

Developing Digital Skills Trough Blended Learning Activities

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Abstract

The article represents the developing digital skills through blended learning activities. Bibliography was studied for the comparative analysis between blended learning and digital skills. I left the research questions: What is Digital ability? What is mixed learning? What digital application are useful for developing digital skills in preschoolers? How do we develop digital skills through blended learning? We have found that digital skills can be developed through blended learning activities. Blended learning is an educational paradigm, a new way of teaching through the use of digital applications. Digital ability is a necessary to develop through blended learning system, as it brings an additional benefit to the professions of the future.

Keywords:

Digital skills; Blended Learning;
Preschool; Kindergarten;
Development.

Zusammenfassung

Der Artikel stellt die Entwicklung digitaler Fähigkeiten durch Blended-Learning-Aktivitäten dar. Bibliographie wurde für die vergleichende Analyse zwischen Blended Learning und digitalen Fähigkeiten untersucht. Ich habe die Forschungsfragen verlassen: Was ist digitale Fähigkeit? Was ist gemischtes Lernen? Welche digitalen Anwendungen sind nützlich für die Entwicklung digitaler Fähigkeiten im Vorschulalter? Wie entwickeln wir digitale Fähigkeiten durch Blended Learning? Wir haben festgestellt, dass digitale Fähigkeiten durch Blended-Learning-Aktivitäten entwickelt werden können. Blended Learning ist ein Bildungsparadigma, eine neue Art der Lehre durch den Einsatz digitaler Anwendungen. Digitale Fähigkeiten sind notwendig, um sich durch ein Blended-Learning-System zu entwickeln, da sie den Berufen der Zukunft einen zusätzlichen Nutzen bringen.

Schlüsselworte:

Digitale Fähigkeiten; Blended
Learning; Vorschule;
Kindergarten; Entwicklung.

1. Introduction

The digital world is an incredible part of modern life. For many people, it's the world where we communicate, learn, buy and have fun. The digital world has a transformative power to connect people around the world. Technology is evolving significantly every day and is becoming more and more accessible to everyone. Nowadays, almost everyone has access to the internet and a smartphone. The COVID-19 pandemic has demonstrated that digital skills are needed and has increased exposure to technology. Today's children are tomorrow's future, and we as teachers must provide the skills they will need for working life. Blended learning is an effective learning modality and seems much more appreciated by everyone, because this way of learning combines both the traditional method with the face-to-face teacher and the virtual method, where children learn through digital applications and end up developing digital skills. Digital skills are a necessity for the future, as the digital environment has come to be present in everyone's lives.

This article represents the development of digital skills through blended learning activities and the

opinion of 33 teachers on the use of certain digital applications for the development of digital skills in preschoolers.

2. Theoretical foundation

Bocoș and collaborators (2016) define the ability, pag.16 as: "The acquired ability of the individual to perform an activity that involves skill, understanding, dexterity, precision, finesse and it's formed by practice and developed by the complex action of several factors, of which intelligence has a primary role."

A. Gessel promoted the idea that the process of human development is regulated and determined by the main internal factors, there being a certain causal relationship between the biological maturation of the organism and the development of the human personality in general, a relationship that must be understood in the sense of concomitant, the psychic development being the consequence of biological maturation.

Baciu and collaborators (2022) define development „a set of gradual, stage, complex processes of transformation and becoming, produced



either at the level of living organisms, or of human institutions (from society, education, culture, economy, etc.), or of their different properties / characteristics, which are achieved through a succession of progressive stages, with a specific quality of their own, moving to a higher level”.

Area and Guarro (2012), define digital skills as „refers to the possibility to search for information, to express themselves in different programming languages and to the ability to interact socially, integrating new technologies”.

McNicol (2015), states that “digital skills are essential for the 21st century to be successful in the workplace, as globalization is growing..”

Bliuc (2007), combined learning describes “learning activities that involve a combination of face-to-face meeting and online meeting between students, teachers and learning resources.”

The teacher must choose the most suitable methods to achieve the development of digital skills through blended learning activities. In our opinion, blended learning activities contribute to the development of digital skills for children in kindergarten.

3. Research questions

- What is digital skill?
- What is Blended learning?
- What digital application are useful for developing digital skills in preschoolers?
 - How do we develop digital skills through blended learning?

4. Research methodology

The research methods used in the comparative analysis between digital skills and blended learning are the analysis of legislative and curricular documents, the opinion of 30 teachers regarding the use of digital applications for the development of digital skills in pre-schoolers.

5. Findings

The term “mixed learning” is widely used nowadays but there are many doubts about what it actually means. What does blended learning mean? What, how and why do we mix? If we were to translate it, it would be mixed learning. In the literature all types of education that include an aspect of face-to-face learning and online learning are described as blended learning.

According to Graham (2012), blended learning is defined as “considerable variations between institutional contexts”.

In 2002, Driscoll identified four different notions for the term combined learning.

1. To achieve an educational goal, combine or mix web-based technological processes (for example, live virtual class).

2. Combines different pedagogical approaches with the help of instructive technology in order to produce an optimal learning result.

3. Mixing training technology (e.g. videotape, CD-ROM, web-based training, film) with face-to-face training.

4. Combining technology with real workloads to create a learning harmony.

Garrison and Kanuka (2004), define combined learning as the integration of face-to-face learning experiences with online learning experiences.

Allen and Seaman (2010), define combined learning as a combination of online material delivery and face-to-face material delivery. Nowadays, the terms combined learning and hybrid learning are used daily (Graham, 2009; Watson, 2008). Nowadays, the terms combined learning and hybrid learning are very often used (Graham, 2009; Watson, 2008).

Hall and Davison (2007), defines blended learning as a hybrid learning environment with a face-to-face education combination with access to online learning tools. Olapiriyakul and Scher (2006), state that the terms (hybrid learning and combined learning) are used alternately, but refer to the same thing. Watson (2008), describes blended learning as a major segment of an uninterrupted string between fully online and traditional face-to-face settings.

According to Watson blended learning there are the following categories:

1) full online curriculum with all, learning being online and remote, without face-to-face component;

2) full online curriculum with options for face-to-face training;

3) mostly or entirely online curriculum, with selected days required in the classroom or computer;

4) mostly or completely online curriculum is carried out in the laboratory or classroom where students meet each day;

5) classroom instruction with significant components, required online, extending learning beyond the classroom and beyond the school;

6) classroom instruction integrating online resources, but limited or no requirements for students to be online;

7) traditional face-to-face setting with few online resources or no communication;

What is digital skills?

Digital education was born with the completion of traditional education with new methods. Internet use is today an essential tool in everyday life for its population. Scientists (Clements & Sarama, 2003; Yelland, 2006) confirms that digital education can help preschool children understand the abstract concepts that surround them and involve them in learning to solve problems (Dong et al., 2020).

The mobile market updates a wide range of games and educational programs. Therefore, children face a large volume of educational programs that offer different ways of understanding, teaching and combining knowledge in all areas (Liao et al., 2019). Young children use these new digital devices for communication, learning and to understand the world in which they live (Marsh, 2011). Resistance for the integration of technology at preschool age is given by the lack of conditions and old devices in kindergartens or the poor training of teachers on the use of technology in education. Rowsell (2013), considers dance, music, virtual representations to be valuable tools to support knowledge acquisition and the creation of new directions of development. Some parents believe that the use of these technologies is not beneficial because children do not develop socially and leads to problems such as obesity, eye fatigue and drowsiness (Nizam & Law, 2021).

There has been a long discussion about how children are affected by computers and tablets in school. In general, everyone spends more and more time on digital devices than social interaction. For some, school should be against digitalism, or on the contrary, a good digital practice. In school, students need to become good digital citizens and acquire the necessary skills and competences in society and work life. Due to the pandemic learning through the use of technology has recently become the most used.

Claro (2012), considers that the digital skills of the twentieth century mean several things such as

knowing the applications in the range of technology for solving tasks at work, skills that support cognitive processes and promote lifelong learning and do not relate to the use of any software program.

What digital application are useful for developing digital skills in preschoolers?

Computer-aided training is a new effective learning path that starts from kindergarten and continues with all school stages. His interactive means realize “a way of articulating the different categories of values, theories and knowledge existing in the plans and curricula of today and tomorrow” (Văideanu, 1988, p. 239). From the point of view of Prensky (2001), games are one of the most favored learning methods that our brain accepts. This author has a book “Digital Game-Based Learning ” and wrote a chapter about “ Game Generations”.

Squire (2003), states that games in general can stimulate children's curiosity and encourage learning through feedback. Through games and scenery, they allow players to explore, reason, decide and apply more knowledge from another field. Digital educational games appear to be one of the most interesting and promising means to the achievement of improved perceptual, attentional, and cognitive abilities. We are in an era where technology is evolving faster and faster, and every child’s attention is increasingly difficult to capture. Digital puzzles are the perfect tools to build that ability to focus on children.

Figure 1. Jigsaw planet apps - Cartoon - digital puzzle



JINGSAWPLANET-t is a free digital application that allows users to create and play puzzles which allows you to upload a photo and cut into the shape of parts in depending on the desired complexity with different levels of difficulty. Children can improve their digital skills through the game, the digital puzzle because they provide a fun opportunity by swiping their finger on the screen of a phone.

WORLDWALL - is a digital application and is useful for teachers because interactive games and activities can be created to support learning. When

playing digital games, children develop not only digital skills but also emotional and cognitive skills, train motor skills and sensory perception, acquire self-confidence and social behavior.

Figure 2. Wordwall- Animals for Romania-digital puzzle

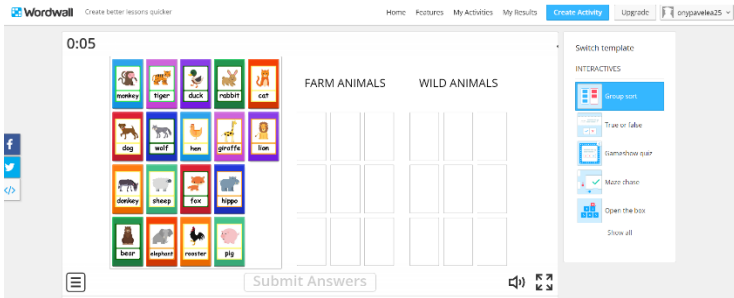
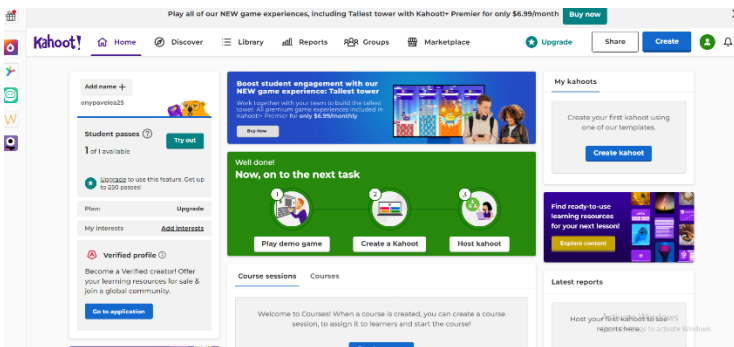


Figure 3. KAHOOT!



KAHOOT! is a digital tool and can be used at any point in the business: in the recapitulation knowledge, in the establishment of knowledge, in the stage of teaching, as a formative assessment or even as an evaluation summative. They can be played individually or in groups. Moreover, you can add pictures, videos and diagrams to the questions to increase the degree interaction of the game. The test results are visible to everyone at end it in the form of a ranking.

Figure 4. LearningApps.org



LearningApps- it is a digital tool that supports learning and teaching processes with interactive modules. This tool offers a variety of spinning activities, application models, and the ability to create content. There are a lot of interesting applications (puzzle, rebus, unite pairs... etc.). You can create both classes to invite children, or you can create polls to measure feed-back. The advantage is that you can easily share the link. LearningApps is an effective way to call children to fun and interactive learning.

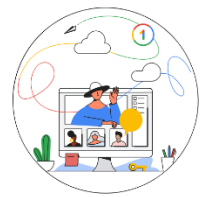
Figure 5. Google Meet



Premium video meetings. Now free for everyone.

We re-engineered the service we built for secure business meetings, Google Meet, to make it free and available for all.

New meeting Enter a code or link Join



Google Meet is a digital tool. It is a Skype-like video conferencing platform that allows users to participate in virtual meetings with people from all over the world and can be accessed with their gmail account. A meeting link can be created and up to 100 people can participate. During the pandemic, this app was useful to all teachers for regular meetings with children.

Figure 6. The opinion of the 33 teacher regarding the systematic development of digital applications (wordwall, digital puzzle, learningapps) would be in favor of developing digital skills in preschoolers

16. Do you consider that the systematic development of digital applications (digital puzzle, wordwall, learningapps) would be in favor of developing digital skills in preschoolers ?



Most teachers responded that the systematic development of digital applications (digital puzzle, wordwall, learningapps) would be largely favorable to the development of digital skills in preschoolers, as their use improves the quality of teaching, attracts children to a fun online environment, motivates learning by using digital applications and manages a possible personalization of education.

The teachers who answered this questionnaire come from both urban and rural areas and have a history of over 5 years of education. They identified

that digital applications are a way to develop digital skills following observing the work of preschool children in everyday life, following the covid pandemic that forced us to use digital applications. The most voted way to develop digital skills in preschoolers was digital applications, then integrated activities, partnerships, options and games.

Figure 7. Opinion of 33 teachers on which are the most successful ways to develop digital skills in pre-schoolers.

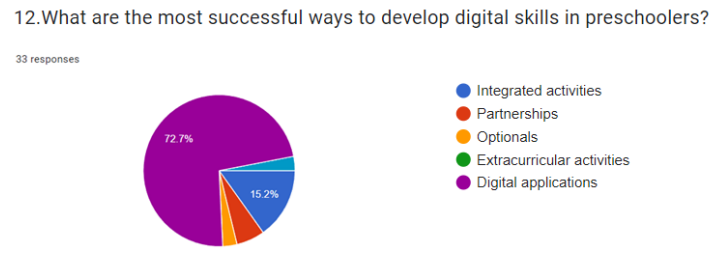
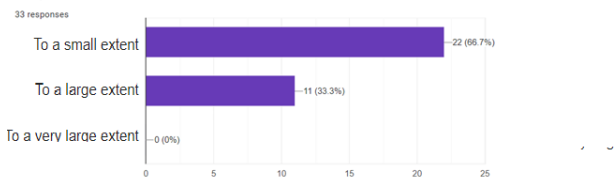


Figure 8. Opinion of 33 teachers about the development of digital skills in preschoolers through blended learning activities in the pre-school education system in Romania

14. Is the development of digital skills in preschoolers through blended learning activities achievable in the pre-school education system in Romania?



Most responded that the development of digital skills through blended learning activities in Romania is achievable to a small extent. Why ?

The Romanian education system is still based on traditional education with the teacher face to face using the physical resources necessary for learning. There are cases in which teachers do not know exactly how to use the technology or do not have the necessary equipment. Most preschoolers are used to using a mobile phone, a table, however, the phone learning is used head-on in the classroom by using toys in order to acquire the contents according to school curricula. Blended learning activities fail to be used to a large extent, because those that are in the foreground are integrated.

In our opinion, this topic requires a much more elaborate scientific approach to demonstrate the development of digital skills through blended learning activities.

How do we develop digital skills through blended learning?

The use of digital tools leads to the development of digital skills through blended learning activities. Blended learning has come to the forefront of school closures due to the COVID-19 pandemic, being introduced to ensure continuity of teaching and keep children engaged and motivated in learning. Through blended learning, each child’s voice is heard equally and appreciation is made according to their achievements, thus eliminating the subjective component from the evaluation process.

Digital skills are and will be a necessity for society in the future. Using the digital tools mentioned above, children will be able to acquire these skills and more than that, the classroom learning will support. Through the wordwall application, the teacher can create digital chips, following an activity he has performed in the classroom. The digital sheet has the advantages of consolidating the knowledge taught in the classroom by involving digital devices. The use of blended learning is an advantage, as the child strengthens the knowledge taught through digital play.

6. Conclusions

The development of technology is constantly continuous, and its use benefits all teachers, as it provides effective means of learning. Technological development has fundamentally changed people, as new ways of communication allow people to interact at high speed and establish connections with many people. New ways of interaction condition the entire life cycle, from the elderly to the child, and represent the greatest demand for new skills for the entire population, allowing for an adequate and conscious use of new technologies. There has been a long discussion about how children are affected by computers and tablets in school. In general, people spend some time on the phone or other devices. For some, school should be an against digitalism, or on the contrary, a good digital practice. In school, students need to become good digital citizens and acquire the necessary skills and competences in society and work life. Regardless of different opinions on the role of the school, it is clear that learning through the use of digital has recently become more relevant than ever because of the pandemic. Through blended learning activities, the teacher can receive a much faster feedback on the information provided to children. In the online environment, classroom management ensures a favourable climate for learning.

Ability is defined as the knowledge, experiences, and skills that an individual or group has acquired to

complete a task or activity. Digital skills are needed for everyone, because they have become a necessity because they are applied and used daily in everyday life. It is a term that describes modern education and integrates online technologies into learning activities.

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