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A Study on Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students

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Abstract

The present study aims to examine the impact of education and modern technologies both positive and negative on secondary school students. A comprehensive review of both Indian and international studies was undertaken to support the research framework. The study follows a descriptive survey method. A sample of 200 students from secondary schools in the Prakasam district was selected using a stratified random sampling technique. A structured questionnaire was developed to gather students' opinions on the influence of education and modern technologies. The collected data were analyzed using various statistical methods, including mean, standard deviation (SD), t-test, and F-test. The scores obtained were compared across different variables such as gender, medium of instruction, class, type of school management, locality, parental qualifications, parental occupation, and family income. The findings have been interpreted in the context of previous studies. Based on the results, relevant suggestions and recommendations for future research have been provided.

Key Words: Modern Technologies, Positive and Negative impacts.

Introduction:

The integration of technology into the educational system has emerged as a powerful tool for enhancing teaching and learning processes. It encompasses a wide range of tools and platforms, including media devices, networking hardware, and digital resources, along with theoretical frameworks for their effective utilization. Technology in education is not confined to high-end or advanced tools alone; it spans from simple digital aids to complex systems that support interactive and personalized learning.

In today's digital age, technology has become an essential component of the educational landscape. Modern educational technology includes various approaches and platforms such as e-learning, instructional technology, Information and Communication Technology (ICT) in education, educational technology (EdTech), multimedia learning, technology-enhanced learning (TEL), computer-based training (CBT), computer-assisted instruction (CAI), internet-based training (IBT), virtual learning environments (VLEs), mobile learning (m-learning), and digital education.

These terms, though often used interchangeably, highlight different aspects or modes of delivery within the broader domain of technology in education. For instance, m-learning emphasizes the mobility and accessibility of learning through mobile devices, while VLEs focus on digital platforms that host and manage learning content and interactions. Despite their varied labels, all these approaches contribute to the overarching concept of technology-integrated education, aiming to create flexible, engaging, and effective learning environments.

Need and significance of the study:

This study is essential in understanding the evolving educational needs of students and the outcomes associated with integrating modern technology into classroom instruction. In an era where digital literacy is becoming increasingly vital, the study underscores the importance of equipping both teachers and students with the necessary technological tools and skills to remain relevant and competitive, regardless of geographical location.

By exploring the perspectives of students and the extent of technology use in secondary schools, the study highlights how technology can enhance teaching methods, increase student engagement, and improve learning outcomes. It also addresses the challenges educators and learners face while adapting to digital tools, offering insights into practical strategies for effective integration.

Moreover, this research holds particular significance for developing countries where access to educational technology remains limited. The findings can inform policy makers, educators, and stakeholders about the benefits of investing in technology for education and guide future implementation efforts. The study also sheds light on the current status of technological infrastructure in selected schools, the level of teachers' involvement in technology-based instruction, and the academic progress of students influenced by these interventions. Ultimately, the research contributes to fostering positive educational reform and promoting social change through inclusive and technology-enhanced learning environments.

Objectives of the study:

1. To study the Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students.
2. To study the significant difference among the perceptions of students based on their demographic variables i.e., gender, class, medium, management, locality, parental qualification, parental occupation and parental income towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students.

Hypotheses of the present study

1. There is no significant difference between the perceptions of male and female category students towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students.
2. There is no significant difference among the perceptions of students based on their class towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students.
3. There is no significant difference among the perceptions of students based on their medium towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students.
4. There is no significant difference among the perceptions of students based on their school management towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students.
5. There is no significant difference among the perceptions of students based on their locality towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students.
6. There is no significant difference among the perceptions of students based on their parental qualification towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students.
7. There is no significant difference among the perceptions of students based on their parental occupation towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students.
8. There is no significant difference among the perceptions of students based on their parental income towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students.

Review of Related Literature:

Stella Timotheou,1 Ourania Miliou et al., (2023) studied on "Impacts of digital technologies on education and factors influencing schools' digital capacity and transformation: A literature review". Digital technologies have brought changes to the nature and scope of education and led education systems worldwide to adopt strategies and policies for ICT integration. The latter brought about issues regarding the quality of teaching and learning with ICTs, especially concerning the understanding, adaptation, and design of the education systems in accordance with current technological trends. These issues were emphasized during the recent COVID-19 pandemic that accelerated the use of digital technologies in education, generating questions regarding digitalization in schools. Specifically, many schools demonstrated a lack of experience and low digital capacity, which resulted in widening gaps, inequalities, and learning losses. Such results have engendered the need for schools to learn and build upon the experience to enhance their digital capacity and preparedness, increase their digitalization levels, and achieve a successful digital transformation. Given that the integration of digital technologies is a complex and continuous process that impacts different actors within the school ecosystem, there is a need to show how these impacts are interconnected and identify the factors that can encourage an effective and efficient change in the school environments. For this purpose, we conducted a non-systematic literature review. The results of the literature review were organized thematically based on the evidence presented about the impact of digital technology on education and the factors that affect the schools' digital capacity and digital transformation. The findings suggest that ICT integration in schools impacts more than just students' performance; it affects several other school-related aspects and stakeholders, too. Furthermore, various factors affect the impact of digital technologies on education. These factors are interconnected and play a vital role in the digital transformation process. The study results shed light on how ICTs can positively contribute to the digital transformation of schools and which factors should be considered for schools to achieve effective and efficient change.

Vandana, (2022) studied on "Education And Modern Technologies, Their Positive & Negative Impact". Technology has certainly modified the manner we live. It has impacted distinct sides of existence and redefined living. Many complex and critical processes can be finished effortlessly with the help of cutting-edge generations. Technology has revolutionized the field of education. Projectors within the schools and colleges can take the interaction and interest levels right up. This is a concept that will continue to rise as it gets more support and awareness. In our analysis, we found that most people use technologies for live chat. Job search is the most common task in technology.

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 40 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 Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students 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.

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).

Table 1: Overall perceptions of students towards Education and Modern Technologies Their Positive and Negative impact of Secondary Schools Level Students.

N	Min.	Max.	Mean	Mean Percent	Std. Dev.
200	40	120	94.19	78.49	9.06

As seen from the above table 4.1 the students expressed high perceptions towards Education and Modern Technologies Their Positive and Negative impact of Secondary Schools Level Students.. The mean and mean percentages are 94.19 which is 78.49% respectively.

Table 2: Significant difference among the perceptions of secondary school students based on their socio-economic variables towards Education and Modern Technologies Their Positive and Negative impact of Secondary Schools Level Students.

Variable	Category	N	Mean	Std. Dev.	t/F-value	p-value
Gender	Male	100	93.11	8.84	1.99*	0.05
	Female	100	95.27	9.19		
Class	8th Class	70	89.27	7.80	18.72**	0.00
	9th Class	70	96.94	9.15		
	10th Class	60	96.72	9.65		
Medium	English	100	95.40	9.30	1.98*	0.05
	Telugu	100	92.98	8.68		
Management	Government	100	90.47	8.36	6.36**	0.00
	Private	100	97.91	8.19		
Locality	Rural	144	97.15	7.66	8.70**	0.00
	Urban	56	86.57	7.88		
Parental Qualification	Illiterate	48	88.79	9.18	9.07**	0.00
	Primary	51	95.75	10.21		

	Secondary	64	95.05	8.65		
	Higher	37	97.57	8.90		
Parental Occupation	Labour	116	92.91	9.70	3.71*	0.01
	Agriculture	26	92.85	9.30		
	Business	37	96.62	8.85		
	Employee	21	98.67	8.46		
Parental Income	Below Rs. 1,00,000	156	93.00	8.56	3.60**	0.00
	Above Rs. 1,00,000	44	98.41	9.60		

**Significant at 0.01, *Significant at 0.05 level and NS: Not Significant

There is a significant difference among the perceptions of Students based on their gender towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and female category Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their class towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and 9^{th} class Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their medium towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students 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 Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students 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 Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and rural area Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their parental qualification towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and Students whose parents qualified higher education perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their parental occupation towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and Employee occupation of parents of Students perceived high than that of the rest.

There is a significant difference among the perceptions of Students based on their parental income towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and above Rs. 100000 income of parents of 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 Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and female 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 Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and 9^{th} class Students perceived high than that of the rest.
3. There is a significant difference among the perceptions of Students based on their medium towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students 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 Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students 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 Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and rural area Students perceived high than that of the rest.
6. There is a significant difference among the perceptions of Students based on their parental qualification towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and Students whose parents qualified higher education perceived high than that of the rest.
7. There is a significant difference among the perceptions of Students based on their parental occupation towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and Employee occupation of parents of Students perceived high than that of the rest.
8. There is a significant difference among the perceptions of Students based on their parental income towards Education and Modern Technologies their Positive and Negative impact of Secondary Schools Level Students and above Rs. 100000 income of parents of Students perceived high than that of the rest.

Recommendations:

1. Sufficient training should be given to the teachers for effective teaching on Technology.
2. The students were in a technologically equipped classroom and received technological instruction that included using Web 2.0 tools.
3. Future studies need to identify specific aspects of technological instruction and their effect on academic achievement.

4. Proper infrastructural facilities and personal computers should be provided more in number in all the secondary schools.
5. On-line and Networking facilities should be established for effective implementation of Technology.
6. Innovative models should be developed in all school for effective implementing the Technology in the present context.
7. Orientation should be given to all the teachers about Innovative Technologies and its effects on the achievement among the students.
8. Government may be distribute Computer Assisted Instruction packages for all subjects to all the educational institutions that they can use it in their daily teaching learning process.

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