How to use social media and embark in collaboration - Student Involvement in Problem- and Project-Based Learning

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Exploring Spaces for Learning

Agenda of presentation

How does new technologies and the traditions of problem- and project-based learning challenge teaching practices at universities?

- Students' innovative ways of applying new technologies
- Designing students' activities in a problem-based learning environment
- Our understanding of problem- and project-based networked learning
- The necessity of information literacy
- A teacher's roles as a supervisor

ICT as a challenge to teaching and learning practices at universities

On the use of ICT in university teaching:

"ICT has penetrated tertiary education, but has had more impact on administrative services (e.g. admissions, registration, fee payment, purchasing) than on the pedagogic fundamentals of the classroom"
(OECD, Centre for Educational Research and Innovation, 2005, p. 15)

- The rapid introduction of course management tools or e-learning platforms have the risk of actually *reducing* the impact of e-learning on the teaching practice, because it is almost too easy to transfer the existing standard teaching materials to the web.
(Zemsky & Massy, 2005, p. 48)

Our main case: A vocational Master's Program on ICT and Learning (MIL)

The MIL program is a two-year part-time program for professionals, which each year attracts 30-40 new students, from all areas of Denmark.

It was established in the year 2000, and is offered jointly by four Danish universities.

The program combines on-site seminars with virtually organized online periods of course activities and project work.

The MIL program is based on a concept of problem- and project-based learning.

Students' innovative ways of using IT

From our 12 years of teaching and supervising at the MIL program, we have seen students involving various digital media in their learning processes.

- for communication, enjoyment, sharing, construction of knowledge

- in innovative ways, not always anticipated by the teachers

Virtual spaces of a student group

- shared writing (as in GoogleDocs)

- shared file archive

- facebook group

- discussion board(s)

- tag cloud

- group calendar

- skype meetings (audio, text, video)

- combined spaces (as e.g. Connect)

- sharing references (as in Zotero)
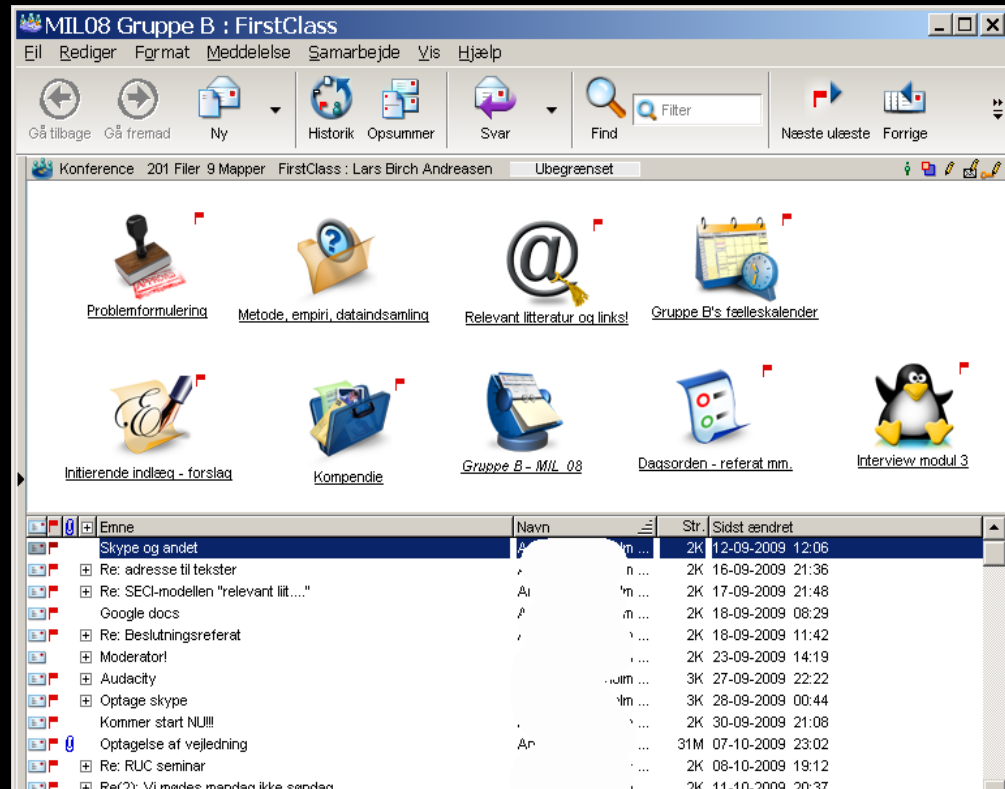
Example of a student group's use of their space in a virtual learning environment (FirstClass)

This can take place in the Learning Management System (LMS) of the University; or in social media of the students' own choice.

A creative use of Skype

Five MIL students in a group living across Denmark

In the morning sitting at each their own desk, working on their shared project

Opening a Skype audio session

They keep on working, hearing each other writing, leafing through a book, pouring coffee

Sometimes asking out a question, having a short discussion, then going back to work

Using Skype not for traditional meetings, but as a shared informal space (a shared office online)

A study environment for their shared practice

Integrating student activities – a case

- A third semester course (at the MIL program) on ICT and Learning in Organizations, with a two-day on-site seminar and two months of activities online.

- The course was based on virtual dialogues and collaboration on small projects, with a goal of knowledge building among the participants.

- In the virtual dialogues, students had the task to com-ment on each other's contributions, and theoretically reflect experiences from their everyday practice.

- An emphasis on meta-learning: - What insights did they achieve? - How did they learn during the process? - What will they do otherwise next time?

Students as co-designers

- During the course, the students participated individually in the online discussions.

- But before these discussions took off, the students were involved in planning the actual content of the online discussions.

- They worked in groups to discuss what specific themes should be taken up at the course. Each group would formulate an opening question on a specific topic to invite the other students to elaborate and discuss.

- Thus, instead of the teacher as the sole designer, the students were involved as active co-designers.

What characterizes problem-based learning (PBL)?

"[P]roblems are presented to students at the start of the learning process rather than after a range of curriculum inputs." (Barrett & Moore 2011: 4)

The teacher finds and decides the problems with which the students can work. "Problems" can be a scenario, a dilemma, or a case; a trigger to puzzle or challenge the students.

The goal is for the students to learn to be able to deal with real-life problems.

What characterizes problem- and project-based learning?

This approach has a higher emphasis on the students' responsibility for the learning process, often characterized by collaborative project work in groups.

Starting point: A student group chooses a topic or a problem to investigate, that represents a challenge.

First and important task is to define this specific problem as a research question.

In the project work, the students then investigate this research question in an interdisciplinary work using relevant methods and theories.

Students' project work

Teachers are involved in the process as supervisors, in various kinds of interaction with the students.

Group & project work increases students' motivation and their real-life competences (Frank & Barzilai 2006), but it also may involve contradictions and challenges.

To solve conflicts are an integral part of the learning process.

Challenges in students' project work

The processes of dialogue, discussion and negotiation may be laborious.

"The learning process may take the form of coming through a crisis, in which the learner struggles for a certain length of time with a problem which is of urgent subjective importance" (Illeris, 2004, p. 58).

This sort of 'crisis' is exactly where important learning may happen for the students.

But If the frustrations get too big, it may affect the group collaboration.

Information literacy

Information literacy as part of students' general study competence
- – working together, making decisions, share and coordinate work, search and select information, plan, manage and evaluate projects
- – Students have to be both independent and interconnected

Being information literate is to be able to reflect on your knowledge in relation to new developments and challenges

One important part of this is knowing how to search and select information …

Information literacy

But a crucial step precedes this: Before being able to search, you must realize that you have a need for new information or knowledge
    - This is often forgotten in traditional library courses

There is a need to develop the traditionally abstract and technical library courses in a way where they integrate the students' project work during the course

Student reflections on supervising

In the meta-reflections at the course mentioned before, a student pointed out a balance for supervisors between outwardly pushing and patiently waiting:

"The ideal supervisor is a person that understands how 'to feed', but also to hold back, in order for the expertise of the group to unfold."

(Student, 3rd semester, 2009)

Being a student and a supervisor

Another student reflected on being a student in the program and a teacher/supervisor in her daily life:

"It's just so strange that we often as students at MIL do all the mistakes that we tell our own students not to do! For example, I always want to send the whole pile of papers to our supervisor, 'just to hear that we are on the right track'. (..)
[A]s a supervisor you are in contact with many students, and cannot read half-finished drafts all the time, where you almost have to guess what the student thinks."

(Student, 3rd semester, 2009)

Roles of a supervisor

- the traditional role as an academic expert on a subject

- as a process-oriented supervisor, focusing on project-related methodological aspects, by stimulating discussions and supporting integration of the students' empirical material and theoretical positions

- as a social mediator among the group members, e.g. when conflicts arise.

All three roles may be in play and change over time, and may be differently supported online.

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