Scaffolding Teachers Integrate Social Media Into a Problem-Based Learning Approach?

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Abstract: At Aalborg University (AAU) we are known to work with problem-based learning (PBL) in a particular way designated "The Aalborg PBL model". In PBL the focus is on participant control, knowledge sharing, collaboration among participants, which makes it interesting to consider the integration of social media in the learning that takes place. In this article I would like to depart from the use of this pedagogical model, which integrates social media. The article will look at a learning design model, which could be a spring-board scaffolding teachers at AAU in their pedagogical approach to learning design when combining the PBL approach with social media or web 2.0 activities or/and technologies. With regard to the discussions about PBL, three important characteristics of PBL can be extracted; the problem, the work process, and the solution, which can be used to distinguish between various theoretical and practical constructions of PBL – regardless initially of whether it is collaborative or cooperative. The three dimensions can then be thought of as stretched between two ends of a continuum between teacher and participant control. These fundamental questions of ownership and control seem also to be more generally applicable in relation to wider debates about social media and learning. The learning design model is based on the collaborative eLearning design (CoED) method. The CoED-workshop methodology aims to support the design of targeted networked learning. The method scaffolds the design work of practitioners and has been developed and tried out in a number of different settings. Drawing on knowledge and theoretical concepts within the fields of design, systems development and collaborative learning, emphasis is on bringing focus and structure to the early stages of the design process. The method aims to develop design specifications and/or early prototypes within a few hours of starting work. In order to achieve one of the objectives of my PhD, I aim to further developing and elaborate on this method, which hopefully will lead to a pedagogical design method scaffolding teachers in their learning designs, taking into account the PBL approach and integration of social media and web 2.0 technologies. This article will be based on theoretical and methodological considerations within PBL, social media and web 2.0 technologies, together with learning designs trying to illustrate a pedagogical design model scaffolding teachers in their learning design when integrating social media and web 2.0 technologies into the PBL approach at AAU. The method has been tried out at the Faculty of Social Science, AAU during Spring 2011 and the article will present some of the preliminary findings in this.

Keywords: social media, web 2.0, PBL, learning design, CoED

1. Introduction

At Aalborg University, we are known to operate within a problem-based learning (PBL) or problem oriented project pedagogy (POPP) approach to what we call "the Aalborg PBL model" (L. Dirckinck-Holmfeld 2002; Anette Kolmos et al. 2004). Originally, this Aalborg PBL model had it historical roots in critical theory and, in particular, in the work of the German philosopher and sociologist Oskar Negt (Negt 1971). Negt's work gained a lot of interest in Denmark and problem oriented project based learning (POPBL) was developed from this inspiration. It has been expanded in different ways from the early days at the beginning of the 1970s, when it was implemented both at Roskilde University Center (RUC) and Aalborg University (AAU) as a framework for learning. (L. Dirckinck-Holmfeld 2002; Anette Kolmos et al. 2004) It's still expanding in different directions as lots of initiatives are forming new ways of engaging in the PBL or POPP approach. At AAU we are trying to gather all of these experiences and ways of engaging PBL in a PBL Academy[1].

The PBL approach in the Aalborg model is distinguished from the more traditional understanding of PBL with regard to its fundamental principles. The fundamental principles within the Aalborg PBL model, within the theme of a semester, build on the meaning of negotiation in relation to the formulation of an explicit problem and the enquiry into problems. A semester lasts for half a year (5 months approx.), and each semester has a defined theme or framework as part of its plan, in which both course work and project fieldwork have to feature, each accounting for 50% of the allocated time. Furthermore, the courses are intended to underpin the theme or framework of the semester for the students to substantiate theoretical argumentation into their shared project report. The groups are assessed or evaluated on basis on their process and substantiation on theory in the final project

[1] The PBL Academy at AAU - http://www.pbl.aau.dk

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examination. The final examination at the end of each semester is based on both a group exam and individual exams on the shared project work. The project work and the definition of the problem are built on the students' curiosity and their wanting to find answers to the problems or hypothesis they have formulated themselves within the theme of the semester. The curiosity, wonder and inquiring approaches of the students are important, because they contribute towards a high degree of ownership and engagement in the learning process together with what you might call student control or learner self navigation. In the Aalborg PBL model, the approach is reciprocally binding in that the students in groups define a problem, then undertake research in the problem field and finally prepare a shared report accounting for the findings. Groups are generated on negotiation among the students on topics inside the theme of the semester and further based on shared interest in the problem negotiated. The process of generating the groups takes place among students themselves facilitated by the teachers, and the process often takes one or two days, where topics are presented, negotiated and problems formulated. Groups are often of variable size. In courses PBL is represented in different kinds of activities that to a higher extent are teachers controlled. From this perspective, the Aalborg PBL model can be seen to be very much a learner active and collaborative pedagogy, which requires interdependency between participants in the learning situation, together with motivation, support and facilitation both in project work and in courses from the teachers in the learning process. (Ryberg et al. 2006; Anette Kolmos et al. 2004; A. Kolmos et al. 2008).

The important perspectives in PBL agreed by the authors are, for example, the design of the problem, who formulates the problem and who is responsible for the major decisions in relation to the problem solving process (teacher or participant directed). Also, they highlight the importance of experienced learning, where students build on their own experiences or practices, and the notion of learning through active engagement in actual practices or real-world problems involving research activities, negotiation of meaning, decision-making and shared writing. In addition, some stress the principle of inter-disciplinarity, which is related to the principles of problem orientation, and participant directed processes, as the solution of problems can exceed traditional subject-related methods and boundaries. There is also an argument that group work and collaboration are important principles in supporting the meaning of negotiation in, for example, the Aalborg PBL model, though other authors argue that PBL can be more individualized, but in general they also point to differences in the understanding of collaboration, and the way in which students are mutually interdependent. (L. Dirckinck-Holmfeld 2002; Anette Kolmos & Graaff 2003; Savery 2006; Savin-Baden 2007).

Although the problem-oriented, project-organized learning approach has been successful at Aalborg and, as mentioned above, over years has proved to work well, there are also reservations about the full use of this approach.

1.1 Research objectives

In my research, I would like to bring this into focus by looking at the learning possibilities when integrating social media/web 2.0 technologies and/or activities in a PBL approach. I will claim that social media and web 2.0 provide an interesting perspective, looking at factors such as collaboration, student activity and participation in PBL. During my research, I have found that it is important to scaffold teachers in the design or redesign of learning practices, and, in addition, when integrating social media/web 2.0 into their learning practices.

2. What is social media/web 2.0?

As indicated above, looking at PBL and the possibilities for students being active, participative and collaborative makes it interesting also to look at social media and web 2.0 and I would like to begin by defining web 2.0 and learning in order to identify the crossover between the two. Crook et al. (2008) in a Becta report mention different reasons why web 2.0 technologies could potentially benefit current teaching practices. Firstly, young people are already using web 2.0 technologies in different settings, so far mostly private. Secondly, web 2.0 activities are understood to be important from a theoretical learning perspective (Crook et al. 2008, p.29). Particularly qualities such as the centrality of participation, production, dialog, and collaboration make web 2.0 activities ideal to actively engage learners, individually as well as collaboratively. Thirdly, there is a match between current policy and curriculum goals where terms, such as “enterprise 2.0 reflects web 2.0 technologies” are also important in the modern economy (Crook et al. 2008, p.72). Finally, the user-centered focus of web 2.0 activities supports users in creating and maintaining connections between formal as well as informal learning arenas (Dohn 2009, p.344).

But how do we actually define web 2.0? While a multitude of partly overlapping definitions of web 2.0 exists, I have identified two more overarching perspectives or ways of understanding web 2.0, and ways in which it has been practiced, e.g. Anderson defines web 2.0 as:

> *(...) a group of technologies which have become deeply associated with the terms: blogs, wikis, podcasts, RSS feeds etc., which facilitate a more socially connected web where everyone is able to add to and edit the information space. (Anderson 2007, p.5)*

From this definition, web 2.0 is understood as a set of technologies, but also as a range of activities with certain characteristics, therefore one can distinguish between web 2.0 *technologies* or *resources* as, for example, blogs, microblogs and podcasts and web 2.0 *activities* or practices, such as blogging, podcasting, and micro-blogging. This distinction has been further explored by Dohn (2009) who has defined web 2.0 as a range of activities or practices, rather than technologies characterized from issues such as collaboration, distributed authorship, openness, activity, lack of finality, based on the internet, etc. (Dohn 2009, p.345).

With the distinction between technology and activity it is important to emphasize that using a blog, for example, as a *technology or resource* in teaching does not necessarily make it a web 2.0 *activity*. Rather this involves engagement with the practices or values mentioned above, and thus entails more than merely employing a particular technology. However, I agree with Dohn that "a web 2.0 activity" is a matter of degree, meaning that an activity does not have to be characterized by all of the points in the list above (except the last one which Dohn argues is a necessary condition (Dohn 2009, p.345).

Dealing with a practice perspective on web 2.0, Dohn stresses that it is not technology in itself, which is important but the skill-relative affordances it poses for the learner. In relation to this it is important to note that skills and affordances develop from the skills of the learner and the practices s/he is already engaged in, and the understandings with which s/he agrees (Dohn 2009, p.347). Consequently, to design web 2.0 mediated learning Dohn argues that one should build on existing practices and skills and make them more web 2.0 oriented (Dohn 2009, p.348). However, there are tensions between educational practice and web 2.0 practices at different organizational levels, which it is also important to address. In an educational practice it is expected that everybody contributes equally in, for example, group work, but in a web 2.0 practice there is an unequal division of labor, and it is possible to be what one could call a "free rider".

At AAU, where collaborative group work is an important factor in the pedagogical approach, this issue could be of importance in addressing learning design based on web 2.0 technologies. Another tension is assessment; whereas in assessment teachers and examiners are represented, in web 2.0 practices it ought to be the users themselves. It is an interesting thought, but, so far, not really realistic in educational practices. Furthermore, we need to decide on the parameters within which to assess, e.g. product vs. process or participation vs. content. It might, however, be possible to assess both, but it is important this is clearly communicated to the learners.

Overall, one might add that the shift from web 1.0 to web 2.0 within an educational context can be characterized as a shift in participant control in relation to different aspects of the learning activities. Curriculum-based strategies normally designated as *teaching*, aim to provide the student with a relatively fixed amount of agreed knowledge, with a focus on content, teacher control and instruction. Problem-based strategies normally designated as *learning*, on the other hand aim to provide the student with abilities to acquire knowledge appropriate to problem solving.

In the Aalborg PBL model the focus is on participant control (Bygholm & Buus 2009), which also could illustrate that a transition from curriculum-based teaching to PBL entails a movement from a teacher-centered approach to a more learner-centered approach (Jones & L. Dirckinck-Holmfeld 2009; Ryberg et al. 2006). Further, this move in many ways could be compared to the conceptual move from web 1.0 to web 2.0, and again some see this as a transition from "users/learners as consumers" towards "users/learners as producers" (Redecker 2009). Conole (2007) identifies this transition as part of three broader shifts, which are related to an emerging interest in the social potentials of technologies, partly due to the emergence of web 2.0 technologies. In essence, this suggests that there are three fundamental shifts: a shift from a focus on information to communication, a shift from a passive to a more interactive engagement, and a shift from a focus on individual learners to more socially situated learning (Conole 2007, p.82).

2.1 Combining PBL and social media/web 2.0 into ”web 2.0 mediated learning”

As stated earlier, PBL is a student-centered pedagogy, focusing on students being active and collaboratively contributing to production of knowledge through engaging with real-world problems/cases. Although there are differences in how PBL is carried out in practice, one can also find some general traits which involve research and empirical activities, often in collaboration with peers; i.e. that problems are the starting point for the learning process; that students should build on their own experiences and learn through active engagement primarily within real-world problems (or cases). Numerous PBL scenarios may be developed for different settings. However, one of the central aspects identified in research about PBL, is how power is distributed between teachers and students across three dimensions: the *problem*, the *work process*, and the *solution* (Ryberg et al. 2010). Taking these three aspects into ones reflecting in the design of learning practices scaffolds teachers or course-designers in developing PBL practices, which are congruent with new learning practices and institutional demands.

Some of the core concepts associated with the definition of web 2.0, such as collaboration, participation and sharing, are well aligned with PBL. As stressed earlier, I find it useful to distinguish between web 2.0 as a range of technologies (e.g. blogs, podcasts, wikis) and web 2.0 as particular practices or activities (e.g. blogging, podcasting, collaborative writing). This distinction is emphasized in that employing a web 2.0 *technology* does not necessarily entail pedagogically innovative web 2.0 *practices*. For example, a teacher may create a blog and then use it only to disseminate information to students, not allowing students to write or comment. Therefore, web 2.0 learning is not only about using particular technologies, but equally about the degree to which teachers adopt more student-centered, participatory or collaborative practices.

Consequently, it makes good sense to connect web 2.0 with a problem-based approach to learning, but at the same time, new tensions and challenges arise. Particularly questions concerning power distribution between students and teachers become pertinent when combining student-centered pedagogies and web 2.0 learning practices. Glud et al. (2010) undertook some research within web 2.0 mediated learning taking point of departure in the aspect of power in PBL settings and mapped such tensions across four central dimensions, which practitioners can use to reflect on their design and values (see Figure 1):

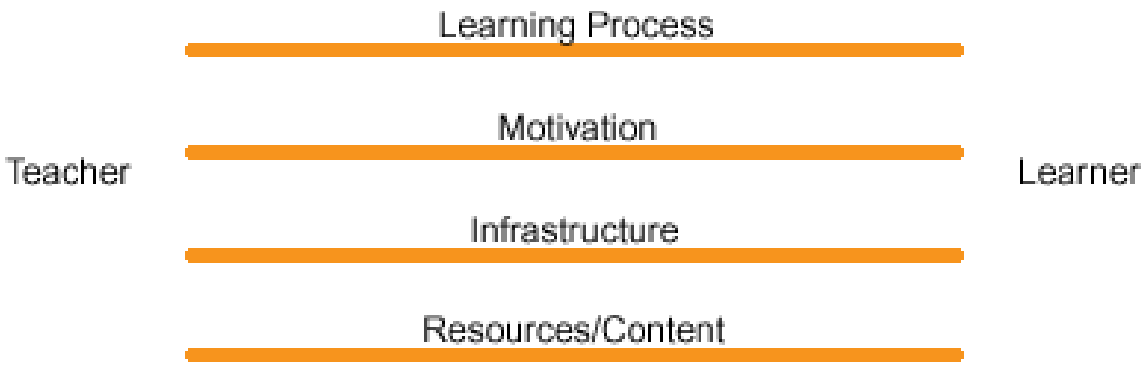

Figure 1: Web 2.0 mediated learning tensions between teacher and learner

The line between teacher and learner at each tension illustrate the possibility to slide between these considering the relation of power or control within each of these tensions. Taking these four dimensions into consideration can provoke questions in relation to who controls the flow in the learning process, e.g. should students be self-directed learners, who defines the problem to be investigated, who decides which web 2.0 technologies/activities to use, what is the position on copyright in a web 2.0 sphere, etc.? When adopting student-centered pedagogies and web 2.0 practices, it is increasingly important to reflect and decide on such issues of control or power when designing for learning. These aspects are more often employed in informal learning settings, in intra-organizational training or for purely social purposes. I believe that questions similar to the before mentioned are to be addressed when designing web 2.0 mediated learning environments; different answers may be given depending on the different learning settings and goals.

3. Implementing a Collaborative eLearning Design Method (CoED)

Designing for web 2.0 mediated learning taking into consideration different aspects of control and what kind of web 2.0 based activities and/or technologies could underpin the PBL approach I will claim that some kind of method are needed to scaffold the teacher in their learning design process. As part of my research, I have been conducting a design workshops based on a Collaborative e-Learning Design Method (CoED) inviting teachers for a dialog about web 2.0 mediated learning activities within the frame of PBL and integration of social media/web 2.0 technologies into their learning practices.

The CoED-workshop methodology aims to support a collaborative design process among experts within their different domains, qualification levels and subjects, respectively. Emphasis in this method is on bringing focus and structure to the early stages of the learning design process, scaffold the different domain experts in sharing ideas, knowledge and inspire and further the method aims to concrete develop design specifications and/or early prototypes within a few hours of work (Georgsen & Nyvang 2007; Buus et al. 2010). One notion from experiences among researchers using this method is that the usability of the early prototypes depends, of course, on several factors, as I further will touch upon in this paper, but first I intend to describe the method.

CoED is a common methodological framework drawing on research in three important research fields.

> *"Systems development – because we design (for) information and communication technology" (Georgsen & Nyvang 2007, p.5).*

Theoretically, development of the design tool draws on inputs from systems development stressing the importance of working in non-linear ways and rapidly producing tangible designs (Beyer & Holtzblatt 1997; Dahlbom & Mathiassen 1993).

> *"Collaborative learning – because we design for learning and learn in the design process" (Georgsen & Nyvang 2007, s.5).*

From the theory on collaborative learning, CoED builds on an understanding of learning as a form of practice, which involves negotiation of meaning, and where active participation becomes critical (Wenger 1998).

> *"Facilitating creative processes – because the aim is to develop something new" (Georgsen & Nyvang 2007, s.5).*

Within the domain of facilitating creative processes, the methodology incorporates well-known elements within design and systems development, such as card sorting and future workshops (Kensing & Madsen 1991).

In overview, the methodology takes participants through three phases in the design process which 1) leads to clarification of the philosophical, pedagogical and educational values underpinning the design; 2) assists the participants (learning designers) in choosing the appropriate blend of technologies, learner and teacher activities, and learning materials or resources; and 3) makes it possible to produce rapid prototypes using low tech materials and all within a short period of time.

The CoED design methodology has been developed, used, evaluated and further developed in a variety of educational, institutional and organizational contexts. In expanding the method into different contexts, a range of challenges and issues in relation to further development of the methodology has been identified. Among others the challenges of:

- Adjusting the design tool to different domains;
- Supporting and facilitating the process for groups with an unbalanced mix of pedagogical, technological and domain or content related expertise;
- Successfully communicating the results of the design workshop to relevant actors to enable the developed prototypes to be carried out in the learning practices of participants;
- Challenging the beliefs of both experienced and inexperienced practitioners to pave the way for change; and
- Make sure about testing and designing for sustainability.

3.1 CoED as inspiration for the workshop design

As mentioned in the earlier section above, the CoED method works by leading participants through three phases in the design process. The method will be part in a workshop design; inspire teachers integrate social media/web 2.0 into their learning practice.

Since 2007 the E-learning Unit at AAU together with the IT-department has been in the process of implementing Moodle as a virtual learning environment (VLE) in several departments of the Faculty of Social Science at Aalborg University (AAU). Moodle is a Modular Object-Oriented Dynamic Learning Environment (www.moodle.org), and the possibilities for using Moodle in different learning practices seem interesting. Further Moodle is building on a social constructivist pedagogical approach, which also encompasses in the PBL approach. Moodle also features some web 2.0 technologies such as weblog and wiki technologies. Considering Moodle as a supplementing technological component in challenging the teachers in designing web 2.0 mediated learning, combined with presenting, importing or using other web 2.0 technologies in their learning practices, challenges their designs for learning. Therefore in Spring 2011, an optional design workshop was arranged for teachers interested in challenging their own learning practices. The workshop was inspired by the CoED method as a kick-off, but I think of it more as a process, taking into consideration the issues and challenges identified using the CoED method.

In the following I will describe the intentions within the three phases, and following how I used the method in a design workshop with invited teachers from the Faculty of Social Science at AAU.

In *phase I* of the design process, the idea is to focus the design activity in relation to the overall approach to and understanding of learning, domain, and technology (Georgsen & Nyvang 2007). In the workshop I, as facilitator will invite different domain experts to present to the participants the key issues in pedagogical design of, for example, web 2.0 mediated learning. This is done to focus the attention on the philosophy of the design, which concerns (Georgsen & Nyvang 2007):

- The understanding of learning (with ICT)
- The understanding of the domain (learning practice), and
- The understanding of PBL and web 2.0 activities and technologies and the role they play in both the design and learning processes together with the continua for web 2.0 mediated learning.

As earlier mentioned, the characteristics of web 2.0 based activities fit well with a learning approach based on PBL. Therefore, the focus in this first phase related to the aim of designing for web 2.0 mediated learning intended to lead the participants to an understanding of PBL and different kind of web 2.0 technologies and activities for them to further exploit these in the actual design. The intention here was to brush up on the Aalborg PBL model and PBL in general, so as to focus on learning. In addition there was a presentation of web 2.0 technologies and possibilities within activities, both experienced and hypothetical, researched and analyzed.

In *phase II* of the design process, the goal is to discuss and identify the overall values and principles guiding the design by using a card sorting method (Georgsen & Nyvang 2007). One approach is iterations where the participants prioritize pedagogical value cards into groups of: 1) the most important, 2) the important, 3) the less important, and 4) the unimportant. During the iterations of card sorting, it is important that participants have the opportunity to discuss the chosen teaching/learning values by reflecting on questions related to the four continua: *the learning process, the motivation, the infrastructure (e.g. the system) and the resources/content*. The continua was presented in the first phase, not directly presented to the participants in this second phase, but the intention was that the continua also were built into the design of the particular cards used. In the preparation phase before the workshop I hopefully thought the participants through these discussions would discover the consequences of the learning approaches, while at the same time making it possible to see which dimensions in relation to web 2.0 related to their own learning practices they needed to consider. Moreover, the phase would help the participants sort out contradicting cards. In this way, answering the questions might help focus the process towards choosing the final learning values.

In *phase III* the focus is on developing a detailed learning design building on the values and principles prioritized in phase II. In this phase the participants are divided into two or more groups or design teams depending on the number of participants. For this phase, there will be a facilitator asking critical questions supporting the group in formulating a design (Georgsen & Nyvang 2007). It is important to

focus on the chosen values and bear in mind the questions relating to the four dimensions (Glud et al. 2010). To guide the dialog with regard to the more detailed design, participants will be working with a set of cards illustrating three factors relevant for pedagogical, technical and domain-related issues: *resources*, *activities* and *infrastructure* (Georgsen & Nyvang 2007, s.11). A considerable proportion of these cards will represent the tensions, concepts and models identified in an earlier project dealing with PBL and web 2.0 (Glud et al. 2010; Ryberg et al. 2010), e.g. possibly "student owns problem" or "teacher owns solution". Based on these descriptions, designers could work to transform user practices and experiences with domestic and recreational use patterns into new educational practices.

As mentioned one of the challenges identified throughout other projects using CoED are the lack in testing the design and the sustainability of the results gained in the workshop. Therefore, it is necessary to bring the scaffolding of the teachers further in the complexity to transform the developmental ideas established in the workshop into an actual learning practice. This process is not part of the CoED method as such, but it will constitute a maybe essential extension of the method. Therefore regarding my research I extended the method to also deal with the transforming process after the one-day workshop. Following up on the design ideas developed during the workshop and from that start the modifications in the teacher's individual learning practices.

More specifically, the extension will involve taking part in the process after the one-day workshop by following up on the design ideas or maybe only one particular activity from the learning design developed during the workshop and helping the teachers implement and cope with modifications in their individual teaching practices. This should provide the necessary scaffolding for the teachers.

The empirical investigation in my research tends to utilize data collected whilst following the CoED extended process in both real life and virtual settings. In addition, individual interviews will be conducted; primarily with the teachers, and secondarily with a number of students in order to get their perspective on participating in web 2.0-mediated educational activities.

3.2 Preliminary results from the workshop and in the resulting scenarios

The kick-off workshop was established in Spring 2011 and from invitations sent out to teachers (approximately 160 people) at Social Science, AAU twelve people assigned for participation in the workshop, whereas only seven attended on the workshop day. The intention was to promote teacher awareness of web 2.0 activities and facilitate them in such activities into their teaching practice. Participation was voluntary as was participation in the extended process illustrated in Figure 2.

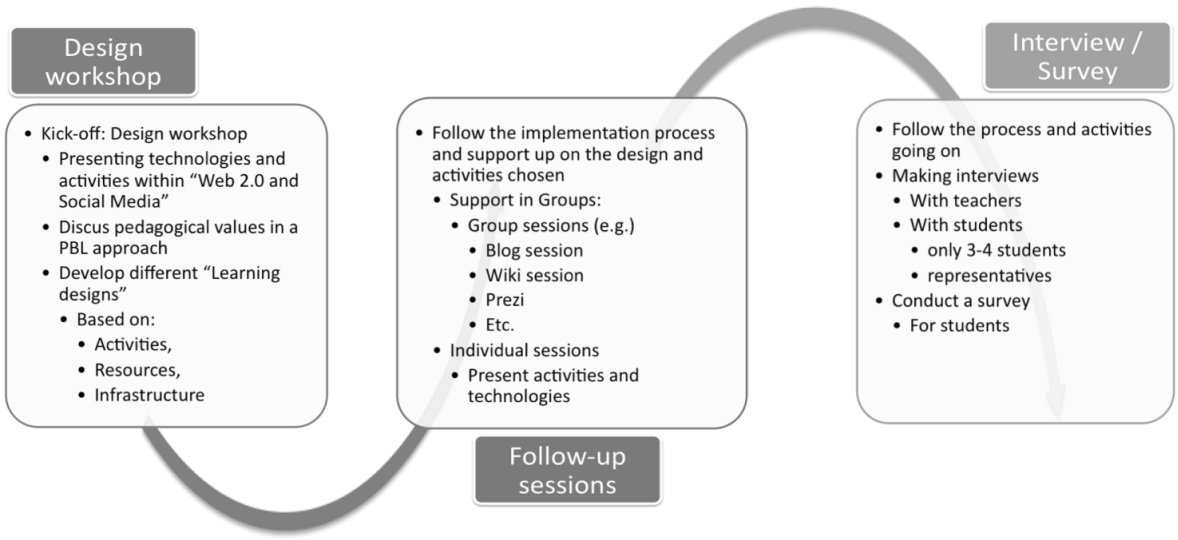

Figure 2: The flow in the empirical investigation.

In the first phase participants were presented to different perspectives and considerations in web 2.0 mediated learning, the four continua, and different web 2.0 technologies. Further they were presented to some web 2.0 based activities and research-based experiences integrating this into a learning practice. The participants all had experience with the PBL approach used at AAU. For the second

phase the participants were divided into four groups during the first iteration on negotiation of pedagogical values and methods and merged into two groups for the second iteration. The two groups from the second phase continued their collaboration in the third phase where they discussed a learning design for an actual course. The result from the kick-off workshop was two different designs based on the same case consisting of existing courses. The designs reused some of the activities already integrated into the existing courses, but also integrated new ideas based on web 2.0 technologies and web 2.0 based activities; like the usage of a blog for students dialog, YouTube for video presentation, students rating each others post or assignments in a forum, and so on.

Based on the dialog and ideas formed at the workshop three teachers assigned for further collaboration on activities based on social media or web 2.0 activities they intend to integrate in their learning practice. From there three scenarios were developed. For my research I was invited to follow all three scenarios in order to further investigate teachers' use of web 2.0 based activities in educational settings. The first two scenarios were conducted during Autumn 2011 and the third one will be conducted during Spring 2012. Further I was supporting the teachers in different ways with technological issues, pedagogical guidance and presentation of web 2.0 tools for educational purpose. My methodological approach induced within the field of action research (Zuber-Skerrit & Fletcher 2007). The scenarios all take place in a blended learning environment subsidised by the Moodle e-learning platform and where the use of web-based tools are used to complement lecture time.

In one scenario, the teachers seek to integrate a blog into their lectures to support the students in collaborating and sharing work among their groups connected to the lecture content. This is done during the lectures as a learning experience for a final two-day workshop where the groups have to apply different theories to the same case and discuss these theoretical issues on the blog. By contributing their different case analyses to a collaborative platform, the differences between the theoretical approaches (and their practical implications) become perspicuous. Such collaboration potentially is beneficial for all students. The aim of the lectures was to practice such a collaborative approach and thereby support the students in gaining an understanding of what knowledge sharing means. In this scenario, the teachers needed to deal with around 140 students divided into two teams for their lectures. In the theoretical workshop, all students were present in a joint workshop session during a two-day period.

The second scenario actually consisted of two activities in parallel. In scenario 2a, unlimited supervision in relation to a small group project within the course is offered to the students, provided the supervision takes place using a blog/forum/group feature which supports sharing and collaboration among students. The class voted for where the supervision should take place, and the outcome was that a Facebook group was established for supervision. The following was posited by the supervisor/teacher as prerequisites for getting supervision from the supervisor: 1) The students should use the Facebook group created and 2) At least one of the fellow students should try to answer or give good ideas before the supervisor gave his feedback.

Scenario 2b was giving the students a presentation to two web 2.0 tools for sharing and collaboration, which could support them as a whole group and as smaller groups in sharing and collaborating. As part of this scenario, I was asked to give a short presentation on the web 2.0 tools illustrating the ability of integrate and use these in educational settings for collaboration and sharing in project work and lectures. The tools presented were Diigo (a social bookmarking tool) and Zotero (a social reference tool) as two tools among others similar tools, they could benefit from in their collaboration both in courses and project work but also as individuals. This group of students are coming with many different educational backgrounds, as 2/3 of the students are international students attending this master class. The group counts 67 students in total. This course is a five-week intensive course finalised with a group report based on collected data from a questionnaire.

The third scenario deal with students being able to ask questions or comment on theoretical questions and issues coming up during lectures using a same time web 2.0 tool called Etherpad[2]. This activity is going on during the course and gives the teacher a view of where the students have issues related to the theories or methods introduced during lecture. This scenario will as mentioned earlier take place

[2] http://ietherpad.com - is a web 2.0 based tool given multiple people the possibility to edit the same document simultaneously, any changes are instantly reflected on everyone's screen. The tool is to be used as way to collaborate on different kinds of documents, etc.

in a course during Spring 2012, and therefore no further data from investigating this can be presented.

As the collection of empirical data has just terminated which is why only preliminary results are available based on informal dialog with the teachers. From the first scenario the teachers has stated that the setup for this activity only was possible due to the support with the technical issues and the collaboration with the researcher about ways to go about integration of web 2.0 based activities. Time is also a factor to consider when designing the activity, but the benefits seen from a students perspective to some extend compensate for this. In the second scenario the teacher expressed a great satisfaction in the way this activity proceeded, but also stated that for the next setup there needed to be more facilitator engagement by e.g. contributing with methodological and theoretical questions for establishing discussion and dialog in the groups and among the students.

4. Conclusion

In this paper, I tried to raise the question "How can teachers integrate social media/web 2.0 into a PBL approach?" and "What is needed to scaffold teachers in doing this?" focusing on investigating the learning potential as part of my research question. The intention has been to present a design model or method, scaffolding teachers in integrating social media/web 2.0 into their learning practices. I have tried to illustrate and discuss important considerations in the design process, together with arguing that integrating web 2.0 technologies (tools) and practices (activities) into a PBL approach makes good sense, as the main interpretations of social media/web 2.0, highlight more social, student-centered, collaborative and production-oriented pedagogical strategies, which align well with most interpretations of PBL.

One important thing I have identified is the importance of actually making teachers aware of new possibilities in ones learning practices with integration of social media/web 2.0 and the technological challenges teachers face. Further the tension between educational practices vs. social media/web 2.0 practices, which could have a great amount of influence on the design and the use of social media/web 2.0 in a learning practice.

Implementing Moodle at the Faculty of Social Science as its VLE already entailed new learning practices for some teachers and there are already technologies in Moodle supporting web 2.0 activities. However, the teachers do not use these possibilities, which I hoped to challenge further by offering a workshop followed by individual incentives. It is important to scaffold teachers in the learning design, development and implementation of these changes and modifications in their learning practices. Former research and experiences in, for example, using the CoED method have shown that one hurdle is the successful communication of the results of the design workshop to relevant actors, and the bringing of the design into a sustainable learning practice. I have chosen to elaborate on the design workshop method by doing action research and intervene in the teachers' integration of web 2.0 mediated learning activities. I follow the process and evaluation of the learning potential in implementing and using social media/web 2.0 by doing interviews and questionnaires. So far only preliminary results are available, but they underpin the fact that teachers need scaffolding when challenging their learning practice into integrating web 2.0 or social media mediated learning activities.

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