

## **Integrate Technology In The Curriculum As An Effective Teaching Strategy**

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### **ABSTRACT**

Technologies becomes a priority in our life; it is integrated in to a lot of fields, even if in our simple daily life. Also in learning process, technology plays its role, in most Universities today Integrating technology into the curriculum becomes a priority, however, that technology should be integrated not as a separate subject, but as a tool to promote learning study skills in the curriculum as part of the daily classroom .The challenge here is in finding the effective ways to integrate technology in the curriculum and help students to use it, that don't take time away from core subjects.So this article will discuss the effective technology integration in to curriculum, followed by. The educational goals for students, and which ways of integrating technology in teaching and learning process will improve the quality of education.

**Keywords:** Integration, Technology, Education, Strategies, Curriculum, Effective

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### **1. INTRODUCTION**

“As technology plays a larger role in education, any predictions concerning the future of education must include an analysis of technological trends” Molebash (2000, p. 2438) and goes on to say that, “Trends in technology are creating a future that is arriving faster than education is preparing for it” (p. 2438).

The purpose of integrating effective technology into the curriculum is important because of the role of technology acts as a change catalyst in higher education. George Siemens said, “Current developments with technology and social software are significantly altering: a) how learners access information and knowledge, and b) how learners dialog with the instructor and with each other.” in his presentation at Educause on January 27, 2008.

Defining what technology integration is the first step in deciding how to integrate it into the curriculum. It is mean using technology to enhance the educational process that involves more than just learning, how to use specific piece of hardware and software. As a key enable educational teaching and learning process. It requires an understanding of pedagogical principles that are specific to the use

of technology in an instructional settings...Pedagogy-based training begins by helping teachers understand the role of learning theory in the design and function of class activities as well as in the selection and use of instructional technologies.

Another definition of technology integration it, "Effective integration of technology is achieved when students are able to select technology tools to help them obtain information in a timely manner, analyse and synthesize the information, and present it professionally. The technology should become an integral part of how the classroom functions -- as accessible as all other classroom tools." – (National Educational Technology Standards for Students, International Society for Technology in Education)

## **2. PROPOSED RESEARCH**

This study scope will focus on the advantages of integrating technology into curriculum. The world had been rapidly changing. Students now come with different expectations, if teachers still want to engage with their students they need to change. They should keep pace with this new generation, time of not knowing something is over. Students now have a lot more access to information than they ever did before. Check out the work of Michael Wesch, Assistant Professor of Cultural Anthropology at Kansas State University, His presentation at Educause Learning Initiative 2008 Annual Meeting, entitled “Human Futures for Technology and Education”, is a powerful commentary on the changing face of education.

Integrating technology into curriculum does not mean just teaching basic computer skills and software programs in a separate class. It means using this technology as an effective tool in the class. Researches show that the effective Technology integration enhances the learning process when it integrates across the curriculum. This is due to our students who are changed radically. Today’s students are no longer the people our educational system was designed to teach. (Prensky, 2001)

Technology also changes the way teachers teach, offering educators effective ways to reach different types of learners and assess student understanding through multiple means. “Professors who employ various methods of teaching such as a PowerPoint, video segments and overhead projectors during one course lecture are able to better keep students’ attention, thereby reducing boredom with the lecture and, consequently improving the overall learning experience.” D’Angelo & Woosley (2007, p. 463). Integrating technology can actually engage students and put them in a position of greater control of their learning. Although it is crucial for teachers to be aware of the characteristics of their learners and that they develop lessons that address both the strengths and the needs of their individual students (Massachusetts Department of Education, Adult and Community Learning Services: 9. Retrieved 20 October 2014.

Technology also can assist those non-traditional students who are working, and/or have families, and yet want to further their educations. El Mansour & Mupinga (2007, p. 242) suggest that,

...as higher education institutions struggle to meet the growing demand for education from non-traditional students, many are turning to hybrid and online courses. These courses, free up classroom space, allow faculty to reach a wider audience using technology; and are therefore cost effective.

As Singh and Means (2000) states that technology presents a very different set of challenges and different ways in which students can demonstrate their comprehension compared to conventional classroom settings with verbal knowledge or multiple-choice test performance.

Technology also play a big role in the relationship between the students and the teachers : When technology is effectively integrated into subject areas, teachers grow into roles of guides and facilitator’s .while students take responsibility for their learning outcomes, Technology lends itself as the multidimensional tool that assists that process. And help to makes teaching and learning process more meaningful and fun.

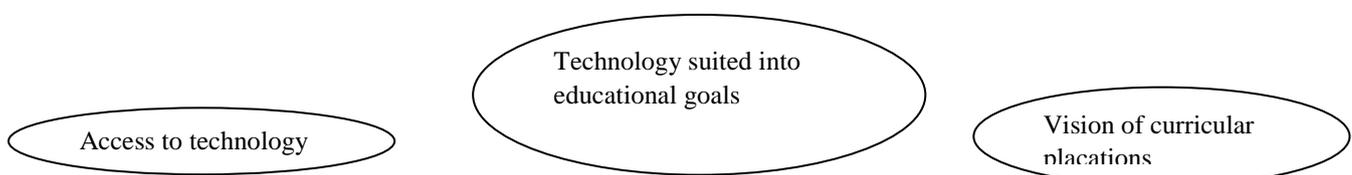
There is a growing body of evidence that technology integration positively affects student achievement and academic performance. The Centre for Applied Research in Educational Technology (CARET) found that, when used in collaborative learning methods and leadership that is aimed at improving the school through technology planning, technology impacts achievement in content area learning, promotes higher-order thinking and problem solving skills, and prepares students for the workforce.

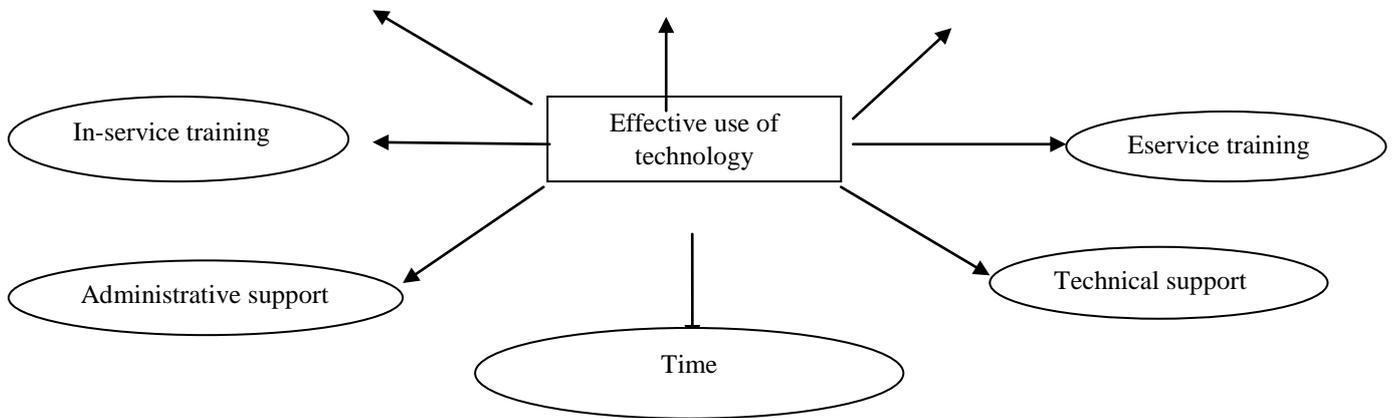
Making an effective integrate of technology in to the curriculum, educational institution needs to ensure that technology will support the educational goals for students. Clear measurable goals, Expectations and criteria of the use of technology for student learning should be developed.

Also there is other elements for effective technology integration in the teaching and learning process (Cradler& Bridgforth, 2005).

- 1- Suiting technology to education goals and standards
- 2- Have a vision for the use of technology to support curriculum
- 3- Provide for both in- service and pre- service training
- 4- Ensure access to appropriate technology
- 5- Provide for administrative support for technology use
- 6- Provide time for teacher to plan and learn how to integrate technology in classroom
- 7- Provide for ongoing technical support for technology use

**Figure 1. Necessary elements for effective use of technology in education**





In order to implement this strategy teachers will decided doing this during lectures and assessments, hoping that students improve their metacognition and motivation.

Beth Hertz shares four levels of classroom technology integration she has observed in schools:

1. **Sparse:** Technology is rarely used or available. Students rarely use technology to complete assignments or projects.
2. **Basic:** Technology is used or available occasionally/often in a lab rather than the classroom. Students are comfortable with one or two tools and sometimes use these tools to create projects that show understanding of content.
3. **Comfortable:** Technology is used in the classroom on a fairly regular basis. Students are comfortable with a variety of tools and often use these tools to create projects that show understanding of content.
4. **Seamless:** Students employ technology daily in the classroom using a variety of tools to complete assignments and create projects that show a deep understanding of content.

Figure2. Knowledge educators need for effective use of technology

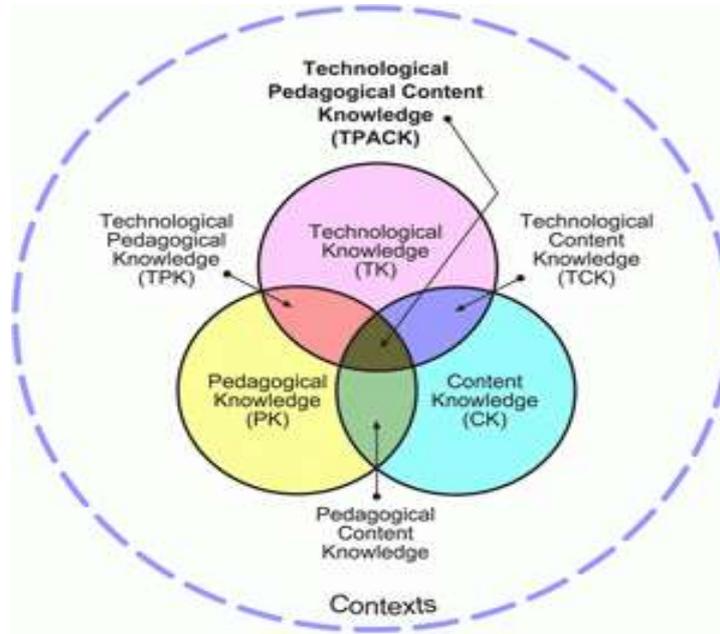


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The **TPACK (Technological Pedagogical Content Knowledge)** frame work lays out the knowledge that educators need in order to successfully integrate technology into their teaching.

Kleinman project - The Apple Curriculum of Tomorrow ( ACOT) – gives teacher the easily way to integrate technology into curriculum in five stages:

- 1- There is anxiety , excitement , and doubt about its effectiveness
- 2- Begin to use the technology for small assignments without making major changes to the curriculum
- 3- Integrate technology into the traditional curriculum ( in this stage students begin to learn more and teachers will see the benefits)
- 4- Teachers use technology easily and no longer intimidated from it
- 5- Finally teachers are comfortable and readily develop new instructional approaches using technology

Implementing technology in the curriculum led us to develop the five main content areas of learning: program design and development, staff training and development, program review and evaluation, risk management-policies and procedures. And equipment course management.

Since students are already interested and engaged in technology, teachers can harness that attention for educational purposes. Incorporating the internet, laptops, tablets and even smart phones into the

curriculum has many benefits for teachers and students alike. Research shows that there is a positive relationship between engagement and academic achievement (Finn, 1993; Greenwood, 1991; Newman et al., 1992).

Here are just a few examples:

**1. Encourages Individual Learners**

People do not learn in a same way, but technology can level-set the classroom. For example, technology can provide accommodations for struggling students, using virtual lesson provide individualized instruction for all. Students can learn at their own speed, reviewing difficult concepts or skipping ahead as needed.

**2. Increased Use of Outside Sources**

Integrating technology gives students access to a broad range of resources to conduct research. (Singh & Means, 2000) found benefit of using technology is that 10 out of 17 classrooms observed an increase in the use of outside resources. Sources such as telecommunications, satellite broadcasts, fax machines, and the telephone were brought for use of resources

**3. More Collaboration with Peers**

When a student masters specific computer skill there is pride and enjoyment derived from helping other peer students. The style and the tone of the atmosphere facilitate more facilitating with the collaboration within the curriculum (Singh & Means, 2000).

**4. Increased Motivation and Self-Esteem**

When students become involved with technology universally reported how effect is the increase in motivation that occurs. Students with less action with traditional academic tasks have shown a level of technology-based accomplishment

**5. Improved Design Skills/Attention to Audience**

When there is collaboration on multimedia product, students have an increased awareness that their peers will be reacting to the project. Students are paying attention to how an idea is being portrayed to the audience through text, video or animation (Singh & Means, 2000).

**Table 1** Riel (1992) found that students who participated in Internet-based learning networks showed increased motivation, a deeper understanding of concepts, and an increased willingness to tackle

difficult questions. This table provides Research studies of six countries that have introduced computers and, in some cases the Internet, into their schools. It has found that some of these goals are indeed accomplished by integrating technology into teaching and learning.

Country	Goal
<b>Barbados</b>	<input type="checkbox"/> To provide better motivation for both teachers and students; <input type="checkbox"/> To enable schools to provide better educational management; <input type="checkbox"/> To assist students in mastering the requisite skills and competencies of a computerized world; and <input type="checkbox"/> To enhance the teaching of subject matter of the various curricula offered.
<b>Chile</b>	<input type="checkbox"/> To promote cooperative learning, higher-level thinking skills, data management, and Communication skills.
<b>Costa Rica</b>	<input type="checkbox"/> To contribute to the improvement in the quality of education; <input type="checkbox"/> To provide access to technology to children in rural and marginal urban areas; <input type="checkbox"/> To stimulate creativity, cognitive skills and collaborative work; <input type="checkbox"/> To rekindle teachers' interests in teaching; and <input type="checkbox"/> To provide students with new learning environments and opportunities.
<b>Egypt</b>	<input type="checkbox"/> To improve the quality and relevance of education through improved access to information for teachers and students and work-related skills; and <input type="checkbox"/> To provide a means of communication within the education system.
<b>Jamaica</b>	<input type="checkbox"/> To integrate technologies into the curriculum; <input type="checkbox"/> To foster literacy and numeracy acquisition through computer-assisted instruction in primary schools; <input type="checkbox"/> To electronically network rural schools; and <input type="checkbox"/> To expand software available to educators.
<b>Turkey</b>	<input type="checkbox"/> To promote active involvement of students in individual and collaborative work; <input type="checkbox"/> To enrich institutional activities through various kinds of multimedia instructional software and web-based materials; <input type="checkbox"/> To enrich the interaction among students, teachers and other schools; <input type="checkbox"/> To promote multidisciplinary and authentic tasks, covering more than one course and real life applications; and <input type="checkbox"/> To integrate of IT skills into the existing curriculum.

Additionally a lot of research studies found that Internet technology in classrooms:

1. Improves students’ attitudes and confidence
2. Provides instructional opportunities otherwise not available
3. Increases student collaboration on projects
4. Significantly improves student problem-solving skills
5. increases the preparation of students for most careers and vocations
6. Tends to shift teaching styles from traditional direct approaches to a more student-oriented approach.

According to a September 2006 U. S. Department of Education Report entitled, “A Test of Leadership: Charting the Future of U. S. Higher Education, effective use of information technology can improve student learning, reduce instructional costs, and meet critical workforce needs

George Siemens, in his presentation to the IT Forum on January 27, 2008, also alluded to this variety when he pointed to the value of communication technologies in the higher education space. Siemens claims that “...ongoing development of communication technologies (email, Skype, instant messaging) and digitization of curricular resources creates new opportunities for learners.”

Finally, when integrating technology completely activated, the students and the teachers will not stop to think that they are using a technology tool. Students will become more actively engaged in the course when technology tools are a seamless part of the teaching and learning process.

### **3. CONCLUSION**

Integration of technology in education has been the goal for many educators for many years. This integration has made great strides in the past two decades, but at the same time it faces many significant challenges for the future.

There is no doubt that technology is an integral part of our current society, it is the best strategy we can follow as an instructors to match with era, and to achieve our goals. It is relatively new, but like many innovation, it is here to stay.

It may be necessary to implement more than one level of instructional technology. Each student will be able to receive individual attention specific to their own needs and will accordingly achieve success based on the new knowledge they attain in the course.

It should be growing concern, the public needs to be aware that is their attitude and action do make a different to the educational world. Action should be taken to work towards proper implementation of technology in the education system. It is the choices of the colleges and universities to decide how to incorporate technology into the education majors' requirements. Willis and Raines (2001)

So incentive systems need to change if institutions of higher education want to be competitive and survive in the years ahead. Reward systems need to be created and implemented. Following the standards of what teachers should know and be able to do concerning technology which is recommended by The National Council for the Accreditation of Teacher Education (NCATE) and the International Society for Technology in Education (ISTE). Time must be given for faculty to learn new technologies, to review the electronically-based learning materials out there for their disciplines, and then have some time to figure out how to integrate those materials into their classrooms

I believed that students learned how to learn and felt more confident as learners after this strategy will implement, and I believe that any teacher can easily implement this strategy into her curriculum if they decided to do. Time of not knowing anything is over.

To be successful, a teacher attempting to integrate technology into a curriculum environment must consider factors such as: administration, teacher, student, the educator's teaching style and philosophy; the subject and concepts taught; and the learning styles of the students. utilize this strategy also will improve student's critical thinking, study and analytical skills, self-reliance, share in their learning, be more responsibility, and prepare them for working world. Finally, reflective evaluation of current and future practices, as well as staying abreast of current research will help provide the best education for all students.

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