Pedagogical technologies as a condition for achieving a new educational result

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Annotation: In many ways, technology has profoundly changed education. For one, technology has greatly expanded access to education. In medieval times, books were rare and only an elite few had access to educational opportunities. Individuals had to travel to centers of learning to get an education. This article discusses about the pedagogical technologies as a condition for achieving a new educational result.

Keywords: pedagogical technologies, conditions, educational result, access, opportunities, educational benifits

The issue of incorporating technology into the teaching and learning process is a recurring one. Lack of computers, lack of computer skill, and computer fear are all common reasons for the restricted use of technology to support instruction. While these factors may influence the success of technology integration, it should be noted that instructors' ability to examine the relationship between pedagogy and technology may play a role in their ability to use technology for instruction. The essay demonstrates how technology integration is viewed narrowly, and how this viewpoint may limit teachers' awareness of the reach of technology in education. Teaching and learning difficulties should be taken into account while integrating technology. Developing learning objectives and selecting instructional methods are examples of such difficulties. Technology is causing massive changes in all sectors of the economy. These changes have been felt in the health sector, financial world, entertainment, and even government. The good news is that these changes will make the world a better place! One of the key sectors that has been affected by this disruption is education. These innovations are giving classrooms a new look and have changed the ways in which lessons are conducted. Here are the top six technology innovations that are causing major changes in education.There is a widespread notion that educational systems should empower learners with skills and competences to cope with a constantly changing landscape. Reference is often made to skills such as critical thinking, problem solving, collaborative skills, innovation, digital literacy, and adaptability. What is negotiable is how best to achieve the development of those skills, in particular which teaching and learning approaches are suitable for facilitating or enabling complex skills development. In this paper, we build on our previous work of exploring new forms of pedagogy for an interactive world, as documented in our Innovating Pedagogy report series. We present a set of innovative pedagogical approaches that have the potential to guide teaching and transform learning.The selected pedagogies, namely formative analytics, teachback, place-based learning, learning with drones, learning with robots, and citizen inquiry are either attached to specific technological developments, or they have emerged due to an advanced understanding of the science of learning. Each one is presented in terms of the five dimensions of the framework.Moreover, pedagogical innovations reinvent teaching practices and satisfy professors, while the associated academic institution can take pride in the achievement. Paradoxically, the outcomes of this study highlight the recognition granted to pedagogical innovators, in contrast to innovative teaching, which remains denigrated. This paper discusses the implications of the findings for educational practice and provides recommendations as well as avenues for further research.The rapid growth of online courses in higher education has led to developments in the field of e-assessment. This paper presents a study, which examined the quality of online academic courses using a multidimensional assessment of students' activities and perceptions, using educational data mining and an online questionnaire. The assessment focused on four aspects: instructional, communication, course workload and overall learning experience. The course instructional model was found well-structured. The video lectures, assignments and materials designed for the online course were the most used and contributing learning resources. However, the number of students who entered the video lectures decreased as the course progressed. Low activity was found in the discussion forums. Students perceived the course workload as low. Overall, the learning experience was high and the students were highly satisfied. These findings provide insights that may assist in improving the quality of future online courses.

However, in many ways, technology has profoundly changed education. For one, technology has greatly expanded access to education. In medieval times, books were rare and only an elite few had access to educational opportunities. Individuals had to travel to centers of learning to get an education. Today, massive amounts of information (books, audio, images, videos) are available at

one's fingertips through the Internet, and opportunities for formal learning are available online worldwide through, traditional online degree programs, and more. Access to learning opportunities today is unprecedented in scope thanks to technology.It should include the strategies for selecting the desired technologies, skill to demonstrate how the selected technologies will be used, skill to evaluate such technologies, as well as the skill to customize the use of such technological skills in a way that addresses instructional problems. The decision on the selection and use of technology for instruction should be made at the onset – when the instruction is being prepared, not in the middle or at the conclusion of the instruction. The objective and method of instruction including technology and outcomes of instruction should be specified at the planning stage.Opportunities for communication and collaboration have also been expanded by technology. Traditionally, classrooms have been relatively isolated, and collaboration has been limited to other students in the same classroom or building. Today, technology enables forms of communication and collaboration undreamt of in the past.Technology has also begun to change the roles of teachers and learners. In the traditional classroom, such as what we see depicted in de Voltolina's illustration, the teacher is the primary source of information, and the learners passively receive it. This model of the teacher as the "sage on the stage" has been in education for a long time, and it is still very much in evidence today. However, because of the access to information and educational opportunity that technology has enabled, in many classrooms today we see the teacher's role shifting to the "guide on the side" as students take more responsibility for their own learning using technology to gather relevant information. Schools and universities across the country are beginning to redesign learning spaces to enable this new model of education, foster more interaction and small group work, and use technology as an enabler.Technology is a powerful instrument that can help and improve education in a variety of ways, from making it easier for teachers to generate instructional materials to allowing individuals to learn and collaborate in new ways. With the Internet's global reach and the widespread availability of smart gadgets that can connect to it, a new era of anytime, anywhere education is on the horizon. It will be up to instructional designers and educational technologies to take advantage of the technological opportunities to transform education such that effective and efficient education is available to everyone, everywhere.The issue of incorporating technology into the teaching and learning process is a recurring one. Lack of computers, lack of computer skill, and computer fear are all common reasons for the restricted use of technology to support instruction. While these factors may influence the success of technology integration, it should be noted that instructors' ability to examine the relationship between pedagogy and technology may play a role in their ability to use technology for instruction. The essay demonstrates how technology integration is viewed narrowly, and how this viewpoint may limit teachers' awareness of the reach of technology in education. Teaching and learning difficulties should be taken into account while integrating technology. Developing learning objectives and selecting instructional methods are examples of such difficulties.Using technology to enhance the educational process involves more than just learning how to use specific piece of hardware and software. 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 and in the selection and use of instructional technologies.The relationship between instructional technology and pedagogical concepts is considered with a view of assisting teachers to recognize the impact of such a relationship in an educational inquiry. Technology integration is complex and is made up of processes of interconnected activities. The essence of this article is to explore those processes and to encourage teachers and those connected with technology integration to be reflective practitioners.It does not connect instructional technology with the learning objectives, methods of instruction, learning style and pace of learning, assessment and evaluation strategies, including follow-up procedures. Specifically, technology integration should incorporate the technological skill and ability to use pedagogical knowledge as a base for integrating technology into teaching and learning. This implies that teachers should develop strategies to motivate students to keep them focused as the instruction progresses and to consider that different students prefer different learning styles and that they learn at different rates.It is important that teachers use a variety of teaching methods, and students must be taught to use the newly acquired knowledge and skill as well as to critically evaluate and modify such knowledge. In other words, teachers should be able to engage students in an exploratory learning experience which is designed to stimulate thinking.We teach a subject not to produce little living libraries on that subject, but rather to get a student to think mathematically for himself, to consider matters as an historian does, to take part in the process of knowledge-getting.This can imply that teaching software skills without consideration to the basic foundation knowledge that justifies their application is likely to result in rote memorization of disjointed information on various technologies used.In a broad sense, technology integration can be described as a process of using existing tools, equipment and materials, including the use of electronic media, for the purpose of enhancing learning. It involves managing and coordinating available instructional aids and resources in order to facilitate learning. It also involves the selection of suitable technology based on the learning needs of students as well as the ability of teachers to adapt such technology to fit specific learning activities. It calls for teachers' ability to select suitable technology while planning instruction. It also requires teachers to use appropriate technology to present and evaluate instruction as well as use relevant technology for follow-up learning activities. Such a broad definition of technology in education will help teachers develop a rational approach toward technology integration.In teaching and learning, technology should be applied as a process rather than as a single, isolated and discrete activity.Technology in education is not a mere object to be introduced into teaching and learning activities at will without considering basic principles of learning and sound teaching methodology. Therefore, to assume that educational technology is an object that can be used and detached at any time is a false assumption because educational technology is not applied in a vacuum. It is guided by learning principles about how individuals learn and how they retain the knowledge and skill they have acquired. It is also based on the students' expectations of the outcome of learning and how the outcomes could be applied to enrich practical life experiences. Therefore, technological application should be based on sound teaching and learning principles to avoid teaching hardware and software technologies in an isolated manner. Technologies used for instructional delivery should form part of the cohesive components of instruction; they should not be detachable objects.Technology should be implemented in the classroom only if its role in a given instruction is determined along with pedagogical issues related to a given instructional task. The role of technology in education can only be determined if teachers who implement technology at the classroom level are involved in technology decision- making because teachers have the responsibility of facilitating instruction.The

interaction between teacher and students in the highest sense of the word implies something more than mutual influence on each other. For the implementation of interaction, it is necessary for the interlocutors to accept each other as equal subjects of this communication. Pedagogical influence, acting as a short moment of communication or a long-term influence, ensures the implementation of functions in accordance with the educational goal. When analyzing the pedagogical impact, one should proceed from its purpose as the initial moment of the teacher's interaction with the student. In other words, the main purpose of pedagogical influence is to transfer the student to the position of a subject who is aware of his own life. The implementation of these functions of pedagogical influence is provided by pedagogical technology, which scientifically substantiates the professional choice of the teacher's influence on the child in his interaction with the world, forms his attitude to this world. The essence of pedagogical technology is revealed through a system of necessary and sufficient elements that are interconnected and have an internal logic. To determine the components of pedagogical technology, it is necessary to answer a number of questions:

- what elements make up pedagogical technology;

- what is their necessary and sufficient presence;
- in what relationship they are;
- what are the general and specific functions of each element.

Educational technologies aren't all created equal. This chapter presents a paradigm for classifying various technologies in the K-12 educational setting into operational and pedagogical technology groups based on whether they directly participate in the teaching and learning process. Furthermore, depending on whether they are teacher-driven tools or algorithm-driven learning programs, pedagogical technologies are divided into tool-based and program-based technologies. In order to effectively implement tool-based technologies, learning goals must be redefined to include student-centered education. More research is needed to completely understand and develop program-based technologies, because current ones are under-researched and fail to engage and encourage pupils to learn.It is important that teachers recognize that a relationship exists between technology in education and pedagogical decision-making.There is no blueprint for technology integration, however, it is suggested that effort be made to link technology for instruction to all levels of pedagogical processes and activities as described next.Pedagogical communication, which is aimed at "opening the student in communication" through the creation of psychologically comfortable conditions for the disclosure of him as a person. Pedagogical assessment, which provides the functions of "bringing in the image" at the level of social norms, stimulating activity and correcting deviations, is possible against the background of the implementation of the assessment, which is not perceived by the student as an assessment, but carried out in a hidden order.Identifying learning objectives in a technology-based instruction requires teachers to select and adapt instructional technology to match the objectives based on the students' needs.

Presenting instruction using technology as part of the instructional process requires teachers to choose the methods that are relevant to the objectives, the technology selected, learning styles, modes and pace of learning.

Evaluating technology-based instruction requires teachers to select appropriate evaluation techniques that are relevant to the objectives, methods of instruction, and to technologies that have been used.

Designing follow-up activities using technology requires teachers to select appropriate follow-up materials that are relevant to the objectives of the instruction and technologies that are accessible to the students as well as easy to use.

Developing course enrichment materials using technology requires teachers to provide opportunity for students to explore issues related to the course materials and to provide them with the opportunity to select and analyze course enrichment materials using technology in ways that broaden their problem-solving skills.

Locating sources for additional instructional materials using technology requires teachers to use the internet and multimedia networks to develop additional learning materials and expand instructional resources aimed at broadening the knowledge and the skill gained.

Designing a dynamic classroom using technology requires teachers to provide a learning environment that is colorful, engaging, exciting, interactive and energetic as a way of encouraging students to venture into the world of technology and to discover knowledge for themselves.An important factor is the education of schoolchildren of junior and senior classes through art. At the same time, the teacher of fine arts must himself master the basic tools: the basics of composition, drawing, painting, various decorative techniques. He also needs to know the history of art, pedagogy and psychology, which is learned at the student's bench. The student - the future teacher should, first of all, himself learn all those levels of knowledge and skills with the help of which he will teach the students.Tradition and innovation in teaching. Today, among educators there is no common opinion on the need to combine in their work both formal and informal methods of teaching. There is a certain misunderstanding in the groups when the conversation begins about the need to introduce informal approaches in the teaching of the fine arts.Pedagogical innovation offers a new approach to learning - personality-centered.A distinctive feature of educational and cognitive activity in innovative education is this type of mastery of knowledge, in which conditions are created for students to be included not just in educational activities, but in creative activities. In this case, the student's activity reaches a productive-creative level. In innovative teaching, this activity proceeds as creative, in the process of which the student's knowledge is formed simultaneously with the skills and creative products are created, which confirm and form the skills, and generalizes the systemic nature of knowledge. Analyzing the psychological essence of innovative teaching, it should be noted that in innovative education there is a positive struggle with a lack of emotionality.At the present stage, the requirements for the teacher's professional training are increasing. Accordingly, every teacher should know how to move from a simple lesson to a pedagogical technology consisting of blocks of thematic lessons and auxiliary visual, auditory information.Technological innovations are having a significant impact on educational systems at all levels. Online courses, teaching aids, educational software, social networking tools, and other emerging technologies are disrupting the traditional classroom environment. Understanding the effects that technological innovations have on students, teachers, and schools is critical

to developing strategies and techniques to manage and use technology in education. If one of the priority areas is the introduction of new technologies into the educational process, then the informal method is one of the formats of innovation in teaching. Fine art should not be a boring and monotonous occupation for children and adolescents. Undoubtedly, it is important to teach the canons of academic drawing and painting. But at the same time, the use of informal methods of learning the composition, as well as the mastering of computer technology, as a tool for creating author compositions, forms an even greater interest in engaging in pictorial creativity. In order to effectively implement change, there has to be commitment to collaborate from the full range of education stakeholders and technology-enhanced learning experts, policymakers, researchers, technology suppliers, and innovative teachers from all over Europe to design, build, and test learning experiences for the future classroom. The modern classroom opens up possibilities in teaching supported by technology and a learning space that rearranges easily to provide flexibility. Students might be seated in groups, using their devices and other resources to collaborate on a project. Students might also collaborate on a widescreen interactive display to share and record strategies toward solving a problem. Likewise, an interactive, digital learning application for students to share and comment on work provides the opportunity for them to receive feedback on work from peers and teachers in school and out of school.In a modern classroom, students are actively involved in constructing content and new ideas. They use active learning approaches, such as project-based learning and design-based learning, where students are engaged in real, relevant, and purposeful activities.

The purpose of this article is to provide information on how instructors can improve their usage of technology in the classroom. It examines significant pedagogical concerns that must be examined in order to successfully integrate technology into teaching and learning. It is critical that instructors see technology as an integral element of the educational process. The relationship between pedagogy and technology in education is also acknowledged in this essay. Teachers must be familiar with the pedagogical principles that govern the use of technology in teaching and learning. There are suggestions for how to increase technology integration. Educators are encouraged to take a broad view of technology integration and to be reflective in their teaching when using technology to support and facilitate education.

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