

## The contribution of technology to student learning

*The contribution of technology to student learning*

Isabella de Almeida Colares<sup>1</sup>

### SUMMARY

This article presents an introduction to the evolution of digital resources to contribute to teaching and reflects on the current role of the teacher and the new skills that students must develop in order to become promising and competent citizens of the 21st century. The research carried out was bibliographical, with a review of articles and *blogs* on the contributions of technologies to students' learning with motivation and quality, learning to know themselves, learning to work in teams, developing their potential in projects, and challenging themselves with problems with complex solutions. Emphasizing the importance of ongoing training for teachers with a view to using these digital resources in practice, it is necessary for schools to be equipped with modern *software* that is accessible to teachers. Above all, teachers are opinion makers and must accept changes that are emerging with the innovations present in classes and promote their updating and use them to their advantage so that they do not become outdated professionals. In this way, they can help mediate learning with motivation and confidence.

**Keywords:** Technologies. Challenges. Skills.

### ABSTRACT

This article presents an introduction on the evolution of digital resources to contribute to teaching and reflects on the current role of the teacher and the new skills that the student must develop in order to be a promising and competent citizen of the 21st century. The research carried out was bibliographical with review of articles and blogs about the contributions of Technologies for the student to practice their learning with motivation and quality, learn to know themselves, learn to work in teams, to work their potential in projects, and if challenged in problems with complex solutions. Emphasizing the importance of constant teacher training in the perspective of using these digital resources in practice, a school equipped with modern and accessible software for teachers is needed. The teacher, above all, is an opinion maker and must accept changes that are emerging with the innovations present in the classes and promote their updating and use them to their benefit so that they do not become an outdated professional.

Thus, you can help mediate learning with motivation and security.

**Keywords:** Technologies. Challenges. Skills.

---

<sup>1</sup> Graduated in Mathematics from the State University of Ceará, Specialist in Mathematics Teaching from Ateneu University, Master in Emerging Technologies from *Must University*, PhD student in Computer Sciences Education by the Inter-American Faculty of Social Sciences-FICS, Professor of the Municipal Network of Basic Education of Fortaleza. Orcid: <https://orcid.org/0009-0000-3225-9242>

## 1. INTRODUCTION

Man has been using technology for a long time, but he didn't know what it was about. Anything that can facilitate an action to achieve a quick and effective objective is called technology. According to Sancho (2001), the first presentation of the theme was in Greece, in that *téchine* (art, skill) and *logos* (word, speech) represented the development of a skill he had and followed certain rules to achieve something. Around the middle of the 20th century, the term technology took on means, tools, ideas, processes and machines. "Technologies are [...] cultural artifacts, products of cultural needs" (Bannell; Duarte et al., 2006, p. 67).

The main objective of the article is to expand studies on technologies for learning of the 21st century student. As technology has been advancing and the trend is provide more information in the short term to students and education professionals, so the text has specific objectives: to analyze resources that make classes more dynamic and significant, discuss challenges faced by the contemporary teacher, with a new way of thinking and acting, with modern methodologies, reflecting on the participation of Technologies for student emancipation, bringing greater security to their personal and personal lives ability to face a competitive and dynamic job market.

The demands of the 21st century are changing forms of education, services and various activities interconnected with technologies and it is necessary to reflect on their use in collaboration in the class and rethink the teaching methodology to achieve success in its effectiveness educational work.

The theme of the study is linked to the rapid changes that have occurred in people had to adopt methods and ways of living together, sharing data and communicating through mobile technologies, transform knowledge into others more quickly and form citizens to mediate so much information. Learning to teach new learning through other methodologies.

This article's methodology was a bibliographic review through articles, websites and education *blogs*, depending on the context in question. Technologies act with new communication concepts, developing playfulness, sensations and movement. The school has already

is redefining education with new opportunities for knowledge through integration of learning techniques.

However, the work highlights the objectives of technology for teaching with the aim of strengthen and establish ways for students to learn with educational resources and show themselves to society as a being who holds his knowledge and is personally and professionally fulfilled. Also rethink the teacher/student relationship as a mediator of learning and not merely content transmitter.

Proper teacher training is very important for the implementation of technologies used and it is essential to properly handle these resources so that is meaningful to the teaching of students.

The work is structured primarily with the importance of technology for the student development, then some challenges faced with its use, then then, the skills needed by the 21st century student.

## 2 THEORETICAL FRAMEWORK

### 2.1 IMPORTANCE OF TECHNOLOGY FOR STUDENT LEARNING

With the transformations that have occurred in Information Technologies, education has been motivated to achieve means of appropriating resources to continue this evolution. The advancement of technological equipment was rapid, which provided more efficient communication networks and their access was of great significance for education. It is necessary to be open to new knowledge.

“We, educators, have to prepare ourselves and our students to face demands of this new technology, and all those around it – TV, video, mobile telephony. Computer science applied to education has deeper dimensions that do not appear at first sight”. (ALMEIDA, 2000, p.78)

Teachers can use these features to provide more effective lessons. interactive and consistent with the student's reality, for this to happen it is necessary to have a adequate alignment of curricular activities with the practice of technology.

Working with technologies requires responsibility to adapt content to social realities of the student. However, it is necessary to stimulate, understand and show the student how

take advantage of these means to benefit their learning. The cycle must be functional for the student assimilate the content, Moran (2009) clarifies that

“Each teacher can find the most appropriate way to integrate the various technologies and methodological procedures. But it is also important that expand and learn to master the forms of interpersonal/group communication and those of audiovisual/telematic communication”. (MORAN, 2009, p.32)

When studying the subject, it can be seen how technologies are beneficial to the education, through communications in different places, previously isolated, but if they have the necessary technology, may be part of the universe of distance resources, courses, news and others.

Therefore, technology-mediated learning will bring more practicality in preparing the pedagogical planning and more teaching resources can be presented to students. With the using innovative methodologies combined with technology, students feel safer, confident and motivated to intensify their studies with diversified knowledge through the inexhaustible online content.

Students are connected to communication networks, so educators and school employees have to rethink methodological models capable of involving students to use information appropriately to improve their knowledge.

When using integrated technology in the classroom, respect for the student's learning level must be preserved, so that he does not lose focus on his learning and so that he is significant with positive objectives for educational practice.

Therefore, the teacher needs to have mastery over the resource that he will practice so that it is a differential in your classes and students are encouraged to practice. Moran (2005) reaffirms

“The more technology advances, the more important it becomes to have educators intellectually and emotionally mature, curious, enthusiastic, open people who know how to motivate and dialogue. People who are worth getting in touch with, because we come away enriched.” (MORAN, 2005, p.12)

Technology is already part of the daily lives of most teachers and students, but lack of preparation for its use can make the practice of Digital Technologies and Communication little used.

The current school has challenges that can change everything from the culture of teachers to pass on their knowledge to the student who absorbs everything and remains passive. It is up to the school



together with your school group integrate technologies for collaborative learning of the students.

According to Almeida (2007), the change in the educational process provides new teaching and learning environments different from traditional environments, and the real contributions of technologies for education emerge as they are used as mediators for construction of knowledge. For Graça (2007), access to digital resources in education is essential, as these aim to educate the activities of society, adapting them to the its objectives, “[...] thus allowing a deep understanding of the world and enriching the knowledge”. (GRAÇA, 2007)

## 2.2 CHALLENGES FACED IN APPLYING TECHNOLOGIES TO EDUCATIONAL PRACTICE

As technology is more integrated into students' daily lives and, because of this, many challenges begin to bother society. Many teachers are resistant to the changes and fear that the practice combined with information may interfere with the comfort of their methodology.

In view of this, active technologies must be geared towards teaching, with a structure adequate physics at school and interesting tools for the student. The internet network has that provide stable accessibility that can support classes and the school network. The communication has become easier through fast technological equipment that makes interconnection between people and cultures from other parts of the world.

The purpose of the 21st century educational system is to build knowledge of the student to form citizens capable of acting actively in society and transforming teachers as mediators of meaningful learning. The teacher needs to know the functionality of educational tools and adapt them to your educational practice.

A reevaluation of educational methods is needed, rethinking ways of teaching, new content and participate in educational training on a constant and permanent basis. The information technologies and knowledge are in constant movement and it is necessary that education professionals are open to new didactic and interactive teaching perspectives for students.



The student must have confidence in what he is going to learn and know its relevance to his human and professional formation. The teacher discovers the student's talent and his best skills to develop, taking advantage of his ability. He must be challenged to solve problems and find strategies to solve them. One form of motivation is finding the passion in what you do as a result of teacher/student empathy.

To achieve this, there must be an adaptation to the school curriculum with the aim of transforming education in renewed forms, changes in archaic thoughts and methodologies, making technology present and routine in the daily lives of students and teachers.

### 2.3 SKILLS NEEDED FOR 21ST CENTURY STUDENTS

With the emergence of Technologies, it is necessary to align concepts and contents, adapt them to the new educational reality and incorporate them into the student's curriculum, requiring new methodologies and use of digital tools and resources to promote the integration of studies.

Traditional education, in which the student does not think or react, only receives content for memorization must be rethought for the challenges that will arise over the years. It is necessary to provoke, implement strategies that lead the student to think, solve problems and be encouraged to carry out projects to contribute to their autonomy and social performance.

Teaching must develop skills that will result in students becoming aware, critical and encouraged to create, design and innovate techniques to be a professional and be able to be placed in work activities consistent with their formal qualifications.

For this to happen, the school must provide the means for this objective to be achieved. Teachers trained with technologies and adapting their planning with the new skills and abilities required for the 21st century, physical structure with equipment for research and effective use of computers with connection network bearable for the entire school and the collaboration of school management with the teaching community.

Thus, with the participation of flexible, motivated and innovative teachers it is possible pass on preparatory knowledge to students to learn to know themselves, learn to solve problems, develop individual or joint projects, work in teams,

because the learning mediator must encourage them to think and support the student's critical thinking how to be a thinker and active in society.

The teacher is an opinion maker, but it is necessary to be fair and accept opinions opposing views and promote dialogue, be flexible and aware of the challenges of transforming the students' knowledge in something meaningful to them and their future in the job market contested.

## FINAL CONSIDERATIONS

Therefore, the student must be prepared to face new situations that arise each day. day, for this you need an education professional with constant appropriation of knowledge with attractive and interactionist methodologies to add to learning of the student and develop more attractive and meaningful work for both.

You have to combine the innovative educational plan with the curricular content to have an objective with the practice of technologies, not simply using an educational application or tool without a basis for this. In many cases, the teacher feels insecure about using the educational technologies, does not carry out its work with digital technologies due to lack of adequate knowledge for its use.

Therefore, practical training for teachers with appropriation of the objectives is important. and use of each technology to better conduct your work and a conducive environment in that educational tools can be used in practice, as many schools do not have them compatible and suitable physical structure, nor an adequate connection network to execute a good work with digital technologies.

To achieve this, it is necessary to invest in schools with assistive technologies and adaptive, adequate training in digital equipment and knowledge of programs and *software* that is appropriate and more accessible to their educational practice. The change in thinking of teachers, with openness to new educational situations, is a key factor for these actions are carried out.

## REFERENCES

BANNELL, R., DUARTE, R. et al. **Education in the 21st century: cognition, technologies and learning**. Petrópolis: Vozes, 2006.

BARROS, Aline Fabiana de. The Use of Technologies in Education as Learning Tools. **Scientific Journal Academic Week**, v. 1, n. 156, p. 1-13, 2009. Available <<https://semanaacademica.org.br/artigo/o-uso-das-in-tecnologias-na-educacao-como->learning-tools>>. Accessed on: December 15, 2024.

BIANCHINI, Ieda Maria Cassuli. Necessary Skills for 21st Century Teachers: Some Reflections. **Dom Alberto Education Journal**, v. 1, n. 1, p. 130-144, 2012.

COUTINHO, Clara; LISBÔA, Eliana. Information, Knowledge and Learning Society: Challenges for Education in the 21st Century. **Journal of Education**, v. XVIII, n. 1, p. 5-22, 2011.

FERREIRA, Maria José Morais Abrantes. **New technologies in the classroom**. 2014. Final Course Work (Postgraduate in Fundamentals of Education) – State University of Paraíba, Sousa, Paraíba, 2014.

FRANKS, Vicente. **Integrated technology in the classroom: how to make this reality viable**. Unasp *Blog*. Electronic publication. 2018. Available at: <<https://www.unasp.br/blog/tecnologia-integrada-na-sala-de-aula-2/>>. Accessed on: December 15, 2024.

FRIZON, Vanessa et al. **Teacher training and digital technologies**. In: ANAIS XII EDUCERE, III SIRSSE, V SIPD – UNESCO Chair and IX ENAEH – Teacher training, complexity and teaching work, 2015, Curitiba. Annals [...] Curitiba: PUCPR, 2015. p. 1-15.

GARCIA, Francisco Wilson. The importance of using technologies in the teaching-learning process. **Distance Education Journal**, v. 3, n. 1, p. 25-48, 2013.

MAGRIN, Sabrina Ferreira Furtado; LUZ, Mariana Picolli da. **The pedagogy of learning in the 21st century: competencies and skills**. In: ELECTRONIC PROCEEDINGS OF THE III BRAZILIAN CONFERENCE ON EDUCATION AND LANGUAGE / III MEETING OF PROFESSIONAL MASTERS PROGRAMS IN EDUCATION AND LETTERS AND XII CONFERENCE ON EDUCATION OF MATO GROSSO DO SUL, 2018, Campo Grande. Electronic proceedings [...]. Cambridge: Cambridge University Press, 2018.

MELO, Fabíola Silva de. **The use of digital technologies in pedagogical practice: innovating pedagogically in the classroom**. 2015. Dissertation (Master's in Mathematical and Technological Education) – Federal University of Pernambuco, Recife, 2015.

MORAN, José Manuel. The multiple ways of learning. **Activities & Experiences Journal**, v. 2005, n. 11, p. 11-13, 2005.

MORAN, José Manuel. **New technologies and pedagogical mediation**. 16th ed. Campinas, SP: Editora Papirus, 2009.

OTTO, Patrícia Aparecida. **The importance of using technologies in classrooms in the initial grades of elementary school I**. 2016. Final Course Work (Postgraduate Studies in Education in Digital Culture) – Federal University of Santa Catarina, Florianópolis, 2016.

PEREIRA, Bernadete Terezinha. **The use of information and communication technologies in school pedagogical practice**. 2009. Final Course Work (Undergraduate Degree in Education) – Federal University of Paraná, Curitiba, 2009.

SANCHO, J. Technology: a way of transforming a world full of ambivalence. In: SANCHO, Juana (Org.). **Towards an educational technology**. Porto Alegre: Artmed, 2001.

WERTHEIN, J. The information society and its challenges. *Information Science*, 29(2). 2000. Retrieved from <http://revista.ibict.br/ciinf/article/view/889>. Accessed on: July 6, 2022.

---

WERTHEIN, Jorge. The information society and its challenges. **Information Science Journal**, v. 29, n. 2, 2000. Available at: <<http://revista.ibict.br/ciinf/article/view/889>>. Accessed on: December 16, 2024. Enter the text on the next line.