

Editorial

The teaching and learning process in schools is under a moment of revolution and continuous reconfiguration in the teaching methodologies, with the incorporation of new knowledge into the curriculum, as well as with the use of new resources to improve education.

These resources have been redefined as society has advanced. The result of this advancement is the so-called Horizon Emerging Technologies, with an emphasis on these and, more specifically, augmented reality, virtual reality and mixed, the educational scenario takes on a new perspective. In them the learning process is enriched as it translates the reality of curriculum content to the ecology of the classroom. The student can live in the first person as he/she would, for example, interact with dinosaurs, experiment in a “real” laboratory what textbooks are transmitting to them.

These experiences, created under the protection of the natural sciences, have gradually been introduced in the field of social sciences; although their first steps have been made in history and tourism, there are numerous experiences that can be found in the literature that highlight its usefulness to facilitate the visits to museums, for example.

The Monographic Section is provided under the title **The educational possibilities of virtual and mixed augmented reality**, whose main objective has been to show the great viability that these technologies have and offer to education in general.

The first article entitled Augmented reality in the teaching of reinforced concrete is a first look into the imbrication of augmented reality (AR) in the formative process. It teaches how spatial visualization capability, as well as the ability to rotate objects can be not only reinforced but also enhanced by using mobile applications of this technology. To do this we are introduced to the Skechfab App, which is linked to a very specific content – graphic expression – with the aim of contributing to the achievement of visual-spatial capacity. This study reflects that university students see the proposal as interesting and attractive, while motivating for the achievement and development of marked competition.

We take a leap to the initial levels of education through the research included in the article *Augmented Reality and stellarium: astronomy for five-year-old children*. Its authors bring us closer to Astronomy from the perspective of the stage of early childhood education and bring us closer to learning the basic concepts of this content which is difficult to understand and like by young students. However, the results that the didactic experience, as well as the research carried out have demonstrated in this age range, where the student is starting to read and write, that the AR becomes an element that allows to recognize the universe, to become semantically aware of the scientific language linked to Astronomy, and to become aware of the content of this topic.

Given the impact that emerging technologies, in this case AR, are showing, it is necessary to conduct a study in the international scientific literature, and so it is reflected in the one carried out under *The Transcendence of the Augmented Reality in Student Motivation. A systematic review and meta-analysis*: a review of two important databases, Scopus and Web of Science, under the standards proposed by the PRISMA statement and taking motivation as the variable.

From there, nine publications containing articles linked to this topic were analyzed and it was found that this variable influences the use of AR in classrooms of any educational level. It is worth noting, as the authors point out, the need to increase the corpus of publications linking the educational use of this technology.

Under this perspective Virtual Reality and motivation in the educational context: Bibliometric study of the last twenty years of Scopus, focuses on the publications carried out by the index indicated. The study shows 1241 researches on VR and education, in a period between 1998 and 2018. The research shows a significant increase in both research and innovation publications. While the authors believe that it is necessary, given the topics addressed in these studies, to do more in-depth work by asking the reader whether it is possible to improve educational quality through the use of new methodologies such as virtual reality. This monographic section closes with a research work carried out with teachers in primary education (*Augmented Reality in Primary Education from the vision of the students*). This contribution conducts an analysis on the curricular feasibility of AR in the primary school. It is important to mention that the results achieved highlight that the future teachers do not consider that AR can be a significant tool for the achievement of the acquisition of curricular content; however, they indicate that once dominated by teachers it would be easy to incorporate it into classroom resources. It is also noteworthy that this same group of future teachers show their concern about inclusive education, as they say they do not consider AR as an element that facilitates so much learning.

In the Miscellaneous Section, the *Virtual Environments for Academic Writing work. A model in Minecraft* by René Ponce Carrillo and Lilia Mercedes Alarcón Pérez analyzes the possibilities that a video game contributes to the writing and academic publication. The research was conducted with a group of 28 undergraduate students who performed collective writing exercises in the video game whose findings indicate that the use of virtual platforms for academic writing is relevant at the university level and thinking literacy processes.

Research *Knowledge prior to conceptual development. A case in primary education* by Yesney Bethencourt and Aracelis Arana describes the cognitive dynamics involved in learning third graders. The study was framed in a field research, under a research-action design, where 20 informants were applied a questionnaire. Individual and group temporal triangulation was used for the analysis of the information, thus identifying the operators. Five new categories emerged from the analysis that bring together all the ways to conceptualize the environment.

The study *Multidisciplinary education in the prevention of obesity in Students of Mexico City* by María del Rosario Ayala-Moreno, Alma Rosa Hernández-Mondragón and Arely Vergara-Castañeda is a reflection on the efficiency of programs aimed at controlling obesity. To this end, an analysis was carried out in studies that argue that obesity has not decreased despite the strategies conducted by health areas. Therefore, multidisciplinary intervention programs focused on awareness can be efficient means of preventing and reducing childhood obesity.

The research on *Inclusive Education. Analysis and reflections on Ecuadorian higher education* by Ruth Germania Clavijo Castillo and María José Bautista-Cerro reviews international agreements and national regulations, addressing the situation, advances and challenges posed by inclusive education. Despite the achievements, transforming the policies, culture and practices of universities to address diversity remains being a challenge. The main conclusions include the need to move towards a university model based on the principles of educational inclusion with a view to improving quality processes that help build equitable societies.



The article *Environmental Education in television Media. Case study: Oromar TV* by Erik Alexander Cumba analyzes the social impact of environmental awareness and care in television media in Manabí province. The results obtained show that there are gaps in the channel's programming, due to the limited productions. Additionally, the absence of an increase in educational television programs, could lead to a disservice in the television audience about the prevention and care of the environment.

We finish this editorial inviting you to submit your articles for Volume 15-number 2 (July-December 2020) whose Monographic section entitles *Active Methodologies for Teaching, Evaluation and Learning: Innovation in the Classroom*, coordinated by the Dr. Ana Rosa Arias Gago and Dr. Angel Luis Pérez Pueyo of University of León (Spain), by Dr. Alberto Moreno Doña of the University of Valparaíso (Chile) and Dr. David Hortigüela Alcalá of the University of Burgos (Spain); as well as for the Miscellaneous section that arbitrates research that addresses educational topics. We also remind you that in 2020 *Alteridad* will apply to join SCOPUS.

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