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Adaptive Role Playing Games:

An Immersive Approach for Problem Based Learning

This article is very enlightening and extensive. The authors attempt to prove the effects that various learning scenarios have on students and education. They provide background information on Educational frameworks, studies, and approaches to learning. The most important of them all is the NUCLEO, a long term research project with several hypotheses that need to be experimentally proven. In NUCLEO, collaborative learning takes place in a virtual world with game like mechanics and they must solve a number of missions. Online multi player video game and 3D scenarios were used as learning motivators in most cases. Students are broken into learning teams and assigned a role based on their learning strategy. The goal is to solve the problem provided by the instructor.   Keywords and abbreviations mentioned in the article are ILS-Inventory Learning Styles, LMS-Learning Management System, PBL-Problem Based Learning, and Pedagogical Model (learning).

Having knowledge of a students learning style can identify students that may need more assistance in their learning environment. The authors write about the research which was broken into two prototypes, called MUNDO NUCLEO and Mare Monstrum. The MUNDO NUCLEO main goal was to see if the role playing games were effective at increasing motivation thus leading to increased technological knowledge, a course requirement. Mare Monstrum was focused on whether students were motivated by 3D immersive scenario and acquired soft skills and team building skills. This particular framework has been benchmarked in different programming courses at the Complutense University of Madrid.

PBL is very different to teach compared to regular lecture. PBL is performed in small groups. Working collaboratively and focusing on the understanding and resolution of a problem and providing a group facilitator, are key roles in group dynamics. Group dynamics is considered a very important resource for learning models. The PBL sole purpose is to build new problem solving skills through critical thinking approaches and reflection. Most of the case studies involve ILS observations. Various studies were conducted to see if ILS learners were labeled correctly.   The challenge was in how to choose the roles in a group. The roles were explained in terms of the captain of the group having a Meaning-directed learning style (MD) and Application Directed (AD). They are self guided and look for concrete examples and use in a group setting. The Knowledge Integrator of the group had a Reproduction-Directed (RD)

style. They check for understanding through self testing and rehearsal. The Communicator of the group was Undirected (U). They are not adaptive and are insecure in a group setting. After considerable amounts of surveys and observations, it was founded that Vermunt's ILS was accurate in its profile for choosing learning styles for students.

In conclusion, this article has various features that attract attention. Mostly the studies provide input for future involvement with technology and how they can be used effectively in education. The video and role playing games provide the Net Generation with some challenge and motivating factors that encourage continued development. Role   playing and problem based learning is being adopted despite some of the drawbacks and different perspectives from various LMS and frameworks. More research will need to be conducted in order to determine whether video games had an impact on students' motivation for learning.   More work need to be done on ILS and the group's roles. I learned about educational frameworks and the actual process some case studies for learning and education go through.

Sancho, P, Moreno-Ger, PP, Fuentes-Fernandez, Initials, & Fernandez, B. (2009). Adaptive role playing games: an immersive approach for problem based learning. *Educational Technology and Society*, 12(4), 110-124.