

## **General comments:**

The article describes two examples of modules for a study programme which is designed for Master's degree students and professionals. The authors have developed two types of course per module: a face-to-face course and an online course. The abstract states that the article compares the two course modes based on the authors' experiences. My feeling is that this main idea could be elaborated more concisely and clearly.

The article mentions three main drivers of changes in hydroinformatics education: 1) educational change due to the Bologna reforms; 2) tension between the educational needs of academics and professionals; and 3) technological changes. The authors give an overview of the field of hydroinformatics and briefly introduce the UNESCO-IHE programme. Figure 1 is intended to visualize the structure of the latter. Here I would suggest providing a time axis, and improving the match between the figure and the explanation in the text.

In the following section the authors present the challenges faced in the field (rapid development in ICT, increasing demand from other sectors), and propose the areas of specialization in the programme and elective courses as the solution. The two courses they present are both elective courses.

In section 3 the authors describe the face-to-face courses, and in section 4 the online courses. I believe that a different structure would be catchier: 1) prerequisites / target group; 2) describe the learning outcomes and the form of assessment (if we assume that face-to-face and online modes are just two different learning arrangements, learning outcomes and assessment should remain constant); and 3) compare the two modes with a focus on their advantages and disadvantages. A table could be effective here. This form would clarify the special needs addressed by each type of course and the different competences each fosters.

The authors' experiences are presented in an unstructured manner. I suggest using a table, as mentioned above. Some concrete examples would be useful. What was the intention? How was this addressed in the face-to-face mode? How was it transposed to the online mode? The authors also take what should here still be descriptions and rush to make them conclusions, which is not yet appropriate.

The section on course implementation contains information that is already given in the previous section. As Fig. 2 shows, implementation is about providing material. I am curious to see how the authors handled issues of exchange between students and the instructor, and how they implemented the technology (e.g. with simulations). How did they measure the student workload in the two modes (f-t-f and online)? What

was the problem concerning assessment? Why couldn't students be asked to be present for the examination?

The discussion contains aspects and examples which in my opinion could be elaborated on further.

I would suggest rethinking and restructuring the article as mentioned above: the authors should present the challenges faced in table form, and utilize the discussion to reflect upon and evaluate their experiences and thus compare the two course modes. A further suggestion: in the context of collaborative learning the authors have empirical data. They need to show the hole distribution and indicate the number of participants and respondents. They should make clear the importance of collaborative work in each module (FMM and DSS).

The conclusion comprises 1) open questions (assessment, being cheap, how to design online courses); 2) the effectiveness of the programme; 3) a section on how to support life-long learning for water professionals. It seems somehow detached from the experiences and comparison described in the rest of the article.

### **Special comments:**

- the authors should consider the Dublin Descriptors when summarizing the changes due to the Bologna Process

- I don't understand table 1 and table 2. The authors should make them more readable and check the numbers. Additionally it would be interesting to compare the settings with the online-equivalents.

### **Technical comments:**

p 1316 L 8 -> delete "course"

p1317 L5 -> insert blank between "programme" and "(WSE)