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ANALYTIC SUMMARY

MUÑOZ RODRÍGUEZ, J. M.; JOO NAGATA, J. and GARCÍA-BERMEJO GINER, J. R. *Tools used about Geomatics Education: current situation and its relation to educational processes.*

The aim of this article is a diagnosis about Geomatics ICT as teaching tools about the territory, and to determine whether these technologies replace cognitive characteristics showing real space, when used in educational contexts, establishing elements, similarities, differences and special features of the territorial virtualization on perception. Using a descriptive and correlational study, where the basic input is a survey of students in Chile and Spain in a university context, an analysis of the use of ICT Geomatics tools and the relations between the cognitive characteristics showing real space and the digital virtualization of the territories. The main results of this analysis show us that, despite a massive and initial use of these tools, the territorial dimension and their respective spatial perception are not replaced by the concrete reality, something that should be considered when used as an educational methodology.

Key words: information and communications technology (ICT); geomatic; territory; education; perception.

TUR, G. and MARÍN, V. I. *Exploring student teachers' attitudes and beliefs towards e-portfolios and technology in education.*

This article reports on student teachers' attitude towards technology in education and e-portfolio processes. Attitude is closely related to teachers' beliefs and the later have been defined as second-order barriers. While an important effort has been made to overcome first-order barrier such as resources, training and support, it cannot be observed that technology has been successfully introduced in education. Therefore, second-order barriers such as attitudes and beliefs are being considered nowadays in order to address the lack of innovative use of technology by teachers. It has been argued that the introduction of technology has to be directed towards the empowerment of cognitive and high-level thinking skills and has to

be used based on student-centred approaches. Building e-portfolios and helping students which grow and curate their own Personal Learning Environments (PLE) are two approaches to go beyond technology-centered models. E-Portfolios are viewed as part of students' PLE so social media are used to enhance both e-portfolio processes and students' PLES. The research is based on a survey in four groups of students at the local branch in Ibiza of the University of the Balearic Islands. The participants have previously built their e-portfolios with Web 2.0 tools during one semester. Students are asked to document their learning weekly and reflect on the change experienced in the way they think about educational issues. Students are also asked to use new tools and social media services to give evidence of their own learning. The survey is based on a Likert scale so as to be able to analyse the students' attitude and beliefs towards their e-portfolio and technology in education. The results show that a generally positive attitude is developed by students. Conclusions highlight the slight difference in student teachers' attitude between technology and specific e-portfolio processes.

Key words: ICT in education; teacher training; e-portfolio; web 2.0; personal learning environments (PLES); higher education; attitude and teachers' beliefs.

HORTIGÜELA ALCALÁ, D.; ABELLÁ GARCÍA, V. and PÉREZ PUEYO, Á. *Perceptions of managers and Physical Education teachers on Key Competencies.*

Results on the perception of the management teams and teachers of Physical Education (PE) on Key Competencies (KC) are presented in this paper. The sample used was 30 secondary schools, administering two categorically structured questionnaires and validated by an expert group. One was completed by the management teams and another for teachers of Physical Education (PE). The working methodology has been mixed, making a quantitative and qualitative study. In the first case we have carried out a descriptive analysis that includes frequencies and percentages of each of the variables in the questionnaires are structured. Regarding the inferential analyzes were used contingency tables and χ^2 . In connection with the qualitative methodology, has conducted a single case study in a school, using as instruments of data collection: interviews with teachers, daily scheduled class observation and discussion groups with students after the course. Most management teams of schools considered necessary to work the KC but show some reluctance due to: a) lack of different proposals for implementation, b) low awareness of teachers about their need and, c) the widespread belief excessive time required. PE teachers claim that the work of the KC in the classroom can generate greater student learning and consistency in the assessment process, but it is clear the lack of organization and planning in the area to achieve this end.

Key words: key competencies; formative assessment; significative learning; teacher perception; management teams; physical education teacher.

CANTÓN MAYO, I.; CAÑÓN RODRÍGUEZ, R.; ARIAS GAGO, A. R. and BAELO ÁLVAREZ, R. *Expectations of the future secondary education teachers.*

The professional insertion of the professorship has three moments: the first step derived from his own experience as pupils; the second moment, in the initial formation, where the practices and the matter play a fundamental paper (we study these two previous moments) and the third moment, of professional insertion in royal context. We move ourselves in the first and second moment, which they know from his path and what they expect to find on having entered a royal center. The aim is to know the expectations of the future teachers of Secondary Education with regard to four categories: Professionalization, promotion, evaluation and expectations (social of satisfaction, of future and problematic). One worked with a pupils' complete cohort that they realized the Master of Secondary Education in the course 2012-2013 that it was promoting 158 pupils. An intentional descriptive-interpretive design and ex-post-fact has been realized, by means of a questionnaire validated by experts with index of reliability and validity. The future teachers of Secondary have a high vocational index and of inertia. They show a high level of gremial on having recognized the need of initial complementary formation given for equal on having joined the educational centers. The professional promotion goes towards the direction of the center and they despise the educational innovation and the publications. In expectations there are included social questions, satisfaction, vision of future and professional problems. They prove to be slightly participative in politics, in unions, civil participation, museums, libraries, or religious organizations. In the problems stand out the insecurity, the discipline and a certain weariness in the classrooms. Certain degree of skepticism seems to be advisable at the moment of valuing the phenomenon of the expectations the most effective teachers were demonstrating more positive expectations. Also the fact of being an intentional sampling impedes the generalization of results.

Key words: professional expectatives; gremial; insecurity; resistances; autoevaluation; professional promotion; educational problems; routines.

GARCÍA-ESTEBAN, F. E. and MURGA-MENOYO, M.^a Á. *Childhood Education Teachers towards Sustainable Development. Training needs.*

This paper addresses the figure of teachers of early childhood education in the context of education for sustainable development. The investigation, a descriptive exploratory study has two main objectives: to assess the basic knowledge that the teachers of this educational level have on education for sustainable development and additionally, to explore the similarities that may exist between the current teachers teaching practice and the one required by the United Nations Decade of Education for Sustainable Development model in three significant ways: principles,

values and procedures, using the teacher's perspective as data source. We have employed two data collection instruments: an objective test of multiple choices and a questionnaire, both made ad hoc. The results show the need to strengthen the training of childhood education teachers to acquire competences in sustainability.

Key words: teacher-training; competences in sustainability; education for sustainable development; childhood education; teaching practice.

ÁLVAREZ-URIA, A.; TRESSERRAS, A.; ZELAIETA, E. and VIZCARRA, M.^a T. *Play, theatre and early childhood education. The theatre play Kubik and its pedagogical-artistic value.*

This article analyzes *Kubik*, a theatre play for children 1 to 3 year-old, conducted by the theatre company Teatro Paraíso: it's appropriate communicatively, they prepare very thorough fully the space, and the scenic tools are suitable for the children. And they do it taking in to account the adequacy of the play for an infant public (1-3 year-old) which historically hasn't been considered in theatre, and the fact that this theatrical play is based on action and pleasure, in other words, on the play, meaning playful action, predominant in children's life as well as the base for children learning and dramatic arts. These reasons reinforce the idea that *Kubik* is a novel and attractive resource for the educational community, and also, it facilitates the integral education to children of this age. The research is designed from a qualitative point of view, with the collected voices of the teachers in the formative sessions, the field notes from diverse representations and the later evaluation of the adult public, all of this captured in a categorical system provided by the NVivo8 program. It focuses on describing and evaluating, from a pedagogical point of view, the contextualization of the play, the pedagogical tools used, and the interaction between play and movement. Therefore, *Kubik* is a good pedagogical tool, and an adequate way to initiate children in the artistic education, because allows the identification and the nearness with children and the connection with their development phase, which uses the exploration, the object manipulation and the pleasure for action.

Key words: *Kubik*; children's theatre; symbolic play; creative drama; early childhood education.

SÁNCHEZ FREIRE, E. and GIL PASCUAL, J. A. *The role of Mathematical demonstrations. A sample application with 3rd ESO students in the classroom.*

In this article we show the influence of mathematical accuracy and its procedures through different periods of Mathematical History and the role played demonstrations and problem solving in the development of Mathematics. We will

complete this theoretical dissertation with some experimental data obtained in the classroom. We will compare the results obtained by a class group following a teaching methodology based upon mathematical accuracy, reasoning and demonstration versus a class group using a more traditional teaching approach. The comparison of the two groups shows how the first group obtained better results in tests of mathematical problem solving.

Key words: education; didactics; mathematics; secondary education; mathematical proofs; class experience.

SOTOMAYOR BACA, A. *Unication in promoting effective environmental profile of teachers of integrated National School Jorge Basadre in Santa María del Valle, Huánuco. Perú-2011.*

In the search for mitigation and remediation of the environmental crisis, preparing teachers for Environmental Education is now recognized as a priority. This determines the need for a continuous transformation of the teaching role, becoming active agents in the formation of new generations, addressing environmental problems emerging approaches.

The objective of this research is to check whether along the communication intervention is possible to improve the environmental profile of teachers Jorge Basadre Integrated National College in Santa María Valley, the district and province of Huanuco, Peru. And therefore optimize their abilities to teaching - learning environment care, incorporating the student's commitment to protecting the environment. The study was experimental, prospective, longitudinal, analytical, design with a single group before and after; volunteers participating communication intervention, developed in monthly sessions in a five-month period thirty-six. A survey and two scales were validated and successfully applied fiabilizadas. Hypotheses are tested by analysis of variance and multivariate contrasts stockings t-test shows a related; SPWS supported in V19. The influence of speech communication is demonstrated by the significant differences obtained in the moments after intervention from baseline. According to the findings, the hypotheses that differentiate in the normal behavior, teaching practice and perceptions towards environmental education participants are confirmed. However, the intervention did not improve the practice of environmental values and principles of teaching, which is the incidence of future studies that support such changes. In general, the communication intervention applied, is favorable in promoting effective environmental profile of teachers in the study.

Key words: teacher education program; environmental education; teacher effectiveness; teacher behavior scales.