



The Role of Information Technology in Teacher Education

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Abstract:

In 2008, the National Education Association reported that 19 states had technology requirements for teacher certification. As use of technology in work and daily life increases, so does the importance of teaching students how to use technology while they are in school. The U.S. Department of Education has funded programs for more than a decade to help schools and education colleges integrate technology into curriculum because of the awareness that both new and older teachers need training in it. Technology use has been limited to administrative functions for years, but there is more technology available in schools and it is helping students learn.

Keywords: *Education, Impact, Information technology, Society*

1. Introduction

As modern devices like tablet computers, laptops and PDAs develop more of a presence in our school system, it becomes more important for educators, students and parents to understand the role of information technology in education today. New technology is not only a subject in and of it, but can be applied to any subject, enhancing the learning experience and equipping students to join an increasingly global workforce.

2. Content

Both teachers and the Department of Education agree: More technology is available, but teachers do not know how to use it for instruction. NEA's brief titled "Technology in Schools: The Ongoing Challenge of Access, Adequacy and Equity" asserts that technology training for teachers should focus less on administration, communications and research and focus more on applications for instruction. The goal of using technology in the classroom should be to help individualize education and develop cognitive skills.

3. Preservice Training

Many studies have shown information technology training is effective when it occurs in higher education courses before teachers are certified. According to J.A. Abbott, and S.E. Faris in the "Journal of Research on Computing in Education," training in schools of education, known as preservice training, has been most effective when students are placed with teachers who use technology and when they are clustered in groups of eight to 12.

4. In-Service Training

Ongoing in-service education is also important to help teachers already in the classroom start to integrate technology effectively. J. Roschelle, R. Pea, C. Hoadley, D. Gordin and B. Means found in "The Future of Children: Children and Computer Technology" that "Intensive and ongoing staff development that provides opportunities for modeling, practice and reinforcement of technology use with curricula should be linked to curriculum goals and objectives from the onset of technology implementation efforts."

5. Importance

As stated in 2002's "Guidance on the Enhancing Education Through Technology (Ed. Tech.) Program" from the Department of Education, the goal of these grants is to improve student academic achievement through the use of technology in elementary and secondary schools, help students become technologically literate and encourage the effective integration of technology resources and systems with professional development and curriculum development to promote research-based instructional methods that can be widely replicated.

6. Educational Impact on Society

Society is the recipient of the final product, the student, of the educational system. The student must be prepared to face the challenges of a society and job market focused on technology. Students will not be able to learn everything or keep up with the advances in technology. Students must be taught to think outside the box to problem solve, think creatively and accept new concepts in order to remain competitive and become a functional and productive member of society.

7. Communication

Information technology has dramatically improved communication within the school system, community, and with families of the students. Schools that utilize the internet based systems for student grades, attendance and homework have information available immediately for parents. School websites enhance communication with the community and parents by announcing special events, instructional calendars, and links to educational standards that are taught in the classroom. Parents, teachers, and administrators can use email for instant communication and to ensure information reaches the parent or teacher.

8. Student

Information technology has greatly impacted the way students are educated. Technology used in the classroom enhances lessons and instruction. Having up to date information and research available with only a mouse click and the Internet ensures the student will have accurate and viable information. Technology has redefined the term " interactive learning". In the past, students were limited to who they were able to interact with. With the current technology, students are able to interact with students and other cultures around the world.

9. Teachers

Information technology has paved the way for teachers to interact with colleagues around the world. Email provides a faster method of communication, and through video conferencing, face to face interaction from different geographical locations is made possible. Teachers are able to enhance instruction with the use to technology. This enhancement will help maintain student motivation and attention. Online grade books are often available for teachers. Using an online grade book will allow the teacher to post grades from any computer with internet access. If an online grading system is tied to the school data system, the teacher will be able to post both daily grades and report card grades with comments without changing systems, making grading easier and more convenient.

10. Data

Accessing and gathering data is made easier for teachers, administrators and other stakeholders in the educational system with the use of technology. Data warehouses are used to store student test scores. Through the use of technology, teachers and administrators can access scores to make decisions on classroom instruction. Data warehouses are used to store other types of data, such as

discipline and attendance which will also be used to make educational decisions concerning the student.

11. Conclusion

Technologies affect the student's learning in many ways. For example, you can get info about any topic, about any field just simply put the name in the search engine and you'll get thousands of links related to that topic. You can get online education from anywhere around the world. The search for a topic on internet takes only a few seconds instead of books where you have to search a lot many books to get the idea about a small topic and it takes hours to do so. It's because of technology that you can solve difficult questions in a few seconds, it's because of technologies that students can access millions of books from digital libraries. In this way Technology increase the effectiveness and efficiency of the students.

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