Hydrol. Earth Syst. Sci. Discuss.,
doi:10.5194/hess-2016-52-AC2, 2016

Hydrology and Earth System Sciences
Discussions

Interactive comment on "Learning about water resource sharing through game play" *by* T. Ewen and J. Seibert

T. Ewen and J. Seibert

tracy.ewen@geo.uzh.ch

Received and published: 8 July 2016

RC2 comments: The paper presents an interesting and innovative learning tool to understand resource management and use. The manuscript begins with a review of a range of games available but no critical input is provided as to what the limitations are of the reviewed examples and why the new game presented is different. No important contribution is put forward as to 'what is the new aspect this new game provides that hasn't been provided already by the other games?' the review is therefore short of analytical substance and would require more work in order to identify gaps in the current knowledge and use of these types of games and how the new game presented is different and ultimately better?

AC2 reply: We thank the reviewer for this helpful comment. We will include more

literature in the introduction to help identify the gaps in the current literature regarding other types of games that are currently used for teaching about water resource sharing. This will help to better compare Irrigania with the other games, and allow the strengths of Irrigania to be better identified. We agree that this could be substantially improved with a more comprehensive literature review and help to highlight what makes Irrigania novel.

RC2 comment: The manuscript lacks a proper discussion of the implications of the use and results of the game once it has been played.

AC2 reply: This is a very helpful comment. In the text we wrote that "cooperative behavior and communication were both key to succeeding", which was actually based on feedback from teachers who had discussed the outcomes with their classes after the students played. In some cases, students played on more than one occasion, and usually students notice that these factors (cooperative behavior and communication) are key to succeeding and so approach the next game with this in mind (and thus usually change their strategy based on this outcome). We will try to make these "implications of the use and results of the game" more clear in the text, and try to link these ideas better.

RC2 comment: The manuscript should include a section on implications for management, and a discussion as to how these results are relevant in the real world?

AC2 reply: Thank you for this helpful comment. We can include a short section on implications for management and relevancy in the real world, based on the feedback and outcomes of the game as played in the classroom setting.

RC2 comment: How can managers/practitioners learn from this new knowledge and advance groundwater management? What should be the lessons and messages to take home with that?

AC2 reply: Although we refer to the fact that Irrigania may be useful for water resource

managers, we don't currently have any feedback from this user group to (we feel) support any further comments on this. We can however comment on this in the text as regards to student learning in the classroom, and how this learning in the classroom setting may be relevant for these students in further careers in water management, and address these questions in this context.

RC2 comment: The scope of the manuscript is therefore limited to the 'classroom' and doesn't do much to advance 'further and wider knowledge' on groundwater management. The manuscript therefore lacks 'vision' and would require re-thinking as to the real lessons to be drawn from the work that is presented.

AC2 reply: Although the scope of our manuscript is indeed clearly focused on "classroom" aspects, we believe that learning about groudwater management starts in the classroom – it is in the classroom where future water resource managers are trained, and think that this learning does get carried forward. It would be nice to have some feedback/data from water resource managers and practitioners to further identify real lessons. Although our data is currently limited to teaching about water resource sharing in the classroom, we strongly believe that there is value in this information to better improve our educational programs and training in water resource management. We do however agree with this comment insofar as we could try to connect our findings with how they might feed into real world lessons, and add a sentence on this in the discussion.

RC2 comment: Further details on the data used (as suggested by the other reviewer) in the form of a table with descriptive statistics of the results would be interesting to have.

AC2 reply: Thank you for this comment. We agree and will improve this, also according to RC1's comments (and outlined in replies to RC1 comments 3, 8). We hope this will help to clarify and better explain the results, and improve the readability of the manuscript.

We would like to thank reviewer #2 for all the helpful comments and questions. Although we would like to be able to better address the questions related to "vison" and real lessons in water resource management, our current study (and data) is limited to the classroom. We will however certainly address these points in the discussion, as they are relevant and would be very interesting to pursue as a follow-up to this study.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-52, 2016.