

Interactive comment on “Computer-supported games and role plays in teaching water management” by A. Y. Hoekstra

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I would like to thank the referee for her detailed comments. I have gone carefully through the comments, point by point. All points are specific and very clearly formulated suggestions to improve the text. I will include all improvements as suggested.

1. Introduction - I agree with the referee that the push for computer-supported games and role plays does not come only from 'advances in computer technology' and 'the extent to which students are accustomed to computer aided education'. Indeed, experiences with applying student-activating teaching methods in education can be a factor as well (Kriz, 2003; Moizer et al, 2009; Struyven et al, 2011).

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- The wording 'interdisciplinary approach in teaching hydrology' is a bit awkward indeed. I was struggling how to formulate this. The special issue is called "Hydrology education in a changing world". If hydrology is still the main interest, 'embedding hydrology in a multidisciplinary context' is what we are talking about. One can argue that an 'interdisciplinary approach in teaching hydrology' comes down to teaching "integrated water resources management", but I don't think this is true. When taking an 'interdisciplinary approach in teaching hydrology', various disciplines will be involved, but hydrology can still be the main discipline. See the T-profile argument by Uhlenbrook and De Jong (2012) in the same special issue.

- I will include a reference to Wittfogel (1957) in the final manuscript.

- Paragraph 2, page 1861: I will restructure the flow of text here, because there is indeed a strange jump in one paragraph from 'the way young people interact with interactive digital media' to 'the societal call for sustainable development'.

- The referee wonders how and to what extent are the two games interdisciplinary and asks what disciplines are involved in playing the game? In the RB game, it's mainly these disciplines: hydrology, economics, game theory, social organization. In the Globalization of Water Roleplay, it's mainly: hydrology, international trade theory (economics), environmental flows (ecology), policy science (governmental policy), negotiation and politics.

- The referee asks how is the learning in the two games measured. This is a difficult question. I never measure the learning effect of the games separately. They are part of courses, that have specific learning objectives and include all sorts of teaching methods, including lecturing and self-study as well. The overall learning is evaluated in a written exam, not the specific learning that happened through the games.

- Discussion and conclusion: I will reformulate that one sentence about effectiveness and include a few references on earlier research on the effectiveness of roleplays in general.

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References Kriz, W.C.: Creating effective learning environments and learning organizations through gaming simulation design, *Simulation and Gaming*, 34(4), 495-511, 2003. Moizer, J. Lean, J., Towler, M. and Abbey, C.: Simulations and games : Overcoming the barriers to their use in higher education, *Active Learning in Higher Education*, 10(3), 207-224, 2009. Struyven, K., Dochy, F. and Janssens, S.: Explaining students' appraisal of lectures and student-activating teaching: perceived context and student characteristics, *Interactive Learning Environments*, doi:10.1080/10494820.2010.500084, 2011. Uhlenbrook S. and de Jong E.: T-shaped competency profile for water professionals of the future, *Hydrol. Earth Syst. Sci. Discuss.*, 9, 2935-2957, 2012. Wittfogel, K. A.: *Oriental despotism: A comparative study of total power*, Yale University Press, New Haven, 1957.

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