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ANALYTIC SUMMARY

PIQUERAS CASADO, E. M.; CÓZAR GUTIÉRREZ, R. and GONZÁLEZ-CALERO SOMOZA, J. A. Incidence of the Augmented Reality on the teaching of history. An experience in third year class of primary education.

In the following study, the integration of Augmented Reality is valued as an emerging technology with strong possibilities of application in the educational field. In our study, a teaching unit «Time and History» of the Social Science subject in the third course of Primary Education has been implemented. Using different historic 3D image from *SketchUp* software, specifically the models used have been taken from *Warehouse* as Augmented Reality scenes and have been visualized through the PC software *Aumentaty Author*. The sample includes 56 students attending a school in the province of Albacete (Spain). From a quasi-experimental design with a control and an experimental group two dimensions have been analysed: the academic performance and different motivational variables. This paper includes detailed information about the teaching unit, defining contents and time of each session. Unlike other similar studies, this work does not show significant improvement in the students' academic performance or in their motivation. However, students do believe to have participated actively and that the tool facilitates the learning process making it easy and clear. Moreover, thanks to this method, students have had the chance to work in small groups, improving the cooperation and the social integration, as well as learning the interactive and virtual possibilities that this tool could offer and which help them to improve the digital competence and the searching and information selection skills.

Key words: information and communication technologies; educational innovation; basic education; history; augmented reality.

ALONSO PEDROSA, T. and SANTAMARÍA CONDE, R. M.^a. Analysis of the edited curricular material for early childhood education and its use in the classroom.

Early childhood education, although not being compulsory in our educational system, constitutes a stage of great importance in the development of the child,

and of fact most of the children between three and six years old are enrolled in school. For this reason, an analysis of the curricular materials that have been published by the different publishing and the implication of their use in the classrooms has been developed, constituting the first approximation of the child to the process of the teaching-learning process through printed material. The study was developed in the second cycle of Early Childhood Education, taking as a reference the public educational centers of Burgos (most they are centers that also give Primary Education). Once the bibliographic material has been selected, a categorical study has been carried out analyzing the following variables: material for the use of the students and teachers in the classroom, centers of interest, analysis of the descriptive scope, the function of the educational intentions, the materials with proposals for different activities, attention to diversity, and finally, formal aspects. The data reveal that a high percentage of the curricular materials are edited in the form of a curricular package and to a lesser extent in self-sufficient material (projects). The material published in this period presents its contents in the form of globalized programming in a largemajority, appearing the contents in a superimposed way around a center of interest and completely globalized. We find a variety of materials that respond to the needs of teachers, although, we can confirm that no material has been found to group the work without differentiating sections, which means a subsequent contextualized reorganization of this material to meet the specific characteristics of the students.

Key words: infantile education; curricular materials; material resources; publishing houses; classroom.

RUBIO TAMAYO, J. L.; GÉRTRUDIX BARRIO, M. and GARCÍA GARCÍA, F. User experience and interaction design in creative processes and educational sciences with virtual and augmented reality technologies. A research with quantitative and qualitative methods.

Virtual, augmented or mixed reality, are nowadays part of a new emerging generation of information and communication technologies. Their influence, since the 80's and the 90's in fields such as education, creative processes and research, has been shown in many studies since then. Those technologies have also a relevant potential to have an influence in current approaches in information and communication sciences. Thus, factors such as immersive experiences, simulation or interactivity, should be kept in mind in order to design experiences which can help us to understand the relationship between user, information, devices and environments. This manuscript shows a research based in both quantitative and qualitative methods. Quantitative research methods include surveys based on factors such as interactions design principles, usability heuristics or technology acceptance models, among others. Qualitative ones include grounded theory and specifications

such as IMS LD. Results shows how those technologies have dramatically influenced in creative processes and users' relationship with technology, peers and virtual and physical environments.

Key words: virtual reality; education; user experience; augmented reality; creativity; mixed reality.

SÁNCHEZ SÁNCHEZ, N. Flipped classroom and Project Based Learning in Biology classroom: an innovation project for 1.º of ESO. Experience assessment.

The present article takes as a target to value the development of a didactic proposal for the Biology and Geology subject of 1st of ESO. This proposal is based on flipped classroom (FC) and project based learning (PBL) methodologies and it centers on the development of the teaching-learning process of the anatomical and physiological characteristics of the different living beings included inside the so called Five Kingdoms.

The FC is a pedagogic model that transfers the work of certain learning processes out of the classroom and uses the class time together with the experience of the teacher, to facilitate and to promote other processes of acquisition and practice of knowledge inside the classroom. Likewise, in the PBL model are the pupils those who set the rhythm for advancing in the acquisition of new knowledge, promoting the necessary thinking skills for a significant learning. Therefore both methodologies present themselves as a good option to counteract the problems associated with traditional Science education.

Key words: flipped classroom; project based learning; biology; five kingdoms; secondary school; educative innovation.

MARTÍN, X.; PUIG, J. M.^a; PALOS, J. and RUBIO, L. Enhancing the quality of service-learning practices.

The article presents a tool –a rubric– intended to assess and enhance the educational quality of service-learning (SL) experiences. It starts out from the basic principle that optimum design of pedagogical practice has a direct effect on student learning. Hence the importance of creating methodologies which, like service learning, promote the acquisition of values, skills and knowledge students will find useful in life. The article then suggests a service-learning methodology that responds to these purposes and goes on to show the most significant contributions towards its definition. Some of the most representative proposals for the assessment of service-learning activities that precede the rubric are also included and a description is made of the rubric's construction process through the creation of a research team working on the basis of rational reconstruction methodology.

The core of the text is dedicated to presenting the research results: the rubric for self-evaluation of service-learning projects. To do this, the 12 dimensions that comprise the rubric are defined, structured into three categories –basic, pedagogical and organisational– and the levels of complexity that correspond to each dimension described. The article concludes with a brief section containing the results that application of the rubric offers teaching teams and including a spider chart as a graphic expression to enable almost immediate visualisation of the level of development of a service learning activity

Key words: service learning; educational methodology; values education; assessment; rubric.

ANTELM LANZAT, A. M.; GIL LÓPEZ, A. J.; CACHEIRO GONZÁLEZ, M. L. and PÉREZ NAVÍO, E. Causes of school failure: An analysis from the perspective of teachers and students.

The problem of school failure is a topic of special relevance, due in large part to the high percentage of students who do not successfully complete compulsory education. School failure, as well as school success, is determined by multiple causes, components or factors, as well as causes related to the student, the school and the family. The objective of this work is to analyze the causes of school failure from the perception of students, teachers and secondary school management teams. A descriptive study with a quantitative approach is carried out. The information is collected through a questionnaire, with proven validity and reliability, in its different dimensions. The participants in the study are: 757 students, 221 professors and 116 managers and heads of department of 17 Educational Centers of Valencia. The results indicate that the most important causes of school failure are, first, the student's commitment to the study and, secondly, the involvement of the family in education. More especially the students give importance to the effort, the teachers to the socialization problems of the students and the management teams to the responsibility of the student and the family in the learning process. In addition, it is verified that there are statistically significant differences in the responses of the students, the professed and the management teams. Finally, the results are discussed.

Key words: school failure; secondary education; school environment; educational system; quantitative analysis.

PÉREZ DÍEZ, L. and JIMÉNEZ FERNÁNDEZ, C. Influence of school organization on the education of gifted students.

Educational intervention for high intellectual potential students takes place in the framework of an organizational structure which has an influence thereon

since it can hinder the implementation of proposals aimed at meeting the special educational needs that these students have. The purpose of this research is to describe the form or forms that the possibilities or barriers concerning the optimal development of an intervention for high intellectual potential students may take from the perspective of the organizational structure of the education system and its component institutions. To this end, a questionnaire aimed at primary education teachers in the province of Palencia has been drawn up in such a manner that they can express their views on the education received by the most talented students on the basis of education regulations concerning attention to diversity, grouping of students, organization of teachers and educational areas and hours. The results show that the institutions that make up the education system have a rigid organizational structure, which poorly adapts to intervention for these students and which standardizes them and assimilates them to average students without providing a satisfactory response to their educational needs. It is necessary to delve into the characteristics and specificities of the organizational framework upon which educational practice is based in order to bring it into line with the needs of high intellectual potential students. To do so, teachers need to understand who these students are and how they learn, as well as the possibilities and limits of the regulations that underpin the educational practice based on the principles of attention to diversity and inclusiveness.

Key words: high intellectual potential; attention to diversity; organizational structure of institutions; educational intervention; view of teachers; education system.

MARÍN DÍAZ, V. and SÁNCHEZ CUENCA, C. Values learning through tales in childhood education.

The learning of values established in today's society is vital for the growth of the individual in a way that today is a premium in the community in which their live. Their learning is dependent at previous train, which it begins in childhood education level. In the other hand, teaching at this level is supported on the reading of traditional tales, which has a great representation of the values socially accepted today, hence that education in values had a great relevant and needs a study in this School level. By a ex post facto study, used a descriptive an comparative-casual design, be presented the opinion of teachers and pre-service teachers on this academic level in the Cordoba province (N = 411), about if the value of cooperation and/or mutual help can be learned by the children through the tales and used of traditional methodologies. Through the application a questionnaire create ad hoc conformed with 19 tales and 5 values, according to classification made by Marín and Sánchez (2015) and used a scale to scale type Likert to answered, where 1 was totally disagree and 5 totally in disagreement, it preceded the collection of

data. The principal results are the younger teachers consider that all the tales offered (19) are valid to learn this value. In consequence we can question, if lack of professional experience can be an element that determines the use of traditional methodologies for the learning of this particular value and all in general.

Key words: values; learning; traditional methodology; cooperation; mutual help.

SALICA, M. A. Characterization of Critical Thinking Skills for the development of didactic content knowledge in Natural Science Teachers.

The study of Didactic Content Knowledge (PCK) constitutes a relevant research paradigm in the international and Ibero-American context. Its productivity in this issue of current importance has been transformed into a meta-level conceptual framework as a fundamental tool to improve the quality of science teacher training. Although the diversity of methodological strategies used for their documentation focuses on the characterization of this content pedagogical knowledge, they ignore what the cognitive skills for their development are. The objective of this research is to contrast the development of critical thinking skills through a didactic intervention based on the nature of science and evaluate the effects and pretest and posttest dispositions, in teachers ($n = 29$) of high school who teach Physicochemistry or Biology. The results indicate a global improvement in 4 out of 5 skills and differences in critical thinking skills among the professors who teach Biology and Physicochemistry, and the teachers with pedagogical-didactic training and technical-disciplinary training. This difference results in consequences for the development of transversal competences for a teaching based on the nature of science and technology. From a teaching perspective, the mixed nature of the test is emerging as a rigorous tool to identify and characterize critical thinking by contrast of hypothesis skills for the development of didactic content knowledge according to the professional and disciplinary profile.

Key words: critical thinking; pedagogical content knowledge; teacher training; natural sciences.

TRIVIÑO CABRERA, L. Mark Ryden's *La Cámara de las Maravillas*: social studies training teacher using aesthetic education, popular culture and critical literacy.

The goal of this research work is to propose three challenges for the trainee teachers, challenges aimed to eliminate three key resistances to critical literacy and a suspicion-based teaching: The Resistance to consider artistic spaces as learning/teaching spaces, the Resistance to consider aesthetic education to be at the same level as artistic education, and the Resistance to incorporate media and audiovisual culture into the curriculum of History, Geography, Art and Philosophy. To fight

these resistances we developed this education research project, whose aim is to promote critical, aesthetic and audiovisual skills in the training teacher for Master's in Teaching Compulsory Secondary Education, Post-Compulsory Secondary, Social Sciences (Art, Geography, History and Philosophy) at the University of Málaga. We used the work of Mark Ryden, «father of pop surrealism». The objective was that students learnt to be suspicious and to acquire critical thinking. To this end, we developed an implementation through Mark Ryden's exhibition *La Cámara de las Maravillas* at the Centro de Arte Contemporáneo in Málaga. This research work is integrated into the Research Project titled «Multimodal Literacy and Cultural Studies: Towards a citizenship education in postmodern society» that is focused on the introduction of the media culture in training teacher from critical literacy.

Key words: aesthetic education; training teacher; media culture; critical literacy.