

A STUDY ON INTEGRATION OF ICT IN TEACHING AND LEARNING BIOLOGY AT THE HIGHER SECONDARY LEVEL

Dr. D. Sivakumar

Principal, CK College of Education, Cuddalore, Tamil Nadu, India

Abstract

This research purpose was to explore the pedagogical practices in the integration of ICT in teaching and learning biology in higher secondary schools in Cuddalore. The present study is adopted as descriptive surveys propose. The sample consists of 300 participants at higher secondary students procured from 6 schools in Cuddalore. Findings from the study pointed out that, there was a low level of ICT integration; biology tutors were not well prepared to integrate ICT in teaching biology. There is a significant difference in Pedagogical Practices in Teaching and Learning Biology in higher secondary students with respect to gender.

Keywords: *ICT, Biology, Pedagogical practices, teaching biology, and learning biology.*

Introduction

Worldwide has been a strong thrust to get educational technology into the hands of instructors and learners - yet it remains a certainty that most instructors across the world persist to struggle with their day to day confronts in classrooms and remain entirely un-impacted by technology even today.

The primary reason for technology integration initiatives develops for schools disregard to look at the specific pain areas and real-life challenges that teachers experience in classrooms. Not only should the solution address the pain areas of the instructor but also follow a path that blends effortlessly with traditional teaching styles. There is a need to give them with digital content that is planned accurately to the curriculum. The technique also wants to be easy, minimally persistent, user-friendly, and has minimal dependence on teachers' skills. Equally essential is ongoing handholding support from training to maintenance.

Need for the Study

Information and communication technology in instruction is in a budding period, especially in developing countries. The entire notion of technology in teaching and learning is reflected in the plan, training and manufacture of textbooks, and other instructional materials for schools. The National Council of Educational Research and Training (NCERT), New Delhi, has taken up the chief role in this gigantic task. The chief function of ICT in teaching and learning is the presentation and use of teaching aids. The quality of teaching aids in recent times has improved. The variety of teaching aids ranges from a two-dimensional chart to a three-dimensional model. The foreword of electronic media has brought a third-dimension and movement teaching aids in education. Information and communication technology helps to develop simulated programs in the classroom that is intend to depict the authentic world happenings without the danger, expense, or time needed to experience the actual event. ICT has the possible to convert the nature of instruction; civilizing teacher's plan

work, enhancing the responsibilities of students and teachers in the learning process and serving to generate a collaborative learning atmosphere. So the investigator keeps in mind the present study is framed.

Statement of the Problem

Various technological and social developments have been reshaping in almost all aspects of human life. Some of the knowledge, skills, abilities, competencies, and personal characteristics that were necessary for alive in previous centuries have now become irrelevant, while others have become critical. The mainstream of transform links with the proliferation of innovative technologies, mainly information and communication technologies, so the investigator identified the problem entitled “**A Study on Integration of ICT in Teaching and Learning Biology at the Higher Secondary Level.**”

Objectives

1. To find out the level of Pedagogical Practices in Integration of ICT in Teaching and Learning Biology of Higher Secondary Students.
2. To find out the significant difference in Pedagogical Practices in Integration of ICT in Teaching and Learning Biology of Higher Secondary Students concerning gender.
3. To find out the significant difference in Pedagogical Practices in Integration of ICT in Teaching and Learning Biology of Higher Secondary Students concerning Nativity of the learner.

Hypotheses

1. The level of Pedagogical Practices in the Integration of ICT in Teaching and Learning Biology of Higher Secondary Students is average.
2. There is no significant difference in Pedagogical Practices in the Integration of ICT in Teaching and Learning Biology of Higher Secondary Students concerning gender.
4. There is no significant difference in Pedagogical Practices in Integration of ICT in Teaching and Learning Biology of Higher Secondary Students concerning Nativity of the learner

Methodology Descriptive Survey

The present study is adopted as a descriptive survey method. Three instrument questionnaires', a structured interview, a schedule, and an observation checklist, were used for the present study. In the present study, the investigator adopted a random sampling method for data collection. The sample consists of 300 participants at higher secondary students procured from 6 schools in Cuddalore For the analysis percentage, arithmetic mean, standard deviation, and large sample independent 't' test used in the present investigation.

Analysis of Data

Pedagogical Practices in Teaching and Learning Biology

The teacher's to acquire knowledge and skill in Information and Communication technology use and integration. ICT is central importance to study as it identified pedagogical practices in teaching and learning Biology from the respondents, as shown in Table 1.

Table 1: Pedagogical performs of Teaching and Learning Biology

S. No	Pedagogical practices in Teaching and Learning	Response			
		S/A	A	D	S/D
1	Biology teachers can choose technologies that enhance what they teach, how they educate, and what students learn.	63	37		
2	I can provide leadership in serving others to coordinate the use of Biology content, technologies, and teaching approaches at my school.	63	37		
3	Schools should set up incentives programs to persuade and facilitate the pedagogical integration of ICT.	69	11	20	
4	There is inadequate Biology pedagogical focus in ICT preparation programs.	34	38	14	14
5	Biology teachers lack pedagogical and content knowledge about ways to integrate ICT in Biology lessons.	11	54	18	17

According to Table 1, 63% of the respondents strongly agreed that Biology teachers could decide technologies that augment what they teach, how they educate, and what students learn. Also, 63% of the respondents strongly agreed that they could give leadership in serving others to organize the use of Mathematics content, technologies, and teaching approaches in their schools. That schools should approach up with ways to support and facilitate the pedagogical integration of ICT was strongly agreed by three-quarters of the respondents. Thirty-four percent (34%) of the respondents agreed that there was insufficient Biology teaching focus in ICT preparation programs; In contrast, 54 % of the respondents agreed that Biology teachers lacked pedagogical and content information about ways to integrate ICT in Biology lessons.

Table 2

S. No	Statement	Yes	No
1	Time for Learning Mathematics and Computer Technology	62.00	38.00
2	Opportunities for Learning Mathematics with ICT	59.00	41.00

Recording whether there was adequate time for learning both technology and Mathematics content, the majority of 62% of the students agreed. Thirty-Eight percent (38%) said; there was not adequate time. 59 % of the students indicated that there were opportunities to co-operate with other learners during biology lessons with the assistance of ICT. Forty percent of 40 % of the students said no.

Null hypothesis 1: There is no significant difference in Pedagogical Practices in the Integration of ICT in Teaching and Learning Biology of Higher Secondary Students concerning gender.

Table 3: Significant Difference in Pedagogical Practices in the Integration of ICT in Teaching and Learning Biology of Higher Secondary Students Concerning Gender

Sub-samples	N	Mean	S.D	't' value	Significance at 0.05 level
Male	144	20.28	5.19	2.90	Significant
Female	156	18.77	4.57		

The computed 't' (2.90) value is higher than (1.96) at 0.05 level of significance. Hence the null hypothesis is rejected. It shows that there is a significant dissimilarity between male and female students in their Pedagogical Practices in Teaching and Learning Biology.

Null hypothesis 2: There is no significant difference in Pedagogical Practices in the Integration of ICT in Teaching and Learning Biology of Higher Secondary Students concerning the nativity of the learner.

Table 4: The Significant Difference between Rural and Urban Students in their Pedagogical Practices in Teaching and Learning Biology

Sub-samples	N	Mean	S.D	't' value	Significance at 0.05 level
Rural area	127	19.87	4.52	0.67	Not significant
Urban area	173	20.16	5.16		

The computed 't' value is less than the table value (1.96) at 0.05 level of significance. Hence the null hypothesis is rejected. It shows that there is no significant difference between rural and urban students in their Pedagogical Practices in Teaching and Learning Biology.

Discussion

Table 1 about There was variety of ICT infrastructure that was available for use and instructors was willing to use but, due to lack of proper training on their utility, they were not capable of using them efficiently. Using technology effectively necessitates teachers to have a broad repertoire of teaching approaches. Teachers should be able of using ICT not only to sustain their professional productivity and progress but mainly, to successfully incorporate Information and Communication Technology into instruction and learning. Efficient teacher preparation is a significant factor for the successful integration and sustainability of ICT in education.

Table 2 about whether there was adequate time for learning both technology and biology content, majority 62% of the students agreed with reasons given including there is enough time to use ICT when learning biology, i.e., during their free study hour they could

use computers to discover extra ideas on how to execute Mathematics task. Thirty-Eight percent (38%) said there was not adequate time because they could not multi-task and not used to clarification done by computers using projectors,

Table 3 shows that 59.% of the students indicated that there were opportunities to co-operate with other learners during biology lessons with the assistance of ICT, reasons including that they were able to understand biology concepts well and, exchange ideas and also that there was benefits such as high concentration span during biology discussions. Forty point five percent 40.5% of the students said that, there was no chance to assist with other learners giving causes counting that some learners have complexities in operating some of the Information and communication technology infrastructures; in contrast , others lacked knowledge on how to use the internet.

Table 4 shows that there is a significant difference between male and female students in their Pedagogical Practices in Teaching and Learning Biology. Compare the mean score, male students have high than female students. The reason may be confidence and awareness of study habits, self-motivation curiosity, and interest because of the availability of proper guidance, and counseling to them from their close surroundings.

Conclusions

Pedagogical practices appear to be a challenge to teaching and learning of biology in higher secondary schools and impacts on conventional classroom practices. Most ICT teacher professional advancement initiatives lean to focus on technological features instead of pedagogical and instructional issues. Also, the application of Information and communication technology school settings has been ambitious by the accordance of technology rather than by the demands of pedagogy and didactics of the particular subject matter.

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AWARENESS OF COVID-19 AMONG B. Ed COLLEGE STUDENTS IN CUDDALORE DISTRICT

R. Ayyappan

*Ph.D. Research Scholar in Education, Tamilnadu Teacher's Education University, Chennai
National College of Education, Keelakollai, Neyveli*

Dr. V. Balakrishnan

*Registrar i/c Professor and Head, Department of Curriculum Planning and Evaluation,
Tamilnadu Teacher's Education University, Chennai*

Abstract

The present study examines to find out the awareness of COVID-19 of B. Ed college students about to their Gender, Locality, Medium of Instruction, and Subject studied. . The investigator adopted normative survey method for the collection of data. The sample consists of 100 boys and girls students of Private B. Ed Colleges with the stream of Mathematics, Science, and Arts. Findings showed that there is a significant difference between rural and urban students in their awareness about COVID-19.

Keywords: *Coronavirus, World Health Organisation, and Awareness*

Introduction

The coronavirus disease 2019 (COVID-19) appeared in Wuhan, China, at the end of 2019. Since then, it has extended to 200 nations and has been affirmed a worldwide plague by the World Health Organisation (WHO). To date, there are more than 2.3 million positive COVID-19 cases documentation with at least 150,000 deaths internationally. India accounted its first COVID-19 case on January 30, 2020 and numbers began to increase in behind March 2020, ("Johns Hopkins Coronavirus Resource Center," 2020) albeit at a low rate, which may be credited to numerous government policies counting stopping all intercontinental flights and applying a nation-wide lockdown at an early period of the pandemic. By early April 2020, country officials had recognized numerous areas as hotspots of COVID-19 illnesses in the country. India faces the risk of a grave eruption due to deep challenges in working communal distancing and access to water and soap for hand washing, with densely populated urban areas and a extremely mobile inhabitants in some states. The country publicized an initial 3-week lockdown epoch on March 24, now enlarged until May 3, triggering speedy migrations from the cities to rural areas in some parts of the country among rising doubts of rapid spread of diseases. The accompaniments of the original lockdown segment pose additional challenges to the previously distressed population and ensuring severe compliance with communal hostility guidelines.

Need for the Study

COVID-19 is much more than a health crisis. By straining every one of the nations it touches, it has the possible to make overwhelming communal, economic, and political disasters that will leave deep blemishes. As the UN's lead agency on socio-economic