ABEPLANA: AS HOW TI TEACH WITH VIDEOGAMES IN KINDERGARTEN CLASS

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Abstract

The development of the so-called emerging technologies at the present time undoubtedly implies keeping in mind the classroom methodologies that teachers use in classrooms of any educational level. Said methodologies are characterized by the search for an introduction of the ICT linked to the development of the contents so that, through the implementation of different methodological strategies, it responds to the achievement by the students of the digital competence that Today's society demands tomorrow's future leaders. The Abeplana project's starting objective is to know emerging technologies, in general, and videogames in particular, available for the creation of learning situations, this is materialized in several specific objectives, being of our interest to present those referred to Objective 3.1. which is none other than: Learning, as future teachers, the potential of emerging technologies in general and videogames in particular in the principles that underpin the universal learning design (DUA), more specifically in the multiple forms of representation, action and expression and involvement and forms of commitment that can occur with the use of the same in infant and primary classrooms. The use of videogames in the classroom will encourage the development of their own and individual skills in the student so that they know not only how to respond to the requirements of the content they must learn, but also the social reality in which their future work will take place. To respond to these objectives, the following activities have been proposed, which have been carried out in the first semester of the 2022-2023 academic year at the Faculty of Educational Sciences and Psychology of the University of Córdoba in Spain. The work of Céballos et al. (2022) has indicated that once the video game is used, students develop better verbal, procedural and attitudinal learning, and this is the line that we have focused on in this project. Through a methodology based on service learning the teachers in training. The students or teachers in training, to address this general and specific objective, developed a series of didactic sequences, where the backbone was the video game. As a positive aspect, the students indicated that contact with the reality of the classrooms has allowed them to corroborate or rule out elements that they considered key to putting their activities into practice. They also pointed out the need for greater training by the curricula of Spanish universities in the critical use of digital tools in early childhood education classrooms.

Keywords: Videogames, university student, innovation, learning by doing.

1. Introduction

The vertiginous growth of Information and Communication Technologies (hereinafter ICT) has revealed the great imbalance that is taking place between what society demands, what it generates or produces and how the various sectors are responding to said situation. Thus, the term known as the digital divide is gaining great relevance to the extent that inequalities become more significant, sometimes creating an abyss between the reality of the subjects and the social context. Overcoming this circumstance means, in the educational area, that both educational theorists and practitioners take the pulse of the situation, analyze the existing digital resources and, to a greater or lesser extent, incorporate them into the dynamics of everyone's classrooms. academic levels.

Included ICT in classes, at any educational level, has both negative and positive aspects. If as a major trigger of the first we focus on the one already mentioned above (digital divide), the teaching and learning processes will be slowed down; together with it we can incorporate the need for training by teachers for their imbrication in classroom methodologies, the lack of technological resources in the centers, etc. Regarding the second, we can indicate that the incorporation means making the content to be

learned more attractive, therefore an interactive and non-linear learning will be developed, which will make the motivation for the transmission of the content more dynamic.

In this line, the digital tools that have been created in recent years, such as educational blogs (edublogs), WebQuest, wikis, academic social networks..., mean that students and teachers, as well as parents see how what happens in society is reflected in the academic dynamics. And in this line, we find video games.

Demonized by one sector and praised by others, they are presented as a resource capable of incorporating aspects that help to develop the academic curriculum across all educational levels.

In general, video games are elements that have great potential (Sierra and Fernández, 2017), and present a continuous challenge to the mind, so in good hands they can project the best of people in various aspects of their lives. daily. For authors such as Navarrete-Cantero and Molina-González (2015), it provides them with their own worldview, as well as generating situations in which their development is expanded, since the video gamer uses self-regulation processes that can allow the different levels of influence are limited.

Since they appeared, videogames have had detractors and true "fans" who have either questioned their addictive, playful or educational capacity or have pointed out, in an excessive way, their great academic possibilities. Well, as Ramos and Botella (2016, p. 170) point out, "the versatility of video games allows us to grant them undeniable social power, made up of a whole language of oral, written, iconic, musical, numerical, and graphic communication".

The educational use of video games is increasing as we advance over time (Ardila-Muñoz, 2019; Conde-Cortabitarte et al., 2020) and numerous investigations have already been carried out around their presence in education. (Marín-Díaz et al, 2021; Zainuddin et al, 2020). In this sense, we find two lines of incursion, the application of videogames classified as educational, created specifically to promote some curricular content, and that which is based on the use of videogames that are not labeled as educational, so they are not The term gamification applies, but as Azorín (2014, p. 24) points out, "they offer the opportunity to work on usable content in the training of students". In this trend, we agree with Hamlen (2011) when pointing out that they can be considered as an educational resource since they coincide with the 7 dimensions in which learning is structured: knowledge, application, identification of the sport, fantasy, competition, entertainment, social interaction. and fun.

As Marín, Morales and Reche (2020, p. 96) affirm, "the potential of video games in the classroom lies in their ability to be conceived as a new way of understanding the learning of curricular contents (sometimes difficult to assimilate) from the daily life of digital native students", so that the previous experiences of teachers will determine their incorporation as resources in the development of curricular contents in order to promote their learning process. Consequently, it is necessary to design training actions that, as Hébert and Jenson (2017, 2019) point out, use video games in their methodologies so that the classroom action is carried out and a cognitive conflict is generated that causes the activation of the learning processes that allow reaching a correct resolution of the situations that the formative acts provide.

For all that has been stated so far, we believe that the use of video games that students usually use in their daily lives, can awaken interest in students for the unconscious learning of the contents, since their motivation will increase.

2. Method

2.1. Procedure

Within the teaching innovation project called «Learning to observe systematically to plan through gamification (ABEPLAMA) (2022-4-44006)» obtained in a public call at the University of Córdoba (Spain), the following objective has been established: partida The main objective of the project is to "analyze free and commercial gamified educational resources according to the curriculum of the Early Childhood Education stage". From this they have derived the following specific objectives:

1. Know emerging technologies, in general, and videogames in particular, available for the creation of learning situations.
2. Analyze free and commercial gamified educational resources based on the Early Childhood and Primary Education curriculum.
3. Learn, as future teachers, the potential of emerging technologies in general and videogames in particular in the principles that underpin the universal learning design (DUA), more specifically in the multiple forms of representation, action and expression and involvement and forms of commitment that can occur with the use of the same in infant and primary classrooms.

4. Design and implement tasks and activities related to the universal learning design (DUA) through the use of video games in infant and primary classrooms.
5. Learn to design a didactic unit linked to the use of video games and the basic knowledge that constitutes the contents of each area of knowledge in the infant stage and its correspondence and continuity with the Primary stage.
6. Apply in educational environments the didactic sequences created and designed for the different curricular contents selected for each educational level.

The activities that develop the aforementioned objectives are:

- Preparation, individually and in groups, by undergraduate students, of descriptors for the selection of free and commercial videogames that take into account the different curricular areas of the stage in which they are formed, as well as the areas of personal and social development.
- Search and classification of video games based on the matrix or evaluation target previously prepared.
- Experimentation in the classroom of the videogames selected by the students according to the classification previously elaborated.
- Learning and reflection on the why, what and how of learning as the basic principles of UDL, and its representation and characterization in the use of video games as an exemplary resource for problem solving that adjusts to the characteristics and different learning rhythms. of the students of the infant and primary stage.
- Design, creation and classification of different tasks and activities under the protection of the DUA and its principles (multiple forms of representation, action and expression and involvement and forms of commitment) working from a more inclusive perspective on the basic knowledge that constitutes the contents of each area of knowledge in the infant and primary stages, mediated by the use of videogames selected in the activity.
- Experimentation, in the Infant and Primary classrooms of the participating schools, of the videogames selected by the university students. In the event that face-to-face contributions are not allowed, the necessary actions will be promoted so that the centers carry them out without the presence of pre-service teachers.

3. Project development

3.1. Moment 1
The first moment of development of the project consisted of the theoretical introduction of the students in what are the emerging technologies (video games and virtual and augmented reality), which ones can be implemented in the classrooms and why, for this they were provided with several examples of how Carry out curricular practice with a video game designed for education (gamification). All of this was developed in 3 one-hour sessions each within the subject Media Education and the educational dimension of ICT. Subsequently, and based on the contents that from the subject called Planning and innovation in early childhood education, they were given the guidelines to carry out a didactic sequence with a duration of 15 days, which is the model used in Spanish centers to implement the curriculum content.

3.2. Moment 2
Through a collaborative and cooperative work organization, the students designed 11 intervention sequences. All of them were sequenced in the same way, around 15 work sessions located in a temporary space of one quarter (3 months), in the same classroom of 3-, 4- and 5-year-old students. The main result achieved has been referred to the limitations in the implementation of these sequences, which is none other than the lack of digital resources on the part of the center as well as the lack of a good internet connection to be able to use video games that require constantly be connected.

For this, they were provided with tablets and virtual reality glasses, as well as a Nintendo brand game console and several games (Just Dance and Spyro the dragon).

3.3. Moment 3

Once the didactic sequences were designed, they were implemented in the Cervantes and Alcalde Jiménez Ruiz early childhood education centers in the city of Córdoba (see figure 1).

Figure 1. Abeplana en acción.

4. Conclusion

The digitization of society in general and of educational centers in particular have revealed a series of socialization spaces that have produced the creation of new perspectives in the way of approaching the teaching and learning process as well as in the way to promote the socialized work process, not only by relating them, but also by building our belief system, therefore the main benefit that we can find is the transformation of the learning process and the way of viewing the contents, bringing closer the values that today in society prevail and that are necessary so that once adults, children can be imbricated in the positive construction of community life.

Varguillas and Bravo (2020, p. 20) argue that «one of the fundamental objectives of education is to enable the student to be able to build their own knowledge based on their previous experiences and the information that they can access. In this sense, the use of facilitating methodologies that allow the student to learn and convert information into learning are of great importance. Specifically, we consider that the main benefits that have been achieved with the development of this project have been:

1) Promote collaborative and cooperative learning between students of both grades.
2) Promote interdisciplinary work not only between educational levels, but also among all members of the university educational community.
3) Arouse a positive vision, as well as the benefits of gamifying the learning processes.
4) Increase and stimulate the habit of reading in children of Infant and Primary education.
5) Promote learning in undergraduate students to promote digital literacy in children between 3 and 6 years of age, and the development of digital competence in children between 6 and 12 years of age.

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