect to Gender

Gender	N	Mean	SD	t-value	df	Significance level
Male	81	206.71	14.1162	0.49	149	Notsignificant
Female	69	208.3	14.33089			

Table 2 shows that the t-value is 0.49, which is less than the critical value, i.e., 1.96 at a 0.05 level of significance. Therefore, the null hypothesis, "There exists no significant difference between the attitude of male and female undergraduate students towards online learning," is accepted. Although the Mean score of both male (206.71) and female students (208.3) indicates that female students have a slightly more favorable attitude towards online learning, the difference is not statistically significant, which means that there is no significant difference between the attitude of male and female undergraduate college students towards online-learning. Hence, male and female undergraduate students have the same attitude toward online learning.

III. Attitude of Undergraduate Students towards online learning with respect to locale

Mean scores of urban and rural students are presented in Figure 3, which shows a difference with respect to locale. The mean score of urban undergraduate students towards online learning is more than that of rural students. A t-test was applied to study the significance of the difference. Table 3 compares the level of attitude towards online learning with respect to locale.

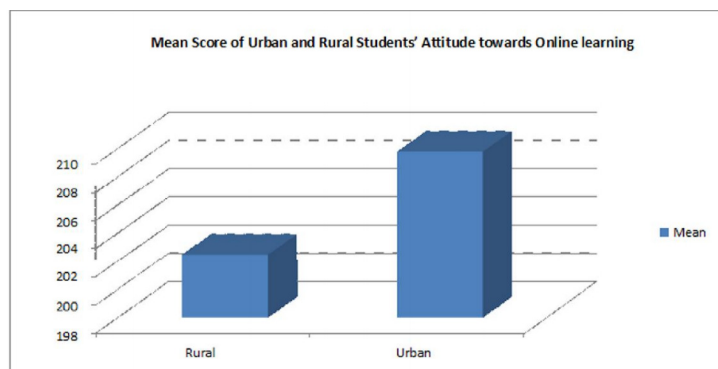


Figure 3 Attitude of undergraduate students towards online learning with respect to locale

Table 3

Comparison of Rural and Urban Undergraduate Students' Attitudes towards Online Learning

Locality	N	Mean	SD	t-value	df	Significance level
Rural	49	202.47	15.66	0.0032	149	Notsignificant
Urban	103	209.78	13.053			

The t-value is 0.0032, which is significantly less than the critical value, i.e., 1.96 at 0.05 level of significance. Therefore, the null hypothesis, which states that "There exists no significant difference between the attitude of urban and rural undergraduate students towards online learning," is accepted. Although the Mean score of both urban (209.78) and rural students (202.47) indicates that urban students have a slightly more favorable attitude towards online learning, the difference is not statistically significant, which means that there is no significant difference between the attitude of urban and rural undergraduate college students towards online learning. Hence, urban and rural undergraduate students have the same attitude towards online learning.

IV. Attitude of Undergraduate Students towards online learning with respect to the academic stream

The mean scores of Arts, Science, and Commerce students are presented in Figure 4, which shows a difference with respect to the academic stream. The mean score of Science students is more than that of Commerce students towards online learning. Further, the mean score of Commerce students is more than that of Arts undergraduate students' attitude toward online learning. Table 4 presents the mean scores of students' attitude levels towards online learning with respect to the stream. One-way ANOVA was applied to study the significance of differences among the three groups. Further, a t-test was applied to see the significant difference between the two groups. Tables 4 to 8 compare the level of attitude towards online learning with respect to the academic stream.

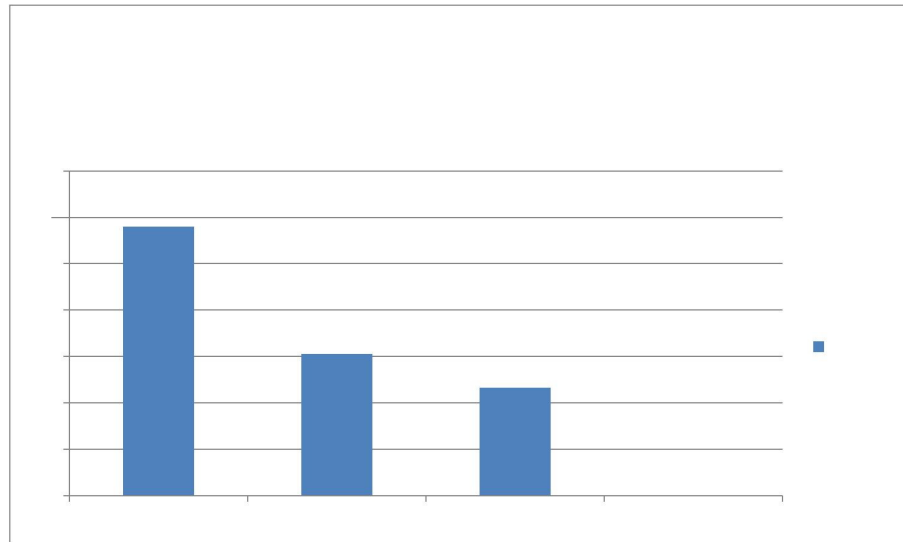


Figure 4 *Attitude of undergraduate students towards online learning with respect to academic stream*

Table 4

Comparison of Mean Scores of Undergraduate Students' Attitude towards Online Learning Concerning Academic Stream

Group	N	Sum	Mean	Variance	SD
Science	50	10580	211.6	193.67347	13.91
Commerce	50	10305	206.1	204.58163	14.3
Arts	50	10232	204.64	196.43918	14.01

Table 4 presents the means cores of undergraduate students' attitudes toward online learning based on their academic streams: Science, Commerce, and Arts. The mean scores for the Science, Commerce, and Arts groups are 211.6, 206.1, and 204.64, respectively. There is a difference among the mean scores of the three student groups; however, one one-way ANOVA and t-test were applied to test the significant difference.

Table5

Comparison of Undergraduate Students' Attitude towards Online Learning Concerning Academic Stream

Source of Variation	SS	df	MS	F	P-value	F critical Value
BetweenGroups	1347.053	2	673.53	3.398	0.0361	3.058
WithinGroups	29140.02	147	198.23			

Table 5 compares under-graduate students' attitudes toward online learning across the different academic streams. The analysis considers the variation both between the groups and within the groups.

i. Between Groups: The F-statistic, calculated as the ratio of between-group MS to within-group MS, is 3.398. The critical value of the F-statistic at 0.05 significance level is 3.058. Further, the p-value as sociated with this F-statistic is 0.0361, indicating a statistically significant difference in the attitude towards online learning a cross the academic streams.

ii. Within Groups: The variation within the groups is measured using the sum of squares (SS), 29140.02. The degree off reedom (df) for within groups is 147. The mean sum of squares (MS) is calculated by dividing the SS by the respective degrees of freedom.

Table 6

ComparisonofScienceandCommerce Stream Students' Attitudes towardsOnline Learning

Academic Stream	N	Mean	SD	df	t-value	Significance level
Science	50	211.6	13.91	98	1.948	Notsignificant
Commerce	50	206.1	14.3			

Table 6 shows the t-value is 1.948, which is much less than the critical value, i.e., 1.96 at a 0.05 level of significance. Therefore, the null hypothesis, which states that "There exists no significant difference between the attitude of science and commerce undergraduate students towards online learning," is accepted. Although the Mean score of both science (211.6) and commerce students (206.1) indicates that science students

have a slightly more favorable attitude towards online learning than commerce students, the difference is not statistically significant, which means that there is no significant difference between the attitude of science and commerce undergraduate college students towards online learning. Hence, science and commerce undergraduate students have the same attitude towards online learning.

Table 7
Comparison of Commerce and Arts Stream Students' Attitudes towards Online Learning

Academic Stream	N	Mean	SD	df	t-value	Significance level
Commerce	50	206.1	14.3	98	0.51	Not significant
Arts	50	204.64	14.01			

Table 7 shows that the value is 0.51, which is much less than the critical value, i.e., 1.96 at a 0.05 level of significance. Therefore, the null hypothesis, which stated that "There exists no significant difference between the attitude of arts and commerce undergraduate students towards online learning," is accepted. Although the mean score of both commerce (206.1) and arts students (204.64) indicates that commerce students have a slightly more favorable attitude towards online learning than arts students, the difference is not statistically significant, which means that there is no significant difference between the attitude of commerce and arts undergraduate college students towards online learning. Hence, commerce and arts undergraduate students have the same attitude toward online learning.

Table 8
Comparison of Science and Arts Stream Students' Attitudes towards Online Learning

Academic Stream	N	Mean	SD	df	t-value	Significance level
Science	50	211.6	13.91	98	2.49	Significant
Arts	50	204.64	14.01			

Table 8 shows the t-value is 2.49, which is greater than the critical value, i.e., 1.96 at a 0.05 level of significance. Therefore, the null hypothesis, which stated that "There exists no significant difference between the attitude of science and commerce undergraduate students towards online learning," is rejected. Therefore, a significant difference exists between the attitude of science and arts undergraduate college students towards online learning. The mean score of science students (211.6) is greater than that of art students (204.64). Hence, science undergraduate students have a more favorable attitude towards online learning than arts students.

Findings of the Study

1. It is found that undergraduate students have different attitudes towards online learning. Data reveals that 38.67% have an average attitude towards online-learning, 26.67% below average, 1.33 % have a low attitude, very few of the undergraduate students have extremely high 2.67 %, 9.33% high, 16.67% above average, and 4.67% extremely low.
2. It was found that there is no significant difference in the attitude of male and female undergraduate students towards online learning. Both male and female undergraduate students have the same level of attitude towards online learning.
3. It was found that urban and rural undergraduate students' attitudes towards online learning are the same. Urban and rural undergraduate students have the same attitude towards online learning.
4. It was found that there is a significant difference in the attitudes of Science, Commerce, and Arts students towards online learning.
5. It was found that science and commerce undergraduate students' attitudes towards online learning are the same. Both science and commerce undergraduate students have the same level of attitude toward online-learning.
6. It was found that commerce and arts undergraduate students' attitudes towards online learning are the same. Both commerce and arts undergraduate students have the same level of attitude towards online learning.
7. It was found that there exists a significant difference in the attitude of science and arts undergraduate students towards online learning. Science students have a more favorable attitude toward online learning than arts students.

Discussion

The findings revealed that most undergraduate students have an average attitude towards online learning. These findings align with previous studies conducted by Dhas (2017), Fouzdar and Behera (2017), and Khan (2017), which reported that the majority of undergraduate students exhibited an average level of attitude towards online learning or e-learning. This consistency between the present study and previous research adds weight to the validity and generalizability of the findings.

Further, the findings revealed no significant difference between the attitudes of male and female undergraduate students towards online learning. These findings align with the results of previous studies conducted by Doley & Das (2021), Ghatak & Das (2021). Further, the findings revealed that urban and rural undergraduate students'

attitudes towards online learning are the same. These results are consistent with previous studies conducted by Konwar (2017), Ghatak & Das (2021), and Fouzdar & Behera (2017), which also found no significant disparity in attitude between urban and rural students. However, it is essential to note that Doley and Das(2021) reported a significant difference in attitudes towards e-learning between urbanand rural students in their study. According to their findings, urban undergraduate students exhibited a more positive attitude towards e-learning than their rural counter parts.

Further, the findings revealed a significant difference among the attitudes of Science, Commerce, and Arts students towards online learning. It is revealed that Science and commerce students' attitudes are the same. Similarly, commerce and art students' attitudes are the same. However, a significant difference in attitudes towards online learning was found when comparing Science and Arts students. This finding is consistent with Periasamy, 2019; Nachimuthu2020; and Lalsangpuii, 2023. Findings of of the present study concerning stream of study are not aligned with the findings of Fouzdar & Behera, (2017). They reported a significant difference in favor of PG Arts students over PG Science students in their study. On the other hand, Ghatak and Das (2021) discovered no significant difference in attitudes toward online learning among arts and science undergraduate students, which is also different from the findings of the present study.

Conclusion

Online learning can serve many students at a significantly lower cost than traditional classroom-based instruction. By utilizing virtual classes and digital resources, educational institutions can reach a wider audience without the constraints of physical infrastructure and logistical limitations. This scalability allows for efficiently disseminating high-quality educational materials to a broad student population.

Further more, online learning fosters digital literacy skills, equipping students with essential competencies required in the digital age. Through interactive multimedia resources, online discussions, and personalized instruction, students develop critical thinking, problem-solving, and collaborative skills, which are highly valued in today's work force.

The positive attitudes towards e-learning observed among college students in the present study highlight the recognition of the potential benefits associated with this educational approach. College students are increasingly familiar with technology and are eager to embrace innovative learning methods that align with their digital-native characteristics. E-learning empowers students to take charge of their learning journey, providing them with the tools and resources to engage actively in the learning process.

It is also revealed that attitudes towards e-learning among college students were independent of Gender and geographic location but dependent of academic stream, therefore, it is essential to acknowledge that individual experiences and academic factors that may influence students' perceptions and acceptance of e-learning. Therefore, educational institutions and policy makers must consider students' diverse needs and preferences when designing and implementing online learning initiatives. In conclusion, the present study's findings emphasize the transformative potential of online learning in the current educational landscape. Online learning provides a flexible, accessible, and cost-effective education, connecting students globally and empowering them to take control of their learning journey. By leveraging the positive attitudes towards online learning among college students, educational institutions can further enhance the quality of education and better prepare students for the challenges and opportunities of the digital era.

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