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Attitude of High School Students towards Online Learning: A Correlational Study

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Abstract: ***The swift integration of digital technology into education has changed the teaching-learning process, making online learning an important mode of instruction in schools. The success of online learning hinge on not only on technological infrastructure but also on students' attitudes toward this mode of learning. Attitude is a multidimensional paradigm comprising cognitive, affective, behavioural, teacher support, and technical and infrastructural components, each influencing students' readiness and ability to participate in online education. This correlational study purposes to examine the attitude of high school students towards online learning and to explore the relationships among its dimensions. The study adopts a quantitative correlational survey research design using a structured questionnaire based on a five-point Likert scale. Data collected from 360 high school students from Chennai and Kanchipuram districts, was analysed employing descriptive statistics and Pearson's correlation coefficient to determine the degree of relationship among the dimensions. The findings revealed that there was a positive moderate correlation to strong correlation among five dimensions of attitudes towards online learning. Therefore, this study result would be helpful to assist educators, school administrators, and policymakers in developing strategies to improve students' online learning experiences and outcomes.***

Keywords: Online learning, Attitude, High school students, Correlational study, Cognitive component, Affective component, Behavioural component, Teacher support, and Technical & infrastructural support.

1. Introduction

The development of Information and Communication Technology (ICT) has significantly restructured educational practices wide-reaching. The emergence of online learning has expanded access to education beyond outdated classroom settings, empowering students to learn anytime and anywhere through digital platforms. Even though online learning existed before the COVID-19 pandemic, the pandemic accelerated its adoption in developing countries particularly India, making it an essential component of school education (UNESCO, 2020).

1.1 Online Learning

Online learning denotes to the delivery of educational content through internet-enabled technologies, letting interaction between teachers and students by means of digital platforms such as learning management systems, video conferencing applications, and educational websites (Moore, Dickson-Deane, & Galyen, 2011). For high school students, online learning offers flexibility, personalized learning opportunities, and access to diverse educational resources. Yet, its effectiveness depends primarily on students' attitudes toward online mode of learning.

1.2 Attitude

Attitude is a psychological tendency stated through evaluations of a particular object, person, or situation with varying degrees of favourability or unfavorability (Eagly & Chaiken, 1993). In educational settings, students' attitudes impact motivation, participation, persistence, and academic achievement. A positive attitude towards online learning inspires active engagement, whereas a negative attitude may lead to reduced participation, dissatisfaction, and poor learning outcomes. Students' attitudes towards online learning are multidimensional as follows, the **cognitive component** reflects students' beliefs, perceptions, and understanding regarding the usefulness and effectiveness of online learning. The **affective component** represents emotional responses such as enjoyment, anxiety, confidence, and satisfaction experienced during online learning. The **behavioural component** concerns students' willingness to participate, complete assignments, attend virtual classes, and adopt online learning practices. The **teacher support component** focuses on students' perceptions of teachers' guidance, feedback, communication, encouragement, and instructional effectiveness in online environments. Finally, the **technical and infrastructural component** includes the availability of digital devices, internet connectivity, technical support, and ease of using online learning platforms.

These dimensions interact with one another to shape students' overall attitude toward online learning. For example, adequate teacher support and reliable technological infrastructure can positively influence students' cognitive beliefs and emotional experiences, leading to augmented behavioural engagement. Understanding the relationships among these dimensions is essential for designing effective online learning environments.

A correlational study enables researchers to examine the strength and direction of relationships among these variables without manipulating them. Such investigations help identify the factors associated with favourable attitudes toward online learning and contribute to evidence-based educational planning.

2. Conceptual Framework of the Study

The conceptual framework of the present study is grounded in the **Tripartite Theory of Attitude** proposed by Rosenberg and Hovland (1960), which conceptualizes attitude as

consisting of three primary components: cognitive, affective, and behavioural. Since online learning involves interaction with teachers and technology, the framework is extended to include **teacher support** and **technical and infrastructural support**, both of which have been consistently identified in e-learning research as significant determinants of students' online learning experiences (Sun et al., 2008; Davis, 1989). The framework assumes that students' overall attitude towards online learning is reflected through five interrelated dimensions:

2.1 Cognitive Component

This dimension signifies students' knowledge, beliefs, perceptions, and opinions regarding online learning. It includes perceived usefulness, effectiveness, ease of learning, flexibility, and contribution to academic success. Students who believe that online learning improves their learning experience are more likely to develop positive attitudes.

2.2 Affective Component

The affective dimension refers to students' emotional responses towards online learning, including interest, enjoyment, motivation, confidence, anxiety, frustration, and satisfaction. Positive emotions encourage participation, whereas negative emotions reduce engagement and learning effectiveness.

2.3 Teacher Support Component

Teacher support encompasses students' perceptions of teachers' availability, guidance, communication, timely feedback, encouragement, instructional clarity, and responsiveness during online classes. Effective teacher support enhances learners' confidence and satisfaction.

2.4 Technical and Infrastructural Component

This component includes the availability and quality of internet connectivity, digital devices, learning platforms, electricity, and technical assistance. Adequate infrastructure reduces learning barriers and improves students' online learning experiences.

2.5 Behavioural Component

Behavioural attitude refers to students' intentions and actual participation in online learning activities. It includes attending online classes regularly, completing assignments on time, participating in discussions, using learning platforms effectively, and demonstrating willingness to continue online learning.

2.6 Proposed Relationship

The study assumes that all five dimensions are positively related and together represent students' overall attitude towards online learning. A favourable cognitive perception, positive emotional experiences, strong teacher support, and adequate technical infrastructure are expected to enhance students' behavioural engagement in online learning.

2.7 Conceptual Framework Diagram

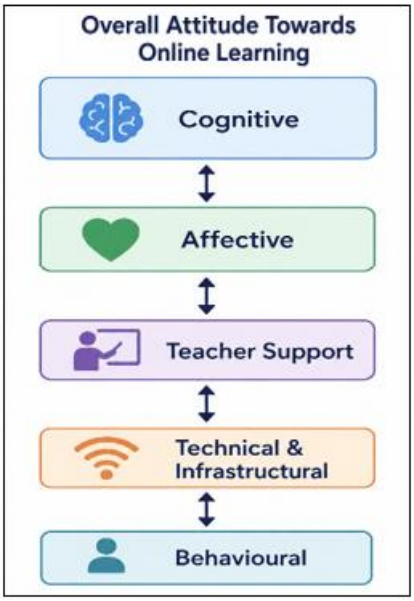

Figure 2.1

3. Need and Significance of the Study

The present study holds both theoretical and practical significance in understanding students' attitudes toward online learning in the context of secondary education.

3.1 For High School Students

The study will help identify the factors that influence students' attitudes toward online learning. Understanding these factors may encourage schools to create more supportive and engaging online learning environments that improve motivation, participation, and academic performance.

3.2 For Teachers

The findings will provide insights into the importance of teacher support in online education. Teachers may use the results to improve communication, instructional strategies, feedback mechanisms, and learner engagement during virtual classes.

3.3 For School Administrators

The study will assist school leaders in identifying infrastructural and technological challenges faced by students. The findings may guide decisions regarding investments in digital infrastructure, internet facilities, teacher training, and educational technologies.

3.4 For Curriculum Developers

Curriculum planners can use the study's findings to integrate technology-enhanced pedagogical approaches into school curricula and develop learner-centred online instructional materials that foster positive attitudes.

3.5 For Policymakers

Educational policymakers may utilize the findings while designing policies aimed at promoting equitable access to online education, strengthening digital infrastructure, and supporting technology integration in schools.

3.6 For Researchers

The study contributes to the growing body of literature on online learning by examining the interrelationships among multiple dimensions of attitude. It may serve as a reference for future studies exploring predictors of online learning effectiveness, digital education, and technology acceptance among school students.

3.7 Theoretical Significance

The study extends the classical Tripartite Theory of Attitude by incorporating contextual factors teacher support and technical and infrastructural support that are particularly relevant to online learning environments. This provides a comprehensive framework for understanding students' attitudes in contemporary educational settings.

4. Objectives of the Study

- To examine the relationship between affective attitude and overall attitude towards online learning.
- To examine the relationship between teacher support and overall attitude towards online learning.
- To examine the relationship between technical and infrastructural factors and overall attitude towards online learning.
- To examine the relationship between behavioural attitude and overall attitude towards online learning.
- To examine the interrelationship among the five dimensions of attitude towards online learning.
- To examine the relationship between cognitive attitude and overall attitude towards online learning.

5. Hypotheses of the Study

Ho1: There is no significant relationship between affective attitude and the overall attitude towards online learning.
Ho2: There is no significant relationship between teacher support and the overall attitude towards online learning.
Ho3: There is no significant relationship between technical and infrastructural factors and the overall attitude towards online learning.
Ho4: There is no significant relationship between behavioural attitude and the overall attitude towards online learning.
Ho5: There is no significant relationship among the five dimensions of attitude towards online learning.
Ho6: There is no significant relationship between cognitive attitude and the overall attitude towards online learning.

Methods and Sample of the Study
Described survey method was adopted for the present study and simple random sampling technique was chosen to collect 360 samples from high school students who were studying in high schools located in Chennai and Kanchipuram districts.

6. Tool used for the Present Study

A pilot study was carried out prior to the main data collection to establish the reliability and validity of the investigator-constructed Attitude towards Online Learning Scale and to identify and eliminate poorly functioning items before the scale was administered to the main sample.

Item analysis for each of the 50 items, the discrimination index was computed by comparing the mean item score of the top 27% and bottom 27% of respondents (ranked by total score) using an independent samples t-test (Edwards, 1969); a t-value of 1.75 or above was treated as the cut-off for acceptable discrimination. In addition, the corrected item-total correlation (r) of each item with the total scale score, and the value of Cronbach's Alpha that would result if the item were deleted from the scale, were computed. Items meeting the discrimination criterion were retained ('Accepted'); the one item falling short of the criterion was removed from the final scale ('Rejected').

6.1 Reliability of the Scale

The reliability of the scale was determined on the pilot sample of 100 students. Internal consistency reliability (Cronbach's Alpha) of the 50-item draft scale was found to be 0.927, which is considered excellent. Split-half reliability, computed by correlating the odd- and even-numbered items and applying the Spearman-Brown prophecy formula, yielded a raw (odd-even) correlation of 0.876 and a corrected split-half coefficient of 0.934.

6.2 Validity of the Scale

In addition, following the convention of estimating validity from the coefficient of reliability (Garrett, 1981), a validity index was computed as the square root of the reliability coefficient of the final scale ($\sqrt{0.929} \approx 0.964$), indicating a high degree of validity.

7. Correlational Analysis

Table 7.1: To examine the relationship between each dimension of attitude (Cognitive, Affective, Teacher Support, Technical & Infrastructural, and Behavioural) and the overall attitude towards online learning.

Dimension	N	'r' value	p value	Result
Cognitive Dimension	360	0.711	< 0.001	S
Affective Dimension	360	0.862	< 0.001	S
Teacher Support Dimension	360	0.768	< 0.001	S
Technical & Infrastructural Dimension	360	0.645	< 0.001	S
Behavioural Dimension	360	0.83	< 0.001	S

Inference:
It is inferred from Table 7.1 that the calculated Pearson correlation coefficient ('r') of the Cognitive Dimension (0.711), Affective Dimension (0.862), Teacher Support Dimension (0.768), Technical and Infrastructural Dimension (0.645), and Behavioural Dimension (0.83) are all positive and statistically significant at the 0.05 level.

There is a significant positive relationship from moderate to strong levels between each of the five dimensions and the overall attitude of high school students towards online learning, with the Affective Dimension (r = 0.862) showing the strongest association and the Technical and Infrastructural Dimension (0.645).

Therefore, the null hypotheses (Ho1, Ho2, Ho3, Ho4 and Ho5) were rejected.

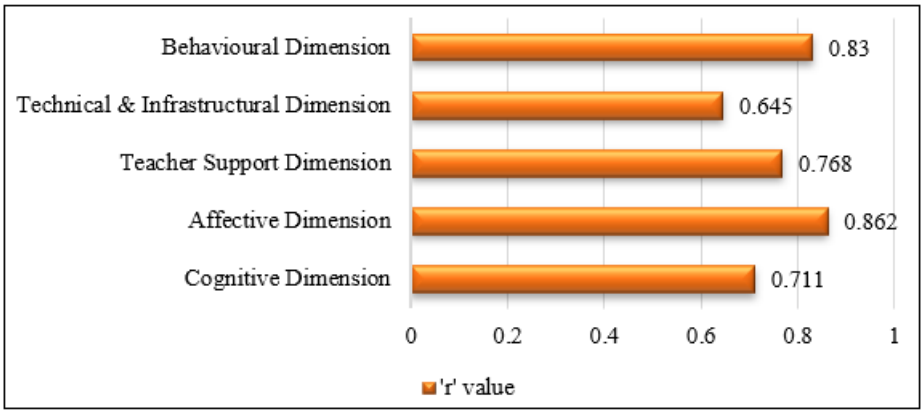

Figure 7.1: Dimension -wise correlation scores of attitudes towards online learning

Table 7.2: To examine the interrelationship among the five dimensions of attitude towards online learning

Dimensions	Cognitive	Affective	Teacher Support	Technical & Infrastructural	Behavioural
Cognitive	1	0.564	0.349	0.291	0.52
Affective	0.564	1	0.631	0.39	0.661
Teacher Support	0.349	0.631	1	0.378	0.481
Technical & Infrastructural	0.291	0.39	0.378	1	0.537
Behavioural	0.52	0.661	0.481	0.537	1

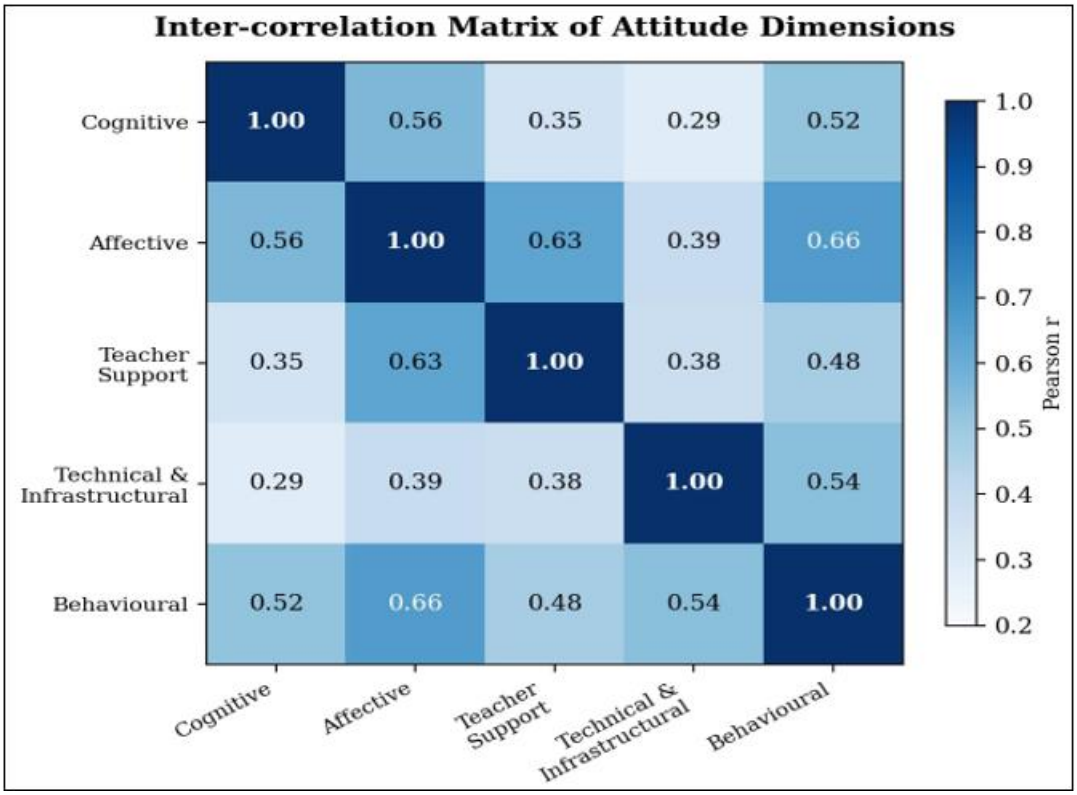

Figure 7.2

Inference:

It is inferred from the table 7.2 that all five dimensions of attitude towards online learning are significantly and positively inter-correlated, ranging from a moderate correlation between the Cognitive and Technical & Infrastructural Dimensions (r = 0.291) to a moderately strong correlation between the Affective and Teacher Support Dimensions (r = 0.631). This indicates that the five dimensions, while conceptually distinct, function as related components of a common underlying construct - attitude towards online learning - without being so highly correlated as to be redundant. Therefore, the Null Hypothesis (Ho6) is

rejected.

8. Conclusion

Thus, the findings of the study revealed that there is a positive relationship between the components and overall attitude of the high school students towards online learning. Based on the result, the students, teachers, parents, curriculum developers, policymakers and other stakeholders should address the hardship in online learning. The study further contributes to the growing body of literature on online learning by examining the interrelationships among multiple dimensions of attitude. It may serve as a reference for future studies exploring predictors of online learning effectiveness, digital education, and technology acceptance among school students

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