

## ***Interactive comment on “Teaching groundwater dynamics: connecting classroom to practical and field classes” by V. Hakoun et al.***

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Hakoun et al provide an interesting and very useful example of an integrated hydrogeology class. Personally, it was very gratifying to see many of the theoretical ideas we suggested in our review paper (Gleeson et al 2012) actually used and used effectively, to the benefit of the students.

Two major strengths of the paper are: 1) how the authors are very clear and thoughtful about what they want the students to learn – this type of reflection and planning is critical but relatively uncommon. The common terms for this the authors should add is ‘teaching/learning goal/objective’. 2) the detailed appendices of student activities will be useful for many hydrogeologists. The text is relatively clear although some of the authors’ English vocabulary is confusing – I would be happy to help with this over a

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quick skype call or they could hire a English editor.

I have some minor suggestions but I suggest to accept this manuscript after these changes have been made: 1)Is there any data on student success, engagement and enjoyment (such as before and after surveys) since all the information of student responses in the paper is anecdotal. Or data on ability of students to acquire jobs after this integrated training? This would really strengthen the paper and is basically essential for geoscience education journal but maybe not for this HESS special edition. 2)Another tool that could be mentioned is using videos of aquifer experiments in class – I do this and it is a quick and easy way of bringing some lab experiments into the class. Some example videos are on my webpage. 3)Pictures of the apparatuses in Figure 3 could really be useful – a picture is worth a thousand words. Also a scale would be useful in these schematics. Finally, the use of the row of piezometers in each of these is unclear to me – try to explain this. 4)‘Groundwater dynamics’ is not defined anywhere. I am not sure exactly what the authors mean by this. May groundwater flow or groundwater flow processes might be more clear? Not sure. Atleast Groundwater dynamics should be defined very early in the manuscript. 5)Define what ‘5 ETSC’ are more clearly - how many hours per week of instruction? Overall percentage of degree etc? imagine somebody from Canada or Ghana trying to see how much effort students are expected to do.

Minor English suggestions: replace all eg. With such as -pg.1073 line 1 (and elsewhere): change efficient to effective -pg.1073 last line: delete ‘like’ -pg. 1075 second line: change ‘remind’ to ‘review’ -pg. 1077 third line: not sure ‘sustainable’ is the right word. -pg. 1077 line 23: what do you mean by ‘ground’? -pg. 1078 first line: change ‘global’ to ‘overall’