

Use Of Technology In Accomplishing Homework By Students At The Secondary Level.

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ABSTRACT

In recent years, technology has played a substantial role in teaching and learning. The current educational system relies on technology for a variety of reasons. Integration of technology in accomplishing homework has its own advantages and limitations. It is seen that the application of technology depends on the competency of the user and control over the use of technology. This study examined how teachers and students utilize technology to create and complete homework assignments. A sample of 50 adolescent students and 15 teachers were chosen using convenience sampling from two secondary schools of Ri-Bhoi district as the area of study. A self-constructed interview schedule was used to collect data from students as well as parents. The data for teachers were collected through Focus group interview. Results showed that use of technology in education has increased many folds especially in accomplishing homework. What needs to be taken care of is the consciousness to prepare skilled people who can articulate cognitive and critical thinking skills. Educators and students should use technology judiciously to improve academic achievement.

Keywords: Technology, homework, teachers, students, parents, secondary schools, Ri-Bhoi district

Introduction: The present-day educational system depends on technology for diverse reasons. There has been an incredible use of technology during the past few years, and it sustained as a foremost part of the teaching-learning system.

Teaching and learning can be made interesting by integrating technology which is a prerequisite for fulfilling the demands of this technologically driven 21st century (Cynthia, 2007). The application of technology during off-school hours cultivates autonomous learning, develops interest among students, and reduces substantial costs. (Ashleigh, 2010; David, 2013)

Technology provides teachers with an opportunity to connect with their students in a better way and build community with them. It is a considerable means to promote a concerted environment and facilitate discussion amongst students. It also provides a more involved learning environment.

Homework is a part and parcel of every student's academic life. It is usually given either for practice, to reinforce concepts introduced in school, for preparation of exams, etc. In the present-day educational system, technology plays a vital role in accomplishing homework as most of the data essential for homework completion is available online and students can easily gather the required information to complete their homework through various platforms. As 21st-century students are technologically advanced, they pay attention to any kind of assignment that requires technological intervention. Homework transmits a significant metrics in academic achievement as it is evaluated for internal assessment. Hence, it plays a vital role in the academic life of students.

Review of Related Literature:

Prensky, M (2007) did a study on using technology to teach in an era of exponential change keeping the students and teachers comfortable. Teachers and students ought to be well acquainted with the application of new technology in teaching and learning. That can only happen when each group acknowledges the strengths of the other group while learning to cope with the areas where they are weaker. Thus, both groups must work together to invent the best practices needed for the rapidly emerging technological advancement.

Mendicino et. al (2009) did compare traditional homework with computer-supported homework among students of fifth grade (N-28) in mathematics under two situations. The results revealed that more learning took place in the case of computer-based homework as immediate feedback was provided rather than the traditional homework. However, computer-based homework was cost-effective only when students had access to the needed equipment.

Wright & Wilson (2011) conducted a study on Teachers' use of Technology to find out their perception regarding the integration of technology and its use in classrooms. 10 teachers' perceptions were analyzed for the study. The results showed that the teachers continued to use basic technological skills and processes learned in their teacher training program. They also continued to seek professional development for specific tasks and engaged students in using technology to a certain extent in their learning process.

Cyr, M. A. (2013) studied the perceptions of students on the effect of computer-based assignments on homework engagement and accomplishment of sixth grade students. Laptop computers and internet access were provided for a period of twenty-four hours to students in order to complete the homework assignments. Strong, Silver and Robinson's (1995) theoretical model SCOR-E were used to outline the procedure of this study. All the participants showed favourable response on the use of laptop for undertaking computer-based homework assignments.

Babcock III, R. D. (2014) studied the usefulness of technology-based homework on student performance. A convenience sample consisting of fifty-four students from grade 10 was separated into a control group of twenty-eight students and an experimental group of twenty-six students. The results showed a significant difference in the scores of both groups in the final exam.

Ghavifekr, S. & Rosdy, W.A.W. (2015) studied the proficiency of ICT integration in schools. They tried to analyze the teachers' observations on the proficiency of ICT integration as a support to teaching and learning in class. The sample consisted of 101 teachers from 10 public secondary schools in Kuala Lumpur. The results showed that teachers' well-equipped preparation with ICT tools is the key to successful technology-based teaching and learning. Further, professional training programs also play a vital role in enhancing students' quality of learning.

Robinson, C. (2017) did a study on technology tools for paperless homework where many teachers were asked about the ways of assigning technology-based homework and most of them switched to a choice board which is a graphic organizer that allows students to choose how they learn and review a concept. It can be structured in various ways and offers a series of differentiated activities for students.

Zhou et al. (2017) studied the relationship between teachers' online homework guidance and technological pedagogical content knowledge about the educational use of the web. The sample consisted of two hundred eighty-four teacher participants from China who had experience of assigning online homework. The results showed that teacher's level of guidance for online homework was significantly related to their technological pedagogical content knowledge about the educational use of the web (TPACK-W). The two factors of web-pedagogical knowledge and web- pedagogical content knowledge could predict the teacher's online homework guidance.

Bulic, M., & Kostovic Vranjes, V. (2019) studied the impact of E- learning on student self-responsibility in doing homework among eight primary school students by dividing them into two groups. The experimental group used online e- learning resources and the control group used modern forms of dynamic learning. The process of receiving the same homework was either e- surrounding or traditional. The results showed that involvement of students via Moodle e learning had a greater effect on student responsibility in doing homework. This motivated teachers to use e- learning in the teaching-learning process.

Gray, L., & Lewis, L. (2020) studied "Teachers' Use of Technology for School and Homework Assignments" to find out the application of technology for home assignments using school computers and the internet outside the classroom. The sample consisted of students studying in Grades 3-12. The study dealt with the various ways teachers and students access school computers and the internet outside class time. It provided information on ways teachers assist students who had limited access to technology and the internet outside the school.

Desiron, J. C., & Petko, D. (2023) did a study to identify the factors which predict homework avoidance utilizing digital resources, as well as whether engaging in these activities predicts exam performance using data from the Program for International Student Assessment 2018 survey. Results revealed that almost half of the students engaged in some type of digitally enabled homework avoidance strategies at least once or twice a week. Male students were more likely to exploit internet tools to participate in dishonest acts. Furthermore, digitally supported homework avoidance was a substantial negative predictor of test performance when information and communication technology variables were included. Thus, the study not only dealt with the causes of academic dishonesty with digital resources but also demonstrated the negative impact of such actions on learning.

Radovic, S. (2023) examined how educational technology can help 11–14-year-old students increase their understanding of mathematics through homework practices. It identified certain elements in mathematics teaching and learning methods. The findings revealed that digital help for homework assignments was most effective when students and teachers used all available features and participated actively. It offered practical recommendations and guidelines for successfully implementing educational technology in homework tasks.

Research Gap:

From the literature review, it is seen that several studies have been done so far to understand ICT and its usage in classroom transactions. Integration of technology in teaching and learning has been extensively studied but very few studies have been done to understand the usage of ICT in accomplishing homework. Homework is a part and parcel of every child's academic life. With the advancement in technology, a study in this expanse is obligatory to understand how technology is used by students in accomplishing homework and also provide an insight into the teachers' and parents' perceptions towards technology and its usage in accomplishing homework. Thus, there is a necessity to research and gain more information in this area so that the findings of this study may be useful to the students, parents, and teachers and at the same time provide scope for further study.

Significance of the study:

Integration of information, communication and technology (ICT) has made a drastic change in the present teaching-learning environment. The impact of technology-based teaching and learning cannot be overlooked as students are more acquainted with technology due to the changing times. Homework has been an essential part of the teaching-learning system. The present-day curriculum gives due importance to work done at home as it is evaluated for internal assessment as an assignment, project, practicum, or portfolio creation. How teachers use technology to create innovative homework ideas and at the same time how students use technology to complete their homework is a topic that requires to be explored and deliberated. The effective use of such technology depends on the competency of the user. The present study reveals the application of technology by teachers in creating homework and completing the same by the students as it is an important facet of the teaching-learning process.

Statement of the problem:

The present generation is habitually dependent on technology for varied reasons. The digitalization of the teaching - learning process led to the curiosity to know how technology is being used by school children in completing their homework. This curiosity directed the researcher to learn more about the usage of technology and hence the study is entitled "Use of Technology in Accomplishing Homework by Students at the Secondary Level".

Objectives of the study:

1. To study the use of technology in completing homework by students.
2. To explore the opinion of teachers towards technology and its application in creating homework for students.
3. To study the parental outlook on technology and its use in completing homework by students.

Research Questions:

1. Do students use technology in completing homework?
2. What is the opinion of teachers towards technology and its application in creating homework for students?
3. What is the parental outlook on technology and its use in completing homework by students?

Variables:

Independent variables-parental outlook, technology, students, parents, teachers

Dependent variables-homework

Limitations:

Only CBSE English medium private schools of Ri-Bhoi district have been considered for the study. Students, parents, and teachers of the secondary schools (Grades 8 to 10) have been considered for the study.

Research Methodology:

Population: The population consists of parents, teachers, and students of grades 8 to 10 studying in private schools affiliated with CBSE.

Sample: A sample of 50 adolescent students, their parents, and 15 teachers from two different schools of Ri-Bhoi district were chosen for the study using convenience sampling. The study is qualitative in nature. The data was collected from the students and their parents by using a self-constructed interview schedule. A focus group interview was conducted to collect the information from the teachers.

Tools Used:

Self-constructed interview schedule for students and parents.

Focus group interview for teachers.

Results and Discussion:

Objective 1: The first objective was to study the use of technology in completing homework by students. A self-constructed interview schedule was used for this study. The interview schedule consisted of a few questions in four dimensions which were closed-ended in nature. The following table shows the results of the interview schedule.

Table 1. Shows the result of the Interview Schedule in different dimensions.

Serial No	Dimensions	Positive	Negative
1.	Use of technology in accomplishing homework	97 %	3%
2.	Availability of online resources	96%	4%
3.	Time management	95%	5%
4.	Communication with teachers and peers	92%	8%

The data has been graphically represented in figure 1.

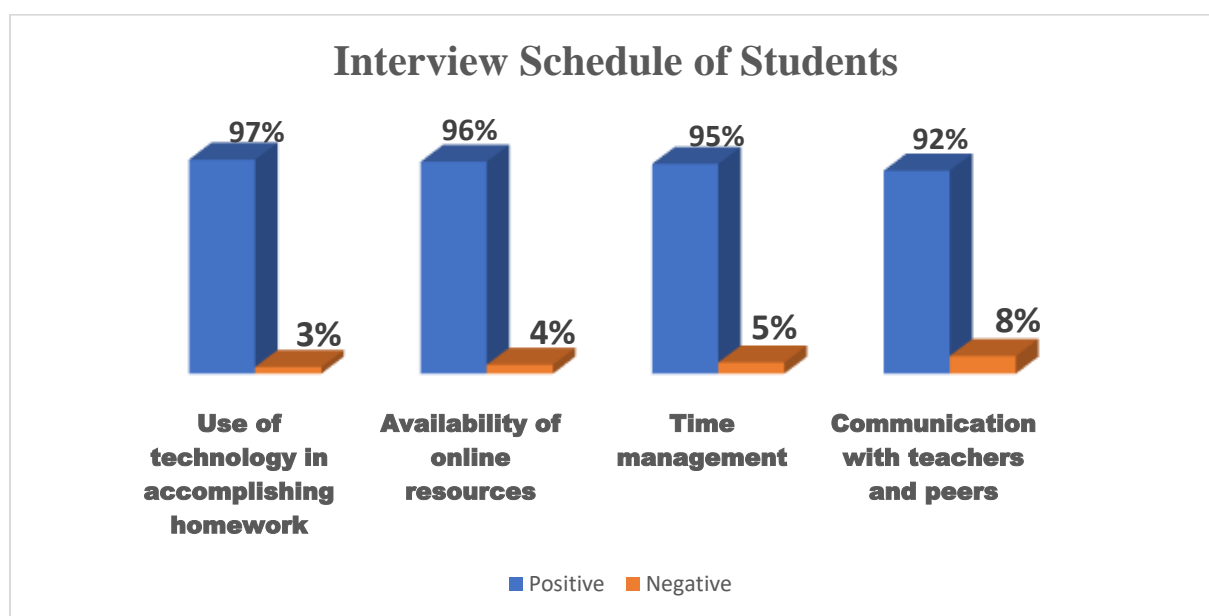


Figure 1 shows the use of technology in completing homework by students.

The study revealed that 97% of students are acquainted with using technology for accomplishing homework and only 3% of students do not depend completely on technology for accomplishing homework. 96% of students feel that online resources are easily accessible and all the related information can be obtained from a single source i.e., the internet whereas 4% of students disagree with it and do not depend solely on online resources for accomplishing homework. Regarding time management, 95% of students feel that the use of technology provides flexibility in time and students can access high-quality information easily in less time. Whereas 5% of students felt that time management depends entirely on the individual. 92% of students felt that they can communicate and collaborate with peers and teachers whenever they need their help whereas 8% of students are hesitant to interact with their peers and teachers for any kind of assistance.

From the study, it is seen that the majority of the students depend on technology for accomplishing homework as it is less time-consuming and more resourceful. They can easily connect with their peers and teachers to clear their doubts. Moreover, students who are less confident and reclusive find technology-based homework more consistent.

Objective 2: The second objective was to explore the opinion of teachers towards technology and its application in creating homework for students. The data was collected from the selected teachers teaching in classes 8 to 10 through a focus group interview. The teachers revealed that often students were assigned homework based on the use of ICT. The main purpose of assigning technology-based homework is to make homework more interesting, provide vast knowledge on the subject matter, and gather student performance measures easily. Teachers use technology in many ways to create homework for students. These may be in the form of project, assignment, practicum, or portfolio creation. Teachers provide necessary guidelines to the students for systematically completing homework. It includes collecting information from different sources, summarizing the information collected, and systematically presenting the information. It helps the students in analyzing the contents of the subject matter and developing comprehension skills.

Objective 3: The third objective was to study the parental outlook on technology and its use in completing homework by students. A self-constructed interview schedule was used for this study. The interview revealed that most of the parents felt that technology and its usage in accomplishing homework has increased the digital dependency of students. Since all information is available online, less effort can be seen on the part of the students to think creatively. Students spend most of their time glued to their gadgets which may harm their health. Moreover, some parents felt that due to the easy accessibility of information, most of the students become impatient and find it difficult to think critically and analyze logically. Hence, it is essential to maintain a balance while assigning technology-based homework. Subsequently students should not depend only on technology to complete their tasks but also incorporate some brainstorming innovative and creative ideas.

Findings and Conclusion: From the discussion, it can be concluded that the use of technology in accomplishing homework has its own merits and demerits. The teachers and students of private schools find it beneficial to apply technology in accomplishing homework. On the other hand, most of the parents have a different opinion on technology-based homework. What needs to be taken care of is the consciousness to prepare skilled teachers who can articulate cognitive and critical thinking skills in students. Educators and students should poise and limit the application of technology to control digital dependency in students and maintain steadiness in them.

Suggestions:

A few suggestions have been made from the present study which are as follows:

- Technology and its use have its own advantages and disadvantages in the teaching-learning process; hence, proper care should be taken by teachers and parents while incorporating technological skill in the teaching-learning system especially while assigning homework to the students.
- Students should be trained to be conscious about the judicious use of technology.
- Due importance should be given to social interaction which is diminishing due to technological advancement.
- Teachers and parents should try to prepare well-rounded people for adulthood.
- Effective communication between parents, teachers and students are essential to set boundaries on the use of technology as and when required and that too for educational purposes only.

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