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## **USES OF INFORMATION COMMUNICATION TECHNOLOGY (ICT) IN SECONDARY SCHOOLS**

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### **ABSTRACT**

The present study aims to explore the utilization of Information and Communication Technology (ICT) in secondary schools within Prakasam district. A comprehensive review of both Indian and international literature was undertaken to provide a strong theoretical foundation. The study adopted a **descriptive survey method** to gather relevant data. A total of **100 students** from various secondary schools in Prakasam district constituted the sample. To ensure representativeness, the **stratified random sampling technique** was employed. A structured **questionnaire** was developed to collect students' perceptions and opinions regarding the use of ICT in their educational environment. The collected data were analyzed using appropriate statistical tools such as **Mean, Standard Deviation (SD), t-test, and F-test**. Comparative analysis was conducted to examine the differences in ICT usage based on variables such as **gender, medium of instruction, grade level (class), type of school management, and locality (urban/rural)**. The findings have been interpreted in the context of previous research studies. Based on the results, relevant **suggestions and recommendations** have been offered for future research and for enhancing the effective integration of ICT in secondary education.

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### **INTRODUCTION**

The Information and Communication Technology in education is in a nascent stage. The general notion of technology in education is reflected in the design, preparation and Production of textbooks and other instructional materials for schools. The National Council of Educational Research and Training (NCERT), New Delhi has taken up a major Role in the gigantic task. Much of the on-screen and written documentation is beyond the reading capability of the poor learners. Some simulation programmes depict events in simplistic and unnatural ways. Unless the simulation represents the real-world event, learners may develop inappropriate understanding of the event. There are many benefits of using Information and Communication Technology in the teaching-learning process:-

- i) There are no longer geographical boundaries for learning any concept. Full independence is given to the learner to select desirable education.

- ii) It links learners to the multimedia resource doing away with over dependence on textbooks. Learners will have access to online education.
- iii) It promotes independent, flexible according to one's own level and pace, a type of learning where learners take projects that relate to application of curriculum in practical aspects.
- iv) It allows an individual to use his/her multiple cognitive abilities to the fullest extent. It assures lifelong learning.

With the advent of Information and Communication Technology the learner is not just dependent on the teacher for formal interaction. A learner living anywhere in the world can pay fees through draft and get access to any course of interest through e-mail and Internet. Any learner can have access to any course. One can refer to library resource in virtual system. Virtual classrooms are soon becoming a reality. The learners can chat among themselves and can also talk with the expert or resource person through the network. The effect of multimedia computer changes the present teacher oriented system to a learner-oriented one. Here, more emphasis is laid on creating individualized leaning environment. Multimedia is not a product but a combination of technologies. When a teacher is teaching, a variety of information can be added with

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graphics, text, video etc. In this way, the teacher can help the learner to understand the difficult concepts clearly. Trainees can study at home using multimedia software. Through this process of learning, the trainee can work at his own pace and determine when and what to study. Multimedia encyclopedias can be used to give detailed information about the subjects. The use of sound, colour, video, rapid references in the form of glossaries and background details can be used to enhance this valuable teaching reference tool. In addition, multimedia computer has the special capacity of interactivity. The control of the programme is with the user by pressing a key or clicking a button or touching a screen.

#### **Need and significance of the study:**

Computers have emerged as essential tools for the assimilation and dissemination of information worldwide. With the advancement of the Internet and the World Wide Web, a vast repository of knowledge has become easily accessible, transforming computers into powerful and creative sources of information for individuals across the globe. Although the integration of this technological trend into the Indian education system occurred later than in some parts of the world, its adoption has been both rapid and widespread.

Today, schools and educational institutions across India are actively incorporating computer education into their curricula. Students, drawn by the interactive and engaging nature of technology, are increasingly motivated to use computers as part of their learning process. What initially began at the level of higher and professional education has now permeated into school education, even at the primary level. Many schools now offer computer education, with early efforts focusing primarily on teaching basic computer skills and programming languages.

However, with the involvement of corporate entities such as Intel®, Wipro, Infosys, and Satyam, along with significant initiatives by government bodies through public-private partnerships, computer education has evolved. It is no longer limited to fundamentals but is increasingly being integrated across subjects and disciplines to support holistic learning.

Given this backdrop, there is a growing need to assess the extent and effectiveness of ICT integration in schools. Understanding how ICT is being utilized—both as a teaching aid and a learning tool—can inform future strategies for educational development. Early evaluation through the perspectives of teachers and students can provide valuable insights, which may be further substantiated through student performance over time.

The central objective of this study is to examine the **impact of ICT on the academic performance of 9th and 10th-grade students in Andhra Pradesh**, with a specific focus on Prakasam district. The study seeks to determine:

- Whether ICT has a direct impact on students' academic achievement.
- Whether ICT serves as an effective tool for enhancing learning.
- Whether ICT is being effectively used as a pedagogical aid by teachers to improve student outcomes.
- As India continues to develop its educational infrastructure, there is a critical need for a robust

secondary school system—one that is rich in learning resources and where both teachers and students are encouraged to make consistent and innovative use of available tools, especially ICT.

Therefore, this study titled **“Use of Information and Communication Technology in Secondary Schools of Prakasam District”** has been undertaken to explore and analyze the role of ICT in promoting academic success among students, and to offer evidence-based recommendations for its effective implementation in the school system.

#### **Objectives of the study:**

1. To study the Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.
2. To study the significant difference among the perceptions of students based on their demographic variables i.e., gender, medium, class, management and locality towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.

#### **Hypotheses of the present study**

1. There is no significant difference between the perceptions of male and female category students towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.
2. There is no significant difference among the perceptions of students based on their class towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.
3. There is no significant difference among the perceptions of students based on their medium of instruction towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.
4. There is no significant difference among the perceptions of students based on their school management towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.
5. There is no significant difference among the perceptions of students based on their locality towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam District.

#### **Review of Related Literature**

**P M Mohitkar (2015)** studied on ICT supported Teaching Learning Strategies. The computers are used as educational tools, much useful for testing the skills and knowledge. Lecture can easily be delivered with the help of computers. This covers can easily be delivered on computer, either online or on a local network, and those that are evaluated with the aid of computers, such as those using optical Mark Reading(OMR). The computers are playing increasingly important role in teaching & learning, with the increased use of supporting devices like CD-Rom, Pen Drives, and Hard disk. The major advantage of e-learning is that it is self-paced. The content & methodology can be repeated until the trainee understands it. It will also be interactive too. For strengthening the course there is a need of upgrading the course curricula with ICT and E-Learning.

**P Aravindan (2017)** studied on ICT in higher

education: opportunities and challenges. As move into the 21<sup>st</sup> century, many factors are bringing strong forces to bear on the adoption of ICTs in education and contemporary trends suggest will soon see large scale changes in the way education is planned and delivered as a consequence of the opportunities and affordances of ICT. It is believed that the use of ICT in education can increase access to learning opportunities. It can help to enhance the quality of education

#### Statistical Techniques Used:

The statistical techniques used mainly for analytical purposes were means, standard deviations were used To study the significant differences in between the socio-economic variables, 't'-test and 'F'-test (ANOVA) have been used by the investigator with the help of Statistical Package for Social Sciences (SPSS).

<b>Table 1.</b> Significant difference among the perceptions of students based on their demographic variables towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district						
Variable	Category	N	Mean	Std. Dev.	t/F-value	p-value
Gender	Boy	50	271.49	21.26	1.98*	0.05
	Girl	50	273.63	19.04		
Class	9 <sup>th</sup>	50	270.20	21.91	2.94**	0.00
	10 <sup>th</sup>	50	274.41	18.60		
Medium	English	50	273.52	20.15	3.20**	0.00
	Telugu	50	267.62	20.29		
Management	Government	50	268.21	21.44	3.25**	0.00
	Private	50	273.72	19.79		
Locality	Urban	50	273.96	20.05	2.39*	0.02
	Rural	50	270.52	20.46		

with advanced teaching methods, improve learning outcomes and enable reform or better management of education systems. Extrapolating current activities and practices, the continued use and development of ICTs within education will have a strong impact on: what is learned, how it is learned, when and where learning takes place, & who is learning and who is teaching. The continued and increased use of ICTs in education in years to come, will serve to increase the temporal and geographical opportunities that are currently experienced.

#### Design of the Study

The researcher followed the survey method of the descriptive research. For this investigation the questionnaire had been considered as a suitable tool for the collection of data. The questionnaire consisted of 45 statements as perceived by the Students.

#### Reliability and Validity

For the purpose of the present study the split- half method was adopted. The split-half reliability co-efficient for the Uses of Information Communication Technology (ICT) In Secondary Schools as perceived by students was 0.86 and for the validity of the scale it is based on the content and construct validity.

#### Administration of Tool:

The tool was administered among students, necessary instructions were given in filling the tool. All the respondents followed the instructions and filled the tool by reading the all the items carefully.

#### Data Collection:

The investigator personally visited the sampled schools and administered the tool among the sampled respondents. The data collected through questionnaire and Interview schedule were used for analytical purposes.

There is a significant difference among the perceptions of Students based on their gender towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and girl category Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their class towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and 10<sup>th</sup> class Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their medium of instruction towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and English medium Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their School Management towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and Private school Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their locality towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and urban area Students perceived high than that of the rest.

#### Findings of the study:

1. There is a significant difference among the perceptions of Students based on their gender towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and girl category Students perceived high than that of the rest.
2. There is a significant difference among the perceptions of Students based on their class towards Uses of

Information Communication Technology (ICT) In Secondary Schools in Prakasam district and 10<sup>th</sup> class Students perceived high than that of the rest.

3. There is a significant difference among the perceptions of Students based on their medium of instruction towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and English medium Students perceived high than that of the rest.
4. There is a significant difference among the perceptions of Students based on their School Management towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and Private school Students perceived high than that of the rest.
5. There is a significant difference among the perceptions of Students based on their locality towards Uses of Information Communication Technology (ICT) In Secondary Schools in Prakasam district and urban area Students perceived high than that of the rest.

#### Recommendations:

In-service programmes should be conducted for the teachers on the usage of ICT in teaching learning process.

1. Awareness programmes on ICT should be conducted for teachers in the form of workshops, seminars etc.
2. ICT enhancement programmes in teaching learning process should be conducted for teachers.
3. In evaluation process how the ICT can be used should be aware to teachers.
4. Irrespective of their subject in Degree and Post graduation, teachers should possess proper knowledge on ICT.

#### Suggestions for Further Research:

1. Research can be conducted on the process and methodology of instruction of computers at various levels in school education and the curriculum for each stage.
2. Qualitative Research can be conducted on the

Information and Communication Technology in School Education and the overall effectiveness on Students' Academic Achievement.

3. Research should be conducted on the influence and effectiveness of Project Based Learning in developing higher levels of Instructional Objectives in various school subjects and the overall development of students' capacities and capabilities.
4. Research should be taken up on the Self Learning Styles and Overall Perception Abilities of Teachers and Students who use computers as a tool at home and school.

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