

## ***Interactive comment on “On teaching styles of water educators and the impact of didactic training” by A. Pathirana et al.***

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I agree with the analysis of the type of complex hydrological problems facing hydrologists and the need for both water educators and water graduates to be able to work in multidisciplinary, interdisciplinary, and/or transdisciplinary teams and to integrate skills and competencies. I also endorse the need for a shift in teaching style (or teaching approach) for water educators towards more learner centered or active teaching and learning.

The two studies of staff and graduates and their levels of belonging to different teaching styles, as defined by Garash (1996): expert, formal authority, personal model, facilitator and delegator, are well described. The statistical analysis of the observed

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differences before and after they have undergone the didactic certification program University Teaching Qualification UTQ is also easy to follow.

In order to judge if whether this UTQ program is likely to be effective in changing the teaching style of educators to a more learner centered approach a detailed description of the program is needed. However I find the following description of the didactic certification program UTQ very thin and shallow:

“a programme aimed to develop didactic skills of the teaching staff in the direction of facilitating active learning in higher education. The UTQ programme focuses on “constructive alignment”, where the student constructs her/his own learning through relevant learning activities. It stimulates the lecturer to create a learning environment that supports the learning activities appropriate to achieving the desired learning outcomes. In other words, the UTQ training intends to stimulate UNESCO-IHE faculty to develop facilitator/delegator teaching styles.”

A better description of the design and implementation of the UTQ programme is therefore needed. The mentioning of the concepts “constructive alignment” and “desired learning outcomes” and the reference to the summary by Biggs *Aligning teaching for constructing learning* found in the reference list (but not in the text) indicates that the program is inspired by the work of John Biggs.

I do hope that the ones who designed the program have read not only the 3-page summary by Biggs (2003) mentioned in the reference list and that they base the program on one of his books: *Teaching for quality at University* (close to 400 pages).

Different editions of the book and articles by Biggs and others form a basis for the ongoing paradigm shift from “teaching to learning” with focus on intended learning outcomes. In Hong-Kong all and in UK probably most universities today describe program and course outcomes in terms of learner outcomes. Individual universities in Australia, North America, New Zealand and South Africa are also moving in this direction. In Europe the Bologna process does not prescribe learner outcome based approaches

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but they use similar formulations. There is thus a strong move towards more learner-centered approaches to teaching and learning (Biggs and Tang, 2011, p 8-9) and e.g. in Sweden all universities use one of the versions of the book *Teaching for quality learning at University* in their basic courses for new university teachers.

Biggs, J. Teaching for quality learning at University, What the student does. Society for Research into Higher Education Open University Press Buckingham, England. First edition (1999) , second edition (2003), third edition (2007) and fourth edition together with Tang C. (2011).

**Detail comments on references:**

Biggs (2003) found in reference list but is missing in the text.

Postareff et al. (2007) found in ref list but is missing in the text.

Garash and Hicks (2000) inconsistent text and reference list.

Jury and Vaux, (2005) found in the text but is missing in the reference list.

Lucasm, (2005) found in the text but Lucas and Wright (2005) in the reference list

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