Course analysis – FLH3000 vt21-1, vt21-2

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Courses given (approximately 8 weeks)
19 January – 16 March 2021 (period 3, 41 students)
13 April – 1 June 2021 (period 4, 41 students)

Course material
What the best college teaches do (Ken Bain, 2004)
The Torch and the Firehouse (Mattuck 2009)
Articles related to higher education teaching and learning

Course structure
Since March 2020, the course FLH3000 has only had blended synchronous meetings, consisting of six meetings altogether. Continuous examination is achieved through classroom participation, individual written reflections, design and delivery of a teaching activity, and written peer feedback tasks.

Among other topics, participants discuss teaching and learning in higher education (with emphasis on metacognition in learning), sustainability integrated in teaching, pedagogical content knowledge, feedback, supervision, and a few additional situations described in the literature used in the course. Preparations tasks prior to the meetings include reading chapters in the main course literature, articles, watching videos, and reflecting upon those to ensure successful group discussions.

The main concepts related to teaching and learning in higher education are illustrated in the course book (Bain) and Mattuck's booklet as well as articles shared to course participants. The course has been designed with a student-centred approach that requires students to actively work in groups and share experiences while practicing giving and receiving feedback.

The students are provided with tools and given responsibility to explore self-learning. It is, therefore, anticipated that learning occurs through discussions and reflections on teaching-related tasks. As we read the students' reflections upon completion of the course, we realise the course provides them with opportunities to rethink how people learn and how they could apply this understanding to the way they teach.

LEQ course evaluation (survey)
Period 3 = 23 respondents out of 40 (58% answer frequency)
Period 4 = 25 respondents out of 40 (63% answer frequency)

LEQ integration in Canvas still not possible. For course development, the teachers in the course relies on feedback is given in detail in the last assignment for the course, self-reflection 2.

Students' workload
The majority of the students stated they dedicated 6-8 hours/week on the course, 65% period 3 and 48% period 4. This reflects an increase from previous courses in which students perceived that they spent mostly 3-5 hours/week. For these courses, the second category related to workload is (3-5 hours), account for 22% p.3 20% p.4. Many expressed the workload was fine but a few of the students felt the workload was heavier than the credits awarded for the course. The course requires an 80% attendance, which implies that students can miss only one meeting out of the six compulsory meetings.

Overall results[1]
Period 3 = 40 students completed the course, 41 were admitted (98%)
Period 4 = 35 students completed the course, 41 were admitted (85%)

<mark>Overall impression of the learning environment</mark>
The students' self-reflections, submitted after the last meeting, show that many of the participants were pleasantly surprised with what they learned. Many state they became more aware of a teacher's responsibility in creating an inspiring learning environment (central topic of the course). Students also mentioned the value of understanding how feedback works. In both courses (period 3 and 4), the vast majority of the students appreciated working with their groups. Some students mentioned they would have liked having more time for the discussions, and some say they felt they would like to have been given clearer instructions on what to discuss. The depth in the group discussions seems to be closely related to how prepared they were (read the material and/or watched a video).

Analysis of the learning environment
Elements of the Natural Critical Learning Environment (Bain 2004) play a central role in the course. The course has been designed with the goal of supporting student learning, as opposed to covering content.

Meeting 1 (Essential Elements of Learning and Teaching): Groups meet for the first time and spend some time getting to know each other. The field of teaching and learning in higher education is briefly introduced and discussed, followed by general information about the course. Students are asked to prepare for this meeting by reflecting on learning, watching videos related to metacognition of learning and rethink the way we teach. Next, students listen to are briefly introduced to the importance of communication in teaching. In the second half of this meeting students have a workshop where they look at the 17 UN goals for SD and reflect upon how they may contribute or not to specific goals within the research areas they belong. The outcome of this discussion is a poster and this activity is closely linked to the interview assignment presented later on in the course.

Meeting 2 (Natural Learning Environment): Flipped classroom. Bain's natural critical learning environment is thoroughly discussed during the meeting. To reinforce the students' understanding, a *Kahoot* is used (retrieval practice). Students produce a poster on different areas of teaching they would like to improve and discuss with another group. The first group assignment (interviews) starts. Investigation on how teachers at KTH work with sustainability has yielded positive outcomes since autumn 2018. Therefore, a new goal has been added, which will take effect from the autumn term 2020.

Meeting 3 (Teaching in Engineering Sciences): A discussion on Mazur's video concerning peer instruction is carried out and much appreciated by participants.This meeting introduces the concepts of Pedagogical Content Knowledge (PCK) to help students design a teaching activity. A brainstorm on designing a teaching activity is carried out in class, which is the first step towards the recording of a teaching activity.

Meeting 4 (Feedback and Supervision): Feedback according to Hattie's article (model) is discussed. As engineers are not used to articles in social sciences, some complain the text is hard to digest. Nevertheless, the outcome of the discussions is very positive and this is reflected in their last assignment. Supervision is discussed based on the Situational Leadership model. Students practice giving and receiving feedback (on their design of teaching activity).

Group meeting 5 (What makes a Good Teacher): The group work, together with the video recording are by far the two most appreciated elements of the course. The groups feel they have the freedom to choose whom to interview and areas to investigate. A number of students mention they feel they get concrete examples of how to handle specific topics that novice teachers may not be confident to deal with. They also like the fact that they talk to more experienced teachers on how they plan their courses taking into consideration elements of the natural critical learning environment. Since period 4 2020 students have carried out the group meeting and the recording via the zoom platform.

Meeting 6 (Your Teaching Developing Steps): The final meeting is a wrap-up of the contents in the course with focus on revising the main concepts presented in the course, the design of a teaching activity with the video recording, feedback and possible next steps. The article Principles of Instruction (Rosenshine) gathers many of the main concepts discussed throughout the course. In period 4, we tried to run this meeting in a hybrid format in which most students were online (zoom) and a few were in class.

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[1] It may be relevant to point out that students have had the opportunity to complete the course when another course is offered.

Answers to general (open) questions

Overall results show that in general students believe the course does not have much room for improvement. A few considerations can be made concerning workload and use of digital tools. While variation is appreciated by many, some have perceived it as confusing to switch from one tool to another.

Course development

Improvements suggestions for the autumn term 2021:

1) Revise meeting 4 content and format;
2) Continue revising general structure in Canvas;
3) Consider adding an element of equality within the sustainable development module.

General comments

Many of the students' comments are positive and they feel there is not much to add or change. Key words in their reflections are group work, feedback, (video) recording, and design. The parts of the course that have the biggest impact on the students are the interviews, the recordings and group discussions.

Since the addition of one Learning Outcome related to sustainability, students reflections have become more concrete.

Feedback has a central focus in the course and its importance is evident in the students' reflections. Students point out they understand feedback better, including how they would like to work with feedback in their teaching.

Considerations on which meeting may be face-to-face, which could be run online and which could be in a blended synchronous (hybrid) model will be evaluated during autumn 2021.