CE> Vol.3 No.4, August 2012

OPEN ACCESS

A Cognitive Analysis When the Students Solve Problems

PDF (Size:902KB) PP. 400-405 DOI: 10.4236/ce.2012.34063

Author(s)

Elena Fabiola Ruiz Ledesma

ABSTRACT

The research reported in this paper shows an analysis of the cognitive process of students from the senior technical program on food technology, whom are asked to solve a contextualized event on systems of linear algebraic equations within the context of balance of matter in situations of chemical mixtures. The cognitive analysis is founded on the theories of Conceptual Fields and vents. For the analysis attention is focused on the representations carried out by students regarding the invariants in the schemes that they build when they face an event of contextualized mathematics. During the acting process of students emerge different types of representation which are appropriate to the context in which the research develops, with which a proposal for the classification of them.

KEYWORDS

Mathematics; Conceptual Fields; Contextualize Events; Problem Solving

Cite this paper

Ledesma, E. (2012). A Cognitive Analysis When the Students Solve Problems. *Creative Education, 3,* 400-405. doi: 10.4236/ce.2012.34063.

References

[1] Andris, J. (1996). The relationship of indices of student navigational patterns in a hypermedia geology lab simulation to two measures of learning style. Journal of Educational Multimedia and Hypermedia, 5, 303-315.

[2] Chen, S. Y., & Macredie, R. D. (2002). Cognitive styles and hypermedia navigation: Development of a learning model. Journal of the American Society for Information Science and Technology, 53, 3-15. doi:10.1002/asi.10023

[3] Ford, N., & Chen, S. Y. (2000). Individual differences, hypermedia navigation and learning: An empirical study. Journal of Educational Multi-Media and Hypermedia, 9, 281-312.

[4] Liu, M., & Reed, W. M. (1994). The relationship between the learning strategies and learning styles in a hypermedia environment. Computers in Human Behavior, 10, 419-434. doi:10.1016/0747-5632(94)90038-8

[5] Moreira, M. A. (2002). Mental models and conceptual models in the teaching & learning of science. Revista Brasileira de Pesquisa em Educa??o em Ciências, 3, 37-57.

[6] Parkinson, A., & Redmond, J. A. (2002). Do cognitive styles affect learning performance in different computer media? ACM SIGCSE Bulletin, 34, 39-43. doi:10.1145/637610.544427

[7] Ruiz. E. F. (2009). Dise?o de Estrategias de Ense?anza para el concepto de variación en áreas de Ingeniería. Las matemáticas y la Educación, 9, 27-37.