

How to implement student activation during fieldtrips in the shadow of COVID19

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“I dream of stimulating an intrinsic approach that engages students to learning processes that leads to a personal understanding – a deeper understanding not just skills, knowledge and competences...”

- Personal reflection, 2019

Preface

Case-based and hands on examples in field in combination with more classic theoretical lectures dominate our teaching in section the Forestry College, Department of Geoscience and Natural Resource Management, Faculty of SCIENCE, University of Copenhagen. A learning environment that has the potential to fulfill Illeris, 1999 definition of learning, always being: *“a cognitive, psychodynamic and a social, societal process”* (own translation).

The real world is a fantastic classroom with very powerful examples, but also has hurdles that differ from a classic purely lecture-based teaching. Therefore my original plan with this project was to implement new ways of involving student when teaching in the field, especially on fieldtrips with an external host.

COVID19 and this project

March 11, 2020 Prime Minister Mette Frederiksen implemented a serious two-month lockdown of Denmark due to an outbreak of COVID19, as did

most of Europe and the rest of the World. The whole world had to change plans, including my teaching and this project. My focus was entirely on trying as good as possible to make the students ready for their exam. Changing strategy from an intrinsic to an extrinsic motivation approach.

This project was on hold and therefore, her presented, is a recap of my experiences and the reflections I made. In this project, I'll be reflecting on what happened during the Corona Crisis as compared to the "non-COVID19 situation".

Background and research question

Nature and Landscape Management

This spring I've been teaching the course Natur- og landskabspleje/Nature and Landscape Management (<https://kurser.ku.dk/course/lsls10047u/2019-2020>) in block 3 and 4. The course is 15 ETCS. I am both course responsible and teacher. I have had an external hired hand colleague, senior biologist Annita Svendsen that helped me with some of the teaching and partly some of the planning. Attending the course were 52 2nd year Forrest- and Landscape-engineering students (a four-year profession-bachelors degree). This is my second year teaching this course and my colleague had prior experience with this course as teacher.

External field-hosts

Also involved in the teaching (non-COVID19 situation), is a series of external lectures and excursion hosts visited on fieldtrips. Typically, a landowner, a ranger or a project manager. These are to some extent 'colleagues', but typically only appears ones during the course. They are experts on their own field of research or their own area of nature management, but they do not necessarily know the full curriculum and only partly the intended learning outcome (ILO). Therefore, my finest role as teacher is to build the framework making the students able to learn, scaffolding prior knowledge and new learning. Thus combining both prior teaching in the course and theory from previous courses and present this in relation to the real life management cases. This should give the students a coherent knowledge across the different courses and disciplines during their training in becoming Forest and Landscape Engineers.

Illeris on learning

Illeris, 1999 summarize a theoretical basis for the above outlined approach/role in his book on Learning. He puts emphasis on the cognitive learning as being constructive and based on the learners own recognition when assimilating new insights with already obtained knowledge. This knowledge is related to schemes and can be hard to imply in another setting e.g. taken from one course to the next or use outside in a real-world situation. We, as teachers, cannot just fill up the students with our knowledge, but they have to work with it themselves to obtain it. In this process, they accommodates knowledge and transforms old knowledge into new recognition. Accommodation or transcendent learning, can be painful and require mental energy, but also makes the learner “having got hold of something” (cf. Illeris, 2003).

Another central part of learning is the psychodynamic processes involving student, teacher and the learning environment. Feelings, opinions and motivation at its core. Teaching effects, and is effected, by the psychological energy mobilized. The process of learning is driven by the students’ feelings and attitudes towards both task and teacher.

The role of society in learning is the overall framework that students learn in and is training to contribute into as professionals (Illeris, 1999).

Challenges teaching in fieldtrips

One of the challenges as teacher in this course is making a didactical contract and creating a didactical situation (Brousseau & Warfield, 2014) during fieldtrips. In one of my written reflections during the UP course, I address the main challenges teaching in the field and my original motivation for this project:

“My main challenge in the fieldwork activities is to combine both the “lecture part”, reflections, discussions and most importantly student activities. The lecture part and questions tend to consume most time. The reason for this is a combination of ill planning and misjudged curtesy to the host/landowner giving them full control of the fieldtrip an letting them define problems and solutions. In my belief, it’s possible in advance to settle a joint plan that combines my didactic considerations and giving space for them to proudly present their project/property” - Personal reflection, 2019

Fieldtrips and real life management examples are powerful tools in teaching, great fun and entertaining, but also sometimes tends to make students passive bystanders. If the fieldtrip just become a “lecture in field” the

learning is just assimilative and doesn't make students reflect. In my previous experience, I found that it is important to involve the students actively in the field-teaching situation. This makes them engaged and their learning outcome is better than if they stand as passive bystanders. This correspond well with the findings of Prince, 2004, who concluded that there are extensive empirical evidence in support for active learning. This is also in correspondence with Illeris's point on how to accommodate new knowledge through working actively with a subject (Illeris, 1999).

Research question

The original research question for this project was how to implement student involvement during field trips in the Nature and Landscape Management course? This was due to Covid19 changed into:

When the Corona Crisis inflicts fieldtrips in small groups, how can teaching adjust? Special focus on field exercises in small groups working alone on a location.

- How can fieldwork be framed and scaffold to enable groups of students to perform an exercise alone?
- How can the ILO be assessed/reported, and institutionalized in a combination of an online environment and in the field?

Interventions to fieldtrips during Corona - What we did

In the normal (non-COVID19) situation, Nature and landscape management is an excursion-based course. With two 4-day fieldtrips to Jutland and the island Bornholm plus a fieldtrip every week (approx. 8-12) on "the topic of the week". Due to COVID19 and the restrictions, this put on all teaching, the 4-day fieldtrips where cancelled and all other teaching was online on Zoom for more than two month. When it was possible (again) to take students on fieldtrips from the beginning of May, there were many restrictions on group size (maximum 10 persons incl. the teachers), transportation and sanity-regulations, due to the special Corona-times.

Therefore, fieldtrips were not as planned in any way. Instead of visiting an case and excursion-host, that introduced the area and topic of the day, giving a field lecture and introducing points of interest (normal non-COVID19 situation – e.g. my reflection under '*challenges*'), fieldtrips

where preformed as group-work in the field. Where the students on their own in groups investigated an area and afterwards got a visit from the teacher/teachers on spot.

Prior the group got a brief written instruction on the exercise, waypoints to the area and a timeslot with the teacher/teachers during the day. The students were typically asked to evaluate their casearea through a template “status, goal and means” (in Danish: Status, mål og midler). This procedure incorporate a landscape analysis, evaluation on the different nature-types and their quality. Hereafter designate goals in future management and suggestions on measurements to achieve the goals. The presented template is identical with the exam question. Included (after the first try) was a handout with supplementary questions, which guide further with examples on focus points that could be addressed (view course descripton “målbeskrivelser”: <https://kurser.ku.dk/course/IsIs10047u/2019-2020>).

When the teacher(s) arrived the students where to present their findings and the teachers validate and institutionalized the findings through a discussion with the group. After this, the teachers visited another group, and so forth. On the following online-class, the findings where sheared and general feedback was given on Zoom. The idea was gather all points of learning and share them in a plenary institutionalization online. These sessions where recorded and shared on Absalon.

In the first excursion there was much confusion and some frustration on what the purpose was. What are we supposed to do? How can we evaluate an area when its not introduced and we never seen anything like it before? These where questions raised by some students in advance and forced me to long and not very productive explanations. The exercise was supplemented with a handout that added sub-questions to step-by-step helped the groups.

Results

Personal observations on the outcome of fieldtrips with supplement from the official course evaluation

We, as teachers, were thrilled when fieldtrips could be arranged, even though they where noting like normal. Direct contact with students (in due distance) in the environment studied and eye contact made communication and teaching much easier. Being able to visualize and show points of relevance in a natural setting was a relief. The study groups reported that they

were glad just to be outside, that validation on their findings helped them on, and that they got increasingly more and more confident towards the exam. The feeling of not having learnt the course objectives having dominated during the period with online teaching only (true to both students and teachers in general).

As teachers, we observed that the more quiet students, that had not spoken at all during the digital teaching, were more confident speaking in the small groups. It was also easier to personalize feedback in the small groups than in the normal large group situation and much easier than in Zoom-class.

We could get an overall impression on the level of understanding and subjects that had to be dealt with, something that we found very difficult in the online meeting with the class on Zoom.

The official course evaluation had special focus on digital teaching during COVID19 and not any specific questions on fieldtrips or group-work during fieldtrips. Thus there are no direct measurement on the students perception of our way to handle fieldwork.

The overall evaluation of the course was poor in comparison with previous years, especially on overall impression, feedback and course objectives (question 2.8, 2.6 and 2.3). Though this project isn't directly evaluated, the written comments indicate that students viewed fieldtrips very positively in comparison with the digital teaching:

It has been super good with the excursions in small groups. I have much more benefit from this type of tuition than I have ever had for excursions or lectures with 40 people. I hope you will use this form of teaching in the future when the corona crisis is over. Teaching in small groups provides a much closer communication with the teacher, there is a better opportunity to discuss and ask questions, in addition it is easier to hear what is being said when we can stand in a small assembly. - Anonymous

That we had the opportunity to work with the exam mindset in terms of status, goals and means a few times during the excursions has been extremely rewarding. This gives a better understanding of thinking in wholes. - Anonymous

Discussion

Though this project is on teaching in fieldtrips, I must share some reflections on the overall teaching this spring.

As indicated earlier, teaching in shadow of COVID19, implied tremendous changes the Nature and Landscape Management course. The psychodynamic dimension in learning not only affect the student but also me as the teacher (Illeris, 1999). This has become very clear to me this strange spring. My performance was affected, not only due to the general stress, but also because of not seeing the majority of students on Zoom (black tiles with a name or even study-number). I used a great deal of my mental resources trying to decode if my messages and teaching was aligned with the students perception. They probably tried decode meaning in the teaching they reseeded?

In a normal class-teaching I observe the students, feel the class, and can ask if they follow. In an online environment this is more difficult, making me as teacher insecure. Hounsell and Hounsell, 2007 would probably conclude that the alignment in the teaching-learning environment was not established to a degree that could handle the changes. On top, if one student asked a question that might be very basic (e.g. on general ecology knowledge supposed previously acquired), my answer might irritate or bore the rest of class.

Dialog, as a ping-pong between teacher and class, is difficult because of the fact that whenever two persons speak at the same time it is impossible to hear what is said. As result, students tend to mute microphones and not speak. This makes teaching staccato and one-dimensional, further draining energy.

Because this project have not been conducted as a tested/accessed setup, with e.g. a focus-interview or some other kind of evaluation, it is impossible to make clear conclusion to the research question. However, it is clear, that introducing organized group-work in the field, is very beneficial to students transcendent learning, understanding and feeling of meaning.

In my opinion, I did not succeed in creating at TDS setup during the first fieldtrips. The devolution was confusing, and did not become the central part in the didactical contract (Brousseau & Warfield, 2014). This bad start influenced the following online teaching. After some trial and error, the students got confident with the exercise, and the experience is something that I will incorporate in coming courses.

The exams showed that the ILO's did reach the students. If the result was due to hard studying or the teaching, I cannot say. This goes also, as to what extent the ILO's was truly, internalized and institutionalized, and the question remain unanswered?

Reflection and Perspective

In the start process of writing this assignment, I discussed the project with my internal UP supervisor Sandra Gentin. Her advice was to focus on what happened during this spring, how we handled the crisis, and try to relate to the literature. Due to general stress, teaching on a day-to-day basis was a fact, and unfortunately, systematics skipped.

In the future I'll go deeper in to this field exercise of active involving students in training central competencies as a Forest and Landscape Engineer, but also as a give students a deeper understanding and learning of their future profession. I'll focus on a carefully designed TDS setup, assuring the didactical contract.

I didn't reach my the goal of my dreams as a teacher this spring – but I learnt lessons that will make it come closer in the future.

References

- Brousseau, G., & Warfield, V. (2014). Didactical contract and the teaching and learning of science. *Encyclopedia of science education*, 1–7.
- Hounsell, D., & Hounsell, J. (2007). 7 teachinglearning environments in contemporary mass higher education. In *Bjep monograph series ii, number 4-student learning and university teaching* (pp. 91–111). British Psychological Society.
- Illeris, K. (1999). Læring: Aktuell læringsteori i spændingsfeltet mellem fiaget, freud og marx.
- Illeris, K. (2003). Towards a contemporary and comprehensive theory of learning. *International journal of lifelong education*, 22(4), 396–406.
- Prince, M. (2004). Does active learning work? a review of the research. *Journal of engineering education*, 93(3), 223–231.