

Interactive comment on “Flowing with the changing needs of hydrogeology instruction” by T. Gleeson et al.

T. Gleeson et al.

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Reviewer 2

The paper reviews teaching of hydrogeology at the undergraduate level. Particular focus is on the changing student audience, which far more diverse than it has been in the past, and contemporary methods, in particular experiential learning. The paper is useful, well-structured and well written, and will expose the reader to a field of research published (namely the teaching literature) that they may have been unaware of. In particular, I would wholeheartedly endorse the “integrated pedagogy” that the authors propose.

C1613

→Thank you for your positive comments and constructive, useful suggestions.

I would like to see minor revisions, according to my specific suggestions as follows: Figure 2 is completely unhelpful and cannot be published in this form. The histogram should be presented as a cumulative distribution, so that the reader can directly see that there are 15 topics that 75% of hydrogeologists find crucial.

→We have replaced Figure 2 with a cumulative distribution which shows the data much better. Thank you for this suggestion.

The topics listed in Figure 3 are presumably an accurate reflection of the survey results. It is unfortunate that these are not particular distinct from one another – for example “Hydraulic head” and “Gradient and head” are separate topics. The top results are pretty uncontroversial and unexciting. It might have been more interesting to focus on topics that are contentious. For example, I found it very interesting that so little emphasis was placed on modeling or computational techniques – especially given that the authors suggest (page 1126, line 16) that this forms a component of laboratory based teaching (which I would personally have emphasized more).

→The topics listed in Figure 3 are the topics used in the survey. Unfortunately it is difficult and subjective to reclassify survey results after a survey has been completed because this may not reflect how the respondents would have responded. We agree that the top results are uncontroversial and unexciting and feel that this is an important point – the hydrogeology community generally agrees on these topics so we should all teach them as we discuss. We appreciate your suggestion to reflect on what was not emphasized. We have made this more clearly and woven this into the discussion more (Lines 178-198)

Figure 4 – Would the authors consider including modeling as one of the “laboratory and computer exercises”

→We have added this.

C1614

The sources used in this study are arguably dated, given the pace of change in a number of respects. For example, on page 1117, line 10 onwards, a number of citations are given about the hydrogeology job market, which pre-date the 2008 financial crisis, and may need to be reflected on in the light of current economic conditions. Furthermore, given the pace of change in computational tools that are available and increasingly used in hydrogeology, the 2005 survey is arguably dated. That really is just a comment, perhaps a caveat could be included in the paper.

→We have added this as a caveat to the paper although we consider the survey to be recent and largely representative of the current practice. Even though the pace of change in computational tools is significant, this is often not quickly translated into pedagogic practice.

Please also note the supplement to this comment:

<http://www.hydrol-earth-syst-sci-discuss.net/9/C1613/2012/hessd-9-C1613-2012-supplement.pdf>

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