INFORMATION TECHNOLOGY IN SECONDARY   SCHOOLS AND ITS IMPACT ON TRAINING INFORMATION TECHNOLOGY TEACHERS

Sevinch Jo'rayeva

student,Termez State University ,
Uzbekistan,Termez

ABSTRACT: *This article deals with how the content of information technology could be incorporated in the teaching learning process. Student teachers and teachers in-service in the use of information technology inside and outside the classroom. The content of information technology could be incorporated in the teaching learning process.*

Key words: *technology, teaching, ICTs, multimedia, information, computers.*

ICTs provides - motivation to learn. ICTs such as videos, television and multimedia computer software that combine text, sound, and colourful moving images can be used to provide challenging and authentic content that will engage the student in the learning process. Technology is a tool that can provide another way for children to learn and make sense of their world. ICTs play a fundamental and crucial role in teaching learning process at secondary class level. It makes teaching learning process more effective and successful. The usage of ICTs in schools is the implementation of new technologies without having analyzed their appropriateness, applicability and impact on various environments and contexts. The present studies identify the impact of ICTs in secondary school education students in government and private schools. The result revealed that impact of ICTs is highly significant on the based on type of schools.

The use of ICT in schools requires skilled teaching staff and visionary school leadership. Teachers and school leaders need to be knowledgeable about the potential that ICT presents during teaching and learning in schools. The use of ICTs in Uzbekistan generally increasing and dramatically growing. However, while there is a great deal of knowledge about how ICTs are being used in developed countries, there is not much information on how ICTs are being introduced into schools in developing countries (Beukes - Amiss and Chiware, 2006). The use of ICTs by teachers to teach the students is highly advantageous. This is because its enable them to demonstrate understanding of the opportunities and implications of the uses for learning and teaching in the curriculum context; plan, implement, and manage learning and teaching in open and flexible learning environment (UNESCO, 2004). The integration of ICT may have a considerable impact on the work of teachers, in particular, if ICT is conceived as a tool that supports a change in pedagogical approach.

ICT enhancing Teaching-Learning Process:

The main consideration of ICT based education is the improvement of the teaching-learning process. The integration of information and communication technologies can help revitalize teachers and students. This can help to improve and develop the quality of education by providing curricular support in difficult subject areas. Teachers need to be involved in collaborative projects and development of invention change strategies, which would include teaching partnerships with ICT as a tool. Learning approaches using contemporary ICTs provide many opportunities for constructivist learning through their provision and support for resource-based, student centered settings and by enabling learning to be related to context and to practice (Berge, 1998). Teachers generate meaningful and engaging learning experiences for their students, strategically using ICT to enhance learning. Students enjoy learning and the independent enquiry which innovative and appropriate use of ICT can foster. They begin to acquire the important 21st century skills which they will need in their future lives.

ICT Enhancing the Quality and Accessibility of Education:

ICT increases the flexibility of delivery of education so that learners can access knowledge anytime and from anywhere. It can influence the way students are taught and how they learn as now the processes are learner driven and not by teachers. This in turn would better prepare the learners for lifelong learning as well as to improve the quality of learning. In concert with geographical flexibility, technology-facilitate educational programs also many of the temporal constraints that face learners with special needs (Moore & Kearsley, 1996).

ICT Enhancing Learning Environment:

ICT presents an entirely new learning environment for students, thus requiring a different skill set to be successful. Critical thinking, research and evaluation skills are growing in importance as students have increasing volumes of information from a variety of sources to sort through (Jonassen, 1999). ICT is changing processes of teaching and learning by adding elements of vitality to learning environments including virtual environments for the purpose. ICT is a potentially powerful tool for offering educational opportunities. It is difficult and may be even impossible to imagine future learning environments that are not supported, in one way or another by ICT. ICT provides opportunities to access an abundance of information using multiple information resources and viewing information from multiple perspectives, thus fostering the authenticity of learning environments. ICT may also make complex processes easier to understand through simulations that again contribute to authentic learning environments. ICT environment improves the experience of the students and teachers and to use intensively the learning time for better results. The ICT environment has been developed by using different software and also extended experience in developing web based and multimedia materials. ICTs have an important role to play in changing and modernizing educational systems and ways of learning.

ICT Enhancing Learning Motivation:

ICTs can enhance the quality of education in several ways by increasing learner motivation and engagement, by facilitating the acquisition of basic skills and by enhancing teacher training. ICTs are also transformational tools which can promote learner centered environment. ICTs, especially computers and internet technologies enable new ways of teaching and learning rather than simply allow teachers and students to do what they have done before in a better way.

Impact on student motivation

1. ICTs motivate teachers and students

There appears to be a general consensus that both teachers and students feel ICT use greatly contributes to student motivation for learning.

2. Access outside of school affects user confidence

(Not surprisingly) Students who use a computer at home also use them in school more frequently and with more confidence than pupils who have no home access.

3. Where to place computers has an impact

Placing computers in classrooms enables much greater use of ICTs for 'higher order' skills than placing computers in separate computer laboratories (indeed, fewer computers in classrooms may enable even more use than greater numbers of computers located in separate computer labs).

4. Models for successfully integrating ICT use in school and after school hours are still emerging

There are few successful models for the integration of student computer use at home or in other 'informal settings' outside of school facilities with use in school.

5. The appropriate ages for introducing computers to students are hotly debated

On a general level, appropriate ages for student ICT use, in general, are unclear. However, it is clear that certain uses are more or less appropriate, given student ages and abilities. Emerging research cautions against widespread use at younger ages.

6. ICTs can promote learner autonomy

Evidence exists that use of ICTs can increase learner autonomy for certain learners.

7. Gender affects impact

Uses of ICTs in education in many cases to be affected by the gender of the learner.

8. The 'pilot effect' can be an important driver for positive impact.

It is generally believed that ICTs can empower teachers and learners, promote change and foster the development of '21st century skills, but data to support these beliefs are still limited. There is widespread belief that ICTs can and will empower teachers and learners, transforming teaching and learning processes from being highly teacher-dominated to student-centered, and that this transformation will result in increased learning gains for students, creating and allowing for opportunities for learners to develop their creativity, problem-solving abilities, informational reasoning skills, communication skills, and other higher-order thinking skills. However, there are currently very limited, unequivocally compelling data to support this belief.

1. ICTs are very rarely seen as central to the overall learning process

Even in the most advanced schools in Asian countries, ICTs are generally not considered central to the teaching and learning process. Many ICT in education initiatives in LDCs seek (at least in their rhetoric) to place ICTs as central to teaching and learning.

2. An enduring problem: putting technology before education

One of the enduring difficulties of technology use in education is that educational planners and technology advocates think of the technology first and then investigate the educational applications of this technology only later.

Impact on student achievement

1. The positive impact of ICT use in education has not been proven In general, and despite thousands of impact studies, the impact of ICT use on student achievement remains difficult to measure and open to much reasonable debate.

2. Positive impact more likely when linked to pedagogy It is believed that specific uses of ICT can have positive effects on student achievement when ICTs are used appropriately to complement a teacher's existing pedagogical philosophies.

3. 'Computer Aided Instruction' has been seen to slightly improve student performance on multiple choice, standardized testing in some areas.

4.Need for clear goals : ICTs are seen to be less effective (or ineffective) when the goals for their use are not clear. While such a statement would appear to be self-evident, the specific goals for ICT use in education are, in practice, are often only very broadly or rather loosely defined.

5. There is an important tension between traditional versus 'new' pedagogies and standardized testing

Traditional, transmission-type pedagogies are seen as more effective in preparation for standardized testing, which tends to measure the results of such teaching practices, than are more 'constructivist' pedagogical styles.

6. Mismatch between methods used to measure effects and type of learning promoted

7. ICTs are used differently in different school subjects

Uses of ICTs for simulations and modeling in science and math have been shown to be effective, as have word processing and communication software (e-mail) in the development of student language and communication skills.

8. Access outside of school affects impact

The relationships between in-class student computer use, out of class student computer use and student achievement are unclear.

9. However, students in Uzbekistan reporting the greatest amount of computer use outside school are seen in some studies to have lower than average achievement (the presumption is that high computer use outside of school is disproportionately devoted to computer gaming).

10. Users believe that ICTs make a positive difference

In studies that rely largely on self-reporting, most users feel that using ICTs make them more effective learners.

Teachers of IT have more difficulty controlling the focus of pupils' work in the classroom because, for example, pupils may have full access to all the features of the software they are using, and to all other installed software.

In other secondary-school subjects, teachers have much greater control over classroom activities and the texts, worksheets, and other learning resources made available to pupils. From the constructivist perspective, the role of the teacher and the purpose of learning materials are to facilitate active learning, during which learners construct their own understandings, rather than to design tightly specified, linear teaching programmes that impose given knowledge structures on the learner (Strommen & Lincoln, 1992). Teachers cannot transfer meanings or concepts direct to passive learners but can only orientate their learning (Von Glaserfeld, 1996). Learners are expected to have ownership of the learning process, experience with construction of their own knowledge, and self-awareness of the knowledge construction process.

Using IT involves using more expensive resources more frequently than in other curricular activities. However, there is insufficient hardware in many schools for pupils to have access whenever they need it, and pupils may have to share computers even in IT subject studies (Goldstein, 1997). Assessment, Recording and Reporting .

The Dilemmas . One consideration when planning a programme of initial teacher training is the need to help students develop an understanding of the demands that will be made of them on teaching placement in secondary schools. Initially, students need models which are simple and well understood so that they can begin to be effective professionals. They need to know what schools will expect of them initially so that they have a firm foundation for development. Programmes of study are inevitably sequential, and it would be impractical and undesirable for students to complete all their university based studies before beginning their first teaching placement. Consequently, choices have to be made.

Possible Strategies for Initial Teachers

Some possible strategies for teacher training are as follows. These have been informally evaluated as a part of professional practice but more rigorous formal research into the effectiveness of them is still required. Alert students at the start of the course to the possibility of widely differing experiences and circumstances on teaching placement, preparing them to be flexible and supportive of schools and teachers.

ICT is a teaching approach that are characterised by being tailored to student's needs, which ultimately arouse students interest and engagement in learning activities and improving their performance. If ICT is effectively used in secondary schools, it will improve learning and performance of the students. It is now recommended that

government should provide ICT to all secondary schools in Uzbekistan, and ICT should support

collaboration and effective interaction for learning: The use of computer and digital technologies will be more productive when it supports collaboration and interaction, particularly collaborative use by learners and teachers to support discussion, interaction and feedback.

The development of ICT in schools is progressing unevenly across and within schools and technologies. Some seem to be content with achieving the government's targets in terms of numbers of computers and connectivity, while others are being highly innovative, attempting to capitalise on the benefits that ICT has been shown to bring. As schools grow in e-confidence, ICT becomes embedded in the everyday practices of the school, drawing on a range of technologies to support learning, teaching and attainment.

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