

Course analysis – FLH3000 vt22-1, vt22-2

Course responsible

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Courses given (approximately 8 weeks)

18 January – 18 March 2022 (period 3, 38 students)

25 March – 7 June 2022 (period 4, 31 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

In the spring term 2022, the course FLH3000 has had a mix of face-to-face, online and hybrid meetings, consisting of six meetings altogether. We believe the mix mode of meeting the students have worked well, and it was maintained for periods 3 and 4.

Continuous assessment 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 other 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 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 used in the course. 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.

During the course, students are presented with different concepts and strategies, which they are expected to show in their individual reflections, interview assignment, teaching practicum/recording and group discussions. Participants are encouraged to share with peers and teachers how they intend to apply some of the concepts learned throughout the course in their own teaching.

LEQ course evaluation (survey)

Period 3 = 20 respondents out of 38 (53% answer frequency)

Period 4 = 15 respondents out of 30 (50% answer frequency)

The 12-question LEQ has been used during spring 2022.

Students' workload

Students seem to perceive the course's workload differently. For example, in period 3, 35% of the student indicated that they spent 6-8 hours a week on the course, and 30% spent 3-5 hours. On the other hand, during period 4, 40% said they spent 6-8 hours, while 27% said they spent 9-11 hours. We can then conclude that despite the variation in percentages, a critical look on the results shows that the majority (75%) of the students from both courses spend between 6-8 hours weekly.

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. The attendance record shows that only few students have 100% attendance.

Overall results¹

Period 3 = 38 students completed the course, 39 were admitted (97%)

Period 4 = 27 students completed the course, 34 were admitted (79%)

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 (Concepts of Learning): Students are asked to prepare for this meeting by reflecting on education and learning, watching videos related to metacognition of learning and rethink the way we teach. 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. In the second half of this meeting, students have a workshop on sustainable development and are introduced to education for sustainable development, CDIO, and the concept of an integrated curriculum. This workshop also serves as a preparation for the interview assignment in which students investigate how teachers at KTH work with the integration of sustainability in their courses.

Meeting 2 (Natural Learning Environment): Flipped classroom. Bain's natural critical learning environment is thoroughly discussed during the meeting and *Kahoot* is introduced for retrieval practice. In this meeting, we discuss how teachers motivate students to learn by providing the necessary mechanisms. Students are briefly introduced to the importance of communication in teaching. Groups discuss how a teaching activity can be improved with focus on learning. The first group assignment (interviews) is introduced.

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. Students practice giving and receiving feedback (on their design of teaching activity). Supervision is discussed based on the students' initial research on what supervision is and the different types or forms of supervision which students discussed in their groups during class meeting 4.

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

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

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.

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 hybrid format has not attracted as many students to the classroom as we expected after being online for two years.

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. The course structure in Canvas seems to be clear to most of the participants.
2. Longer breaks for the online meetings may be necessary.
3. Meeting the group face-to-face was by far the most valuable part of the course, and it was good that you had the first seminar IRL, as well as including a mandatory group meeting outside of the regular seminars.
4. The best aspect of the course was coming in contact with other students from different departments/fields.
5. A few students mention the course is heavier than the credits awarded.

Course development

Improvements suggestions for the autumn term 2022:

- 1) Briefly introduce the students to the interview assignment already at the beginning of meeting 1;
- 2) Add yet another brief preparatory assignment before meeting 1 where the students should watch two short videos about sustainability and reflect on the purpose of education;
- 3) Emphasize gender equality, diversity, and inclusion as integral parts of sustainability and sustainable development;
- 4) Improve the link between the different parts in meeting 1 (i.e. 'Essential Elements of Learning and Teaching' and 'Sustainable Development');
- 5) In the hybrid meeting, we think it will be good to have two teachers, in which one is on site and another one online to make sure that students' participation is enhanced.

General comments

Students' comments are mostly 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. The activities in the course that are most attractive to the students are the interviews, the recordings, working with feedback 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.

The face to-face (compulsory) first meeting has shown positive results in the overall impression of how students perceive the entire course and the subsequent quality of the work done in groups. The mix of face-to-face, online and hybrid meetings will be maintained even though managing participation during the hybrid meeting is still a challenge for the teachers.

During the course evaluation meeting with the teachers in the course, discussion on the workload and credits awarded took place without any firm conclusion. It is still unclear if the credits in the course may be counted towards the required 15 credits in pedagogical competence.