

Effect of Digital Learning Tools on Students' Academic Performance at the School Level

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Abstract

This study examined the impact of digital tools like smart classes, educational apps, and online videos on schoolchildren's learning. Fifty children from grades 6 to 9 were randomly selected. Information was gathered by questioning the students and examining their previous test scores. Results showed that children who used digital tools scored better, showed greater interest in their studies and understood the lessons better. This suggests that, when used correctly digital tools can enhance children's learning and make them more involved in learning.

Keywords: Academic performance Digital learning tools, School students, Smart classroom, Educational technology

1. Introduction

Technology has significantly transformed teaching and learning in schools these days. The use of educational apps, smart boards, online platforms, videos, and animations has become common place. These tools make learning easier, more engaging and more understandable. Children can learn at their own pace and easily grasp even difficult subjects.

During COVID-19, online learning became necessary when schools were closed. During this time, both teachers and students began studying through mobile phones, apps, and the internet. This further increased the use of digital learning.

However, it is important to understand whether these digital tools truly improve children's learning outcomes. Therefore, this study was conducted to understand how digital learning tools impact student learning and success.

2. Review of Literature

Several past studies have shown that digital tools can be helpful in learning.

- According to Singh (2020), the use of computers, projectors and other ICT tools in the classroom makes children more attentive in learning and understand the lesson better.
- Kaur and Sharma (2021) reported that animations and simulations make even tough subjects easier for children to understand.
- According to UNESCO (2022), digital education makes children more engaged in learning, but this requires proper teacher training and good facilities in schools.
- Patel (2023) found that the use of educational apps can improve the mathematics performance of primary school children.

Overall, these studies show that digital tools are helpful in learning. However, more research is needed at the school level to fully understand how these tools improve student outcomes.

Objectives of the Study

1. To examine how often school children use digital learning tools.
2. To know the effect of these tools on children's grades and learning.
3. To compare the learning outcomes of children who use digital tools and those who do not use.

Research Questions

1. How often do children use digital learning tools?
2. What impact do these tools have on their learning outcomes?
3. Is there a difference in the outcomes of children who use these tools and those who do not?

Hypotheses

1. Children who use digital learning tools generally achieve better score.
2. Digital tools increase children's interest in learning and their understanding to learn.
3. There is no significant difference in the scores of children who use digital tools and those who do not use.

6. Research Methodology

6.1 Research Design

In this study, a simple survey (questionnaire) method was adopted to collect information.

6.2 Sample

- Total number of students: 50
- Class levels: 5 to 8
- Sampling method: Simple random sampling

6.3 Tools for Data Collection

- 15-question questionnaire prepared by the researcher.
- Students' previous exam scores.

6.4 Data Collection Procedure

Permission was obtained from the school management. The questionnaire was distributed to students during class time. Academic results were collected from school records with students' consent.

7. Data Analysis and Interpretation

7.1 Use of Digital Learning Tools

Level of Use		Number of Students
High		20
Moderate		18
Low		12

Interpretation:

Most students used digital learning tools occasionally or regularly.

7.2 Academic Performance Comparison

Group	Average Score
Digital Tool Users	77
Non-users	68

Interpretation:

Students who used digital learning tools scored an average of 09 points higher than those who did not use them.

7.3 Student Perceptions

- 83% of students reported that videos and animations helped them understand better.
- 73% showed greater interest in learning.
- 64% felt digital tools were helpful for revision.

Interpretation:

Most students had a positive perspective about digital learning tools.

8. Findings

1. Most students used digital learning tools moderately or regularly.
2. Students who used these tools improved their marks and performance.
3. Digital tools increased children's interest and enthusiasm in learning.
4. Videos and animations made difficult subjects easier to understand.
5. Some students faced difficulties due to lack of mobile phones, computers, or good internet access.

9. Discussion

The study shows that digital learning tools improve children's learning and participation. This is consistent with previous studies that have shown that technology increases children's interest and helps them understand subjects better.

However, to fully benefit from these tools, teacher training, good facilities in schools, and ongoing support are essential. Digital tools are most effective when used in conjunction with traditional learning, rather than replacing them.

10. Educational Implications

- Teachers should incorporate digital tools while preparing lessons.
- Schools should improve digital infrastructure and facilities.
- Training sessions should be provided for teachers.
- Students should be taught responsible and effective use of technology.

11. Limitations

- This study included only 50 students, making it a small study.
- The research was conducted in a single school, so the results may not be applicable to all schools.
- Students provided their own answers, so there may be some bias.
- Study performance was measured solely based on grades; other factors were not considered.

12. Conclusion

This study shows that digital learning tools can enhance children's grades, participation and understanding. When used in conjunction with traditional learning, learning becomes more interactive and yields better results. Therefore, digital learning should be used in schools with the proper planning and methodology to ensure children take the full benefits.

13. References

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