Course analysis – FLH3000 ht21-1, ht21-2

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Courses given (approximately 8 weeks)
7 September – 26 October 2021 (period 1, 38 students)
2 November – 14 December 2021 (period 2, 33 students)

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

Course structure
From period 1, autumn 2021, the course FLH3000 has run a mix of online and blended synchronous meetings, consisting of six meetings altogether. In period 2, we re-introduced a face-to-face session for class meeting 1, followed by four online meetings and a final blended synchronous session.

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, feedback, supervision, and a few additional situations described in the literature used in the course. Preparation 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 material (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 knowledge to design activities with focus on learning.

LEQ course evaluation (survey)
Period 1 = 22 respondents out of 38 (58% answer frequency)
Period 2 = 20 respondents out of 33 (60% answer frequency)

LEQ is not fully integrated into Canvas yet. For course development, we rely on feedback in open questions of the LEQ questionnaire as well as suggestions in the last assignment for the course, self-reflection 2.

Students' workload
Most of the students (55% in period 1, and 43% in period 2) stated they dedicated 6-8 hours/week on the course. The second category related to workload is (3-5 hours), which account for 36% (period 1) and 33% (period 2). 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 80% attendance, which implies that students can miss only one out of the six compulsory meetings.

Overall results[1]
Period 1 = 36 students completed the course, 38 were admitted (95%)
Period 2 = 30 students completed the course, 34 were admitted (88%)

Overall impression of the learning environment
Answers in the LEQ questionnaire show students perceive a strong sense of community and appreciate the opportunities to practice without being graded. In addition, most students believe that the activities in the course are well aligned with the learning objectives. The atmosphere in the course was described as open and inclusive and the learners felt they were given autonomy to try their own ideas.
Statement number 4 'The course was challenging in a stimulating way' had a big spread of answers. This could be linked to students' previous experience in teaching. The course has been designed for those with little experience in teaching and may not be too challenging for those who had taught earlier.

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 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. A new goal was added in the autumn term 2020, which has helped learners understand better why the topic is covered in this course.

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 concepts of a teaching practicum 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. The blended synchronous format (hybrid) attracted more students to be online than in the classroom. Technical issues need to be addressed to make those online feel more included in the discussions.

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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 are satisfied with the course. A few considerations can be made concerning workload and technical issues in the hybrid session. Below are some of the specific suggestions from the participants in the course.

1. Positive feedback with regards to structure in Canvas which seemed to be problematic earlier.
2. A few have mentioned that some discussions were rushed through.
3. Some of their expectations regarding teaching methods, classroom management are not in line with the course's objectives and content.
4. A few suggested reducing the frequency of group discussions (online environment) and allow more time for discussions.
5. One suggestion was specifically directed to preparation tasks for each meeting in which more variation would be appreciated.

Course development

Improvements suggestions for the spring term 2022:

1) Move communication discussion from meeting 1 to meeting 2.
2) Revise meeting 3, mostly the teaching practicum activity.
3) Session 4: removed required reading for the supervision session and replace with open ended question activity.

General comments

Many of the students' comments are positive and they feel they have learned concepts of teaching and learning in higher education. Key words in their reflections are group work, feedback, (video) recording, and interviews. Needless to say, the parts of the course that seem to be most attractive to the students are the interviews, the recordings and group discussions.

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.

Having re-introduced a face to-face (compulsory) first meeting showed positive results in the overall impression of how students perceive the entire course and the quality of the working groups. In the spring term 2022, we will continue with a mix of face-to-face and online meetings.