ATTITUDE TOWARDS ICT AMONG XI STANDARD COMPUTER SCIENCE STUDENTS

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Abstract

Education is the deliberate exertion to generate an atmosphere of learning so that learners actively develop their spiritual strength, self-discipline, nature, intellect, noble character, and the skills needed for themselves and society. In India, several boards like CBSE, ICSE, and other state boards conduct the higher secondary school examination. Higher secondary education, also recognized as senior secondary education, is a critical time in a student's life. It is a time to explore their academic interests, grow their critical thinking skills, and prepare for the next stage of their education or career. In a collaborative learning approach in higher secondary education, pupils work together on activities or learning tasks in a small group. Pupils in the group may work on distinct tasks contributing to a mutual overall outcome, or work together on a shared task. ICT can be used to improve collaborative learning by provided that chances for pupils to take more control of their learning and collaborate with others in new and innovative ways.

Keywords: *Collaborative Learning, Secondary Education, ICT.*

Introduction

Technology is rapidly transforming the way we learn and teach languages. It offers a diversity of tools and resources, such as web-based learning, mobile learning, educational videos, simulations, and online learning platforms. These tools make language learning more reachable and engaging than ever before. Technology is rapidly transforming the way we learn and teach languages for all learners, including those with disabilities. It offers a variety of tools and resources, such as web-based learning, mobile learning, educational videos, simulations, and online learning platforms, which can be adapted to meet the needs of all learners. These tools make language learning more accessible and engaging than ever before. It is important to address teachers' computer anxiety and anxiety about change in order to promote the use of skill in language learning. This can be over and done with professional growth platforms that provide teachers with the skills and confidence they need to use technology effectively in their classrooms. It is also significant to create a helpful school culture where teachers feel contented asking for help and distribution their involvements with using technology.

ICT Important to Students

- ICT is characterized by speed, automation, interactivity, and rapid change.
- ICTs are fast, automated, interactive, and dynamic.
- ICTs are revolutionizing the way we learn and communicate.
- ICTs are revolutionizing the way knowledge is communicated and represented, making it more accessible than ever before.
- ICTs are bridging the knowledge gap and empowering people to learn and grow in unprecedented ways.
- ICTs are disrupting the traditional educational paradigm and enabling students to study in new and innovative ways, on their own terms.
- ICTs are empowering students to become active learners and creators.

Impact of ICT in Schools

- Schools are relying on ICT tools to facilitate communication, creation, sharing, storage, and management of information.
- Schools are using ICT to foster more dynamic and collaborative learning experiences.
- Schools are using ICT to promote more engaging and cooperative learning environments.
- Schools are using ICT to support more interactive and collaborative learning experiences.

Review of Related Literature

Mustafizur (2020) investigated teachers' insolences towards ICT in B.Ed. colleges in Assam, India. The study aimed to 1) examine teachers' insolences towards ICT in B.Ed. colleges under Gauhati University, 2) compare attitudes, government, private college teachers, and 3) compare attitudes between male and female, and more and less experienced teachers. An expressive survey of 300 teachers from 30 B.Ed. colleges united to Gauhati University was conducted using the Insolence Scale towards ICT for Teachers developed by Nasrin and Islahi. The results presented that teachers in both government and private B.Ed. colleges, male and female teachers, and more and less experienced teachers all took positive insolences towards ICT in classroom teaching. The study originate that B.Ed. college teachers in Assam, India, have positive attitudes towards ICT in teaching, regardless of their school type, gender, or experience. This is a positive finding, as it suggests that B.Ed. college teachers are open to using ICT in their teaching space to recover student learning.

Molla (2020) investigated college students' attitudes in the direction of ICT in higher education in West Bengal, India. The study's objectives were to associate the insolences of male and female pupils towards ICT in higher education in addition to associate the insolences of science and social science students in the way of ICT in higher schooling. The

researcher selected 5 government-aided colleges affiliated with the University of Calcutta in West Bengal. The researcher developed and standardized a questionnaire with the benefit of their research guide. The study originate that female students had more positive insolences towards ICT than male students at the undergraduate level. Additionally, science students had additional positive insolences in the direction of ICT than social science students. The study originate that female and science students in West Bengal, India, have additional positive insolences towards ICT in higher education than male and social science students, respectively. This is a valuable finding, as it can help educators and policymakers develop strategies to inspire the usage of ICT in higher schooling for all students.

Pandey and Pandey (2020) conducted a comprehensive works review on the practice of ICT in instruction and facts in India. The study attentive on the period from 2010 to 2020, and used Google and Google Scholar as the main search engines. The consequences of the appraisal were filtered to include only studies conducted in India. The outcomes of the review exposed that the practice of ICT has an optimistic impression on instruction and learning. Though, the study also renowned that the practice of ICT in emerging countries like India is lower than in industrialized countries. The study's writers concluded that more research is wanted to comprehend the worldwide influence of ICT on instruction and learning. They also recommended that their study might be used as a pathfinder for upcoming research in this area.

Kouider (2021) explored the issues that influence secondary school EFL teachers' insolences towards ICT usage in the teaching space in the Western District of Chief, Algeria. The study also discovered the association among teachers' computer attitudes and five independent variables: individual characteristics, computer qualities, cultural insights, computer capability, and computer admittance. The learning used a mixed-methods approach, combining measurable and qualitative investigation methods. Data were composed using a survey and semi-structured interviews. Both descriptive and inferential statistics remained used to examine the quantitative data, and content analysis was used to examine the qualitative data. The findings designated that EFL teachers had positive insolences towards ICT in schooling. There were statistically important positive associations between teachers' insolences towards ICT and the five aforesaid independent variables. However, age and academic qualification had damagingly correlated with insolences. The consequences of this study deliver expressive insights for instructive experts and policymakers in relative to the employment of ICT for instruction and learning in the teaching space.

Francisco (2020) investigated gender changes in insolences towards ICT among Spanish advanced schooling teachers. The study meant to 1) quantity the level of insolences of teachers towards ICT in instruction and learning and research, and 2) determine if there are gender differences in these attitudes. An ex post facto enterprise was used with a sample of 867 higher education teachers in Spain.

Romero-Martínez (2020) and consisted of 18 items classified into three dimensions: affective, cognitive, and behavioral insolences towards ICT in instruction and learning; and affective and cognitive insolences towards ICT in educational research. The results presented that teachers overall had a very positive brashness towards ICT (3.9/5), with male teachers consuming a slightly more positive insolence than female teachers. Specifically, significant gender differences were originate in the global brashness towards ICT, as glowing in the affective attitude dimension towards ICT research. The writers decided that the outcomes of this study can help to grow training actions focused on improving the most unfavorable attitudes of each gender.

Isnani and Widyantoro (2019) lead a survey study of 322 English teachers in junior high schools in Yogyakarta, Indonesia to investigate their insolences towards ICT usage in English language education and the frequency of ICT in their teaching. The study also meant to find out the correlation between these two variables. The results presented that the teachers had a positive insolence towards ICT, with a total mean score of 3.32. However, the entire mean score of the occurrence of ICT use was 2.44, which indicates that the teachers rarely used ICT in English teaching. Despite this, the correlation results presented a significant positive relation between English teachers' attitude and frequency of ICT use (Pearson Correlation value 0.386). The outcomes of this study suggest that English teachers in Yogyakarta, Indonesia have a positive insolence towards ICT use in English language teaching, but do not use ICT frequently in their teaching. This proposes that there is an essential for further training and support to help teachers use ICT more effectively in their classrooms.

Methodology

- The target people for this study is all eleventh-grade computer science students of the State Board from Chennai, Tamil Nadu.
- The study population is comprised of all eleventh-grade computer science students of the State Board from Chennai, Tamil Nadu.
- The study participants are all eleventh-grade computer science students of the State Board from Chennai, Tamil Nadu.
- The study sample is drawn from a population of all eleventh-grade computer science students of the State Board from Chennai, Tamil Nadu.

Objectives of the Study

- To evaluate the attitudes of eleventh-grade computer science students towards ICT in secondary education.
- To examine the perceptions of eleventh-grade computer science students towards ICT in exit level.

- To discover the attitudes of eleventh-grade computer science students towards ICT as they prepare to graduate.
- To assess the insolence of students towards ICT across different dimensions, including general outlook, self-assurance, and computer efficacy.
- To examine the students' insolence towards ICT with respect to its different components, namely general outlook, self-assurance, and computer efficacy.
- To explore the students' insolence towards ICT across different dimensions, such as general outlook, self-assurance, and computer efficacy.

Statistical Analysis

For the study, NKT National Girls Higher Secondary School, located in Triplicane, Chennai, was purposively selected since it was geographically similar and within a feasible distance to conduct the experiment. The experiment was conducted during the year 2020-2021.

Hypothesis

- The control group showed no significant improvement in insolence towards ICT between the pre-test and post-test.
- The experimental group's pre-test and post-test scores for insolence towards ICT didn’t vary significantly.
- The control group's pre-test and post-test scores for achievement in computer science didn’t vary significantly.
- The experimental group's pre-test and post-test scores for achievement in computer science didn’t vary significantly.

Analysis

1. The control group showed no significant improvement in attitude towards ICT between the pre-test and post-test.

Table 1 Mean Attitude towards ICT Scores of Control Group

Group		Mean	S.D	No	‘t’ value
Attitude towards ICT Control Group	Pre Test	71.73	17.75	30	0.16
	Post Test	71.100	12.94	30	

In Table 1, the calculated t-value (0.16) is higher than the table value at the 0.05 significance level. This recommends that there is no statistically significant difference among the pre-test and post-test mean scores for insolence towards ICT in the control group. Therefore, it can be inferred that the control group pupils didn’t exhibit a change in their insolence towards ICT between pre-test and post- test.

2. The experimental group's pre-test and post-test scores for insolence towards ICT did not differ significantly.

Table 2 Mean Insolence towards ICT Scores of Experimental Group

Group		Mean	S.D	No	't' value
Attitude towards ICT Experimental Group	Pre Test	67.93	13.55	30	8.94*
	Post Test	89.2	15.57	30	

In Table 2, the observed t-value (8.94) exceeds the critical t-value at the 0.05 alpha level. This proposes that there is a statistically significant difference between the pre-test and post-test mean scores for insolence towards ICT in the experimental cluster. Therefore, it can be incidental that the experimental group pupils exhibited a significant change in their attitude towards ICT as an outcome of the intervention.

3. The control group's pre-test and post-test scores for achievement in computer science didn't differ significantly.

Table 3 Mean Academic Achievement Scores of Control Group

Group		Mean	S.D	No	't' value
Academic Achievement of Control Group	Pre Test	20.63	4.96	30	2.01*
	Post Test	23.67	7.18	30	

In Table 3, the observed t-value (2.01) exceeds the critical t-value at the 0.05 alpha level. This recommends that there is a statistically major difference among the pre-test and post-test mean academic achievement scores in computer science of the control cluster. So, it can be inferred that the control cluster pupils exhibited a significant change in their academic achievement scores in computer science regardless of the intervention.

4. The experimental group's pre-test and post-test scores for achievement in computer science didn't vary significantly.

Table 4 Mean Academic Achievement Scores of Experimental Group

Group		Mean	S.D	No	't' value
Academic Achievement of Experimental Group	Pre Test	24.67	6.14	30	44.90*
	Post Test	78.9	2.12	30	

In Table 4, the observed t-value (44.90) exceeds the critical t-value at the 0.05 alpha level. This recommends that there is a statistically major difference among the pre-test and post-test mean technical competency scores of the experimental group. Therefore, it can be inferred that the experimental cluster pupils exhibited a significant change in their technical competency as an outcome of the intervention.

Findings

- The null hypothesis that there is no statistically major difference among the pre-test and post-test scores of the control group of higher secondary pupils with respect to insolence towards ICT is supported.
- The null hypothesis that there is no statistically major difference among the pre-test and post-test scores of the experimental group of higher secondary pupils with respect to attitude towards ICT is rejected. This means that there is indication to recommend that the intervention had a statistically significant impact on insolence towards ICT in the experimental group.
- The null hypothesis that there is no statistically major difference among the pre-test and post-test scores of the control group of higher secondary pupils with respect to academic achievement in computer science was rejected. This means that the control group pupils exhibited a statistically significant change in their academic achievement scores in computer science.
- The null hypothesis that there is no statistically major difference among the pre-test and post-test scores of the experimental group of higher secondary pupils with respect to academic achievement was rejected. This means that the experimental group pupils exhibited a statistically significant change in their academic achievement scores.

Educational Implications

- Students get interested to grow a Blog due to social media, include photos, incorporate links, using social sharing buttons, invite pupil, add video, etc.,
- Students can be encouraged to learn through Blog Supported Collaborative Learning because it will lead better result.

Conclusion

It is essential to note that rejecting the null hypothesis does not necessarily mean that the intervention was effective. It simply means that the intervention had a statistically significant impact on academic achievement in computer science in the experimental group. It is probable that the effect of the intervention was too small to be practically significant, or that the intervention had an undesirable impact on academic achievement in computer science. It is also important to note that the results of a single study should not be used to draw definitive conclusions about the efficiency of an intervention. More investigation is needed to confirm the outcomes of this study and to define the long-term impact of the intervention on academic achievement in computer science.

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