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Abstract:

Technology has simultaneously created opportunities for inclusive and personalised learning. To customize instructional material to each student's requirements, adaptive learning systems use data-driven insights, resulting in improved understanding and retention. Additionally, virtual classrooms and collaboration technologies traverse geographic boundaries to establish a global community of learners interacting across cultural boundaries, broadening their views. However, there are difficulties in incorporating new technology into schooling. Initiatives to provide equitable access to technology and training are required due to the equity issues raised by the digital divide. Additionally, the proliferation of false information necessitates the development of critical thinking abilities to identify reliable sources. These are examples of emerging education technology rather than commonly-used-today technology or far-off-in-the-future technology. In fact, many of them are still 'emerging' years after their initial emergence and as is the case with technologies like robotics and artificial intelligence, will continue to radically reshape themselves and thus continue 'emerging.'

Introduction:

The traditional method of teaching did not emphasize on focused learning, critical thinking or interactivity. It obviated the learners from learning the things they are interested in. The teacher is the only source of information. Students do not make the effort to learn new things themselves. Lack of parents' involvement can be a problem, which is part of traditional school system. This makes parents and students distant from each other as a family. In traditional classroom, teacher and books are the only source of information, which can be limited as compared to online learning in which online information is limitless. Sometimes, traditional system of teaching can make learning a boring activity, which makes learning tiresome and seems like a burden. Moreover, learners have different learning capacities, which a single teacher cannot address in a class. It hinders his learning capability due lack of teacher's individual attention. Technology helps in overcoming these problems.

Teaching is an area in which the utilization in technology has been motivated. While technology plays an important role in supporting and enhancing language learning, the effectiveness of any technological tool depends on the knowledge and expertise of the qualified language teacher who manages and facilitates the language learning environment. In some cases, however, school and university administrators have permitted technology to drive the language curriculum and have even used it to replace certified language teachers. Technological devices are being used in language classes (Traore & Kyei Blankson, 2011).

Technologies for Teaching and Learning:

Concept Mapping Software:

Concept-mapping software (or "mind maps" or "graphic organizers") is software that demonstrates the visual relationship of concepts (words, ideas or numbers). Concept maps have been proven to improve student reading comprehension and writing skills (Halliday & Martin, 1993; Gouli, Gogoulou & Grigoriadou, 2003). This effect is the same whether concept maps are drawn by hand or by computer. The urges teachers to use concept maps for instruction for a number of reasons: Concept maps help the learner and teacher determine what the learner knows; they can help students meaningfully integrate new information into existing cognitive structures; visual depictions of relationships can help learners extract meaning from the information through manipulation, and clarify difficult-to-understand text and abstract concepts; and concept maps help students understand main ideas and how they are related, and can reveal misconceptions of understanding. Finally, concept maps can help teachers see how and what students are thinking, how their thinking changes over time and can help students clarify their constructs and revise their concept maps.

Word Processing Software:

Perhaps nowhere is the argument for using computers for learning stronger than in the area of writing. Research (Russell & Abrams, 2004; Silvernail & Gritter, 2007) has consistently demonstrated that technology can improve students' writing if students are given open-ended prompts and if they go through the formal writing process-brainstorming, drafting, revising and rewriting. In the US state of Maine, where all 6th, 7th and 8th graders were provided with their own laptop, a five-year study of laptops and writing

demonstrated that students who write with computers (i.e., primarily the use of word processing software) have a greater probability of success in achieving proficiency in state writing standards and have more developed writing responses and higher scores (about 75% higher) on state tests (Silvernail & Lane, 2004) than students who take the same state assessments with paper and pencil.

Visually-Based Applications and Technologies Interactive Whiteboards:

An Interactive Whiteboard (IWB) is large display that connects to a computer and projector which then displays the computer's desktop onto the board's surface, where users can control the computer with a pen, their finger, or other device the board is typically mounted on a wall or floor stand. Various accessories, such as student response systems and Whiteboard-specific software, enable additional interactivity. As a presentation tool, the size interactivity of an IWB is certainly attention-getting. IWBs can also be a starting point for the integration of other technologies. For example, a teacher can integrate a document camera with an interactive whiteboard, and physical objects that would be passed around hand to hand can be immediately digitized and seen by everyone in the class or lecture hall.

Student Response Systems:

Student Response Systems or "classroom response systems" or "clickers" are wireless, hand-held response systems that allow students to respond to a teacher query by "clicking" the answer on a response pad which is then transmitted via a radio signal to a receiver attached to a computer. The response can be displayed on the teacher's computer screen or on an Interactive Whiteboard. The percentage of students providing the correct answer is then immediately displayed on the board in a bar graph or pie chart. SRSs function as both assessment and instructional tools. Essentially SRS generate "just-in-time" visual data that help teachers and students assess students' levels of understanding. By quickly assessing students' understanding of a topic, the teacher can adopt "just-in-time teaching" corrections-modifying content delivery, differentiating instruction, engaging students in peer tutoring, or working one-on-one with a struggling learner. The instructional effectiveness of the SRS depends on three highly effective pedagogical techniques: "question driven instruction" (Beatty & Gerace, 2009); opportunities for peer reflection; and student reflection and meta-cognition.

Internet-Based Applications and Technologies:

Web-based approaches to learning encompass a number of practices-computer mediated communication (such as email, list servers, and bulletin board systems); online courses (via tutors, self-paced learning and learning communities); social media; online tutorials; online communities; e-mentoring; webinars; webcasts; tele-collaboration and tele-research projects; and virtual schools that foster content-based creation and collaboration with virtual professional learning communities. To explore each in detail would require more space than is available here, so this section limits itself to formal online learning courses and Web 2.0 or social media.⁵² It is important to note that forms of online or "e-learning," mentioned above, are, despite their attractiveness, still evolving and have yet to establish a performance-based track record.

Multimedia Applications and Technologies:

Multimedia is media that combines a number of content forms-text, audio, full-motion video, still images, animations or applets. Multimedia applications and technologies are potentially beneficial as learning tools for two reasons

- First, the combination of text, audio, video, color and animation and the various "ways" of learning afforded by multimedia may better address students' individual learning styles and their "frames of knowing". This is supplemented by additional research that shows that combined use of visual and auditory symbol systems resulted in more recall by students than visual-only and audio-only presentations.
- The second reason- The second reason-related to the first-is that multimedia allows learners to simultaneously process multiple types of symbols-text, audio, animation, still or moving images. Multimedia can be used to aid students in constructing links between symbolic domains, such as graphs, and the real world phenomena they represent, which can in turn influence the mental representations and cognitive processes of learners. Novice learners within these environments benefit from structured experiences of progressive complexity which help them build and elaborate their mental models.

Mobile Technologies:

In recent years, mobile technologies have exploded as tools for student learning. Learning via mobile devices is referred to as mobile or m-learning or as ubiquitous learning (u-learning) and nations like South Korea and the United Kingdom are regarded as leaders in this arena. In Jordan, the King's Academy is an entirely tablet based, and thus an m-learning environment. M- or U-learning essentially involves learning through small mobile networked devices (cell phones, Smart Phones, personal digital assistants (PDAs), tablets, and portable media players) so that learners can access information, colleagues and resources ubiquitously.

Assistive Technologies:

For many students-those who have vision problems, who cannot hear, who have gross or fine motor impairments, who are ill, aphasic, dyslexic or dysgraphic or who suffer from a range of undiagnosed and misunderstood physical and cognitive ailments-the computer, and in particular the software and

peripherals it supports, may be their only link to education, indeed to the world beyond the physical confines of their own body.

- Develop standards for quality education Standards are guidelines for what the essential components of “schooling”-teaching, technology, professional development, curriculum development and content knowledge-look like in practice. Standards help educators bring focus and clarity to their work and provide benchmarks against which quality can be assessed and measured.

Examples of Indicators of Standards-based Teaching and Learning:

- Develop clear statements of what students should know and be able to do.
- Standards apply to all students with high expectations for their success.
- Teacher knows how each lesson relates to academic standards.
- Students know what they are learning, what standards are related to it and why they are learning it.
- Standards are constant; instructional strategies, time and technologies are the variables.
- Planning begins with standards-not materials and not technology.
- Students know how the teacher expects them to show what they’ve learned.
- Feedback to students is related to performance-level criteria not based on comparisons to other students.
- Assessment system does not rely on one measure but on multiple authentic measures-portfolios, performance, examinations that measure growth over time.
- Student performance data are used to revise curriculum and instruction.
- Assessment of student achievement is consistent across teachers and schools, using common performance indicators.

Recruit, Hire and Continually Train High-Quality Teachers:

Effective reforms, such as utilizing ICTs for the teaching and learning process, depend on having good teachers.

- Content Knowledge: Student achievement is significantly related to whether teachers are fully prepared in the field in which they teach. Good teachers have strong subject matter knowledge.
- Structured Instructional Approach: Good teachers adopt a structured, planned approach to instruction. This can be a traditional, more direct, structured approach or a constructivist approach.
- Pedagogical Content Knowledge: Good teachers have strong pedagogical content knowledge. Teachers’ preparation in content and pedagogy is associated with teaching practices, which in turn influence achievement. Pedagogical content knowledge (Shulman, 1986) essentially means that teachers know, not just their content, but specific strategies for teaching this particular content.
- Knowledge about how students learn: Teachers with a good understanding of child development and learning are more likely to be effective in the classroom. Teachers who have had coursework in learning and development are more likely to stay in teaching. And teachers who understand how learning occurs are more able to select and develop curriculum that supports, rather than undermines, the learning process. Research on successful teacher education programs in the US has noted that many of these programs have particularly strong coursework in child and adolescent development tightly linked to clinical observation and analysis of learning within school and out-of-school environments (Darling-Hammond & Bransford, 2005).
- Efficacy: Most studies (OECD, 2008) have found a positive relationship between teachers’ beliefs about their efficacy and student achievements in core academic outcomes. Efficacy is a broad term that deals with attitudes, beliefs and perceptions. Teachers with strong self-efficacy believe that they can be successful. Teachers with strong self-efficacy also have strong beliefs in their students’ efficacy (a belief that students can be successful). Teachers who have strong efficacy are better able to motivate students because they set high standards for students and believe that they can teach the student what he/she needs to know to attain these standards. Teachers with high efficacy also demonstrate caring and respect for students and provide a safe learning environment.

Conclusion:

The fundamental rationale for placing technology in schools rests on a belief that technology is an instrument of reform-that technology can qualitatively enhance the teaching and learning process. Teachers who express more than one instructional objective may use a greater variety of applications. For example, those interested in having students find out about ideas and information may not only have students use CD-ROM reference software, and the World Wide Web-two applications naturally associated with information retrieval-but they may also have their students use word processing software Initially (and continuously) such disappointments are addressed by blaming teachers for impeding technology’s progress. More recently we have expressed our disappointment by blaming technology itself. A number of careers have been shaped and cottage industries created, all focused on the epic disappointments associated with technology in schools. Technology has not failed educational systems; rather many educational systems have made successful implementation of innovations like technology impossible

because they have failed to develop the terrain, the conditions, the initiatives, the supports-the reforms-necessary to ensure that innovations take root and flourish.

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