

Interactive comment on “Teaching hydrological modeling with a user-friendly catchment-runoff-model software package” by J. Seibert and M. J. P. Vis

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Helge Bormann raises in his constructive review an important question: should students start with developing their own model or with using an existing model? The order of exercises in our manuscript follows the idea of first providing students an existing model and software package allowing quickly running a model and playing with it. The alternative, as suggested by Helge Bormann, is to start from the other end, namely focusing on the many decisions one has to take when developing a model and the corresponding software. The argument for this teaching strategy is to confront the students

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early on with important modeling issues (including debugging) and to let them develop their own perceptual models based on their own decisions, before they get too much influenced by existing models. Certainly both approaches have their (dis)advantages. Using the approach to start with an existing model, the students might not fully understand what a model is during the first exercises and things will get clearer first during later exercises, such as programming their own snow routine, testing different model routines or developing their own routines. With this approach, the risk to get stuck in technical details in and programming issues is smaller and it is avoided to overwhelm the student in the beginning. However, I certainly see the advantages of the approach suggested by Helge Bormann. I would assume this approach works best with smaller classes (i.e. more student-teacher interaction) and with numerically-trained students, although good experiences have been made with this approach in a variety of settings (Helge Bormann, pers.com.). I look forward discussing this question further and might try the alternative approach in a future course. It would of course be interesting to compare the learning outcomes.

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