

Exploring Adolescents' Attitude Towards E-Learning- A Sociological Study

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ABSTRACT

World Health Organization proclaimed COVID-19 a global pandemic in March 2020. Due to this scenario, the closure of university campuses and the switch from in-person instruction and evaluation to online formats have posed new challenges and caused havoc throughout the education sector. Prohibitions were implemented all around the globe, many of which had an adverse effect on educational systems and disrupted the everyday lives of both adults and children. This has most likely been apparent for children and adolescents in the field of education. The recent paradigm shift in education is the most crucial issue regarding learning. Forming a new curriculum and using technology, which gave rise to the idea of e-learning, constitute instances of this change. Numerous issues with students' participation and motivation have evolved since the advent of e-learning. Therefore, the focus of this research is to explore and contrast gender and stream differences in adolescents' attitudes towards e-learning. A target group of 50 adolescent students in the age range of 16–19 was selected from different departments of Aligarh Muslim University as respondents to the present research work. The number of respondents was selected by employing a method of simple random sampling. For data collection, the ATEL (Attitude towards E-Learning) scale, standardized by Dimpal Rani was used. Findings from the existing research revealed that the majority of the adolescents had an average level of attitude towards e-learning, but their attitudes varied substantially depending on their streams. Students from science streams possess more favorable attitudes than students from other disciplines. However, there was no difference in the gender of the students.

Keywords: *Adolescents, Attitude, E-Learning, Blended Learning*

The adjustment to education and instructional approaches that must be made to improve the learning process constitutes one of the most significant changes in the world today. Despite the fact that technology already exists for learning, the pandemic has resulted in the highest usage. Technology has improved the ability to continue the instruction and learning process during the pandemic.

E-learning platforms offer students an extra, more adaptable method of communication that facilitates direct and effortless social interaction. Newton (2003) asserts that e-learning system

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is required to enhance accessibility to training and education, elevate the level of educational experiences, and help educational institutions compete in a changing student market.

Internet technologies such as, chat rooms, interactive multimedia apps, web conferences, e-mail, social networks, and numerous others have gradually developed and are widely used. Therefore, the Internet is utilized effectively in learning environments. (Yamamoto, Demiray, & Kesim, 2011; Yapici & Akbayin, 2012).

The Indian government has launched numerous channels of radio and television for instructional purposes in light of the significance of e-resources. SWAYAM PRABHA is a collection of DTH networks that use the GSAT-15 satellite to continuously broadcast top-notch educational content on a 24x7 basis. Similarly, access to NROER, INFLIBNET, NISHTHA, DIKSHA, YouTube channels, e-Path Shala, and numerous digital platforms are accessible to all users which are interconnected via various organizations such as IGNOU, NPTEL, UGC, NCERT etc. Such organizations are eager to advance e-learning by approving funds to feed the establishment of world-class e-learning facilities within educational institutions. The various e-learning platforms have significantly improved the standard of higher education. Even though the virtual classroom is a better alternative to traditional classroom instruction, students' willingness to accept and learn the academic material through online sessions, online exams, and online assignment submissions may result in changes to both the teaching and learning processes, like altered patterns of interaction, altered study habits, decreased physical activity, etc. Along with this, there are significant challenges for launching E-learning in India, such as the "Digital Divide." The country's internet penetration rate was just under 50%, and more than 50% of the population still does not have access to the internet, despite the high number and the steady improvement in accessibility. (Statistical Research Department, September 2022).

Students' attitudes can be shaped by several factors such as the efficiency of online platforms, the level of computer proficiency, and the quality and perceived usability of online courses (Aixia & Wang, 2011). Their expertise in computers as well as their perception of their own competence, pleasure, and utility in e-learning use all play a role. (Liaw & Huang, 2011). Consequently, e-learning readiness and acceptance among students depend greatly on their attitudes and behaviors towards it (Lim, Hong, & Tan, 2008; Selim, 2007).

Comprehensive investigations into the adolescents' attitude regarding e-learning have been limited in developing nations like India. Several studies have examined the topic, and one study reached the conclusion that students who adopted e-learning expressed favorable attitudes towards e-learning. However, it should be noted that this conclusion may be considered irrational (Kalyanasundaram & Madhavi, 2019). In another study, it was analyzed that receptiveness among medical students was influenced by factors such as motivation among learners, desire, and the amount of interaction between learners and instructors (Grover et al., 2018). Jena (2020) reported on a study that apparently focused on the success of government initiatives through programmes like SWAYAM and e-PG Pathshala throughout the lockdown imposed during COVID 19 outbreak. The authors presented their findings in a bullet-point format, without conducting any primary research of their own. A thorough analysis of online education in India resulted in no novel insights regarding student attitudes towards e-learning, as it primarily focused on assessing the positive and negative aspects of this mode of education (Dhawan, 2020). The Union government's "Digital India" initiative and the flagship programme "Swayam" have contributed to a gradual shift towards online learning. The COVID-19 lockdown period witnessed a significant transition

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towards online learning, with virtually all teaching and learning activities being conducted through the Internet. The advent of COVID-19 has provided an opportunity for educators to engage in a reevaluation of educational practices and to critically examine prevailing educational paradigms. According to World Bank (2011), India exhibits a high degree of income inequality, as evidenced by its Gini index of 37.8, which is indicative of a significant class divide. The term "digital divide" has gained significant attention in recent years. However, there has been a lack of extensive study that examines this issue in the specific context of online learning in India. According to Belson et al. (2017), India ranks at 105th position in terms of internet speed, indicating that it is one of the countries with the slowest internet speeds globally. Moreover, it has been reported that approximately 68.8% of the Indian population resides in rural regions (Chandramouli, 2011), which are characterized by a significantly lower level of internet accessibility compared to urban areas.

Adolescents

"Adolescence" refers to the developmental stage between pubescence and maturity. This is the cultural transition from childhood dependency to the relative autonomy of maturity. This describes the period of psychological adaptation to the physical and social changes that distinguish the behavior of children from that of adults. It ranges from 12 to 13 years old until they reach their late teens or early twenties. Hence, the individuals encompassing this stage are known as "adolescents." There are three distinct stages of adolescence:

1. Preadolescence: ten or eleven years to twelve or thirteen years
2. Early adolescence: thirteen to fifteen years
3. late adolescence: fifteen to twenty years

The present study is focused on students who are in the stage of late adolescence when behavioral traits resemble those of adults more. During this phase, a lot of individuals begin their careers. The individuals reach their maximum adult height during this time. They acquire a great deal of independence from their parents, but they continue to be significant people in their social lives. They aim to eliminate social injustices and create a more ideal world.

Attitude

The term "attitude" has been widely used in psychology to describe a person's feelings, opinions, and actions towards specific people, things, or events. The daily experiences of a typical person help shape their attitudes, which are largely influenced by their upbringing. Psychologists define attitudes as an acquired behavioral trait that assists individuals in evaluating things in a certain manner. It may involve evaluating individuals, concerns about society, things etc. Diverse attitudes exist among individuals. It can take on a positive or negative attitude, or it can be neutral at times.

Anastasi (1968) states that "an attitude is frequently described as a propensity to respond favorably or unfavorably to a specific category of stimuli, such as a national or racial group, a custom, or an organization".

An attitude is a dispositional state of preparedness to react to specific circumstances, people, or things. Attitude testing is crucial in order to accomplish a number of goals, such as 'to what degree the students have cultivated the essential attitudes', 'to encourage students to adopt the necessary attitudes', 'to assist instructors in comprehending how students' attitudes influence their behavior', 'to support the teacher in effective instruction', and 'to assist students with their career goals'.

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Attitude and behavior are closely related. Consequently, measuring attitudes is crucial when examining students' behavior. Researchers have discovered that attitude can help predict whether or not someone will adopt a particular behavior. As a result, students with a positive attitude are more likely to embrace an e-learning system.

E-Learning

Elliot Masie coined the term "E-Learning" in 1999 during his Tech Learn Conference (Gutierrez, 2014). "E-Learning" implies learning via electronic devices. The concept of "E-Learning" covers an extensive variety of educational tools and techniques that are continually evolving to satisfy the needs of learners as well as teachers. It is a learning environment in which the teacher and students do not interact physically and are separated by time and distance. However, this separation is connected with the aid of communication technology and Internet use. Thus, e-learning is the process of acquiring information and instruction via electronic devices. E-learning utilizes a computer, the internet, and other electronic devices to impart or provide training and learning of different materials.

E-learning is defined by Wentling et al. and Rosenberg as "the use of the Internet and associated tools and technologies to provide a wide variety of solutions that enhance performance and knowledge".

E-learning comes in both synchronous and asynchronous formats. Typically, synchronous e-learning involves students and instructors in remote locations. It is the management of time-sensitive content distribution to dispersed audiences through multicasting, video conferencing, and online lecture halls. Asynchronous online learning obviates the need for immediate involvement of both learners and educators.

The Ministry of Electronics and Information Technology has prioritized e-learning as a subject of importance in the area of education delivery, utilizing educational tools and communication methods. It involves instruction that is supported and facilitated by information and communication technologies (ICT).

Blended Learning

Blended learning is the integration of conventional instruction using internet-based online techniques, the deployment of multimedia and apps in a virtual learning setting, and the incorporation of multiple instructional methods. Blended learning combines the benefits of traditional and online learning and eliminates their respective drawbacks.

Significance of the study

Adolescence is the stage when students acquire essential traits and self-control, comprehend challenging subjects, think logically, and effectively articulate ideas. These characteristics can contribute to a rewarding profession and stable finances, which are beneficial to one's well-being as a whole. Nowadays, those who haven't expanded their education have fewer career choices. Students who accelerate or expand their education have more opportunities for advancement by developing a broad range of skills that will equip them for those positions. E-learning undoubtedly offers or opens doors to students by providing better chance to learn a broad spectrum of subjects in the current era of exploding knowledge and population. E-learning is the most cost-effective, environmentally friendly, and efficient method to stay updated. With the advent of e-learning in the twenty-first century, even a non-science graduate can now also work in technical fields up to some extent.

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Studies have demonstrated noteworthy associations between attitudes and beliefs, as well as between attitudes and behaviors. It has been established that attitudes serve as the basis for an individual's beliefs, which in turn, impact their actions. According to Workman's (2005) assertion, individuals are more inclined to utilize a technology if they hold positive attitudes towards it. He stated that subjective norms exert a significant influence on individuals, specifically in their perception of the attitudes of significant others towards a given technology. This perception may either promote or discourage the use of said technology. In response to the increasing demand for flexible learning options and the dynamic landscape of the educational industry, academic institutions across the nation are incorporating online learning initiatives into their curricula to enhance accessibility and maintain a competitive edge. The utilization of e-learning has the potential to further improve the learning experience by facilitating the creation of interactive settings that enable the exchange of knowledge between educators and learners. The development of a proficient e-learning platform is of paramount significance for facilitating effective teaching and learning. The issue at hand pertains to the preparedness of adolescent students to avail themselves of e-learning opportunities for the purpose of enhancing their academic progress.

Numerous research studies have been conducted to measure the impact of demographic factors on users' attitudes towards e-learning in various countries. Research indicates that social demographic factors, such as age, race, and gender, are significant contributors to Internet usage, as opposed to socio-economic factors like income and education, among others. The challenges related to demographic factors are prevalent across the globe, however, they hold greater significance in developing nations as compared to developed nations. The demographic implications in developing countries such as India are a cause for concern. The groups exhibit significant dissimilarity and are characterized by a greater number in quantity. Acquiring knowledge regarding user characteristics is considered a fundamental requirement for the successful implementation of e-learning systems in developing countries.

Therefore, the current study will aid in determining how the adolescent students reacted to and perceived e-learning, as well as their attitude towards it with regard to gender and diverse academic streams. Due to time and financial constraints, the researcher confines her study to specific departments at Aligarh Muslim University, Aligarh.

Objectives

1. To explore the adolescents' attitude towards e-learning.
2. To determine the gender-based difference in adolescents' attitude towards e-learning.
3. To determine the stream-based difference in adolescents' attitude towards e-learning.

Hypotheses

1. There exists no significant gender-based difference in adolescents' attitude towards e-learning.
2. There exists no significant stream-based difference in adolescents' attitude towards e-learning.

LITERATURE REVIEW

In the light of the reported literature, it is conceivable that different attitudes exist within college level students in emerging economies with respect to e-learning, although the overall opinion tends to be favorable (El-Gamal & El-Aziz, 2011). Nassoura (2012) emphasized this particular point that a large number of students viewed e-learning positively because it increased their motivation and self-esteem. Also, Bhubaneswar and Padmanabhan (2012)

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investigated the perspective of secondary school students in Delhi on e-learning and discovered that demographic factors have a substantial impact on e-learning. However, Suri and Sharma (2013) clearly asserted that "there are no gender differences in attitudes towards e-learning". These findings are consistent with numerous recent studies that show that the gender gap in this area is narrowing (Bhattacharjee, 2008). Notably, Nasser M. Sabah (2013) revealed that the combination of e-learning and face-to-face instruction is valued and preferred by students.

Moreover, Dhiman et al. (2014) reported that students of both genders are enthusiastic about e-learning, with female students being slightly more positive than male students. This result is in agreement with the findings of Mehra and Omnidan, as well as those of Adewole-Odeshi, who discovered that postgraduates have a favorable view of e-learning. In addition to the above-mentioned studies, Nida Khan (2017), in her study "An Analysis of the Attitude of Engineering Students Towards E-Learning in Bijnor," showed that majority of engineering learners enrolled in various colleges of engineering in Bijnor City maintained an average perspective about e-learning. The research findings indicate that both male and female students, regardless of their geographic location, who are pursuing engineering studies were also included in the study and did not have substantially different views regarding e-learning. Furthermore, Ishmirekha Handique Konwar (2017) revealed that gender and location have no effect on the attitudes of college students. Likewise, Pritilata Pegu Doley and Ritamoni Das (2021) investigated the attitudes of undergraduates at Raha College (Assam). The study explored the overall attitudes towards e-learning and also examined the specific attitudes of male and female, urban and rural students. According to the results of this study, undergraduates at Raha College have a range of attitudes, with no significant differences between the gender of the students.

METHODOLOGY

Sample

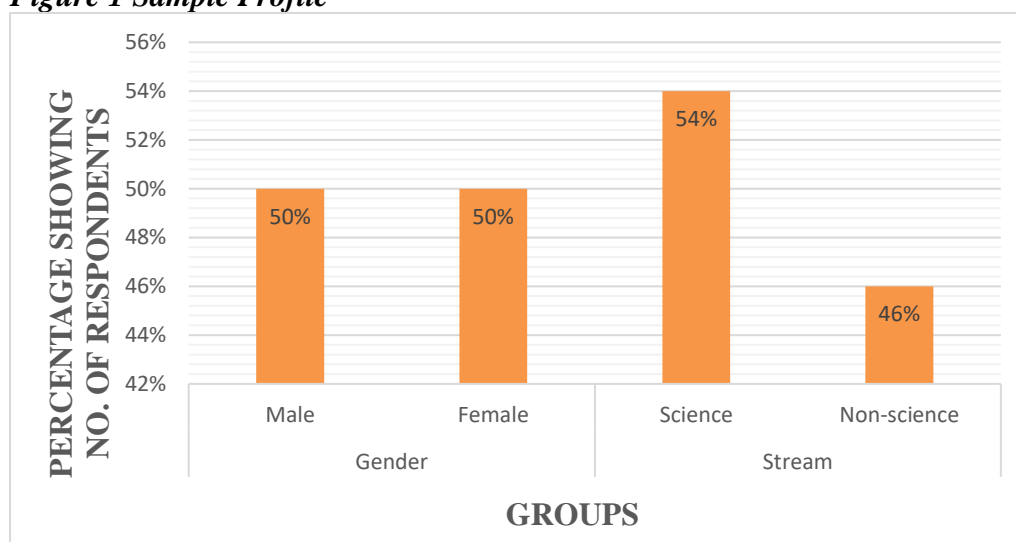
The sample for the present study comprised of 50 adolescents of graduation 1st year pursuing their studies in various departments of Aligarh Muslim University. Simple Random sampling technique was used to draw the sample from various departments

Table 1 Sample Profile

Groups		N	Total	Percentage
Gender	Male	25	50	50%
	Female	25		50%
Streams	Science	27	50	54%
	Non-science	23		46%

Note: - N=50 (Number of respondents)

Figure 1 Sample Profile



Instruments

The data was collected using Dimpal Rani's attitude scale towards e-learning. The scale has 65 items distributed across four categories: e-learning interest, usefulness, ease, and confidence.

Procedure

As previously stated, students were randomly selected from various departments (including science and non-science) at Aligarh Muslim University. After establishing rapport with the participants, the attitude scale was distributed to 50 subjects (27 science students and 23 non-science students), with the request that they fill out the questionnaire completely. The response time for each subject ranged from 30 to 40 minutes. Following data collection, responses from the participants were assessed, and the scores were analyzed using the most suitable statistical tests.

Statistical Analysis

The statistical analysis of the data involves the utilization of measures such as mean, standard deviation, and t-test.

Delimitations

- Region: The study is confined to Aligarh Muslim University, Aligarh.
- Educational Level: The study is limited to adolescent students from the 1st year of graduation enrolled in Aligarh Muslim University.
- Tools used: In this research, only one standardized questionnaire is employed.
- Design: It is limited to the survey method with a sample size of 50 students.

RESULTS

In accordance with the percentile criteria specified in the ATEL Scale manual, the entire student sample was divided into seven categories for further analysis. The categorization of students based on their attitude towards e-learning is depicted in Table 2 and Figure 1.0.

Table 2 Categorization of Adolescents Based on Their Level of E-Learning

S.NO	Z –Scores	Frequency	Percentage	Level of E-learning
1	+2.01 and above	-	-	Extremely High
2	+1.26 to +2.00	1	2%	High
3	+0.51 to +1.25	12	24%	Above average
4	0.50 to +0.50	22	44%	Average
5	-1.25 to -0.51	9	18%	Below average
6	-2.00 to -1.26	5	10%	Low
7	-2.01 and below	1	2%	Extremely low
	TOTAL	50	100%	

Figure 2 A Bar Chart Depicting the Categorization of Adolescents in Relation to Their Level of E-Learning

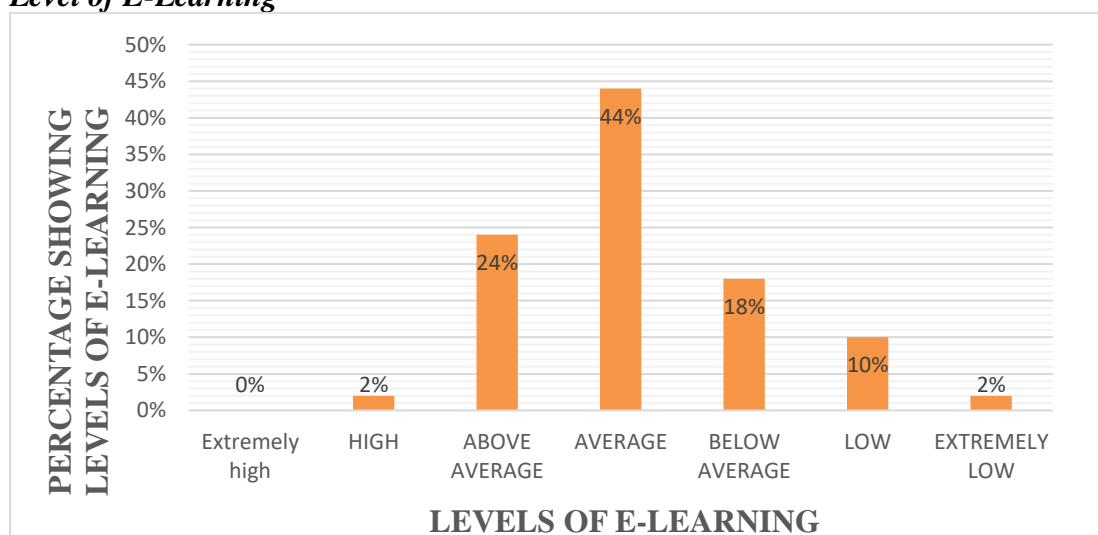


Table 3 Analysis of Adolescents' Attitude Towards E-Learning with Regard to Gender and Stream

S. No	Groups	Pair of Comparison	N	Mean	Sd	Df	T Value	P Value (Sig.2 Tailed)
1.	Gender	Male	25	231	21.95	48	0.777	0.204
		Female	25	226	26.91			
2.	Stream	Science	27	243.8	16.34	48	5.901	0.000
		Non-science	23	212.2	21.51			

Note: -Descriptive data is depicted as Mean, Standard Deviation (SD), as well as 't' and 'p' values (sig. 2 tailed)

DISCUSSION

Testing of Ho1

The mean attitude scores for male and female adolescents are 231 (SD = 21.95) and 226 (SD = 26.91). The 'p' value (sig.2 tailed) is not statistically significant because it exceeds 0.05. This indicates that there is no significant difference between the attitudes of male and female adolescents towards e-learning, although male adolescents hold a slightly more positive view of e-learning. Thus, H1 is accepted.

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Testing of Ho2

The mean attitude scores for science and non-science adolescents are 243.8 (SD = 16.34) and 240.5 (SD = 21.51). The 'p' value (sig.2 tailed) is statistically significant as it is less than 0.05. This indicates that significant differences exist between the e-learning attitudes of science and non-science adolescents. Attitude of Science major were more positive than their counterparts. Thus, H2 is rejected.

Findings

- The study reveals that the most of the adolescents exhibit average level of attitudes towards e-learning.
- There exists no significant gender difference in the attitudes of adolescents with regards to e-learning.
- There exists a significant difference in the attitudes of adolescents from both academic streams with regards to e-learning.

CONCLUSION AND EDUCATIONAL IMPLICATION

E-learning now functions as an effective process that includes additional senses for better comprehension. It is significant to realize that the absence of e-learning in any educational system renders that system many centuries behind the times. Educators have to recognize students' attitudes toward various types of e-learning as well as how these attitudes relate to their learning styles. In the existing research, adolescents' attitudes towards e-learning were found to be average, so it is anticipated that adolescent students should be more engaged in using this strategy to improve their learning. It has also been determined that science students exhibit a more favorable attitude towards e-learning in comparison to their counterparts in the arts discipline. Therefore, crucial steps must be taken to foster a favorable attitude among adolescents from non-science backgrounds. It is recommended that teachers are required to encourage students from all academic disciplines to enrolled in different e-learning courses offered by educational organizations and state level government as well as federal government in order to enhance their educational experiences. Teachers must implement strategies to increase the number of online courses offered in the initial years of education while enabling students to utilize the internet as a means of acquiring knowledge and engaging in educational discourse with both instructors and peers. In addition to this, teachers and educational organizations should adopt the e-learning approach in order to keep students updated. Higher education students should have access to e-learning tools from the government, as well as follow-up services. Undergraduates should be exposed to a variety of workshops, symposiums, and seminars at the national. It is suggested that conducting similar surveys in the future may potentially address these significant issues and reveal additional aspects of online education in the nation, which is a topic of great significance in the current century. The COVID-19 pandemic has presented educators and policymakers with an opportunity to reconsider potential future scenarios for education. Efforts are being made at the regional and institutional levels to cultivate a mindset conducive to e-learning.

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Conflict of Interest

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