Student involvement and Facebook, the perfect match?

Job Bilsen

Universiteit Twente
Faculteit Gedragswetenschappen
Master Educational Science & Technology

Begeleiding
Dr. P.H.G. Fisser
Dr. G.J. Gervedink Nijhuis

Abstract

Purpose – The rise of new web technologies (web 2.0) has shifted the way people work and communicate. Not only these technologies are imbued in many peoples lives, they have also attracted the attention of educators. Facebook has become the worlds largest social network with a wide adoption under student population and offers many functionalities that can be used in educational practice. The purpose of this study is to define if Facebook can increase student involvement as this is seen as a strong indicator for learning outcome.

Design/Methodology/approach – The conducted research involves a literature review that defined 8 learning techniques that can be used as practical tools to implement Facebook in educational practice. A case study was conducted analyzing the used learning techniques and their impact on 'student motivation', 'student behavior' and 'student engagement' as these are important constructs of student involvement. The cases study consisted of the analysis of two courses given at the University of Twente. In order to get a clear insight on the effects of Facebook multiple research instruments were used. Structured interviews with educators elaborated on the intention of the use of Facebook and their experiences. A focusgroup interview with educators who did not use Facebook in their educational practice was conducted to define both possibilities and implications to the use of Facebook in an educational setting. A survey under students who followed the course tested if there was an effect between the use of Facebook and the perceived student involvement. An in-depth analysis to the Facebook group-pages was done to measure the impact the learning techniques had on student behavior.

Findings – When taking care of some conditions Facebook could be used in the educational practice to increase student involvement. Results show that learning techniques that placed students in an active role had the most impact on student behavior.

Originality/value – This research combines the findings of several case studies on the use of Facebook in an educational setting. The distilled learning techniques can be seen as practical tools that can be used for implementing Facebook in the educational practice. The conducted case study offers insights on how to increase student involvement with the use of Facebook. As a result of this study a design-guide and tool-guide for integrating Facebook in the educational practice have been designed.

Implications – Due to the small number of respondents in the case study it is hard to generalize some of its results. Also the use of Facebook in both courses had an experimental character and was highly informal. This had implications since not all distilled learning techniques could be tested.

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1. Introduction

This Chapter will give insight into the research area of the thesis. It will also elaborate on the rationales for this research and gives an introduction to the central research questions.

1.1 Background

The rapid development of web 2.0 and Social Network Sites (SNS) have shifted the way people communicate, work and learn (Kaplan & Haenlein, 2010; Levy, 2009). Today's educators are faced with new challenges to involve students in their courses and to create strategies for effective learning (Greenhow, Robelia & Hughes, 2009). The use of SNS in the educational practice has drawn the attention of both educators and researchers since they have been widely adopted under student population and offer many functions that could help increase student involvement. Before taking a closer look on SNS and their benefits regarding the learning process, we will focus the evolution of the web and the thriving forces behind.

Back in 2000 the dot-com crash brought some major changes in the development of the World Wide Web. In the years before the crash many e-companies, of which many had never made any profit, went fundraising at stock markets. Due to disappointing results, a correction on shares of these high-tech companies on NASDAQ stock-exchange took place (Thornton & Marche, 2003), leading to the bankruptcy of many of these e-companies. One of the main reasons of the failure of these e-companies had been the poor business models and the lack of experienced managers since most companies were led by mid-twentiers. Besides the financial aspect, the crash lead to a revision on the way the web functioned until then.

Before the dot-com crash the use of internet was about one-way communication from publishers to end-users or from (e)businesses to consumers (web 1.0). The -com crash led to a new perspective on existing business models and created new possibilities of the web: instead of focusing on large groups, the web became more personal. The term 'web 2.0' was used by O'Reilly to describe a new phase of the internet (O'Reilly, 2005) in which end-users instead of publishers became the center of the web. O'Reilly defined this 'web 2.0' in several principles all having one thing in common: the end-user is placed into a central role using the new technology as a toolbox. This is resembled in typically web 2.0 tools such as (micro)blogs, RSS, Wiki's etc. which share the characteristic that the end-user is having a key-role in creating and sharing content and in organizing networks of people with same interests around them. One of the key factors of the immersive adoption of web 2.0 is related to the development of modern communication technology, that allowed users to connect virtually everywhere and anytime to the internet. The new possibilities of web 2.0 and the rise of the technology resulted in many online social network sites such as MySpace, LinkedIn, Facebook and Twitter (Merchant, 2012). Most of these sites combine different web 2.0 technologies and make it easy for users to create networks or 'online communities' around them. These SNS have become ubiquitous in daily life.

Not only daily life is imbued by web 2.0 technology and especially SNS, it also created a cultural shift in organizations. Where knowledge used to be scarce and kept behind closed doors, web 2.0 technologies make it possible for everyone to access, combine and reshape data anytime and anywhere. According to Glass (1996) many organizations transformed from hierarchic structured to network structured organizations in which professionals, competencies and knowledge plays a central role, web 2.0 can be seen as an accelerator to this process since it facilitates employees to share knowledge at an easy way. In order to be able to deal with these changes employees will need to adapt their learning skills to become life-long learners. In the life-long learning theory networks between peers are very important to ensure the continuous learning process (Crocetti, 2001; Senge, 1990; Simons, 2001). Universities, who prepare students for a career, should experiment with new ways of learning in which these life-long learning skills and network structures between peers play a key role.

Besides preparing students for a career, web 2.0 technologies also can improve the educational process itself. Nowadays educators are looking for possibilities on the use of web 2.0 technologies in education, creating more interaction with their students. According to Uzunboylu, Bicen and Cavus (2011) the impact web 2.0 has on education is due to three main reasons: the exponential growth of knowledge, the increasing popularity of digital culture and the fact learners can learn anytime and anywhere in an online learning environment. This is in line with the affordances of web 2.0 stated by Greenhow et al. (2009) which are: content creation and remixing, interconnections and interactivity. These affordances point out that using web 2.0 technologies in educational practice can make learning more personally meaningful, collaborative and socially relevant and have one thing in common: student involvement.

World's largest social network Facebook has attracted the attention of many educators. Since 2004, when founder Mark Zuckerberg launched Facebook it has grown to a user base of over 900 million monthly active users ("Facebook Newsroom," 2012). Facebook has gained huge popularity under student population. The adoption of Facebook by students is somewhere between 86% and 97% (Junco, 2011). These impressive figures makes educators interested if Facebook could be used to support and improve their educational process and especially student involvement since this is seen as an important predictor of learning outcome. It is therefore important to investigate if and how Facebook in the educational process can contribute to student involvement.

1.2 Motivation for research

The bachelor and master programs "Educational Science & Technology" at the University of Twente, both focus on the pedagogical and didactical aspects of education. Due to the practical nature of both programs and the fact that the use of IT is one of the major focus points in the programs, the instructors of these programs are willing to experiment implementing new technologies in their educational practice.

In September 2011 Facebook has been used during two courses to enhance the communication between students and educators. It was highly experimental and the implementation had an informal character. Nevertheless the experiment showed the possibilities of Facebook as a tool that could be used in education. It turned out to be a tool that made communication with students very direct. On the other side, some of the expected results did not occur and, depending on the group of students, the instructors needed to put in a lot of effort to keep the group page alive.

Educators are searching for ways to implement new technologies and have asked if Facebook is appropriate and if yes, which preconditions should be taken into account for making it successful. Especially this research will focus on the construct student involvement, which is a strong predictor of learning outcome. The theory of student involvement is introduced by Astin, (1984) and relates to the amount of physical and psychological energy a student puts into the learning process. This theory will be further introduced in Chapter 2.

1.3 Research questions
The main goal of this research will be to determine whether the use of Facebook in an educational setting has a positive effect on student involvement and how this can be achieved. This leads to the following research questions:

1. *How can Facebook be successfully integrated in the educational practice?*

Since student involvement is seen as a strong predictor for learning outcome it is interesting to investigate the relation between Facebook and student involvement. Therefore the following sub-questions are defined:

    1a. *What are the core-constructs of Student Involvement Theory and can they be related to the use of Facebook in the educational practice?*

As suggested by Divall and Kirwin (2012) educators should select the right learning techniques in order to get students actively participating in an online environment like Facebook.

    1b. *What are possible learning techniques when using Facebook?*
    1c. *How can these learning techniques be used in order to increase student involvement?*

The theory of involvement states that student involvement contributes to desired learning outcomes. It is therefore important to investigate which of the techniques indicated by research question 1 do increase student involvement in practice. Therefore the second research question will be:

2. *Which of these techniques have a positive effect on student involvement?*

Recently academic educators of the University of Twente used Facebook during two courses. They created a group page for each course for facilitating interaction between students and students and students and educators. To define if the use of Facebook in this cases lead to an increase of student involvement and in order to give recommendations to them on the possibilities of Facebook to increase student involvement a third research question will be investigated:

3. *How can educators of the University of Twente increase student involvement by implementing Facebook in their courses?*

1.4 Scientific relevance

Since the rise of web 2.0 and especially Facebook, educators cannot ignore it anymore. It is necessary to investigate the impact this has to the educational practice and the specific role of educators. Rather than focusing on vague terms like 'motivation' or hard-to-measure 'learning outcomes', this research focuses on student involvement as introduced by (Astin, 1999). By conducting both a literature study as well as a multiple case study a clear insight will be given regarding the basic constructs of student involvement: interaction and participation, or in other words the psychological and physical energy a student devotes to the academic experience.

This research aims at producing the following outcomes:

- An insight of the current status of research to the use of Facebook in education.
- Providing an overview of functionalities Facebook has to offer in educational practice.
- Providing an overview of constraints of the use of Facebook in educational practice.
- An overview of learning techniques and their effect on student involvement.
- An insight in experiences by educators and students on the effect of various learning techniques in Facebook.
- To make recommendations on how academic educators can make a proper educational design in which Facebook is incorporated in order to increase student involvement.

1.5 Structure of thesis

The remainder of this thesis will consist of a literature review in Chapter 2. In this review the Student involvement theory will be introduced. It will also focus on the possibilities of Facebook and the so-called 'learning techniques' that can be used.

Chapter 3 will give an overview of the used research method. Followed by a data analysis in Chapter 4. Chapter 5 will give a practical guide for implementing Facebook in the educational practice based on the findings of the research. Finally the results will be presented and discussed in Chapter 6.

2. Literature review

This chapter will provide the theoretical background of the research domain and formulates an answer to research question 1 and its related sub-questions. In this literature review the rationales behind the student involvement theory will be explained. It will also explore the possibilities Facebook has to offer as an online learning environment and how various learning techniques could be used to increase student involvement.

2.1 Introduction

As mentioned, web 2.0 and SNS, has attracted the attention of educators since it offers many possibilities for creating learner-centred (online) environments (Beldarrain, 2006). For a successful implementation of a learning environment a strong vision on the desired educational strategy is required. In the implementation educators play a key role in the arrangement of various learning techniques in order to achieve the desired learning outcomes. The effective learning environment should be created using different learning techniques to promote social interaction and group learning, as well as by nurturing some degree of a personal relationship with students and educators. The social constructivism framework fits with this approach since it suggests learning usually occurs as a result of social interactions (Firpo, 2012).

Because of its social nature Facebook might be the perfect fit for creating a social constructivist-learning environment that increases student involvement. This is also mentioned by Heiberger and Harper (2008) who point at the involvement students already have on Facebook. They explicitly mention the possibilities Facebook has to offer regarding student involvement theory developed by Astin (1984). Student involvement can be described as the amount of physical and psychological energy that a student devotes to the academic experience and has overlaps with the concepts "motivation", "integration" and "engagement" (Astin, 1999; Sharkness & DeAngelo, 2010). Astin (1984) refers to the Freudian concept of cathexis which means people invest energy in objects and persons outside of themselves. According to him, the behavioral aspects are critical: "it is not so much what the individual thinks or feels, but what the individual does, how he or she behaves, that defines and identifies involvement" (p. 519). Since involvement can be seen as a strong predictor for learning outcomes (Astin, 1999; Berger & Milem, 1999; Tinto, 1997), it is of great importance to find ways to increase this involvement in the academic practice in order to enhance the learning process.

2.2 Student involvement theory

Driven by his exasperation of treating students as a 'black box', Astin developed the 'student involvement theory (Astin, 1999). This theory refers to the amount of physical and psychological energy that the student devotes to the academic experience that is, according to Astin, strongly related to learning outcome. The rationale of this theory is related to three implicit basic pedagogical theories, the subject-matter theory, the resource theory and the individualized (eclectic) theory, which all treat the student as a black box and, according to Astin (1984), all have their implications. These three pedagogical theories will be explained first to make clear why they are deficient, followed by an elaboration of the student involvement theory.

The *subject-matter theory* can be seen as the traditional approach to education has a strong emphasis on course content and relies on a strong intrinsic motivation of the learner. In this theory learners have a passive role while educators are very actively giving lectures (Astin, 1999).

The *resource theory* is based on the principle that if adequate resources are brought together, student learning and development will occur. The two main problems of this theory are that resources are not infinite and that little or no attention is paid to the deployment of resources (Astin, 1999).

If we look at the evolution of the web as described before, both subject matter theory and resource theory do really well fit in the web 1.0 philosophy, since it is all about one-way communication and providing the right content (resources). This conflicts with modern approaches in which student involvement becomes more important.

The third theory is the *Individualized (eclectic) theory*, which according to Astin (1984), assumes that no approach fits all students. Therefore content and instructional methods should be highly flexible to adapt to students personal preferences. The main limitations of this theory are very practical. The individualized theory is expensive to implement because each student requires individualized attention and it is also difficult to specify which types of educational programs or techniques are most effective for which type of learners. While the individualized theory places the student in a central role and seems therefore to be inline with web 2.0 principles, it still does not have a focus on active participation and interaction.

According to Astin (1984) the involvement theory can provide a link to the variables of these three theories and the desired learning outcomes and a conceptual substitute for the black box that is implicit in the three traditional pedagogical theories. The involvement theory consists of five tenets, which can be used to predict and assess student involvement. Heiberger and Harper (2008) added examples to these tenets in order to show how student involvement can be used to

evaluate and examine college student development in the new communication milieu of Facebook.

1. Involvement requires physical and psychological energy invested by the student.
   Since the involvement of student on Facebook is high, implementing Facebook is likely to increase student involvement (Junco, 2011). On the other hand, according to Heiberger and Harper (2008) it is a widespread complaint that students spend far too much time engaging in non-academic activities using the internet and other technologies. However since students are highly involved in online social communications and Facebook is the primary vehicle for this interaction, educators should look at the possibilities of Facebook in order to increase student involvement.

2. Involvement occurs along a continuum. Along this continuum various degrees of involvement take place at different times. It is therefore important to have an attracting environment that emerges overtime. Facebook adds new functionalities on a regular basis and manages to sustain interest and use by students overtime (Heiberger & Harper, 2008).

3. Involvement has both quantitative (how many hours did the student spent studying) and qualitative (what is the student actually learning) features. Facebook could measure both the duration of Facebook activities by students as the qualitative aspects of its use (Heiberger & Harper, 2008).

4. The amount of student learning and development is directly proportional to the quality and quantity of student involvement of the program. In this light Heiberger and Harper (2008) suggest that research should be conducted assessing if there is a correlation between the use of Facebook use and the level of academic development.

5. The effectiveness of educational practice is directly related with the capacity the practice offers to increase student involvement. In other words, student involvement can be seen as an important predictor for learning outcome (Astin, 1999).

The core constructs of the involvement theory (interaction and active participation) connect well to modern learning theories. According to social learning theory and the constructivist learning approach, learning emerges as learners interact with each other (Lave & Wenger, 1991; Vygotsky, 1986). SNS's make it possible for peers to connect and to collaborate, which is an important precondition for learning according to Bruner (1996). Sharing knowledge in so called Communities of Practice (CoP's), will likely have a positive impact on learning (Janowicz-Panjaitan & Noorderhaven, 2008; Wenger, 2000). Since the theory of involvement emphasizes on

student interaction the behavioral aspects and active participation, the following constructs are defined as required ingredients for student involvement:

- Student motivation: which indicates how students are motivated and willing to participate and contribute to the learning process (Astin, 1999).
- Student behavior: this construct focuses on what the students actually do. This is related to the physical energy that is a part of the involvement theory and according to (Astin, 1999) the most important construct.
- Student engagement: To what order do students feel related to the learning process and to what order do they feel they are part of it (Heiberger & Harper, 2008; Miller, Rycek, & Fritson, 2011). This construct has a strong relation with student motivation and student behavior.

2.3 Facebook as an online learning platform

Although most universities already have online environments or 'learning management systems' (LMS) to support the educational process, they generally do not integrate that well into students daily life and are not seen as motivating or engaging. Therefore more and more educators are looking for online tools that make it possible to interact with students in a more easy and direct way. Regarding the theory of student involvement, these tools must be motivating students and facilitating interaction and participation in order to increase student involvement.

As mentioned before, web 2.0 technologies brought together in SNS, offer many possibilities for supporting the educational process. In this research we will take a closer look on the possibilities the SNS Facebook has to offer. According to Wang, Scown, Urquhart and Hardman (2012) Facebook has limited numbers of features that make Facebook amenable to educational pursuits. Before elaborating on how Facebook can be used by educators to increase student involvement, it is important to examine its structure and features.

Structure and functionalities of Facebook

According to Facebook the mission of Facebook is 'to make the world more open and connected' ("Facebook Newsroom," 2012). In order to do so Facebook is developed to 'stay connected with friends and family, to discover what's going on in the world, and to share and express what matters to them'. According to Facebook the environment is build up around the following functionalities ("Facebook Help Center," 2012).

Profile / Timeline

On Facebook all users have their own profile and timeline. Information on a user-profile can be public (open for everybody) or restricted (only accessible for 'friends'). Status-updates made by a user will appear on his own wall, his friends' walls and on his own timeline. Users can become 'friends' to be able to see each others updates.

Wall

The wall (figure 1) is the central space where all updates of friends, groups and 'liked' pages are presented. The wall shows a continuous stream of activity and makes it easy for users to interact.

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On the wall users can write a status-update, add a photo or video, or ask a question to other users. Each update can be 'liked', replied with a 'comment' or shared to the users friends.
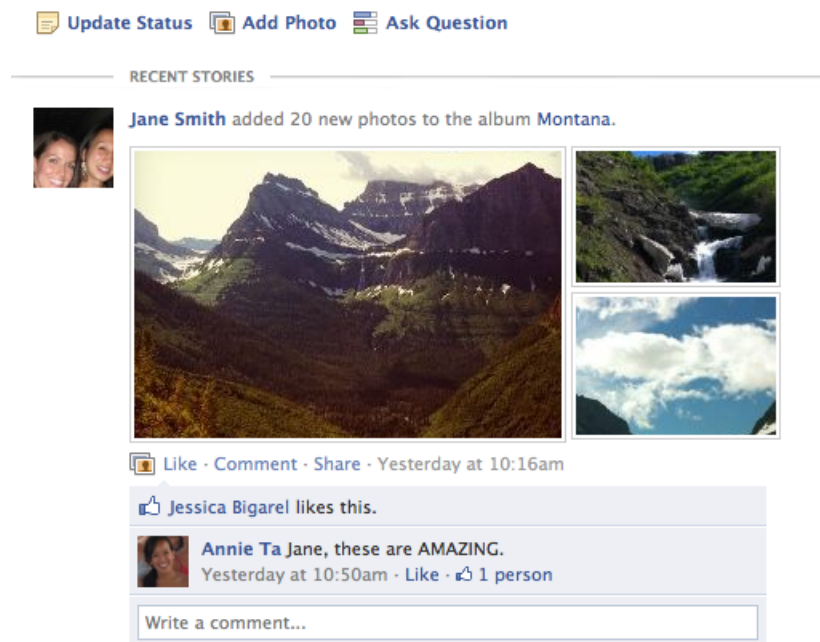
Figure 1: Facebook wall

Pages
Content clustered around one topic can be easily shared on a Facebook page. These pages are most used by companies as a marketing channel. If users 'like' a page they will see updates on their personal wall.

Groups
Looking at the integration of Facebook in the educational practice and using it as a learning environment, 'Groups' are commonly seen as most usable for collaboration. A group page has its own 'wall' on which members can post what they find interesting. The wall functionality is extended with a file upload functionality that allows group-members to share files within their group. Users will receive notifications of group-activity on their personal wall. It is not necessary to become 'friends' with group-members, so the personal wall of a user will not show all updates of group-members made elsewhere.

2.4 Learning Techniques to increase student activity on Facebook

To get an insight in what these learning techniques are and how they can be used, in this section recent case studies in which Facebook has been used as an learning environment, will be analyzed for learning techniques and their impact on student involvement.

2.4.1 Facebook in the educational practice

The functionality described in paragraph 2.3 show many possibilities for communication between groups of students and offers educators tools to create active participation amongst students. In order to increase student involvement it is crucial to implement this in the right way. The role of educators is crucial for a successful implementation. According to Ajjan and Hartshorne (2008) it is therefore important to explore faculty use of Web 2.0 technologies to support teaching and learning in higher education. Their conducted research was to assess faculty's awareness of the potential of Web 2.0 technologies. It is stated that however educators were generally aware of the possibilities of web 2.0 technologies in the educational practice, they hardly integrate them into the educational practice. Results show that attitudes (defined as the faculty desirability to use Web 2.0 to support in-class learning) and perceived behavioral control (the individual's perception on how easy or difficult it is to carry out the behavior is referred to as perceived behavioral control) have a fairly strong positive influence on behavioral intention to use web 2.0 technology (Ajjan & Hartshorne, 2008). These results point out that in order to have educators use Web 2.0 in their educational practice, they need to feed confident about their own online skills.

When designing an effective learning environment there are three important components which, according to Firpo (2012), have to be taken into account:

1. Group learning which is more effective than individual learning

2. An effective learning environment with the right selection of learning techniques,

3. An effective online learning environment needs a moderator in social learning (Dron, 2007). In this light Wang et al. (2012) mention the fact that students still give high values to face-to-face interactions and emphasize not to forget Facebook is only one of a set of tools available to the educator. It is therefore recommended to consider a blended approach that supports multiple learning techniques.

When focusing on Facebook and student involvement student involvement could be influenced positively by selecting the right learning techniques (Divall & Kirwin 2012).These learning techniques can be used to encourage students to be more interactive, which is in line with the constructs of student involvement: motivation, behavior and engagement.

Before analyzing which learning techniques have a positive influence on student involvement and how they can be used, it is important to find out how the use of Facebook in the educational

practice can be related with the core constructs of the student involvement theory (student engagement, student motivation and student behavior). In section 2.4.2 the integration of Facebook will be related with these three core constructs and will elaborate on the context in which these cases took place. Section 2.4.3 contains a detailed analysis of various used learning techniques and their impact on student involvement.

2.4.2 Context of Facebook in the educational practice

The integration of Facebook into the educational practice will be investigated by looking at the three core constructs of student involvement: student engagement, student motivation and student behavior.

Looking to the construct of student engagement, many case studies show positive results regarding the relation of Facebook and student engagement. However, research conducted by LaRue (2012) to the use of Facebook as a LMS, that supported a course with a group-page on Facebook in order to facilitate discussion amongst students, showed a general positive feeling towards the use of Facebook under the student population, but the authors are not very clear if this leads to an increase of student engagement. Firpo (2012) concludes that for maintaining interest in the environment, constant and carefully crafted participation from both educators and students is crucial.

Student motivation is a common heard argument for using Facebook in the educational practice. Shih (2011) conducted research by a group of 23 first-year students that used Facebook to facilitate a blended approach. Students had been assigned to publish their writing assignments on Facebook and peer-assessment was used as a way to give feedback. Conclusions shows that Facebook could significantly contribute to students motivation but it was also mentioned that the teaching methods used by the educator were important in contributing to their satisfaction with the course. Shih mentions that without the convenience and popularity of Facebook, the students would not have been so motivated to participate or have enjoyed the learning as much.

The effect of Facebook on student behavior was tested in a study by Divall and Kirwin (2012). The main goal of this research was to define if Facebook could encourage students to interact and have course-related discussions outside of the classroom. Although many students (87%) used the Facebook page and said they would miss it in other courses (57%), only 26% posted something to the group-page wall. Divall and Kirwin (2012) suggest that active learning techniques could be used to increase these numbers which is in line with the findings of (Shih, 2011) as mentioned before. These active learning techniques can be seen as didactical interventions in which the student has an active role. In order to specify these learning techniques we have to take a closer look to the context in which these cases took place.

Formal / Informal

In order to define the different teaching techniques, recent case studies in which Facebook has been integrated in the educational process were analyzed (Table 1). The first important.

Table 1: Learning techniques and effect on student involvement

Na = not applied
0 = No effect
+ = Positive effect on student involvement
- = Negative effect on student involvement
/ = Used but no effect measured

	Respondents (N)	Context	Group or Page	Assignments	Announcement	Question	General Communication	Learning materials	Chat	Teacher interaction	Grading	Discussion board	Remarks & Findings
Cain & Policastri (2011)	128	Informal	Gr	Na	Na	Na	+	/	Na	+	0	Na	Design choices had been made to keep the use of Facebook strictly informal. However, bonus questions on course examinations were used as incentive. 84% of students indicated this was the primary reason for participation. Interaction was relatively small.
Divall & Kirwin (2012)	120	Informal	Pa	Na	/	+	/	/	Na	/	0	+	86% of students found the use of Facebook benificial. Besides students were more likely to be exposed to content posted on Facebook than to that posted on Blackboard. However many users were passive. Grading occured in the form of extra credit questions.
Firpo (2011)	72	Informal	Gr	+	/	/	+	/	Na	/	Na	Na	Discussion and Photo were seen as most usefull for learning. Wall, comments and direct messages were mainly seen as communication rather than learning. Quizzes and video merly as fun.
LaRue (2012)	7	Formal	Gr	/	Na	+	0	+	Na	+	Na	+	Overall Facebook worked well in facilitation students and as content management medium and flourished active learning. Facebook was used as the central space for learning. However, additional tools were used (SurveyMonkey and Blogs) for the actual learning.
Wang, Woo & Quek (2011)	31	Formal	Gr	Na	+	0	+	+	Na	+	Na	Na	Participants agreed that the wall provided a useful platform for sharing information and resources. Facebook has the potential to be used as LMS and gives educators more control than commercial LMS's. Privacy, lack of structure, and no proper file system are named as constraints.
Shih (2011)	23	Formal	GR	+	Na	Na	Na	+	Nba	+	+	Na	For each subgroup a special Facebook group was created. Peer assessment was used as grading method. Students were required to post assignments. Results show that Facebook can significantly enhance students' interest and motivation
Baran (2010)	32	Formal	Gr	/	Na	Na	Na	/	/	+	+	Na	Group of students was responsible for building and discussing a library of learning materials. They were graded on their Fecebook-based activities. They thought grading was reasonable. Students experienced teacher interaction positive but they should not share personal stuff.

distinction between the cases is the use of Facebook as a formal teaching tool or as an informal teaching tool. By formal use of Facebook the interventions are planned as part of the curriculum

and students are requested to be active in it. Sometimes students are graded by their online presence or input. In most of the analyzed cases the use of Facebook had an informal character. Facebook provides many practical advantages to support informal learning. For instance, there are no time constraints for their use and are very easy (mobile) accessible (Cain & Policastri, 2011). The reason for choosing an informal approach might be related to the experimental nature of the integration of Facebook in the educational process but the informal character is in most cases described as an educational design choice. Some educators chose for an informal integration because of the social rather than academic nature of Facebook. Interviews with students done by Cain and Policastri (2011) showed that the informal use of Facebook was one of the primary elements of its success.

Closed Groups
As mentioned before Facebook offers a strict structure of user-pages (wall and profile/timeline), pages and groups. All analyzed courses used closed groups in order to have a private space, which is also strongly recommended by Firpo (2012) except for the case study of Divall and Kirwin (2012) in which a Facebook page had been used. In the discussion they state they had no issues with the openness of the page but mention the possibility for a closed group to have more control. Students mainly see closed groups as a safe environment, however research by Wang, Woo, Quek, Yang and Liu (2011) showed that freshman did not bother as much as master-students about the safety of a closed group. Master-students were not comfortable with the possibility others could see their updates. Related to that Cain and Policastri (2011) mention the so-called "creepy treehouse" effect, which occurs when an authority figure (educator) forces his students into social or quasi-social situations. It infringes upon their peer social space. In many of the described cases it is therefore explicitly mentioned that educators did not become friends with their students, but only use the Facebook group page for interaction.

2.4.3 Learning Techniques
Since three tenets of the student involvement theory are related to student activity it is necessary to distill those learning techniques that have an impact on student activity. During this part of the literature research case studies will be reviewed focusing on teaching techniques which have a relation to the psychological and physical energy students put into learning objects, the continuum on which the activity took place and the quantity and quality of this activity (Astin, 1999). In the analyzed case studies (see Table 1) the following learning techniques have been distilled. They al have a very practical character and are related to the features offered by Facebook.

Assignments
One of the most common learning techniques is giving assignments to students. These assignments can for example be to post a minimum amount of posts or comments or to upload content. For instance, in the blended approach described by LaRue (2012) students were asked

to post three or more things they had learned in class. Since Facebook can be accessed on mobile devices it is even possible to create location-based assignments. In the analyzed cases assignments are hardly used as a learning technique. Probably this is due to the informal character of the Facebook implementation of most of these cases. It is interesting that participating students in an informal not obligatory Facebook group thought that assignments would not make sense to force students to contribute to the group-wall. According to them these posts would not have been thoughtful (Cain & Policastri, 2011). This is not represented by Shih (2011), who analyzed a course in which students were required to post their writing assignments on the group-page. Peer-assessment was used as a didactical approach for giving feedback. Findings show that this approach had a very positive effect on learning outcome and student activity.

Announcements

In some of the analyzed cases educators made announcements about the course on the Facebook group page. For instance, in the case described by Wang et al. (2011) the wall was used to disseminate just-in-time information. They conclude that Facebook is a useful platform for making announcements. This is in line with the findings of Divall & Kirwin (2012) who state that students are more likely to be exposed to content posted on Facebook than to that posted on Blackboard. It is interesting to define if announcements also lead to more views and activity on the Facebook page and in relation to that can increase student involvement.

Questions

Asking questions can be a very direct way to stimulate student activity. On a Facebook group-page, both group-members and educators have the possibility to use 'polls' to let students 'vote' for their best answer. In the analyzed cases none of the educators used this functionality. However many of them did ask questions to their students using the wall. Findings of (Divall & Kirwin, 2012) show that students thought asked questions and the related discussions that followed were beneficial to their learning.

Communication

One of the most used arguments for implementing Facebook in the educational practice is the communication aspect. The social nature of Facebook facilitates educator – student and student-student communication in a very straightforward way. Using the 'like' button makes it easy to show your appreciation on someone's post, which in the case of LaRue (2012) instigated students to remark on the post. The downside of this could be that a 'like' does not give much information and the effect can therefore be marginal. Initiating discussions and taking part in them is seen as an important intervention for activating students online. Findings of Baran (2010) show that students were excited when the educator commented on their postings (n = 20; 62,5%) but he mentions that cultural aspects play a major role in student experience which makes it hard to draw conclusions on these numbers.

Presenting Learning Materials

Facebook had recently enabled the functionality for uploading files on group-pages. In the analyzed case studies this was clearly not yet integrated. However students of many cases agreed that Facebook was a useful platform for sharing information and resources (Divall & Kirwin, 2012; LaRue, 2012; Wang et al., 2011). In some cases it was mentioned that educators also had to use a learning management system provided by their university e.g. Blackboard. This made some educators choose to present learning materials on both platforms, which doubled their workload.

Chat

In none of the analyzed cases the Facebook chat functionality has been used as a teaching technique. However it could have been a helpful addition, especially for those cases in which the educators had a blended approach to the learning process. It is interesting to see if using a chat leads to an increase of student involvement.

Private messaging

In some of the analyzed cases it was mentioned that direct messaging occurred. However there are no indicators for any effect of these messages. Besides there are no clear differences described between private messages and for instance email. Private messaging is therefore not taken into account as a learning technique.

Grading

Grading students' online activity could be an extremely powerful external motivator for those cases in which Facebook is used as a formal learning environment. As mentioned, the use of Facebook in most of the analyzed cases was informal which was preferred especially to have an open conversation with students and the possibility to experiment. Research by Baran (2010), in which Facebook was used as a formal learning environment, point out that most of the students thought grading was a reasonable approach (n = 23; 62,5%).

Discussion board & Teacher interaction

The discussion board also named 'forum' does not exist anymore on Facebook. The 'wall' that facilitates discussion in a more natural way has replaced the discussion board. Also educator interaction is a vague described technique that is underlying in all the learning techniques. Due to this discussions and educator interaction are seen as part of the learning technique 'Communication'.

2.5 Summary

As mentioned in section 2.1, the core of the student involvement theory is based on the amount of physical and psychological energy that a student devotes to the academic experience. According to Astin (1999) student involvement can be seen as a strong indicator for learning outcome. Research of Heiberger and Harper (2008) suggests that Facebook could facilitate all five tenets of the student involvement theory and it is therefore interesting to find a way to incorporate Facebook in the educational practice. In order to increase student involvement three core constructs are defined which should be taken into account in the educational design: student motivation, student behavior and student engagement.

In the analyzed case studies the following learning techniques based on the functionalities of Facebook have been defined: assignments, announcements, questions, general communication, presenting learning materials, chat, and grading. As suggested by Divall and Kirwin (2012) a well balanced selection of different learning techniques will contribute to a successful integration of Facebook in the educational practice. Facebook offers many functionalities that can be used for interaction with students and can enhance the educational process. However it is emphasized that Facebook should be seen as a set of technological tools and that a well-considered selection by the educator plays a key role in a successful integration.

Of the analyzed learning techniques the following showed an overall positive effect on student involvement: assignments, teacher interaction, questions and presenting learning materials. Results of the case studies showed that educational design choices made by the educator strongly influenced the effect of the used learning techniques. One of the most influencing design choices regarding student involvement is if the integration of Facebook is formal or informal. While both approaches have their pros and cons it is clear that a formal use of Facebook stimulates student behavior, which is seen as a core construct of student involvement. Also it is clear that the formal or informal nature of the course strongly affects the effect of the learning techniques in relation to student involvement. Besides the formal or informal nature of the course, the defined learning techniques showed a different impact on perceived student involvement. According to modern learning theories, learning takes place when learners interact with each other. The analyzed case studies showed Facebook is well equipped for facilitating different ways of interaction. In this light the analysis showed that teacher interaction plays an important role in motivating and engaging students.

Besides the defined learning techniques, the presented cases provide poor evidence on the reason why the use of especially Facebook was successful for their students. According to Mazman and Usluel (2010) the structure and various functionalities make Facebook interesting

for educational contexts, but more research needs to be done to find out how and why Facebook can contribute to student involvement in order to optimize the desired learning outcome.

3. Research method

This chapter will give an insight in the research design and will describe the research methods used for analyzing the conducted case study to the effects of the integration of Facebook in the educational practice on student involvement.

3.1 Introduction

In the literature review an overview has been given on learning techniques and their relation to student involvement. In order to answer the question how educators of the University of Twente can increase student involvement by implementing Facebook in their courses, an holistic multiple-case study (Yin, 2002) will be conducted. This case study will investigate the effect of Facebook on two groups of academic students regarding student involvement. These two cases will offer good insights on the used learning techniques by educators and the response of students to them. The case study is selected as research method because, according to Yin (2002), it investigates a contemporary phenomenon within its real-life context and it copes with the technically distinctive situation in which there will be many more variables than data points. Both of these rationales are applicable for this research. Since each group of students can be seen as a separate unit of analysis as their context and composition of the group is different (first-year students versus master-students) the design of a holistic multiple case study is chosen.

3.2 Respondents

The case study will be focusing on two groups of academic students and their educators.

Case 1 (n = 15), consists of students who joined the course 'Atelier 1: Media'. These are all first grade students who started their Bachelor program 'Educational Science and Technology' in 2011 at the University of Twente.

Case 2 (n = 18), consists of students who joined the course 'Pedagogies for Flexible Learning supported by Technology'. This course is part of the Master program Educational Science and Technology at the University of Twente. The population consists of student with different backgrounds for instance bachelor students and professionals from the educational field. The group contains a large number of international students.

A survey issued to all the students of the described cases, has been answered by 25 respondents of which 10 men (40%) and 15 women (60%) age varying between 18 and 34. If we take a closer look we can devide these respondents into 2 groups:

- 15 Master students who followed the Pedagogies course of which 8 were men (53%) and 7 women (47%). The average age was 26,6 years.
- 10 First-year students who followed the Atelier course of which 2 were men (20%) and 8 women (80%). The average age was 18,9 years.

The educators (n = 2) who were involved in the cases will be interviewed.

A small group (n = 3) of educators who are active on Facebook but have not used it in the educational practice will be interviewed in a focus-group interview.

3.3 Instruments

The case study will contain semi-structured interviews with the involved educators, a focus-group interview with educators who are active on Facebook but do not use it in an educational context, two surveys and a quantitative data analysis to the activity of students on Facebook during the courses. Below the instruments are described in detail.

3.3.1 Semi-structured interviews with educators:

The semi-structured interviews will investigate the experience of educators who used Facebook in the academic setting and will focus on used learning techniques and their impact on student involvement. According to Baarda and De Goede (2006) an interview is the desired research method when investigating attitudes, opinions, thoughts or knowledge of recipients. Yin (2002) states that interviews can provide important insights and can help identify other relevant sources of evidence. Since both target audience and context are very specific, the questions of this interview are tailor made.

The interviews with educators show how they implemented Facebook in their courses. Both educators had different experiences and used Facebook in a different way. One of them used Facebook as an online platform for communication with students during both courses. The other interviewed educator only used Facebook during one class.

The interview started with a general introduction asking how they experienced Facebook in the educational practice in general. They were asked why they had implemented Facebook. During the interview attention was paid to the used learning techniques. Finally the educators were asked if they had recommendations for other educators when implementing Facebook.

The desired outcome of the interviews is to distillate an overview of used learning techniques and the experiences of educators. This will contribute to the understanding of the relationship between use of Facebook and student involvement.

The interviewer will visit the educators on location and use the developed interview guide that is included in Appendix 1. The interviews will be recorded.

3.3.2 Focus-group interview

At the educational science department at the University of Twente many educators use Facebook in their daily life. However not all of them use Facebook in the educational practice. Since an important part of this research tends to give recommendations to educators, it is important to have a clear view on the barriers some educators see. In a focus-group interview a small group (n = 3) of educators who do not use Facebook in the educational practice will be asked to reveal their pro's and con's about the use of Facebook in their courses. The interview will use an interview guide which is custom designed for this purpose and will exist of open questions.

Interview questions will focus on student involvement and learning techniques. The interview guide can be found in Appendix 3.

3.3.4 Survey students

To analyze the experience of students in relation to the used learning techniques on Facebook, an online survey will be used. A survey can be designed as part of a case study and produce quantitative data as part of the case study evidence (Yin, 2002). This survey will serve two goals. First the survey offers an insight in the overall experience of students on the use of Facebook in the educational practice. The second goal is to define which of the used learning techniques had a significant impact on experienced student involvement. The survey will be developed especially for this study since it relates to the used learning techniques in both cases. The survey will contain multiple-choice answers. Before the survey will be sent out a pilot will be held to validate the possible answers.

3.3.5 In-depth analysis of Facebook groups

Both Facebook group-pages will be analyzed on student behavior. As behavior is one of the core constructs of student involvement it is interesting to analyze if a relation can be found between used learning technique and student behavior. All Facebook activity of both groups (Atelier 1 and Pedagogies) will be inventoried. For example, when the educator posted an announcement on the group-wall the number of responses will be measured. Figure 2 shows an example of this interaction. In this example the used 'Presenting learning materials' is selected as learning technique. On student had given two reactions on this post, which is captured as 'student behavior'.

Figure 2: Example of used learning technique: 'presenting learning materials'

3.4 Data analysis

3.4.1 Interview with educators

The analysis of these interviews will be done using an interview guide that has been designed for this study. First both educators were asked to their rationales behind the use of Facebook. The remainder of the interview focused on the used learning techniques. For each learning technique the same questions were asked to analyze the way of use, the expected outcome and the experiences of the educator. For each learning technique a qualitative analysis was conducted based on the constructs of student involvement: motivation, behavior and engagement.

3.4.2 Focus group interview

During the focus group interview an open discussion took place, analyzing the pros and cons of the use of Facebook in the educational practice. Since the students of focus group-interview did not have experience with the use of Facebook in an educational setting, the interview had a strong focus to the preconditions of Facebook in the educational practice, It also focused on the question if and how they are supported in using new technology in general. During the interview a mindmap (see Appendix 5) was created in order to keep the interview structured. The qualitative analysis of the interview has been based on this mindmap.

3.4.3. Survey students

All students (n = 33) of both groups have been requested to answer the survey of which 25 (76%) did respond. Results of the survey (n = 25) have been analyzed using SPSS to define descriptive statistics. Cronbach's alpha (α) is used to test the internal consistency of each construct (learning technique), see Table 2.

Table 2: Internal consistency of constructs

Consistency of Constructs

Construct	N	Total Items	Cronbach's alpha (α) / correlation (ρ)
General Experience	25	8	.815
Educator activity	25	3	.862
Assignment	25	4	.821
Announcement	25	4	.647
Learning Materials	25	5	.462
General Communication	25	4	.774
Grading	25	2	.620*
Questions	25	2	.595*
Chat	19	2	.813**

*for constructs excisting of only 2 items Spearmans Rho is used
** Due to the low ammount of responses on chat questions only item 50 and 51 are taken into account

DeVellis (2003) provided tentative benchmarks for the interpretation of Cronbach's α which we will use in this study: <0.6 unacceptable ; between 0.6 and 0.65 undesirable; between 0,65 and 0,70 minimally acceptable; >.70 respectable; >0.80 very good. Looking at Table 2 this is clearly not the case for Learning Materials **α** = .462. Looking at the relation between the items of this construct and their effect on Cronbach's alpha, we see that by excluding item 33 (I reacted on presented learning materials) and 36 (I would have checked the group-page more often if it was the primary space for presenting learning materials) we have still a undesired construct validity of **α** = .619.

Looking at the correlations inside the construct we see there is no significant correlation found between any pair of items. When executing statistical tests 'learning material' will therefore not be taken into account.

When looking at the results we see a very low N for some of the 'Chat' items. This is due to the fact that only some of the students of Pedagogies have used the chat. These items will therefore not be taken into account. Items 47,48, 49 and 50 are therefore excluded leading to ρ = .813.

Since the sample-size is small (n = 25) we first tested the results on the assumption of a normal distribution using Kolmogorov-Smirnov test. For only 4 items (p > .05) the assumption of normality is not rejected by Kolmogorov-Smirnov. Therefore non-parametric tests, (Wilcoxon, Kruskall-Wallis and Mann-Whitney), are used for the analysis between the constructs.

In order to answer the research question, which of these techniques has a positive effect on student involvement, each technique will be analyzed on the constructs motivation and

engagement. Results regarding student behavior are highly subjective and will be analyzed in the in-depth analysis of the Facebook group-pages. Kruskall-Wallis tests will be used to define if there is a relationship between student motivation and engagement for each of the used learning techniques.

Besides the relationship between each learning technique and student involvement, it is also interesting to see if there is a difference between students who log in on Facebook more often than the others. In other words, are the students who already do use Facebook, influenced?

3.4.4 In-depth analysis of Facebook Groups
Both Facebook groups have been analyzed on learning techniques and related student behavior, during the period from the first of September 2011 till the end of December 2011. The Atelier 1 group contained 15 students; the Pedagogies group contained 18 students.
In both observed cases (Atelier 1 & Pedagogies), educators used various learning techniques in order to increase student behavior. The effect these learning techniques had on student behavior have been analyzed using non-parametric tests. SPSS was used for the statistical analysis.

3.5 Procedure
All students who followed one of the courses Pedagogies or Atelier 1 were contacted in different ways and on various moments, asking them if they would answer the survey. First a personal email was sent including a link to the survey. After one day the survey was also posted on each of the Facebook groups. After 1,5 week this has been repeated. In the last days before the data-analysis the final request was send out on both Facebook groups.

The interviews with educators had been planned immediately after the approval of the research proposal. They took place at the office of the students and were captured on audio.

An online date-arrangement tool was used to plan the focus-group interview. This gave all students the possibility to show which of the proposed dates they preferred. Unfortunately one of the invited educators could not make it in the end.

For the in-depth analysis of both Facebook group-pages the educator asked the students for permission for the observation on the group-pages. After collecting the data the analysis took place.

4. Results

In this Chapter the results of the interviews, survey and the in-depth analysis will are presented. For each of these research methods a short introduction will give insight in the context of the research. Paragraph 4.5 will summarize the results and distillated recommendations for the integration of Facebook in the educational practice.

4.1 Interview educators

The case study examines the use of Facebook during two courses. To get a better insight in the experiences of the educators who used Facebook in their educational practice they were interviewed. The main goal of the interviews was to get an insight in the experiences and rationales of their use of Facebook. It turned out that there was a big difference in experience with Facebook in the educational practice between the two educators. Where the first interviewed educator had been involved in both courses from the beginning to the end, the second interviewed educator only experienced the use of Facebook during one class.

The remainder of this section will describe the main findings of these interviews.

Reasons of implementing Facebook

Facebook was implemented mainly to enhance both student-educator and student-student communication in an informal way. Its use in an educational setting was highly experimental for both interviewed educators.

Both educators used Facebook in a different setting, serving different educational goals. Educator A, who initiated the use of Facebook in both groups, experimented with Facebook for several reasons. For first-year students who followed the course Atelier 1, Facebook was implemented since she was convinced that the students should not only hear about new technology but also experience it. The first intention was to use it for communication purposes and to make communication between students and educators as well as students and students easier. For master-students who followed the Pedagogies course, it was even more important to lower the barriers of communication since many of them come from different cultures and backgrounds. The educator expected that Facebook could help students to get acquainted with each other and with the educator herself.

Educator B had used Facebook during an interactive classroom session. The main purpose of its use was to have a direct communication channel with all participating students.

Both educators said they selected Facebook since it is a very powerful and easy-to-use environment. Also they expected that many students already had a Facebook account that helped the adoption under students.

General experiences

Facebook was perceived as a very intuitive environment that lowered the barriers for communication between educators and students. However, the activity of the students was experienced differently. During the interactive classroom session students were very active. They posted a lot of things on the group-page and responded to questions asked by the educators.

During the courses, where Facebook was an additional and non-obligatory environment, the student activity in general remained low. Educator A mentioned that this could be related to the implementation strategy of the educator.

Constraints of Facebook in an educational setting

When confronted with possible constraints of the use of Facebook, such as privacy and intellectual property issues, both educators mentioned they were not concerned that much since the environment had been a closed group, invisible for external visitors. They also did not experience any issues with students who did not already had a Facebook account. Both educators warned that students should be pointed at the consequences of their behavior on Facebook, especially those who do not have experience with the use of social media in general.

To keep the implementation of Facebook on a professional level, they kept a strict line between their educational use and their private use of Facebook. They therefore did not become 'friends' with their students.

Related to the Atelier course Educator A said it was challenging to get the students in an active mode. In some groups this can be extremely hard due to the culture of a group. The informal nature of the Facebook implementation made it difficult to use external stimuli. It can be compared with an empty dance-floor: how do you get people moving without forcing them? Also the educators mentioned that the success of integrating Facebook in the educational practice is strongly affected by the subject of the course. In other words, not all courses and topics are suitable for online collaboration on Facebook.

Learning Techniques

Since learning techniques can be seen as building blocks for a successful implementation of Facebook, the question was asked which learning techniques they had applied.

As mentioned in the introduction of this section, the experience of both educators was very different.

Assignments

Students of both groups were given an introduction assignment. They were asked to upload a picture of themselves accompanied with a short introduction. The educator introduced this assignment at the beginning of the courses to get to know the students as soon as possible.

Announcements

Both educators were enthusiastic about the direct way of communication via Facebook. For formal announcements educator A used both Facebook and the online environment of the University: Blackboard. According to the internal protocol of the university each course is obliged to use Blackboard for official announcements to students. It was found by educator A that almost all students noticed the announcements made on Facebook. Both educators noted that due to the notification system and the integration of Facebook In everyday life, communicating announcements via Facebook was probably more effective than the announcements on Blackboard.

Questions

Asking questions to students took different forms. On the one hand practical questions were asked, for instance if students would bring their laptop to the lecture. This was done via Facebook primarily since the directness of communication and again, due to the importance of the question it had also been on Blackboard.

On the other hand questions could also ask students for their opinion on a course related issue. This made the use of Facebook more meaningful according to educator B. During the classroom session the poll functionality was used, making the answers to questions very practical and visible for both educators and students.

Learning Materials

One of the educators regularly posted learning materials. Sharing learning materials on Facebook was not scheduled, so the interventions took place when the educator found something worth sharing. The learning materials existed of links to interesting websites or video's. It turned out that Facebook was a very convenient way to share these kinds of resources. It was mentioned that not all the learning materials had the same educational value and it was not clear if students noticed all of them. However, the notification system of Facebook (showing a red bullet when new messages have been posted) in combination with the intensity most students visited Facebook in general, was seen by educator A as beneficial to the exposure of the posted learning materials.

Some of the atelier students also placed some learning materials online. They did this in relation with a classroom session about Social Media. According to educator A some of these learning materials were very interesting, for both students and herself.

Chat

In the pedagogies course the educator used a group chat session in order to answer questions related to the students' final project of the course. The session was scheduled and communicated

to students. The chat-session had some limitations since both students and educator had to come to the point straight away. This makes the chat suitable for general short questions but makes it complex to handle questions with large context.

The results of the chat-session are undefined, but the educator thought it was an interesting experience that made it possible to have a direct way of interaction with the students.

Conclusions from the educators

Since the experimental and informal nature of the Facebook implementation and the passive mode of many of the students, educator A thinks Facebook had not contributed to the learning process. Nevertheless both educators are convinced that Facebook could contribute to the actual learning process but that a clear goal and methodology is needed in order to implement Facebook successfully. It was also stated that in order to implement Facebook successfully, its use should be integrated in the course. In the current experiment this would conflict with the informal nature.

Summary of the findings from the educator interviews

The educators experienced that students who were active in classroom sessions were also the most active students on the Facebook group-pages. During the classroom sessions the educator referenced sometimes to the Facebook activity. As mentioned the educator experienced a big difference between both groups of students. It was extremely hard to generate activity under the group of first-year students in general. This was also the case in the Facebook group.

Finally both educators were convinced that a successful integration of Facebook heavily relies on the subject of the course. Not in every course the above-described learning techniques would make sense. The decision whether or not to implement Facebook should be taken carefully and based on course goals and outlines.

4.2 Focus group interview

To look at the use of Facebook in the educational practice in a broader perspective, 3 educators who do use Facebook in their private life, but do not use it in educational practice, were asked for their opinion during a focus-group interview.

The interview focused on both benefits and constraints they see in relation to using Facebook in the educational practice. The educators were also asked if they thought the use of Facebook could lead to an increase of student involvement. Finally the interview focused on if and how they are supported as educators in the use of new tools such as Facebook.

Possibilities of Facebook

When asked what the benefits of Facebook in the educational practice could be, the focus group mentioned the following:

1. **Direct communication**

   Since Facebook is imbued in students everyday life, it offers a very direct communication channel.

2. **Facebook offers more freedom than Blackboard**

   Blackboard is used as the official learning management system provided by the university. Educators had experienced some constraints with the use of Blackboard in combination with external experts. Facebook is open for everybody and the initiator of a group has administrator rights, giving him the ability to invite group members.

3. **User-friendly interface**

   Facebook offers a very intuitive interface. The educators thought this could enhance the implementation of Facebook as an educational tool. For instance it is outstanding in presenting media. When sharing media (video / photo's / images) on Facebook, they are presented in a very user-friendly way. Videos and photo's are embedded on the group wall and directly visible.

Constraints of Facebook

The focus group was not convinced that Facebook should be integrated in the educational practice. When asking to the possibilities of Facebook they tend to come up with constraints rather than possibilities. During the interview the following constraints were mentioned.

1. *Blackboard is the primary and mandatory tool*

   Since the university obliges the use of Blackboard, Facebook is seen as an additional tool that will cost a lot of effort and will be very time-consuming.

2. *Facebook is not designed for educational use*

   The structure of Facebook is designed for social interaction between friends and relatives. Since it is not designed for educational purposes, it lacks functionalities that are crucial for the organization of a course. For instance Facebook does not contain a function for publishing a course-schedule. It was also mentioned that Facebook does not provide the possibility to log the group-activity, which could be needed for administrative reasons.

3. *Privacy*

   In contrast to the educators who had experienced Facebook in the educational practice, the focus group had a big issue with the privacy aspects of Facebook. They pointed at the ownership of data and the dependence on Facebook's user agreements. Also they mentioned that they did not want to be 'friends' with students. They agreed on the importance of the separation of their private life from their professional life.

4. *Facebook will be too time-consuming*

   Using Facebook in the educational practice requires a certain amount of time from the educator. The focus group thought that the low barriers for communication could make students asking more questions without doing research first. Also the user-management was seen as a time consuming activity, which should not be a task for educators.

5. *No 'real' control*

   The last major constraint they had with using Facebook in an educational setting was the lack of control Facebook offers them. Especially when external experts joined the group it is impossible to prevent them to see 'work in progress' or remarks made by students, which could be inappropriate.

Student involvement

The Focusgroup was asked if they thought Facebook could contribute to the involvement of students in a course. The overall opinion of the focus group was that Facebook could increase student involvement, but only when well implemented. Student involvement could benefit from Facebook's integration with everyday life and its advanced technology and user-friendly design. They agreed on the fact that success of Facebook in the educational practice strongly depends on the nature of the course and a strong implementation strategy is needed.

According to the focus group the implementation strategy should at least take care of the following points:

1. General

   - What is the purpose of Facebook and what are the goals of the implementation?

   - What are the related costs (time, facilities) and benefits?

   - What are the expectations of educators and students

2. Practical aspects

   - The desired structure, closed groups were preferred.

   - All students need an account. What to do when students have fundamental objections against the use of Facebook?

   - Administration of the environment, who is taking care of user-management?

3. Communication

   - What is the desired way for communication and how can this be achieved? The focus group thought of a communication protocol containing guidelines on how to communicate and interact on the Facebook group-page in order to keep the group page structured and focused.

Support educators

During the interview the educators were asked how faculty and staff supported them. It turned out that there was almost no support and that educators who were intrinsically motivated to use new technologies are the ones who do. They mentioned the abundance of 'best practices' and noted that the university should focus on giving space to experiment rather than support. It is one of the core characteristics of the program of Educational Science and Technology to have these kinds of experiments. It was suggested that there could be a course that is focused on these kinds of experiments.

Summary

The overall opinion of the educators on the use of Facebook in educational practice was very skeptical. In general they see too much complications for the use of Facebook in their educational practice. The ethical issues on privacy and ownership of data were very strong. However they do endorse the possibilities of Facebook to increase student involvement. They emphasize that is should be integrated in the educational practice only when using a well considered implementation strategy. Remarkable was their willingness to experiment with new technologies, but time and facilities were seen as the main barriers.

4.3 Survey for the students

This survey serves two goals. First the survey offers an insight in the overall experience of students on the use of Facebook in the educational practice. The second goal is to define which of the used learning techniques had a significant impact on experienced student involvement.

4.3.1 Adoption of Facebook in an educational setting

One of the questions we would like to answer with this survey is how students rate their overall experience with Facebook in an educational setting. It is therefore important to define if students think Facebook is suitable for facilitating their educational process.

To get a clear image on how the respondents use Facebook, the survey contained questions such as: how often do you login to Facebook? And: Do you use Facebook in your private life. It was tested if the results of these questions had a relation with questions regarding the acceptation of Facebook for educational purposes such as: Do you think Facebook is suitable for facilitation the interaction between students and educators.

First of all we see a high integration of Facebook in students daily life. 21 respondents (84%) already had a Facebook account before the course started. In this light it is interesting to see that almost all respondents n = 24 (96%) use Facebook in their private life. This indicates that some of the students who did not had Facebook before the course started, created an account and started using it also in their private life.

The results show that the majority of respondents thought Facebook was a suitable platform for facilitating interaction between educators and students (M = 3.44, SD = 1.16). Since the acceptation of new technologies for a younger generation is a common heard argument, the results on items 'Age' and 'if Facebook was a suitable platform for facilitating interaction between students and educators' had been tested for a correlation. A significant negative correlation was found, r_s = - .532, p < .001 (1-tailed), indicating that the younger the students, the more they thought Facebook was suitable for their learning process. Typically it was found that there is a correlation of r_s = .577, p <.001 (1-tailed), between age and the amount of extra time spent on the course due to the use of Facebook. It has to be mentioned that there is a difference on the average

age between both groups. For Atelier 1 the average age of students was 18,9 while for Pedagogies the average age of students was 27.

Wilcoxon rank sum test was used for testing the hypothesis that the amount of extra time spent on the course due to Facebook in the course Pedagogies is higher than in the course Atelier. Wilcoxon rank sum test is the non-parametric equivalent of the independent *t*-test, and can be used for comparing two independent samples. It is confirmed by Wilcoxon rank sum test that the amount of extra time spent in the course Pedagogies (*Mdn* = 4.00) is higher than in the course Atelier (*Mdn* = 2.00): W_s = 67.00, z = -3.58, p < 0.001, r = -0.72.

However, no correlation was found between the level of engagement and 'the amount of extra time spent on the course due to Facebook'. This implicates that the construct time spent does not make students feel more engaged.

Looking at the average visits of the Facebook group-page, showed in Table 3, we see that the largest group of students visited the group page between 2 and 5 times per week and no students visited the group page more than 15 times per week.

Table 3: Average visits on group page

Avarage visits Facebook Group Page per week

Visits per week	N	%
0-1 times per week	7	28
2-5 times per week	14	56
6-10 times per week	3	12
11-15 times per week	1	4
16-20 times per week	0	0
21 or more times per week	0	0

Student engagement in relation to Teaching Techniques

Besides the overall experience of students the survey also focused on the effect of used teaching techniques on student engagement. The results in Table 4 show that the use of Facebook did not affect their overall engagement to the course (M = 2.76, SD = 1.052).

Table 4: Facebook made me feel more engaged in this course

The use of Facebook made me more engaged in this course

	M	SD
Pedagogies	2.80	1.26
Atelier	2.70	.67
Total	2.76	1.05

Mean and standarddeviation based on 5-point scale, 1 'Totally disagree' - 5 'Totally agree'

Also a relationship between the various learning techniques and the overall student engagement cannot be found. If we look at the means for the various learning techniques we see that

'Assignments' (M = 3.60, SD = 1.15) and 'Grading' (M 3.92, SD = 1.30) scored relatively high in comparison with the others on engagement.

Interaction of educators
It is interesting that most students indicated that the contributions of the educator stimulated the activity on the group page (M = 3.86, SD = 1.11). This indicates that the initiatives of the educators were crucial for the activity on the group page. When asked if the contributions of the educators motivated the students we see a difference between results for the Atelier course (M = 2.80, SD = .39) and the Pedagogies course (M = 3.47, SD = .36). While this difference is not significant it confirms the feeling of the educator as described in the interview. It was stated that the educator had a hard time motivating students of the Atelier course.

4.3.3 Restrictions of Survey
Since the survey has a small amount of respondents it is hard to analyze the data with robust tests. However, the data of this survey can be used to give an insight in the experience of students of both courses which could help formulating design principles for the implementation of Facebook in an educational setting.

4.4 In depth analysis Facebook
An in depth analysis of the Facebook groups was performed to see how students reacted on the interventions of the educators.

4.4.1 Cause Result
To define which learning technique leads to the highest student activity all student-activity related to an educator intervention on both Facebook group pages had been logged into one data-file.

This analysis takes five educator initiated learning techniques into account, which have been observed: Assignment, Announcement, Question, Communication and Learning materials.

Before analyzing the data the assumption of a normal distribution is tested executing the Kolmogorov-Smirnov test. In the cause-result model Student Behavior, D(73) = 0,31, P < .001 is significantly non-normal. Since the assumption of a normal distribution is rejected, non-parametric tests have been used for the analysis of the data. Instead of using ANOVA, Kruskall-Wallis is used to find differences between the various learning techniques regarding student behavior.

Student behavior is significantly affected by learning techniques, H(4) = 29.943, P < .000.
Figure 2 shows a boxplot with differences in student behavior on the various learning techniques. It is clear that the assignments generated the most interaction on the Facebook group pages. Also 'Questions' generated many interactions with students.
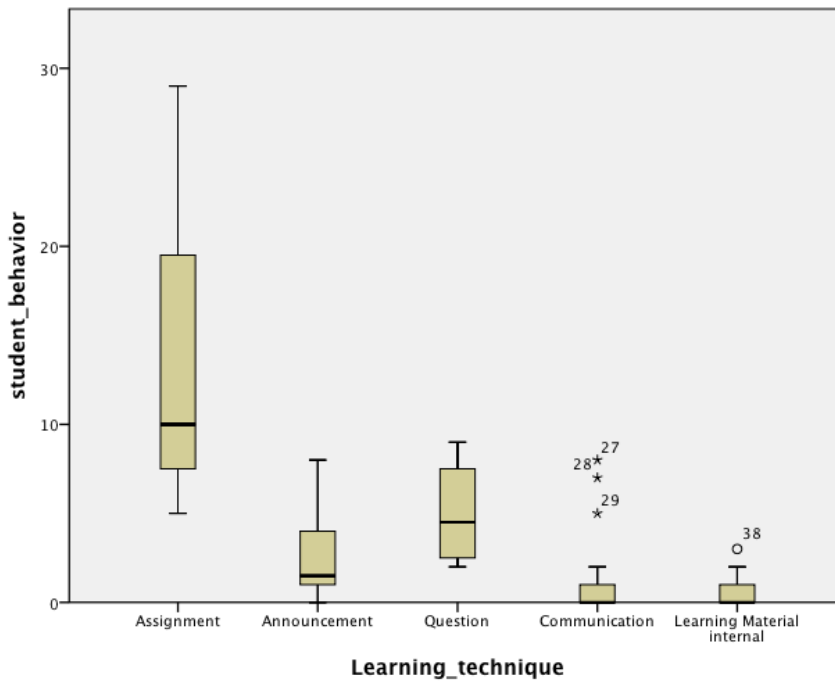
Figure 3: Boxplot different learning techniques & student behavior

Mann-Whitney U tests were used to compare the effect for the different learning techniques. A Bonferroni correction was used to deal with type 1 error. A critical value of .05 / 10 = .005 was used. In Table 5 the results of the comparison are presented. It is clear that both general 'communication' and presenting 'learning materials' had a low impact on student behavior. A significant different effect is found between the following learning techniques:

- Assignments versus general communication;
- Assignments versus learning materials;
- Announcements versus learning materials;
- Questions versus learning materials.

These effects indicate that in order to increase student behavior the intervention of the educator has to put students in an active mode. As mentioned, in this analysis the passive use of Facebook is not taken into account. Both communication and learning materials might have had other, not directly visible effects. Using the data Facebook provides it not possible to define those effects.

Table 5: Comparison of the effects of various learning techniques on student behavior

	Assignment	Announcement	Question	Communication	Learning Material
Assignment					
Announcement	.019				
Question	.157	.086			
Communication	.005	.026	.008		
Learning Material	.002	.004	.001	.665	

Bonferroni was used to define a critical level of .005.

4.4.2 Restrictions of Data-analysis

The data analysis gives an indication of which learning technique had an impact on student behavior. However, the data derived from the Facebook pages does not deal with students who are only viewing the Facebook activity. This might influence the results found for 'Learning Materials', since it is possible that students viewed these recourses but did not feel to react on it.

We also have to be careful by drawing conclusions since the number of cases is low. Still this analysis gives us a first insight in the activity on Facebook and shows that student behavior can be increased by assignments and asking questions on the group page.

4.5 Summary

Due to the small amount of respondents it is impossible to generalize the results, but the analyzed cases provide useful insights in the experience of both educators and students regarding the use of Facebook.
No clear relationship between student involvement and the use of Facebook had been found. Under the research population the use of Facebook is extremely high (84% already had an account) and respondents log in many times a day on average. The implementation of Facebook could benefit from this since it is unlikely Facebook has a long learning curve.

Looking at the average visits of the Facebook group-page we see that the largest group of students visited the group page between 2 and 5 times per week and no students visited the group page more than 15 times per week. There can be various reasons why this number is low in comparison with the average logins per week. Since users noticed updates of the group-page on their own wall (which appears directly when logging in on Facebook), it is possible they did not feel the need to specifically visit the group page. Another reason can be the amount of

updates or posts on the group page. Users receive automatic notifications in Facebook when new items on the group page were posted, when there are no notifications a user might not feel the need to visit the group page. The in-depth data analysis shows that there were some periods in which the amount of activity was low, which could demotivate students to visit the group-page.

The impact of educator's initiatives cannot be ignored. When looking at both group pages the educator put a lot of effort in activating students by using different learning techniques. The nature of the Facebook use however was highly informal. Learning techniques had been used in a very experimental way.

Results of both survey and in-depth analysis of the group pages however show that students did become activated by some of the used learning techniques. They became more active when the used learning technique expected them to become active such as the assignment or when questions were asked. These learning techniques are likely to be usable to increase student activity.

The interview with the educators showed that they both were enthusiastic about the use of Facebook. They pointed at the fact that a successful implementation would require more of their time and effort during the course and especially in the preparation phase. According to them clear defined learning goals and strategy are essential for a successful implementation.

As mentioned there was no relationship found between the use of Facebook and student involvement. As described by one of the interviewed educators: "Facebook was primarily used as a tool for communication and to get to know the others". The nature of the environment was highly informal and being inactive did not have any consequences for the students.

Since Facebook is an environment that is designed for communication rather than facilitating the educational practice, there are some restrictions to its use in an educational setting.
The focus group emphasized on the downsides of Facebook. Educators had some serious arguments against the use of Facebook. Their arguments were on both the ethical and practical aspects such as privacy, ownership of data, time, control and structure. They do see potential in the use of Facebook in order to increase student involvement but pointed at the fact that its effect would also depend on the topics and goals of a course. One of their suggestions was to develop a Facebook protocol to guide the implementation and to create a course specifically to experiment these new technologies.

5. Framework for integrating Facebook

One of the main questions of this research is how educators of the Bachelor and Master programs of Educational Science and Technology can increase student involvement by implementing Facebook in their courses. From the outcomes of both analyzed cases and literature review Facebook implementation guidelines have been formed. This chapter will give an insight in the implementation guidelines followed by a practical design-guide that helps educators to implement Facebook using the implementation guidelines. The final section of this chapter contains a tool-guide that is developed in order to assist educators during their courses and provides an overview of possible learning techniques they can use in order to increase student involvement.

5.1 Implementation Guidelines

The implementation guideline offers educators a structured strategy for implementing Facebook in their course. It contains a design phase in which educators have to make fundamental design-choices keeping their course-outlines and target-audience in mind. After the design phase, the implementation is supported by both the practical design-guide (see section 5.2) and the tool-guide (see section 5.3) for educators.

Pre-assessment: Requirements for integrating Facebook
Before integrating Facebook in the educational practice there are several requirements to take into account. These requirements and skills should be present by both educators and students and should be considered before starting the design phase.

Before choosing Facebook as a learning artifact, at least the following preconditions have to be checked. Despite the large adoption of Facebook amongst student population (Junco, 2011) it is worth checking the specific target group.

- *Target group*: Are the course students acquainted with Facebook and if not are they willing to participate?
- *Facility assessment:* Also the educators of the Focusgroup indicated that facilities are an important factor for a successful implementation.
  - *Hardware Devices:* Depending on how Facebook will be used during the class every individual student needs a computer, smartphone or another device providing access to Facebook. For incorporating Facebook during lectures it could be very useful for the educator to have a beamer or interactive whiteboard available.
  - *Network access:* everybody should have internet access at home and at the university with no restrictions for accessing the Facebook domain.
- *Protocols:* Are there protocols regarding the use of social media in a broader context that should be taken into account?

According to the results of the focus-group interview it is also very important that the use of Facebook is a logical choice regarding the course outlines. It is not only about the question if the course is suitable for Facebook integration, it is also about the question; 'what is the value of Facebook during a course?'. What are the goals the educator has to integrate Facebook into the course?

It seems that some courses are more suitable for integration then others. For instance courses in which group interaction is a strong part of the learning process. On the other hand, courses in which students have to study certain topics on an individual level Facebook may be less suitable. For a successful integration in the educational practice, the course needs to facilitate and stimulate participation and interaction since Facebook is designed for facilitating social interaction.

If the answers to the above-defined requirements are positive and do produce major issues, the design phase defines how the integration of Facebook in the educational practice should be integrated.

Design Phase

Before the course starts, a design-phase has to take place in order to define clear goals on the implementation of Facebook. It is also the phase in which the original course-outlines should be kept in mind. Depending on the nature of the course Facebook will or will not have the desired impact on student involvement.

Defining goals of implementation

According to the results of both interviews with educators and the Focusgroup interview, defining learning goals is one of the most important steps to be undertaken for a successful implementation of Facebook. As seen in analyzed cases (Baran, 2010; Cain & Policastri, 2011; Firpo, 2012; Wang et al., 2011) it is important for educators to define whether the use of Facebook will be formal or informal. This will influence many instructional design choices, such as if students will be graded on their activity, by the nature of the implementation.

- *Learning goals*: How can Facebook contribute to predefined learning goals of the course?
- *Formal / Informal*: In relation to the learning goals the character of the Facebook implementation plays an important role. It is therefore important to define whether the nature of the implementation is formal or informal
  If the use of Facebook is seen as a formal learning-activity, then it is questioned how the participation/activity of students would be graded.

Create communication protocol

One of the main critiques on the use of Facebook is that educators have not much control over the use of the group-page by students. Especially students have much freedom in their way of communication and interaction. Since the use of Facebook in an educational setting differs from the

way Facebook is normally used, a communication protocol can be used to guide the interactions and help to maintain the focus of the group in order to stay aligned with course goals and outlines.

The communication protocol should contain information on the desired way of communication between students – learning assistants – educators - Facilitators and external experts. Basically the communication protocol is a list of agreements on how the Facebook page is used by all students. It is important that all students accept the protocol.

Defining roles and activities

According to a social constructivist learning approach students should be placed into a central role. Learning occurs best when social interaction takes place. Assigning different pre-defined roles supports different goals. It creates clear expectations by expected participation of the various users. It also enables social interactions. According to Firpo (2012) the following roles can be allocated:

- *Educators*: Main role is to mediate class participation, lead discussions, and encourage participation and the learning process, using the various learning techniques as defined in the tool-guide.
- *Learning Assistant:* Assists all students on technical and nontechnical issues. This could be an experienced student or someone of the educational staff.
- *Active Students:* Students are seen as active students. They should be encouraged to be involved in various activities, initiated by the learning facilitators or started themselves.
- *External experts:* Depending on the course outlines external experts could be invited to join the group discussions or to assist learners by answering questions. If external experts are invited special attention has to be paid to the communication protocol.

Creating Facebook environment

A closed Facebook group is in most cases the preferred way for creating a safe learning environment (Firpo, 2012). It gives educators maximum control over content and students. Only selected members have access to the group-page. Members of a closed group do not have to become 'friends' on Facebook.

If the goal of Facebook is to communicate with an external audience a Facebook page can be considered (Divall & Kirwin, 2012). However, educators should be aware that all content on a Facebook page is public. This also might be conflicting with existing social media protocols of the University.

Invite students to Facebook Group-page

Before the first course session starts all students need to be invited to the group-page. Learning assistants could support this process. Students who do not have an account should be requested to create one. If privacy issues are an issue, Facebook offers information on privacy settings at: http://www.facebook.com/about/privacy/. When students still not want to have a Facebook account

it is possible to create an anonymous account only used for the course. It might be an option to let these students use a fictive username to guarantee their privacy but this could lead to confusion.

During the course

When the design phase is ended and Facebook is chosen as a learning environment, it is important that the goals and objectives of the use of Facebook are introduced to students.

First Course Session

In the first meeting of the course the Facebook environment is introduced. The nature of the implementation and its consequences need to be made extremely clear to students. Also the various roles and communication protocol play a key role in the introduction.

The results of this research show that placing students in an active role can be very important for a successful implementation. In order to get the interaction going, an introduction assignment can be used to break the ice. This can be an easy assignment such as "upload a picture and describe yourself in 5 words". This will generate activity and makes students acquainted with each other.

Stimulate activity

Student activity is one of the most important factors of a successful implementation of Facebook in the educational practice. One of the results of this research is that placing students in an active role is essential for generating activity. However, due to the internal group-culture it can be hard to stimulate students to become active students. To stimulate activity it can be helpful to use Facebook during class sessions for instance by asking questions via polls.

The findings of this survey showed that it is important for educators to interact and participate, as this will have an impact on student behavior. During the course educators can use various learning techniques to increase the student activity and involvement. These learning techniques can be found in the developed tool-guide.

It is therefore important not to forget to:

- Place learners in an active role (via assignments and questions)

- Initiate and participate in discussions

- Host chat sessions.

5.2 Design-guide for integrating Facebook in the educational practice

The in paragraph 5.1 defined guidelines for integrating Facebook in the educational practice have been translated into a practical design guide. This design-guide is created to help educators integrating Facebook in their educational practice. It is written in a way that it is ready to use. The design guide will guide educators through several phases (assessment, design phase, during the course and an evaluation phase), giving clear instructions on 'how' they can approach each of these phases. The design-guide can be found in Appendix 7.

5.3 Tool-guide Learning techniques

In order to help educators to stimulate student involvement via Facebook a tool-guide, based on an existing format developed by Seitzinger (2010), is developed (see figure 3). This guide is based on research to the various learning techniques Facebook offers to educators and their impact to student activity and student involvement. Both activity and involvement are depending on many factors including group dynamics, culture and the subject of the course. Educators can make a difference by active participation and using various learning techniques.

Educators can use the guide in a simple way. The left column (black boxes) describes the different learning technologies which appear in Facebook. The upper row (white boxes) show the diverse pedagogical approaches. Educators can read the scheme to follow the learning technologies or the pedagogical approach. By following the row or column the educator will encounter boxes in different colors; green, orange and red.

The green boxes indicate that the pedagogical approach can be reached by the specific learning technology. The orange ones indicate that you can reach the approach but there are some obstacles to overcome. The red boxes at last can be interpreted as a no-go; it is not possible to achieve the approach with that specific learning technology.
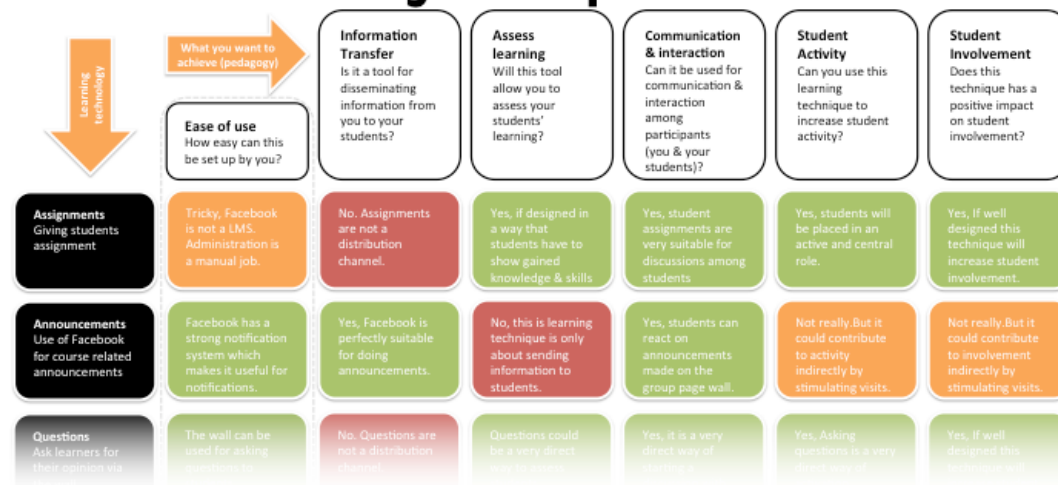
Figure 4: Facebook - Learning techniques guide for educators

The tool-guide can be used both in the development phase as during the course and can be used in two ways:

1.   The educator wants to select the best suitable learning technique in order to achieve one of the following goals: 'optimizing information transfer', 'assess learning', ' improving communication & interaction', 'increasing student activity', ' increasing student

involvement'. By following the columns the educator sees which tool(s) will help to achieve the learning goal best.

2.　　　To assess a learning technique on its strengths and weaknesses regarding the various educational goals 'optimizing information transfer', 'assess learning', ' improving communication & interaction', 'increasing student activity', ' increasing student involvement'. The educator only has to follow the row to get an indication of the best suitable learning technique.

The intention of the tool-guide developed by Seitzinger (2010) is to assist educators implementing the online learning environment Moodle. The format is redesigned to match the learning techniques for Facebook that are defined in this study. The upper row did not change in the new format the left column and all the colored boxed did. The expected effects on the educational goals are described in there. A complete version of the redesigned tool-guide can be found in Appendix 8.

6. Conclusion and discussion

In this Chapter the answers to the research questions will be presented followed by an overall conclusion and summary. Also the implications of this research and recommendations for further research are discussed.

6.1 Answers on research questions

The purpose of this study was to define if and how Facebook could be integrated in the educational practice in order to increase student involvement since this is seen as a strong predicator for learning outcome. Therefore in this paragraph each research question will be answered.

How can Facebook be successfully integrated in the educational practice?

To answer this research question we have to define what we mean by a successful integration. Since the context of this study is the use of Facebook in educational practice achieving learning goals or learning outcome can be seen as variables that define a successful integration. Since learning outcome is hard to measure this study focused on 'student involvement', which is introduced as a strong predictor for learning outcome (Astin, 1999). In order to measure student involvement the core constructs of the student involvement theory were defined. As the student involvement theory is based on the amount of physical and psychological energy that a student devotes to the academic experience (Astin, 1999) and is based on five tenets that, according to Heiberger and Harper (2008), could be facilitated in Facebook:

1. Involvement requires physical and psychological energy invested by the student.
2. Involvement occurs along a continuum.
3. Involvement has both quantitative (how many hours did the student spent studying) and qualitative (what is the student actually learning) features.
4. The amount of student learning and development is directly proportional to the quality and quantity of student involvement of the program.
5. The effectiveness of educational practice is directly related with the capacity the practice offers to increase student involvement. In other words, student involvement can be seen as an important predictor for learning outcome (Astin, 1999).

Based on the literature review the following core constructs were defined to measure student involvement on Facebook: student motivation, student behavior and student engagement. According to LaRue (2012) using the right Facebook functionality could flourish student involvement. This was confirmed by Divall and Kirwin (2012) suggesting educators should select the right learning techniques in order to achieve learning goals and to get students actively participating in an online environment like Facebook. The conducted literature review analyzed case studies in this field in order to define which learning techniques could be used when implementing Facebook. The following learning techniques based on Facebook functionality

were distilled: assignments, announcements, questions, general communication, presenting learning materials, chat and grading.

Besides the right learning techniques research showed that the educational design was crucial for a successful implementation of the defined learning techniques. One of the most influencing design choices regarding student involvement is whether Facebook is used as a formal or informal learning environment (Baran, 2010; Cain & Policastri, 2011; Wang et al., 2011). This design choice influences the effect Facebook has on all core constructs of the student involvement theory. It is clear that a formal use of Facebook stimulates student behavior, which is seen as a core construct of student involvement. Also a formal approach is seen as a strong external motivator for students since they simply have to commit to the use of Facebook (Shih, 2011). It remained unclear if a formal approach of Facebook influenced student engagement, but it is likely that there will be some effect since students are forced to participate. However this was not confirmed by the analyzed literature. On the other hand, Facebook has a strong informal character that claims for an informal learning approach (Wang et al., 2011). Interviews with students done by Cain and Policastri (2011) showed that the informal use of Facebook was one of the primary elements of its success.

Which of these learning techniques have a positive effect on student involvement?

To define which learning techniques have a positive effect on student involvement a holistic case study was conducted. The conducted case study analyzed two courses (Atelier 1 and Pedagogies) of the Educational Science & Technology program at the University of Twente in which Facebook was used as an informal learning platform. In these courses educators used 6 of the 7 learning techniques: Assignments, announcements, questions, communication, presenting learning materials and chat. Due to the informal and experimental nature of the courses the learning technique 'grading' was not used. Since Facebook does not provide logs of 'chat-sessions', it was impossible to analyze this activity. It was also not possible to define if private messages have been used. In order to be able to answer the research question, various instruments (semi-structured interviews, Focusgroup interview, survey under student population and in-depth data analysis) were used.

The semi-structured interview with educators (n = 2) show that for both cases the implementation of Facebook was highly experimental and had an informal character. One of the educators mentioned that there was a big difference between the students in both courses and it was hard to activate students in the Atelier course. Both educators emphasized that a successful implementation will heavily depend on a well-developed implementation strategy, but they had an overall positive feeling towards the use of Facebook in their educational practice. This was clearly not the case for educators that participated in the focus group interview (n = 3). They were more skeptical towards the implementation of Facebook in the educational practice and

had concerns about control, ownership of data, ethical issues. They also mentioned the fact that Facebook could be very time consuming for educators.

Students of both courses were asked to complete a survey asking their opinion on used and not used learning techniques. Results showed that students (n = 25) were in general positive to the use of Facebook in the educational practice, but did not feel more engaged. It should be mentioned that the results of the respondents of the two analyzed courses had some interesting differences. Age, group dynamics and subject of the course are seen as possible explanation for these differences. In order to increase student activity results of the survey showed that students were more engaged when used teaching activities placed them in an active role. 'Assignments' (M = 3.60, SD = 1.15) scored relatively high in comparison with the others on engagement. Although Grading was not used in both groups, students were asked if they expected that grading would influence their engagement. Results show that 'Grading' (M = 3.92, SD = 1.30) also scored relatively high in comparison with the other learning techniques on student engagement. Important are the results on items related to the interaction and participation of the educators, which all showed that participation of the educator led to an increase on engagement and motivation. The in depth analysis confirms the conclusion that placing students in an active role they increase their activity and had more interaction with each other, which is in line with the modern approach of the social-constructivism theory that states that learning occurs as a result of social interactions (Firpo, 2012). Especially the introduction assignment generated student activity.

Regarding these results we can conclude that giving online assignments can have a positive effect on student involvement since they place students in an active role. While not used, students mentioned that 'grading' their activity on Facebook would have an impact on their engagement. This proves the importance of the educational design, in which the decision whether to use Facebook in a formal or informal way plays a key role regarding student involvement. Also it was found that impact of the educator has a major impact on the 3 core constructs of student involvement. Finally it should be mentioned that it is expected that using Facebook as a formal learning artifact will have a strong effect on student activity.

How can educators of the University of Twente increase student involvement by implementing Facebook in their courses?

The findings above make clear that using various learning techniques could increase student involvement (Heiberger & Harper, 2008; LaRue, 2012) and that the impact of the educator cannot be ignored (Shih, 2011). A well-balanced course design is therefore crucial for a successful implementation leading to an increase of student involvement. As a result of this research a design-guide (Appendix 7) and a tool-guide (appendix 8) have been developed based on the findings of this study. The design-guide will guide educators through the educational design process and provides clear steps in order to integrate Facebook in a way that it can increase student involvement. The tool-guide provides a clear overview on the defined learning

techniques and their relation to educational goals, helping educators to select the right technique or helping them to achieve their goals.

6.2 Conclusion and summary

The main goal of this research was to determine if Facebook in an educational setting has a positive effect on student involvement. Based on the results of this research this question it is hard to define if the use of Facebook is directly affecting student involvement. It has become clear that a successful implementation is strongly affected by the educational design and the active participation of educators. The effects of Facebook on the defined core constructs of student involvement, 'behavior', 'motivation' and 'engagement', have been analyzed. According to the literature review the implementation of Facebook could increase student motivation. The conducted case study however did not reveal an increase of student motivation due to the use of Facebook. On the construct 'student behavior' for each learning technique different effects were measured, showing the best results for 'Assignments' and 'Grading'. The results showed however no significant effect on the use of Facebook to student engagement. This could be related to the informal and experimental nature of the use of Facebook in both cases. Due to the small number of cases it is hard to generalize the derived findings. Still it has to be mentioned that both literature review and conducted case study show various opportunities for implementing Facebook in the educational practice in order to increase student involvement. By selecting Facebook as a learning environment it is important to be aware of the concerns mentioned by the focus group regarding privacy, lack of control and ownership of data. While these implications were merely on the practical aspects, some of the ethical issues such as privacy and ownership of data can be hard to tackle. Nevertheless we can conclude that Facebook does offer a broad variety of learning techniques that can be used by educators to increase student involvement. It is important that in order to increase student involvement, students should be placed in an active role. Educators should be actively participating since they have an important impact on student motivation, behavior and engagement. Based on the results of this research a design-guide and a tool-guide were developed to guide educators to a successful implementation.

6.3 Contributions

This research makes several contributions on the research field of implementing new technologies into the educational practice. First the literature review gives an insight in recent case studies conducted to the use of Facebook in the educational practice. It provides a theoretical foundation for the implementation of Facebook in an educational setting. Second the research conducted an analysis of Facebook functionalities that can support the educational process. These so-called learning techniques can be seen as a set of practical tools that can help educators to increase student involvement. Third the results of this research have resulted in a design-guide and a tool-guide for supporting educators to implement Facebook into the educational practice.

This research gives both educators and researchers a foundation to experiment with new technologies in education, especially the use of Facebook. Still, more research has to be done in order to make the implementation more successful.

6.4 Restrictions

The conducted research has several limitations to discuss. First of all the analyzed cases existed of a small number of students. Therefore it is hard to generalize findings based on statistic data.

In both cases the use of Facebook was highly experimental, with only 'improving communication' as main goal. This could have influenced the actions undertaken by the educators, since it was only an 'additional experiment' to their course. Analysis showed that there was an impact on student activity and learning techniques but it was not always clear if these techniques were initiated with 'student activity' as main goal. Finally the research has been conducted under two groups of the Educational Science & Technology program. This might have influenced the results since these students are likely positive to experimenting within the educational practice.

6.5 Recommendations follow-up research

This research has analyzed the use of various learning techniques in order to increase student involvement. Little research has been done to the strategic side of the implementation of Facebook. Increasing student involvement with Facebook could benefit from thought course design and smart use of various learning techniques. The developed design-guide and tool-guide should be tested and evaluated to evolve to a general model. Also is important to do more research to specific learning techniques and how they can be implemented in order to generate the maximum effect on student involvement.

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Appendix 1: Interview Guide Educators

Interview Guide: Educators' experience on Facebook & Student Involvement

Section	Topic	Content/Question
Section 1:	General Introduction	Interviewer welcomes guest and introduces the research: "Welcome to this interview. The main goal of this interview is to get a clear and objective insight on your experiences regarding the integration of Facebook and the effect on student involvement. To be able to find an answer a large part of this interview will focus on used learning techniques. These learning techniques can be defined as the didactical interventions you as an educator used to activate students in a certain direction. First of all I'll start with a general question.
	Rationale of Facebook in educational setting	• Could you give a short summary of the setting in which you implemented Facebook? ○ Target audience, course outline, duration of the course. • What were your main reasons to integrate Facebook into the course? ○ Why did you integrate Facebook in the described setting? ○ What were the expected benefits? ○ What were your expectations about the acceptance of Facebook for educational use under student population?
Section 2:	Learning Techniques Introduction	Interviewer introduces learning techniques. "In recent literature a theory states that the success of Facebook integration heavily depends on the use of the right learning techniques.
	Learning Techniques	Which learning techniques did you implement on Facebook to get students involved? • Per used learning technique the following questions will be asked: a. Why did you implement this learning technique?

		b. What was the desired outcome?
		c. Was the intervention scheduled (before the course started) or ad-hoc?
		d. How did you implement the learning technique?
		i. Which Facebook functionalities have been used for this implementation?
		ii. How did you introduce this to the students?
		e. Did the learning technique result in the desired outcome?
		f. What was effect of the learning technique on student involvement?
Section 3:	Wrap-up and introduction of last section of interview	Interviewer gives a short summary of the used learning techniques and introduces the last section of the interview which will focus on the overall experience of the educator regarding the use of Facebook in the educational practice.
	General experience & recommendations	• Was the integration of Facebook in your opinion successful? o Why was it successful / Why was it not successful? • Did the use of Facebook contribute an increase of student involvement in general? • Do you have any recommendations for colleagues who want to use Facebook in the educational practice?

Appendix 2: Transcription Interviews Teacher

Transcription educator interview June 7

In deze transcriptie is de volgende codering gebruikt:

I: interviewer

D: docent

I	Introduceert onderzoek.
	Het doel van dit onderzoek is om vast te stellen of het gebruik van Facebook binnen een vak een effect heeft gehad op 'student involvement'. Het interview zal bestaan uit drie delen: eerst een algemeen deel, dan een gedeelte gefocust op 'learning techniques' en tenslotte een deel waarin je conclusies en aanbevelingen centraal staan.
	Mijn eerste vraag is of je kunt uitleggen binnen welke setting je Facebook hebt ingezet?
D	Ik heb het gebruikt bij twee vakken. Bij een eerstejaars vak, waarbij studenten ook net op de opleiding zitten. Ze komen net van school, vers van de universiteit, en ze moeten aan de slag met een vak dat gaat over ICT in het onderwijs. Ik vind dat ze er niet alleen iets over moeten leren maar er ook iets mee moeten doen. En ik zat vorig jaar al te twijfelen of ik Facebook zou gebruiken maar toen was ik zelf nog niet overtuigd. Dit jaar heb ik het gewoon geprobeerd. Waarbij ik wel direct voor mezelf heb vastgesteld dat ik het vooral wilde gebruiken voor communicatiedoeleinden. Niet zo zeer om leermateriaal erop te zetten. Daar hebben we Blackboard voor en dat zijn we ook verplicht om te gebruiken. Op die manier wilde ik proberen om te kijken of Facebook een betekenis kan hebben als het gaat om communicatie met studenten en communicatie tussen studenten onderling. Met het idee dat we elkaar dan sneller leren kennen en dat het dan ook makkelijker is om met elkaar te praten.
	Eigenlijk heb ik Facebook met het zelfde doel ingezet bij het master vak Pedagogies. Met daarbij het verschil dat het allemaal verschillende studenten zijn, uit verschillende landen, met verschillende leeftijden etc. Met de hoop dat we via de Facebook groep de communicatie sneller en makkelijker zou verlopen.
I	En dus je verwachtingen waren eigenlijk vooral gefocust op de communicatie
D	Ja, communicatie en elkaar beter leren kennen. Wie zijn dat nou die andere studenten en wie is die docent dan?
I	En je keuze voor specifiek Facebook? Waarom Facebook?
D	Omdat ik er eigenlijk zelf sinds kort redelijk enthousiast over ben, met name

	door de snelheid van communiceren, en het gemak waarmee je even een berichtje plaatst. Dat kan ook via Blackboard en email maar Facebook is persoonlijker en directer. Ik bekijk Facebook zelf een paar keer per dag, en ik had het idee dat studenten dat ook zouden doen. Dus de snelheid en het gemak.
I	En deden ze dat ook?
D	Minder vaak dan ik had gedacht maar ik weet niet of dat aan hun zelf ligt of dat dat door mij komt.
D	Het gebeurde wel maar minder actief dan ik had gedacht.
I	Je hebt Facebook dus gekozen vanuit functionaliteit, het is heel makkelijk te gebruiken en is laagdrempelig. Maar er zitten ook nadelen aan Facebook. Heb je ook overwogen om het daarom niet te doen?
D	Nee, want ik vind dat eigenlijk geen echte issues. Met name privacy is een veelgehoord bezwaar. Ik zet het zelf eigenlijk zoveel mogelijk dicht. De groepen van de vakken waren ook besloten. De belangrijkste reden daarvoor was dat studenten vrij moeten zijn er in te zetten wat ze willen. Ik hoopte hierdoor ook dat de dialoog sneller op gang kwam. Ik heb het hier ook met studenten over gehad. Dat ze bewust moesten zijn dat als ze nog nooit met Facebook hadden gewerkt dat ze zich bewust moeten zijn dat de hele wereld het kan zien.
I	Waren er ook studenten die er bezwaar tegen hadden?
D	Nee, er waren er wel een paar bij die nog geen account hadden. Maar zover ik weet hebben alle studenten zich uiteindelijk aangemeld binnen de groep. Ik heb het ze overigens niet verplicht. Ik heb ze wel uitdrukkelijk gevraagd zich aan te melden.
I	Er zaten dus geen consequenties aan vast. Dat brengt me tot het volgende punt. De teaching activities die je kunt gebruiken om een groep actief te krijgen. Ik wil je vragen welke learning activities je bewust hebt ingezet. Als je ze niet allemaal weet dan heb ik ook nog een lijstje. Teaching techniques zijn dus eigenlijk de didactische interventies die je hebt gedaan om een bepaald doel te bewerkstelligen.
D	Het is het makkelijkst dat te beantwoorden voor de groep van de masterstudenten. Omdat dat een wisselwerking was tussen wat ik in de colleges deed en op Facebook deed. De colleges zijn altijd vrij interactief. Het is een wisselwerking tussen docent en student met verschillende werkvormen. Daardoor is het ook heel logisch om achteraf nog een vraag te stellen of een link te posten in relatie tot het college. Ik merkte dat de studenten die in de colleges actief en snel reageerden dat ook op Facebook deden. Een stuk of drie studenten waren met name actief. Zowel in de colleges als ook op Facebook. Zelf heb ik af en toe een linkje of video gepost dat te maken had met het vak. Ik

	ben geen vriendin, wel de docent. Ik wil ze net even iets meer laten zien dan het standaard artikel dat ze toch al moeten lezen. Dus een link of video of een vraag of mededeling. En we hebben een keer of twee geprobeerd om met de hele groep te chatten. Een van de colleges is een soort van consultatiecollege voordat ze een definitief rapport moeten inleveren. Ik kon hier niet fysiek bij aanwezig zijn en heb er toen voor gekozen dit online te doen. Twee sessies, een in de middag en een in de avond. Die in de avond werd redelijk bezocht. Over de resultaten ervan ben ik wisselend enthousiast maar vond het wel een hele leuke ervaring
I	En redelijk bezocht? Kun je dat specifieker maken?
D	Weet het niet precies maar ik gok dat het met ongeveer de helft van het totale aantal is geweest.
I	En dat was in een gelijktijdige chat?
D	Ja, met de hele groep. Dat was bewust. Ik vind dat studenten van elkaar moeten kunnen leren. Dus alle opdrachten die studenten moeten doen zijn ook voor iedereen beschikbaar. Je kunt dus kopiëren maar dat is je eigen verantwoordelijkheid. Het is daarom dus een groepschat. Want als de een een vraag stelt dan kan dat relevant zijn voor de ander. Soms ook niet maar dan moet je dus wachten tot de ander klaar is.
I	Heb je ook beurten gegeven dan?
D	Nee het ging eigenlijk heel natuurlijk
I	En had je dan ook in die chat dat studenten in de colleges heel stil waren of niet opvielen dat die in de chat juist meer aanwezig waren?
D	Nee, volgens mij is dat niet zo. Het waren wel de studenten waarvan ik verwachtte dat ze vragen zouden stellen. En niet omdat het de studenten waren die het moeilijk vinden maar omdat het studenten zijn die nieuwsgierig zijn en dus vragen stellen.
I	Je had het dus wel van te voren gepland, maar het stond nog niet in het rooster van het vak?
D	Uiteindelijk stond het wel in het rooster. In verband met mijn afwezigheid bij het college.
I	Je zei dat je
D	Wat je merkt is dat je als je dingen moet beantwoorden in een chatvenstertje,… Het voordeel is dat je kort en to-the-point moet zijn. Dat is ook het nadeel. Je kunt geen lappen tekst in een chatvenster kopiëren. Dus voor de korte informatieve vragen was het een goede manier en zou ik het zeker ook weer willen doen. Maar het beantwoorden van echte inhoudelijke vragen is gewoon lastig. Maar dat vind ik ook last via de mail. Daarom heb ik ooit een FAQ ding gemaakt. Dat komt voornamelijk omdat de docent niet zeker weet of de vraag die

	de student heeft gesteld ook daadwerkelijk de vraag is die hij bedoeld. Je moet soms kunnen doorvragen. Je mist nuance. Je kunt dit misschien in een chat wel voor elkaar krijgen maar dan is dat niet voor een groepschat.
I	En met video chat?
D	Ja maar ook dat is dan voor een één op één sessie handiger dan voor een hele groep (als het om de inhoud gaat)… denk ik… hoewel ik wel denk dat studenten toch iets kunnen hebben aan dat soort conversaties. Maar als het te specifiek wordt dan haken ze af.
I	Je zou het dan echt moeten introduceren als een plek voor algemene vragen.
D	Ja, zo zou ik het de volgende keer ook introduceren. Echt voor de praktische vragen. Als het echt over inhoudelijke specifieke vragen gaat over het project van een groepje of individuele studenten dat zou ik dat ook echt met hun alleen willen bespreken.
I	Je zei net ook dat je een introductie opdracht hebt gegeven. Je hebt het vrijblijvend gehouden en studenten gevraagd om er aan mee te doen. Hoe heb je deze geïntroduceerd?
D	Tijdens het eerste college heb ik uitgelegd hoe het vak in elkaar zit en daarin heb ik ook de Facebook groep geïntroduceerd. Ik verplicht mezelf om de studenten binnen drie colleges bij hun naam te kennen. Ik vind het heel belangrijk dat ik de studenten gewoon ken. Dat praat makkelijker. Om dat proces ook makkelijker te maken heb ik ze gevraagd een foto van zichzelf te uploaden op de groeps-pagina met daarbij drie woorden waarmee ze zichzelf omschrijven. Hierdoor kreeg ik een beeld waar de studenten vandaan kwam. Wat voor soort student het was. Zo wist ik bijvoorbeeld na de opdracht, dat het kleine meisje met het paard op de achtergrond, dat dat Christel was. Dat duurde dus niet nog drie colleges. Dus voor mijzelf was het een hele makkelijke manier om mijn studenten te leren kennen. En ik merkte dat studenten dat ook van elkaar oppikten en daarover spraken met elkaar.
I	Dus tijdens de colleges werd er op informele manier over gesproken. Heb je ook nog tijdens de colleges aandacht besteed aan de Facebook pagina?
D [581]	Ja, ik heb er af en toe even aan gerefereerd. Op aangesproken als ze de opdracht hadden gedaan.
	Dus wat er op Facebook gebeurde kwam dus weer terug in de colleges. Heb je dat ook nog op een formele manier aandacht aan besteedt? Bijvoorbeeld op een beamer?
D	Ja, bij de introductieopdracht wel.
I	De studenten kenden elkaar ook nog niet voorafgaand aan de colleges.
D	Nee, over het algemeen niet, sommige van hun kenden elkaar al wel maar de

	meeste niet. Ik weet niet of de opdracht hieraan heeft bijgedragen.
I	En als je kijkt naar de betrokkenheid van studenten op de Facebook pagina. Heeft zo'n opdracht daar invloed op gehad?
D	Ik denk, maar dat kan ook aan de groep studenten zelf liggen, dat het sneller mogelijk was om direct met elkaar te praten. Zeker in zo'n master vak, waarin veel internationale studenten zitten, blijf ik als docent heel lang Doctor Petra. Dat gaat er zo sneller af, de drempel wordt lager. Ik vroeg me laatst af of ik dat deed om het 'gezellig' te maken of om 'aardig gevonden te worden', maar het gaat me er echt om dat als je sneller contact hebt met studenten waardoor je sneller de diepte in kunt. Bijvoorbeeld als je weet dat een student ergens werkt, kun je vragen of hij de theorie in de praktijk herkent. Je kunt veel sneller schakelen. Ik denk niet dat er heel veel 'onderwijs' gebeurt is via Facebook, maar ik denk wel dat het onderwijs zelf daardoor sneller de diepte inging. Dat geld overigens alleen voor de masterstudenten. Voor de eerstejaars gold dat niet. Hier was eigenlijk geen effect te zien. Een moeilijke groep om als docent voor te staan, het was een zeer passieve groep. Als ik iets tijdens het college vroeg kreeg ik geen antwoord terug. Dat werkte ook door in de Facebookgroep. De introductieopdracht hebben maar een paar studenten gedaan. Maar de meeste niet. Ook reageren op elkaar gebeurde nauwelijks. Als docent had ik hier misschien harder aan moeten trekken, maar daar had ik niet altijd de energie voor.
I	Maar voor jou ervaring was dit dus wel een uitzonderlijke groep?
D	Ja, totaal anders, dit hebben we niet eerder hier gehad, en is in geen manier te vergelijken met normale groepen. Achteraf bleek wel dat ze de hoorcolleges heel interessant vonden, maar daar was tijdens de colleges niet te merken.
I	En hierdoor krijg je de groep op Facebook dus ook niet echt aan de gang. Het viel me op dat je hier veel harder aan moest trekken. Denk je dat het sowieso iets is dat eerstejaars studenten wat terughoudender zijn?
D	Nee, ik had hier juist wel meer van verwacht. Juist omdat iedereen altijd roept dat ze al zoveel online doen. Dat check ik altijd bij eerste jaars, en blijkt niet altijd zo te zijn. De eyeopener voor mij was dat je de dynamiek van de colleges terug zag op Facebook.
I	Wat je dus doet in de colleges zie je terug op Facebook, maar werkt het ook andersom? Kun je het ook omdraaien? Zie je wat je op Facebook doet ook terug in de colleges?
D	Niet per se. Maar zoals ik al zei, bij de masterstudenten hielp het dat we elkaar

	sneller kenden.
I	In de survey onder studenten lijkt het zo te zijn dat de eerstejaars studenten ook aangeven dat ze niet meer betrokken raken door een opdracht (assignment) maar op de vraag of ze meer gemotiveerd zouden zijn als er meer opdrachten waren geweest reageerden ze positief.
	Naast de opdracht heb je ook andere learning techniques gebruikt. Zo heb je learning materials (leermateriaal) geplaatst. Hoe heb je dat ervaren?
D	Dat je van studenten de verwachte 'likes' krijgt, en dat sommige studenten daarna zelf ook een link gingen plaatsen.
I	Wat was je doel van het plaatsen van deze Learning materials?
D	Nou niet om gelijk de discussie aan te gaan, maar vooral uit een eigen enthousiasme. Uiteraard altijd met een vakinhoudelijke relatie.
I	Waarom plaats je dit dan op Facebook en niet op Blackboard?
D	Puur het gemak,… en dat het niet iets is dat officieel nodig is voor het halen van het vak.
I	En heb je overwogen het op beide te plaatsen? Facebook en Blackboard?
D	Nee, niet overwogen. Facebook is veel makkelijker en het ziet er ook visueel veel aantrekkelijker uit. Op Facebook kijken er ook meer studenten naar, dat werkt motiverend voor mij. Blackboard komen de studenten veel minder vaak. Ik kan me niet voorstellen dat studenten even 'lekker' gaan rondstruinen op Blackboard.
I	Je zei ook dat de studenten op een gegeven moment zelf linkjes gingen plaatsen. Dit deden ze puur uit zichzelf?
D	Ja, de masterstudenten hebben dit uit zichzelf gedaan. Misschien heb je gezien dat er op een bepaald moment linkjes kwamen over social media. Dit had een relatie met een werkcollege over social media. Ik verwacht dat deze linkjes tijdens het werkcollege zijn geplaatst. En daar zaten best hele leuke dingen tussen. Ook dingen waar ik later nog een keer zelf naar ben gaan kijken.
I	Je geeft aan dat het heel incidenteel is geweest, maar dat het wel succesvol was bij de eerste jaars studenten.
D	Ja, klopt, waarschijnlijk omdat het tijdens een werkcollege was waarin ze toch al achter de computer zaten.
I	En de masterstudenten, hebben die ook learning materials geüpload?
D	Ja
I	Heb je nog het idee dat het een verschil heeft gemaakt of het een link of video was?
D	Nee, geen idee
I	Je hebt af en toe ook mededelingen geplaatst.

D	Dat zou heel goed kunnen, ik kan me nu even geen voorbeeld meer herinneren.
I	Je hebt op een bepaald moment een mededeling over een field-research geplaatst. En een keer over de feedback van T-Pack. Heb je deze mededelingen alleen op Facebook gedaan?
D	Als ik mededelingen heb gedaan over tijden, dan denk ik dat ik ze ook op Blackboard heb gedaan. De reden om het op Facebook te zetten is vooral de snelheid. Je hebt een grotere kans dat studenten de mededeling sneller zien.
I	Maar dat werkt dus, als je ervanuit kunt gaan dat studenten Facebook een paar keer per dag bekijken. In ieder geval vaker dan op Blackboard.
D	Met Facebook krijg je meteen een mailtje of een 'notification' die studenten nieuwsgierig maakt.
I	Maar je hebt het dus puur gedaan uit functioneel oogpunt maar ook om studenten te motiveren/enthousiasme (T-Pack). Kreeg je daar dan ook weer reacties op?
D	Niet zozeer op Facebook, maar wel weer in de colleges. Dat de echte T-Pack mensen naar hun blogs hadden gekeken, dat was erg leuk. Maar dat zat vooral in de persoonlijke communicatie. Maar ze hadden het dus wel allemaal op Facebook gezien.
I	Je hebt ook nog via Facebook een aantal vragen gesteld. Bijvoorbeeld over of studenten een Laptop mee willen nemen naar college. Heb je dit dan ook weer alleen via Facebook gedaan?
D	Nee, dit heb ik ook op Blackboard gepost. Het was een vraag die ik voor de colleges te belangrijk vond
I	De vragen die je gesteld hebt waren dus geen inhoudelijke vragen?
D	Nee, het waren soms organisatorische vragen maar soms ook bedoeld als stimulans. Zo van 'jongens we hebben het over ICT dus neem je device mee'… ook om ze te laten merken waar het over gaat.
I	Dit was eigenlijk ook de laatste Learning technique die ik heb kunnen definiëren naar aanleiding van mijn analyse van de Facebookgroepen. Je hebt Facebook ingezet met het doel elkaar beter te leren kennen maar vakinhoudelijk is er niet zo heel veel gebeurd. Zie je daar wel mogelijkheden voor?
D	Ja, maar afgelopen jaar nog niet. Ik was zelf nog niet ervaren genoeg, en veel mensen zeggen dat je het er niet voor kunt gebruiken. Voor mij was het puur experimenteren dit jaar. Als ik het volgend jaar doorzet dan zou ik het nog steeds op de zelfde manier willen aanpakken maar dan zou ik wel een verdiepingsslag willen maken. Wat je er wel op moet zetten en wat niet en hoe je het dan aanpakt. En hoe kun je ook zo'n atelier 1 groep motiveren om ermee aan de slag te gaan.
I	Een hele eenvoudige manier zou natuurlijk het beoordelen van de activiteit zijn.

	De meest eenvoudige extrinsieke motivator die je hebt. Zou je dit in overweging nemen?
D	Nou als het echt een opdracht is die ze moeten inleveren dan is dat wel een optie. Ik zie niet echt een verschil tussen de verschillende tools. Maar ik denk dat ik uiteindelijk meer zou willen dan dat. De reden dat ik enthousiast ben over de blogs van de masterstudenten is dat ze zich realiseren dat ze iets publiceren dat voor de hele wereld te zien is. Dat werkt motiverend maar je moet er ook heel goed over nadenken wat je online plaatst. Dat zou ik ook meer met Facebook willen bereiken. Ik wil die diepgang ook zien op Facebook. Daar moet ik nog goed over nadenken, of ik dat ook via Facebook zou willen doen. Hoe ik dat dan aanpak.
I	Als ik kijk naar het focusgroep interview met verschillende docenten, dan was het antwoord op mijn vraag of je als docent ook ondersteund wordt in het gebruik van nieuwe technologie en applicaties, was dat dat niet zo was. Heb jij nog lessons learnt?
D	Ja en nee, het is nog steeds een experiment omdat ik zelf niet de diepte in ben gegaan. Maar als ik uitga van het doel dat ik had (contact met studenten) dan is mijn belangrijkste les dat als je dat doet dan moet je zelf ook echt actief zijn. Zelf posten en publiceren. En volhouden. Daar moet je tijd voor maken, het is niet iets dat je even tussendoor doet. Dat heb ik zelf niet goed gedaan. Als ik het volgend jaar dus weer ga gebruiken moet ik me daar heel erg bewust van te zijn. Als studenten iets plaatsen verwachten ze ook wel een reactie. Ik weet dan en ben me er ook van bewust, bij de blogs ruim ik daar ook tijd voor in. Facebook is dan tot nu toe toch een stuk vrijblijvender. Als je het echt wil inzetten dan moet die vrijblijvendheid er vanaf. Ik verder niet dat je docenten die je moet verplichten dit te doen. Maar er zijn een aantal docenten die wel al actief zijn op Facebook maar dit nog niet toepassen binnen het onderwijs. Als ze dit zouden willen doen zou ik zo starten als ik dat heb gedaan.
I	Bij de focusgroep van de docenten die Facebook nog niet gebruiken merkte ik dat ze heel erg vasthielden aan de tools die de universiteit voorschrijft. Het gevoel van én Facebook én Blackboard voelt voor hen als dubbelop. Op de vraag of ze als studenten een groep oprichtten hun uitnodiging om bij de groep te komen zouden ze dat niet doen. Wat zou jij doen?
D	Ik zou dat wel doen. Ik denk dat deze reactie komt door de onbekendheid van Facebook bij de docenten. Daarnaast hebben ze ook minder te maken met ICT.
I	Dan de laatste vraag: zou je het volgend jaar weer doen?
D	Ja, maar ik ga dan wel opzoek naar meer diepgang. Dat is een vereiste.

Transcription educator interview June 8

In deze transcriptie is de volgende codering gebruikt:

I: interviewer

T: docent

i	Introduceert onderzoek. "Het onderzoek gaat over het toepassen van Facebook binnen het onderwijs. Petra Fisser heeft afgelopen jaar bij twee vakken Facebook ingezet, om de communicatie met studenten te bevorderen. Haar vraag is of Facebook een geschikte tool is hiervoor. Omdat Petra het experiment zelf heeft uitgevoerd en dit onderzoek alleen naar deze twee vakken kijkt is het voor de beeldvorming zinvol om de ervaring van andere docenten mee te nemen. Kun je omschrijven binnen welke vakken je Facebook hebt ingezet?
T	Ik geef het vak Atelier 1, een vak waarin studenten alle vaardigheden krijgen aangeleerd die gaan over het gebruik van multimedia. Dit loopt uiteen van programmeren tot video montage. Ik heb dit vak samen gegeven met een collega. We hebben Facebook gebruikt om te kijken hoe dat ging.
I	Hoe ging dat dan?
T	Het ging eigenlijk erg goed en makkelijk. In een afgeschermde groep werd er tijdens een college gechat. Studenten pakten dit heel snel op. Ik denk dat het in de toekomst veel vaker gebruikt kan worden. Als ik het vergelijk met Blackboard dan is het vele malen makkelijker. Blackboard is dan in mijn ogen onoverzichtelijk. Het is laag op laag gebouwd. Facebook is echt stukken makkelijker
I	Dat is een herkenbaar argument. Wat mij opviel binnen de groep die ik heb geanalyseerd is dat het is toegepast buiten de colleges om. Jij hebt gebruik gemaakt van Facebook tijdens een college. Kun je me vertellen hoe dit in zijn werk ging?
T	We hebben op Facebook enkele stellingen gedeponeerd waar studenten op konden reageren. Dat gebeurde ook. Alle studenten waren fysiek in dezelfde zaal. Voor mij was dit een eye-opener. Het ging zo makkelijk en snel, dat zouden we in de toekomst ook kunnen gebruiken. Waar ik bang voor was is de bescherming, maar binnen een groep ben je eigenlijk heel beschermd. Je moet er geen gevoelige informatie erop gaan zetten, maar dat was in dit geval ook niet zo.
I	Hadden alle studenten al een account?
T	Ja, iedereen had een account, en anders maken ze er toch een aan. Dat is zo gebeurd. Dat was geen discussie. Ze weten er meer van dan de docenten… daar

	moeten we ook vanuit gaan. Ik ben er daarom ook eerst zelf een account aangemaakt om te kijken hoe het werkt. En nogmaals, als je groepen afschermt en met studenten bezig gaat is het gewoon een hele mooie tool.
I	Kleven er dan ook nog nadelen aan?
T	Nou zoals ik het nu gebruik eigenlijk niet. Alleen komt er ook veel onzin voorbij op Facebook. Ik maak me daar dan ook niet meer druk over. Vooral de prive-berichten waar niemand op zit te wachten. Dat gebeurd gelukkig niet binnen afgeschermde groepen.
I	In dit onderzoek ligt de focus op Student Involvement. Het begrip student involvement wordt uitgelegd en de relatie met learning techniques wordt geïntroduceerd.

Heb jij tijdens het gebruik van Facebook ook bewust rekening gehouden met learning techniques? |
T	Nee, eigenlijk niet. Ik denk wel dat het een bijdrage kan leveren maar daar moet je dan goed over nadenken. Ik heb nu alleen maar geëxperimenteerd.
T	Het is wel interessant om het in de evaluatie mee te nemen om te kijken of Facebook een meer prominente plaats kan krijgen binnen dit vak.
I	Maar tijdens het college hebben jullie wel bepaalde techniques toegepast. Zo hebben jullie gebruik gemaakt van Polls/vragen. Kun je daar meer over vertellen?
T	[docent zoekt tijdens het interview naar de juiste Facebook groep, dit duurt lang]
T	Ik denk trouwens wel dat je met de combinatie van Facebook en nieuwe technologie (smartphones) meer kan doen dan wat wij er tijdens het college mee hebben gedaan. Het is wel een interessante tool.
I	Sommige docenten staan juist heel sceptisch tegenover het gebruik van Facebook. Zo geven ze aan dat het extra werk is omdat Blackboard al wordt verplicht.
T	Dat vind ik echt een slecht argument. Blackboard is onoverzichtelijk en onduidelijk. Facebook is juist heel makkelijk, studenten weten daar precies wat ze kunnen vinden.
I	Een ander argument is dat het gebruik van Facebook ook tegen praktische bezwaren aan kan lopen. Bijvoorbeeld wanneer studenten geen account willen.
T	Ja, maar waar gaat het nou om. Als iemand bij onderwijskunde komt, ga ik ervanuit dat hij zich ook in de wereld van Social Media mengt. Je kunt er niet omheen en je moet wel hele goede argumenten hebben.
I	Een argument kan zijn dat je niet wil dat je data zomaar op internet komt. Of aan een bedrijf als Facebook wordt verbonden.
T	Dat kan natuurlijk, en dat geldt ook voor andere websites. Ik zie die

	argumentatie wel, maar als ik kijk naar wat er binnen deze lessen gebeurd houden de argumenten geen steek. Je kunt altijd beren op de weg zien.
I	Een ander argument van docenten was dat ze er eigenlijk niet genoeg tijd voor hebben om ook nog te communiceren met studenten via Facebook.
T	Ik denk niet dat dat iets uitmaakt. Ik krijg veel vragen binnen via mail, daar reageer je snel op. Facebook gebruik je anders.
I	Gezien je casus zijn de learning techniques dus niet echt toegepast…
T	Ja maar wat me wel te binnen schiet is dat je gebruik kunt maken van een chatsessie. Op een bepaalde tijd zorgt iedereen dat hij of zij online is. Dat zou goed kunnen werken als het gaat over een bepaald onderwerp. Tegenwoordig zie je dat veel vaker gebeuren. Facebook kan dit overnemen, maar als docent moet je dat wel goed begeleiden.
I	Hoe zou je dat dan doen?
T	Je moet vooraf duidelijke afspraken maken. Dit kun je vastleggen in een soort protocol.
I	Kun je vertellen hoe je als docent van de UT wordt begeleid in dit soort ontwikkelingen?
T	Nou, je wordt hier eigenlijk niet in begeleid. Docenten moeten zich dit zelf eigen maken. Ze moeten zelf uitzoeken of het iets is voor hen.
I	Dat is individueel gericht, er wordt dus vanuit de universiteit niets georganiseerd om de docenten te begeleiden? Zoals studiedagen ofzo?
T	Nee, maar daar zou ik ook niet aan meewillen doen of tijd aan besteden. Tenzij het een inhoudelijk interessant zou worden. Het belangrijkste is je af te vragen met welk doel je het inzet. Hoe doe je dat nou… Facebook inzetten. Maar nogmaals, ik denk dat het heel handig kan zijn voor het onderwijs.
I	Dank voor dit interview.

Appendix 3: Interview guide Focusgroup interview

[totale duur 45']

1. **Introductie [7']**

   - Verwelkomen
   - Korte voorstelronde
   - introductie van onderzoek
     - o Aanleiding van onderzoek
       - ▪ Onder studenten is Facebook een van de meest gebruikte online toepassingen.
       - ▪ Veel verschillende functionaliteiten zijn eenvoudig beschikbaar
     - o Introductie kernbegrippen
       - ▪ Student involvement
       - ▪ Learning techniques
     - o Centrale onderzoeksvraag:
       - ▪ Leidt het gebruik van Facebook in een academische setting tot een toename van 'student involvement'.
     - o Focus interview
       - ▪ Zien docenten van de Universiteit Twente mogelijkheden van Facebook in relatie met het verhogen van 'student involvement' verhogen door Facebook te implementeren in hun vakken? En zo ja, welke en wat is daarvoor nodig?
   - Werkwijze en verloop van het gesprek
     - o Tijdens dit gesprek is zowel positieve als negatief commentaar welkom. Het gaat om het verkrijgen van een eerlijk beeld.

2. **Gebruik van Facebook in het onderwijs [10']**
   - Aan welke voordelen denk je wanneer het gaat over Facebook in het onderwijs?
   - Aan welke nadelen denk je wanneer het gaat over Facebook in het onderwijs?

   (de antwoorden van de volgende vraag zullen in een mindmap worden genoteerd zichtbaar voor de studenten)
   - Aan welke toepassingen/mogelijkheden denk je wanneer het gaat over Facebook in het onderwijs'?

   Per genoemde toepassing wordt vervolgens de volgende vraag gesteld:
   - Waarmee moet je rekening houden wanneer je deze toepassing binnen onderwijs wil inzetten?
   - Zou je deze toepassing zelf inzetten? Waarom?

- **Student Involvement [10']**
  - Verwacht je dat het toepassen van Facebook binnen het onderwijs een positief effect kan hebben op 'student involvement', en zo ja, waarom?
  - Ben je bereid Facebook in het onderwijs te gebruiken met als doel het verhogen van 'student involvement'

- **Integratie van Facebook in het onderwijs [15']**
  - Waarmee moet men rekening houden bij het toepassen van Facebook binnen het onderwijs?
  - Hoe worden docenten op de Universiteit Twente ondersteund bij het implementeren van nieuwe technologieën als Facebook?
  - Is dit voldoende om Facebook succesvol in te zetten binnen het onderwijs?

- **Afsluiting [7']**
  - Samenvatting van vragen
  - Zijn er nog vragen die niet gesteld zijn maar wel van belang zijn?
  - Afsluiting

Appendix 4: Transcription Focusgroup interview

Transcription Focusgroup interview 7 juni

This interview was held at the University of Twente on 7th of June 2012 with 3 educators.

In deze transcriptie is de volgende codering gebruikt:

I: interviewer

T: docent

G: docent

K: docent

i	Introduceert onderzoek. "Het onderzoek gaat over het toepassen van Facebook binnen het onderwijs. Petra Fisser heeft afgelopen jaar bij twee vakken Facebook ingezet, om de communicatie met studenten te bevorderen. Haar vraag is of Facebook een geschikte tool is hiervoor. Omdat Petra het experiment zelf heeft uitgevoerd en dit onderzoek alleen naar deze twee vakken kijkt is het voor de beeldvorming zinvol om ook te kijken hoe andere docenten hiernaar kijken. Binnen dit onderzoek is met name Student Involvement een belangrijk construct waarnaar zal worden gekeken. Om student involvement te vergroten kunnen verschillende 'learning techniques' worden toegepast. Het focusgroep interview zal 45 minuten duren waarin jullie elkaar mogen aanvullen. Ik zou graag van jullie willen weten of jullie voordelen zien en zo ja welke?
T	Een van de grootste voordelen is dat wanneer studenten Facebook hebben en ze lid zijn van een Facebook groep ze er regelmatig op kijken, en als ere en nieuwe melding in wordt gedaan ze in ieder geval zien wanneer er iets gebeurt. Of ze er vervolgens naar kijken is een tweede
G	Ja, precies, kijken… en lezen is een tweede
T	Ik denk dat ze er in ieder geval vaker op kijken dan op Blackboard.
K	Maar bij Blackboard ontvang je ook meldingen via mail
I	Maar je verwachting is dat studenten veel op Facebook zitten?
T	Ja, dat is een verwachting
I	Maar ook een ervaring?
T	Nou niet tijdens mijn eigen vak

G	Bij mij ook niet, zelfs vreemd genoeg is het al lastig genoeg om een Twitter-naam te achterhalen terwijl je zeker weet dat sommige studenten hier gebruik van maken. Maar het is natuurlijk ook meer in de vriendenkring. Ik denk wel dat directe communicatie een ding is.
I	Zijn er nog meer voordelen die je kunt benoemen?
K	Je bent minder afhankelijk van Blackboard van de Universiteit
G	Het gaat natuurlijk om voordelen ten opzichte van wat. Je kunt zeggen: welke Functionaliteit heeft Facebook nou? Als je kijkt naar berichten sturen dan kun je het vergelijken met emailberichten versturen via Blackboard. Daar zou je wel verschillen kunnen zien. Maar ik weet niet of je daar echt voordelen uit haalt. Dan heb je het over directheid of tijdgebonden. Als je het hebt over het delen van afbeeldingen of bestanden, dan krijg je ze er direct erbij te zien. Dat werkt beter.
K	Maar je hebt geen tabbladen, en mist daardoor structuur
G	Ja, klopt, je hebt alleen de groepsstructuur.
I	Dus aan de ene kant zeg je dat het beter geschikt is voor media omdat je meteen in beeld ziet wat je hebt geüpload.
G	Ja klopt
K	Maar dat werkt alleen als je één of twee bestanden wil uploaden. Anders is het weer niet handig want je krijgt alles onder elkaar.
I	En je gaf aan dat je de structuur hierin mist.
K	Ja, klopt je wilt eigenlijk een soort van tabbladen of organisatievorm
G	Naast dat je groepen van mensen hebt, heb je ook groepen van bestanden of instructies. Facebook zit alleen op groepen van mensen. Wat ook mist is de mogelijkheid voor subgroepen, binnen een vak heb je vaak meerdere subgroepen
I	Dit is vanuit de docent geredeneerd, zijn er specifiek voor studenten voordelen?
K	Ja, zoals eerder gezegd zijn ze eerder op de hoogte doordat ze regelmatig status bekijken. Op Blackboard loggen ze minder vaak in. Dus als student ben je beter op de hoogte van wat er speelt.
G	Ja en je maakt deel uit van een groep. Dus je weet hoe groot de groep is en wie er in de groep zit. Op Blackboard is dit een platte lijst. Het maakt de communicatie tussen studenten makkelijker.
G	Ook daar is het weer lastig dat je geen subgroepen hebt. Wordt al snel een enorme rommel.
K	Ja, je krijgt anders wel een hele lange lijst waarin je naar beneden moet scrollen, als je wil communiceren met alleen een deel van een groep moet je al met privé-berichten gaan werken maar dat is omslachtig.

G	Een tijdslijn is leuk maar…
I	Is dat iets dat niet past binnen een vak?
G	Ja, ik denk dat het wel past, maar de mazigheid is te groot. Binnen één dag wordt er waarschijnlijk enorm veel uitgewisseld. Uiteindelijk verlies je zo de inhoud en het overzicht van het totaal dat je graag wil hebben.
K	Als ik vanuit mezelf als docent redeneer vraag ik me af wat Facebook toevoegt aan het verplicht gestelde Blackboard? Dat weet ik niet zo, behalve het directe contact misschien. Bij Blackboard kun je ook met discussiegroepen werken. Dat soort dingen heeft Blackboard ook
I	En merk je als je dat doet dat het ook op gang komt en dat studenten dat dan ook doen? Of is het vooral een belofte van de techniek?
K	Als je het verplicht stelt wel…
G	Ja maar dat is bij Facebook ook wel zo.
T	Ik denk ook dat er buiten de groep veel meer gepraat wordt over het vak dan binnen de groep
G	Ik merk dat als er een conflict is binnen de groep en ik vraag CC mij als jullie iets doen dat zelfs dat niet altijd gedaan worden. Ik denk dat studenten niet alles willen delen met een docent.
K	Het enige dat ik bij Facebook kan bedenken is dat studenten updates eerder en sneller zullen zien.
G	Iedereen heeft Blackboard en email maar niet iedereen heeft Facebook.
K	Ja of je je moet het verplichten maar dat kan eigenlijk niet…
I	Ja maar je verplicht ook Blackboard
G	Dat is vanuit de UT
K	Ja je zit natuurlijk wel met privacy en al die dingen natuurlijk.
I	Ik heb een hele lijst opgeschreven. Aan de ene kant zeggen jullie dat het positief kan zijn voor directe communicatie. Maar verder zien jullie niet heel veel meerwaarde voor Facebook in het onderwijs. Mag ik het zo samenvatten?
T	Ja, maar het hangt natuurlijk sterk af van welk vak je geeft of Facebook geschikt is. Bij ons op Blackboard staat relatief weinig informatie omdat het een projectvak is. De uitwisseling is voornamelijk tussen de groep, de begeleider vanuit de UT en de opdrachtgever
K	Ja en die communicatie wil je eigenlijk niet op Facebook.
T	Dat wil je zo professioneel mogelijk houden. Afspraken maken doe je als bedrijf ook niet via Facebook. Of althans niet op dat niveau. Je profileert je er wel, maar niet op het gebied van ontwerpprocessen. In die optiek past het niet bij mijn vak. Daarnaast mogen ze zelf de groepen kiezen, en ik neem aan dat ze elkaar wel op Facebook hebben.
K	Het enige vak waarbij het een mooi plekje kan krijgen is een vak over Media en

	ICT in het onderwijs. Dat je daarmee gaat experimenteren vanuit het vak
I	Wat ik gezien heb bij de groepen die ik tot nu toe heb bekeken, zie je dat je wanneer iets verplicht wordt gesteld het waarschijnlijk werkt voor de betrokkenheid maar ook dat het drempel verlagend kan werken. Zeker richting tentamens stellen studenten makkelijk vragen via Facebook.
G	De vraag is of je dat wil…
I	Waarom niet?
G	Omdat je soms wil dat studenten er eerst zelf over nadenken. Vragen worden te makkelijk gesteld. Bij email is het al zo dat je soms denkt van 'he… lees even de handleiding…", en email is al laagdrempelig. Als docent krijg je waarschijnlijk steeds meer vragen en ben je straks druk met het geven van antwoorden op kleine vragen. En dan is het ook onhandig dat je de geschiedenisstructuur mist waardoor je het risico loopt op dubbele vragen en je niet kunt refereren aan eerdere antwoorden.
K	Als docent zou ik ook helemaal niet willen om met studenten te op Facebook werken onder mijn eigen account. Ik zou er een apart account voor aanmaken. Wil niet alle berichten van studenten tussen de berichten van mijn vrienden te zien.
T	Maar je maakt een aparte groep aan, je hoeft dus niet direct vrienden te worden met je studenten.
I	En als je nu uitgaat van een vak waarbij het gebruik van Facebook wel zou passen? Wat verwachten jullie dan waar je vooral rekening mee zou moeten houden?
G	Voornamelijk praktische zaken. Wat mij wel leuk lijkt is dat je bij opdrachten ook via kleine posts de tussenstadia van een proces kunt volgen. Dat zou je met Facebook wel kunt doen
T	Een van de belangrijkste dingen is afspraken maken met studenten wat er wel en niet op de Facebookgroep thuishoort.
G	Een soort Facebook-protocol
K	Ik kan me ook voorstellen dat als je als student problemen hebt met je groepje dan wil je dat eerst zelf oplossen zonder dat iedereen (groep en docent) kan meelezen. Dan gebruik je trouwens waarschijnlijk niet Facebook
I	Ja, je hoeft er natuurlijk niet per se vanuit te gaan dat Facebook het enige communicatiekanaal is. Je hebt verschillende manieren van communicatie. Je gaat natuurlijk niet voor álles Facebook gebruiken. G, jij zei praktische zaken qua implementatie…
G	Nou ja, ik denk in eerste instantie zal je moeten nadenken over welk niveau de updates gaan zodat je niet iedereen de hele tijd lastig valt. Daarnaast moet iedereen een account hebben en Facebook kunnen gebruiken. Studenten moeten

	de vaardigheden hebben om Facebook te kunnen gebruiken. Er zijn meerdere communicatiekanalen mogelijk, maar waar ligt de grens voor welk doel je welk middel gebruikt. Er zijn studenten die schromen niet hun 'rommel' zomaar overal te posten. Je moet dus die nuances ook helder krijgen anders vertroebelt het.
K	En je moet duidelijk maken wat je ermee gaat doen. Wanneer je het als discussieplatform gebruikt en je communiceert dat je studenten gaat beoordelen op hun activiteit werkt het natuurlijk heel anders dan wanneer je het inzet als 'algemeen communicatiemiddel'. Op Blackboard beoordelen we wel eens de activiteit van studenten in discussies.
G	Als je het als beoordelingsmethode moet het ook wel kunnen 'loggen' en bewaren. Ik weet niet of dat nu makkelijk kan binnen Facebook om discussies te exporteren.
I	Ja, als screenshots, maar het is natuurlijk wel een groot vraagteken. En als het al kan is het natuurlijk moeilijk dat je als universiteit geen invloed hebt op de ontwikkelingen van Facebook. Zo is vorig jaar het 'forum' vervangen door de 'wall'. Je kunt zo opeens een deel van je werk kwijtraken.
G	Ik denk dat dat bezwaar wel meevalt, een vak duurt gemiddeld 8 weken en het schrappen van een functionaliteit binnen Facebook zal waarschijnlijk wel al langer worden aangekondigd.
I	Ik heb nog een vraag: zou het voor jullie ook interessant zijn om externe experts op deze manier makkelijk bij je vak te betrekken. Dat zou voor mij als student wel interessant zijn.
G	Dat kan in ieder geval niet via Blackboard, hier zitten we qua rechten en accounts helemaal vast door het beleid van de UT. Ik heb het vorig jaar meegemaakt met een vak met een externe opdrachtgever, dat was een crime om externen in Facebook te krijgen. Ik kan me voorstellen dat dat met Facebook een stuk makkelijker zou zijn.
K	Ik zie daar ook een gevaar in, we zijn natuurlijk ook een bepaalde manier van communiceren gewent op Facebook. We posten wat er in ons opkomt. Naar buitenstaanders willen we als UT natuurlijk wel een imago uitdragen. Als studenten zich daar niet van bewust zijn kan er een verkeerd beeld ontstaan
G	Ja, je bent natuurlijk wel de regie kwijt. Naast het feit dat de experts iets kunnen vertellen wat niet strookt met wat jij aan het doen bent binnen het vak, kan het ook zo zijn dat studenten iets posten dat niet voor externen bedoeld is.
K	Het is wel een omslag voor studenten en docenten. Als je kijkt hoe het privé gebruikt wordt in tegenstelling tot gebruik binnen je studie, dan is dat wel een andere manier van denken en nadenken voor je iets post... ik wil niet zeggen dat het niet kan maar...

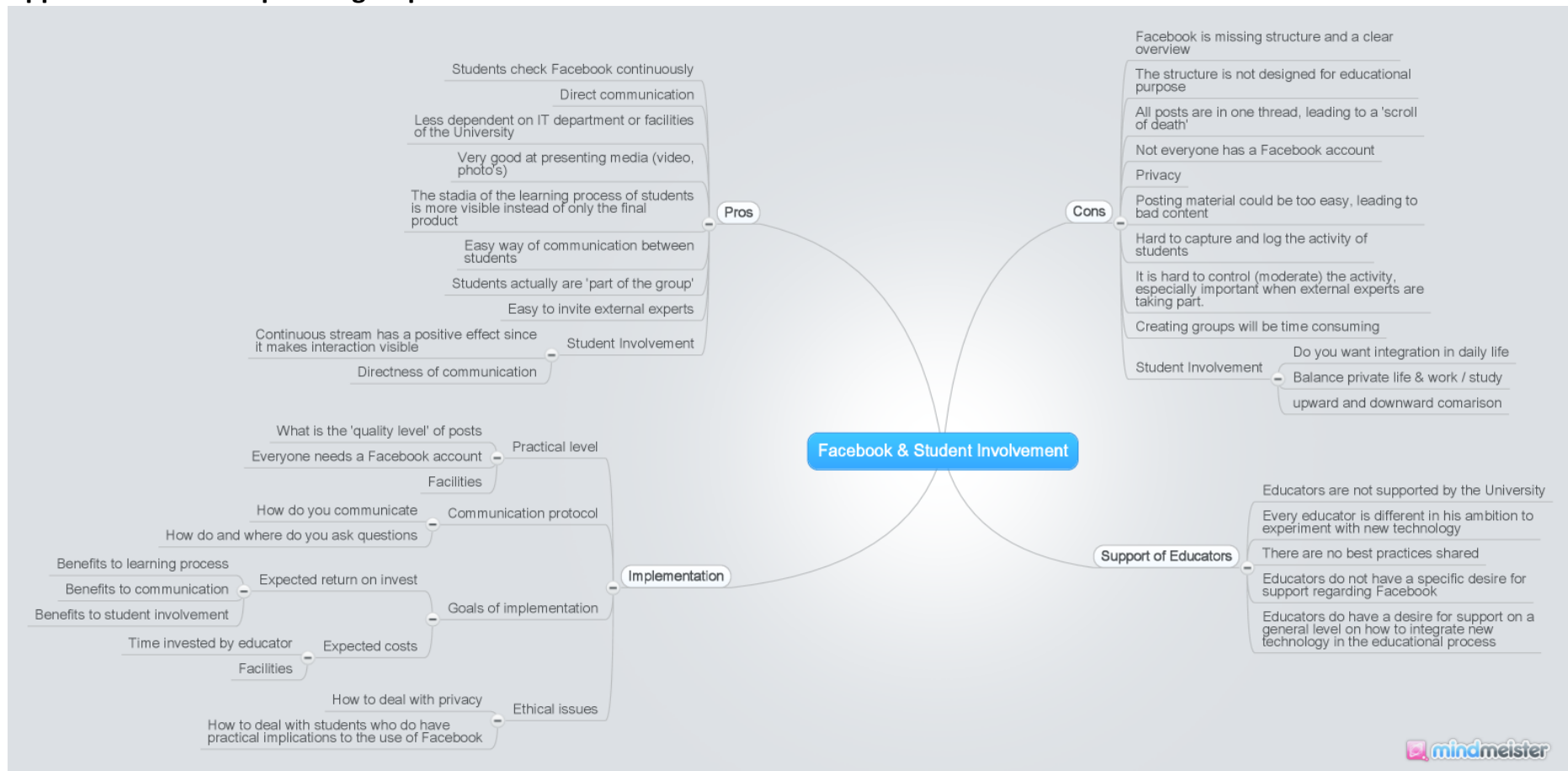| G	Ja dat is wel een hele andere functionaliteit. Of je het gebruikt voor een soort smoelenboek of als functioneel communicatiemedium voor serieuze dingen.
K	Ik gebruikte het eigenlijk alleen voor vrienden, maar heb nu ook steeds meer onderzoekers of internationale contacten die ik ben gaan volgen. Ik denk nu dus veel meer na over wat ik post dan voorheen.
I	En hoe wordt je als docent vanuit de UT ondersteund?
G	Als je iets wilt trekken moet je dat vooral doen, maar het wordt niet ondersteund. Hoe meer je afwijkt van je standaard PC hoe minder ondersteuning je krijgt.
K	Dat kan niet eens, die zit dichtgetimmerd, je hebt geen rechten als je iets anders doet
G	Dat is helemaal verzakelijkt
I	Ja, maar je hebt natuurlijk twee kanten van ondersteuning: technisch en didactisch. Hoe worden jullie ondersteund in die didactische kant
G	Dat is helemaal aan de docent. Dat kun je inrichten zoals je wil. Je staat er dan wel alleen voor. Als je iemand bent die dat in een vak wil gebruiken dan ben je vrij. Er zijn ook geen best practices van 'als je het wilt doen, dan kun je … volg dan deze stappen…"
K	Het lijkt op de smartboards die door niemand worden gebruikt. Die werken niet en niemand weet hoe de software werkt.
T	Die software staat ook niet standaard op de pc's.
K	Is wel zonde, iedereen gebruikt het nu voor een PowerPoint.
K	Dat is eigenlijk hetzelfde voor Facebook, er is geen ondersteuning
I	Zou dat wel helpen om student involvement te vergroten? Als ik naar mezelf kijk dan sta ik met internet op en ga ik ermee naar bed, niet iedereen zal dat doen. Maar ik kan me wel voorstellen dat dit soort toepassingen heel dicht op de huid van de student gaan zitten. Is dat iets om in de toekomst rekening mee te houden?
T	Het is maar de vraag of je dat wilt, het kan ook zo zijn dat je niet de hele tijd wilt worden lastig gevallen met je opleiding. Veel mensen gebruiken het puur als sociale uitlaatklep
G	Dat is hetzelfde als met Twitter, Ik ben ook selectiever geworden in het volgen van mensen, want het is niet te doen om alles te blijven volgen
K	Het is hierdoor ook steeds moeilijker de balans tussen werk en privé te bewaken. De vraag is of je dat wilt.
G	Ja het is uiteindelijk natuurlijk een beslissing van de student.
K	Niet als je het verplicht natuurlijk
G	Nee maar dan wordt het een ethische kwestie of je dat kunt maken.

I	Maar daar krijgen jullie dus eigenlijk geen ondersteuning, zou dat wenselijk zijn?
K	Als het gaat om Facebook niet, maar bij de smartboards wel.
G	Maar ik vraag me af of je over dat soort ethische dilemma's over de betrokkenheid van studenten bij het vak discussies moet hebben. Dat wordt heel snel een geitenwollensokken discussie. Dat is een afweging die je op dat moment moet maken.
K	Maar technische ondersteuning zou wel fijn zijn, de didactische kant kunnen we zelf wel bedenken.
I	Dat is wel interessant dat je dat zegt want aan het begin zei je dat je bij het uploaden van 20 foto's ze allemaal onder elkaar ziet maar je kunt ze ook als 'album' uploaden.
K	Ja tuurlijk
I	Als je de kennis van de tools niet hebt wordt dat natuurlijk wel lastig. Als je af en toe wordt meegenomen in een sessie, zou het je wel kunnen helpen om nieuwe technologie toe te passen binnen het onderwijs.
K	Ja Susan heeft een tijdje tips gestuurd. Elke week stuurde ze een ICT tip per email. (weet je dat je met PowerPoint…)
I	Maar voor student involvement, denken jullie dat het gebruik van Facebook effect zou hebben? (los van of het wenselijk is?)
G	Ja, als je het proces inzichtelijk maakt met tussenstappen, en je ziet wat anderen doen en hoe het vak zich ontwikkelt, dat zal je wel kennis geven over het proces en hoe de anderen het doen. Maar aan de andere kant kost het je ook tijd en die had je ook in het vak kunnen steken.
I	Dan doel je op de kwaliteit van de interactie op Facebook?
G	Ja, je kunt allemaal wel zitten monitoren wat de andere doen, en dat is soms handig als je een paar goede studenten hebt die de rest meetrekken
K	Maar dat kan ook andersom werken, eerst allemaal rotzooi posten dan denkt de rest ook dat er niets te halen is.
G	Je moet dan bijna een aantal studenten vragen om hun proces te beschrijven op Facebook…
I	Dus als je dan kijkt naar je implementatie, dan ligt daar wel een sleutel?
G	Ja je hebt dan die sociale vergelijking waar het invloed op zou kunnen hebben (hoe goed ben ik ten opzichte van anderen).
K	Kan natuurlijk ook negatief uitpakken
I	Dat is afhankelijk van wat er gebeurd
G	Het is ook goed om slechte studenten te zien, dan heb je de upward en downward comparison.
I	Maar ok, als ik naar de groepen kijk waar Facebook is gebruikt herken ik veel dingen die jullie noemen. Een succesvolle implementatie hangt het heel sterk af

	van de doelen en hoe hard de docent er zelf instaat.
G	Ja het is vaak dat je als je een doel wilt bereiken dat je rekening moet houden met de verwachte opbrengsten en kosten die de tool kan inbrengen en de facilitaire aspecten (heeft iedereen een account en computer). En bij wat oudere doelgroep zal dat wat zwaarder wegen.
K	Ja en de privacy issues, de morele bezwaren. Dan heb je als docent bedacht dat je alles via Facebook wil doen, heeft er een student bezwaar tegen, dan heb je een probleem.
I	En de opkomst van faciliteiten? Is dat nog een probleem?
G	Het is niet alleen fysieke faciliteiten maar ook de kennis over de tools: kun je ermee omgaan?
I	Als ik kijk naar mobiele toepassingen, die zouden voor mij, als ik docent zou zijn, een manier te zijn om studenten praktische opdrachten te laten uitvoeren. Die zouden heel gemakkelijk te publiceren zijn via Facebook. Is dat iets wat waar jullie op zitten te wachten?
G	Ja ik denk dat je van de geïnterviewde meteen al niet echte positieve reacties op zal krijgen. Dat heeft te maken met de negatieve naam van Facebook met betrekking tot privacy. En dat is niet volledig onterecht. Dat zal praktische problemen opleveren
K	En ik ken nog een heleboel mensen die nog geen smartphone hebben.
G	Ja, je kunt natuurlijk wel leuke dingen verzinnen met een smartphone, bijvoorbeeld maak een fotoreportage op locatie, maar dat kun je ook op hele andere manieren doen. Bijvoorbeeld met een gewoon fototoestel en Blackboard
I	Maar er wordt soms wel van studenten verwacht dat ze een video opname van iets maken…
T	Maar die apparatuur kun je via de UT regelen
G	Maar je verliest dan wel de laagdrempeligheid die de nieuwe techniek meebrengt. Misschien over een aantal jaar, als de smartphone nog verder is opgerukt zou je het misschien wel kunnen doen
K	Dan doen we toch alles in virtual reality?
I	We hebben het ook over de voor en nadelen gehad, jullie geven aan dat het soms wel interessant zou kunnen zijn maar dat je al snel tegen de praktische bezwaren oploopt. Toch zie ik bij de twee groepen waarbinnen Facebook is toegepast, dat studenten eigenlijk allemaal meedoen en het hartstikke leuk vinden. In hoeverre zijn de bezwaren die jullie noemen in de praktijk wel een issue of komen deze vooral voort uit professionele overwegingen.
K	Ja maar bij die groepen hebben studenten er zelf ook wel belang bij door het type

	studie waar ze voor gekozen hebben. De studenten die ik heb hebben een hele andere instelling, en vaak hebben de internationale studenten niet eens een mobiele telefoon.
G	In de vak evaluaties wordt er ook geen aandacht aan besteed. Dat zal je dan sowieso moeten doen. En ik heb iets van 'wat levert Facebook mij nog meer op dan het toch al verplichte Blackboard'.
I	Ik heb ook gehoord van groepen studenten die zelf Facebookgroepen starten omdat ze dat prettiger vinden dan communiceren via Blackboard of mail. Als dat zou gebeuren en je zou worden uitgenodigd om mee te doen, zou je dat dan willen doen?
K	Dat ligt aan de leerdoelen van het vak. Als het onderdeel is van het vak om te leren met elkaar te communiceren dan moet je daarin meegaan.
G	Maar ik communiceer op Facebook voornamelijk met mijn vrienden en wil niet dat studenten dat ook kunnen zien.
I	Maar je kunt natuurlijk lid worden van een afgeschermde groep, je hoeft geen vrienden te worden. Zonder dat mensen uit de groep jouw reguliere posts kunnen zien.
T	Ja de instelling kan ook zijn dat jouw vrienden niet zien wat jij in die groep doet
K	Maar ja, je zit dan met het probleem dat als je daaraan meedoet, alle studenten in die groep moeten zitten omdat het anders niet eerlijk is ten opzichte van andere studenten
G	Ik heb het overigens ook nog niet meegemaakt dat een student me uit heeft genodigd
K	Je moet ook kunnen klagen over de docent toch?
I	We zijn bijna door de tijd heen. Ik loop nog even door mijn punten heen. Zijn jullie bereid Facebook te gebruiken, dat is dus een duidelijke…
K	Nou, als het wat oplevert…
G	Ja, we gebruiken het allemaal, maar binnen het onderwijs levert het te weinig op.
I	Het heeft misschien ook te maken met de andere tools die worden opgelegd. Als die er niet zouden zijn…
G	Dan nog, je hebt iets nodig met de structuur om bestanden te kunnen delen en praktische vakinformatie. Bijvoorbeeld roosters. Daar is Facebook eigenlijk niet geschikt voor.
G	En je hebt ook nog het praktische gedoe van alle groepen in te richten. Dat moet dan handmatig en kost veel tijd.
I	De laatste vraag die ik jullie wil stellen is: vinden jullie dat jullie wel ondersteuning zouden moeten krijgen als docenten? Omdat het een opleiding onderwijskunde is en je te maken krijgt met dit soort tools?
T	Ik denk dat je als opleiding onderwijskunde wel vooraan moet lopen in nieuwe

	ontwikkelingen. Dat zit niet zozeer op ondersteuning maar in ruimte om te experimenteren.
G	Het moet meer zitten in enthousiasmeren.
T	Ja, je hebt nu bijvoorbeeld ook van die iPad scholen, daar wordt volop geëxperimenteerd. Dat zouden wij eigenlijk ook moeten doen.
K	Ook daar is het wel van belang wat je er dan écht mee doet.
I	Dus je zou eigenlijk een soort lab moeten hebben waar je kunt experimenteren met dit soort technologie/innovatie?
T	Ja, zou mooi zijn als je dat binnen een vak kunt doen. Een soort testvijver waarin je dat kunt doen. Voor docenten maar ook voor studenten.
G	Dan wordt het wel een dure opleiding… je zou dan moeten kijken naar samenwerkingsverbanden bijvoorbeeld met het Sciencepark tegenover de UT
G	Je kunt dan als UT inhaken en samen inkomen doen, en leuke spin-offs ontwikkelen op het gebied van onderwijskunde.
I	Een van de grondbeginselen van onderwijskunde is dat het zichzelf moet blijven ontwikkelen.
G	Daar moet je dan wel de tijd voor hebben als docent, want die ontbreekt nu.
I	Gezien de tijd moeten we gaan afronden. Zijn er nog zaken die ik niet heb genoemd of die jullie nog willen noemen?
Allen	Nee, we zijn wel geïnteresseerd in de uitkomst. Met name de perspectiefwisseling is interessant.

Appendix 5: Mindmap Focusgroup interview

Students check Facebook continuously

Direct communication

Less dependent on IT department or facilities of the University

Very good at presenting media (video, photo's)

The stadia of the learning process of students is more visible instead of only the final product

Easy way of communication between students

Students actually are 'part of the group'

Easy to invite external experts

Pros

Continuous stream has a positive effect since it makes interaction visible

Directness of communication

Student Involvement

Cons

Facebook is missing structure and a clear overview

The structure is not designed for educational purpose

All posts are in one thread, leading to a 'scroll of death'

Not everyone has a Facebook account

Privacy

Posting material could be too easy, leading to bad content

Hard to capture and log the activity of students

It is hard to control (moderate) the activity, especially important when external experts are taking part.

Creating groups will be time consuming

Student Involvement

Do you want integration in daily life

Balance private life & work / study

upward and downward comarison

Facebook & Student Involvement

What is the 'quality level' of posts

Everyone needs a Facebook account

Facilities

Practical level

How do you communicate

How do and where do you ask questions

Communication protocol

Benefits to learning process

Benefits to communication

Benefits to student involvement

Expected return on invest

Time invested by educator

Expected costs

Facilities

Goals of implementation

Implementation

How to deal with privacy

How to deal with students who do have practical implications to the use of Facebook

Ethical issues

Support of Educators

Educators are not supported by the University

Every educator is different in his ambition to experiment with new technology

There are no best practices shared

Educators do not have a specific desire for support regarding Facebook

Educators do have a desire for support on a general level on how to integrate new technology in the educational process

mindmeister

Appendix 6: Survey & Results

For each question results are shown between brackets.

Introduction

This survey will investigate the relationship between the use of Facebook in an academic course and the experienced involvement under student population. Data derived from this survey will be used for research only and will remain anonymous. It will take approximately 10 minutes to answer this survey. Please select the answer that is most suitable for you. If you are interested in the results please contact Job Bilsen (job.bilsen@gmail.com). Many thanks for your participation.

General information

1. Sexe   □ Male (10)   □ Female (15)

2. Age   □ 18 (4) □ 19 (3) □ 20 (3) □ 22 (1) □ 23 (4) □ 24 (3) □ 25 (1) □ 26 (1) □ 31 (2) □ 33 (2) □ 34 (1)

Activity on Facebook

3. Did you already had a Facebook account before the course started?   □ Yes (21)   □ No (4)

4. How many times a week do you log in on Facebook   □ 0-1 (1) □ 2-5 (1) □ 6-10 (4) □11-15 (7) □16-20 (5) □ 21 or more (7)

5. How much time do you spend per session (on average)   □ 0 min (1) □ 1-5 min (6) □ 6-15 min (11) □ 16-30 min (5) □ 31 – 60 min (2) □ more than 60 (0)

6. Which devices do you use for Facebook   □ Laptop (23)   □ Desktop (11) □ Tablet (0)   □ Smartphone (12)

7. Which device do you use most?   □ Laptop (13)   □ Desktop (5)   □ Tablet (0)   □ Smartphone (6)

The questions below will focus on the course followed by you in 2011. During this course a Facebook Group-page was used.

General experience Facebook Group-page

1. The purpose of the use of the Facebook group-page was clear at the beginning □ totally disagree (5) □ disagree (8) □ neutral(1) □ agree (7) □ totally agree (4)

2. The use of Facebook made me more involved in this course □ totally disagree (3) □ disagree (5) □ neutral (8) □ agree (5) □ totally agree (1)

3. My contributions on the group-page were of added value to the course □ totally disagree (4) □ disagree (6) □ neutral (7) □ agree (6) □ totally agree (2)

4. The contributions of fellow students on the group-page were of added value to the course □ totally disagree (1) □ disagree (10) □ neutral (4) □ agree (8) □ totally agree (2)

5. The use of Facebook lead to closer contacts with my fellow students □ totally disagree (4) □ disagree (6) □ neutral (10) □ agree (6) □ totally agree (2)

6. The use of Facebook stimulated me to participate in course-related discussions □ totally disagree (5) □ disagree (7) □ neutral (6) □ agree (5) □ totally agree (2)

7. Facebook was a good platform for facilitating interaction between students and educators □ totally disagree (1) □ disagree (6) □ neutral (3) □ agree (11) □ totally agree (4)

8. Due to the Facebook Group-page I have spent more time on this course □ totally disagree (3) □ disagree (7) □ neutral (5) □ agree (5) □ totally agree (5)

The following questions will focus on the used learning techniques and the influence of the educator

9. Contributions from the educator on the group-page stimulated me to engage □ totally disagree (3) □ disagree (6) □ neutral (4) □ agree (7) □ totally agree (5)

10. Contributions from the educator were necessary to keep the group-page alive □ totally disagree (1) □ disagree (3) □ neutral (5) □ agree (10) □ totally agree (6)

11. Contributions from the educator on the group-page helped to keep focus on the course topics. □ totally disagree (1) □ disagree (6) □ neutral (3) □ agree (11) □ totally agree (4)

12. It was motivating when the educator reacted on my contribution □ totally disagree (1) □ disagree (6) □ neutral (3) □ agree (11) □ totally agree (4)

The following questions will focus on the used learning techniques and the experience of students in relation to student involvement

assignments

13. The assignment increased my motivation for this course	□ totally disagree (2)	□ disagree (8)	□ neutral (8)	□ agree (5)	□ totally agree (2)
14. The photo & introduction assignment helped to break the ice	□ totally disagree (2)	□ disagree (5)	□ neutral (4)	□ agree (12)	□ totally agree (2)
15. It would be engaging if there were more assignments on the Facebook group-page	□ totally disagree (1)	□ disagree (5)	□ neutral (2)	□ agree (12)	□ totally agree (5)
16. The photo & introduction assignment has reached its goal	□ totally disagree (2)	□ disagree (6)	□ neutral (2)	□ agree (7)	□ totally agree (4)

Informing students (communication channel)

17. I have noticed the announcements made by the educator	□ none of them (1)	□ (1)	□ (4)	□ (12)	□ all of them (7)
18. I commented or liked announcements made by the educator	□ never (3)	□ (6)	□ (7)	□ (7)	□ always (2)
19. The announcements made on Facebook made me check the group-page more often	□ totally disagree (1)	□ disagree (1)	□ neutral (3)	□ agree (12)	□ totally agree (8)
20. Facebook is a good place for making announcements related to the organization of the course (e.g. changed schedules, classroom, locations etc.)	□ totally disagree (2)	□ disagree (2)	□ neutral (8)	□ agree (8)	□ totally agree (5)

Presenting learning materials

21. I have noticed the presented learning materials (such as interesting links or movie-clips) on the group-page	□ none of them (1)	□ (0)	□ (8)	□ (13)	□ all of them (5)
22. I commented or liked presented learning materials	□ never (2)	□ (12)	□ (4)	□ (6)	□ always (1)
23. Facebook is a good place for presenting learning materials	□ totally disagree (1)	□ disagree (2)	□ neutral (10)	□ agree (10)	□ totally agree (2)
24. It would be engaging if there were more learning materials presented on the group-page	□ totally disagree (3)	□ disagree (4)	□ neutral (6)	□ agree (10)	□ totally agree (2)

25. I would have checked the group-page more often if it was used as the primary space for presenting learning material (instead of blackboard)　□ totally disagree (1)　□ disagree (3)　□ neutral (7)　□ agree (7)　□ totally agree (7)

General communication

26. I have noticed all updates made on the group-page　□ none of them (1)　□ (1)　□ (2)　□ (15)　□ all of them (6)

27. I've participated in conversations on the group-page　□ never (1)　□ (9)　□ (7)　□ (7)　□ always (1)

28. The conversations on the group-page increased my motivation for this course　□ totally disagree (1)　□ disagree (5)　□ neutral (9)　□ agree (8)　□ totally agree (2)

29. The conversations on the group-page made me feel more engaged to this course　□ totally disagree (1)　□ disagree (5)　□ neutral (11)　□ agree (7)　□ totally agree (1)

The following questions will focus on possible learning techniques and the expectation students have in relation to student involvement

Polls

30. Questions for opinions by using polls could have contributed to the activity on the group-page　□ totally disagree (1)　□ disagree (3)　□ neutral (5)　□ agree (9)　□ totally agree (7)

31. I would feel more engaged if polls were used regularly　□ totally disagree (2)　□ disagree (6)　□ neutral (7)　□ agree (8)　□ totally agree (2)

Grading

32. If my activity on the group-page was part of the final coursegrade I would have been more active　□ totally disagree (2)　□ disagree (2)　□ neutral (0)　□ agree (13)　□ totally agree (8)

33. If contributions made on the group-page would have influenced the final coursegrade, the quality of my contributions would be better   □ totally disagree (3)   □ disagree (3)   □ neutral (3)   □ agree (11)   □ totally agree (5)

Online chat (group-chat)

34. 'Online chat sessions' facilitated by the educator would increase my motivation (n = 19)   □ totally disagree (2)   □ disagree (5)   □ neutral (6)   □ agree (4)   □ totally agree (2)

35. 'Online chat sessions 'facilitated by the educator would stimulate the activity on the group-page (n = 19)   □ totally disagree (2)   □ disagree (3)   □ neutral (10)   □ agree (3)   □ totally agree (1)

End of Survey

Thank you for your answers.

Appendix 7: Design-Guide for integrating Facebook in the educational practice.

See next page for design guide.

Design-guide for integrating Facebook in the educational practice

This design-guide aims to assist educators to integrate Facebook in the educational practice. Since it is a practical design-guide it is written in a way that it is directly useful for educators.

Introduction

As you may already know, Facebook can offer many functionalities that can be used in the educational practice and is widely adopted under student population. The platform can be particularly helpful for facilitating communication and interaction with students. Approaching your students using Facebook, you can evoke active participation that can lead to an increase of student involvement. Since Facebook has become ubiquitous in the everyday life of many, it brings the educational practice closer to the daily life of students, which can be motivating and helpful to generate interaction. But how should you handle this? That will be explained in this practical design-guide.

Purpose of this design-guide

Together with the 'tool-guide', the 'design-guide' gives you, as the educator, practical guidelines for integrating Facebook in the educational practice. There will be questions asked to determine the goal of the course, but also to see whether the use of Facebook should be formal or informal. Also, this design-guide can be used as a helpful manual when creating groups, inviting students and integration learning techniques.

Who can use the design-guide?

This design-guide is aimed at educators and mentors who are wondering how to increase student involvement by using a social platform in their course. In this case, the instruction explains the deployment, settings and how to implement possible learning techniques of Facebook.

How to use the design-guide?

This design-guide exists of four parts. A pre-assessment defining if the context and content of the course are suitable for a successful integration of Facebook. It addresses facilities, skills and educational context issues.

Next, this design-guide will facilitate the course-design. You will determine the goals of the content and the learning techniques you would like to use. You will also start creating a Facebook group-page. When the course has started, this design-guide can be used to activate students and to implement solid learning techniques such as assignments to enhance students' involvement.

The last part addresses how to conduct an evaluation using Facebook since this can be useful to improve courses in the future.

Assessment: Is Facebook suitable for your course?

Before starting with the actual course design a few practical requirements should be considered. These requirements are focused on facilities and skills of both students and educators. Also questions will be asked in relation to the educational goals and their relation with the integration of Facebook.

Facilities & Skills

Facilities
- You and your students need access to a computer, tablet, or smartphone that allows interaction with Facebook.
- When you plan to use Facebook during lectures the physical location needs to facilitate this by an internet connection with access to Facebook and an interactive whiteboard or beamer to make the interaction on Facebook visible.
  Note: Always check the technology you will use before each lecture starts.

Skills
Since Facebook is widely adopted under student population it is however not guaranteed that all students do. Depending on their characteristics such as background of students and age, you should assess if students are already have a Facebook account. Using the search functionality on Facebook you can already look if students are having a Facebook account. Keep in mind that Facebook is seen as a very user-friendly platform that is easy to use even for inexperienced users and that creating an account is easy and free of costs.

When integrating Facebook in the educational practice there will be different types of users with different responsibilities. It is therefore important to check the different roles below and responsibilities:
- Educator
  The educator is responsible for the content and structure of the course. These are based on certain learning goals and the type of the class. The educator verifies which learning goals can be applied to the use of Facebook. He should also have sufficient knowledge of Facebook to use it in practice. It is useful to experiment with Facebook and look at the possibilities before the course starts.
- Learning assistant
  If a learning assistant is present, he should be aligned with the learning goals, the use of Facebook, and the expectations of the educator concerning the learning assistant. The learning assistant should be able to solve the technical as well as non-technical issues of the students. He should also have some basic knowledge of Facebook, to fulfill his role.
- Students
  In general students do not require a lot of knowledge about Facebook. During the course they will learn how it works and what is expected of them. However they do need to have an

account on Facebook and accept the invitation they will receive in order to participate in the group.

Facebook in relation to the educational practice
To decide whether Facebook is the appropriate tool to use, you need to ask yourself several questions:

- Why do you want to use Facebook?
- Are there other possibilities or have you looked at other possibilities besides Facebook?
- What is the goal of the course?
- How does Facebook comply with these goals?
- What are the possibilities of Facebook during your class?
- Which pedagogic goals do you want to achieve with Facebook?

Once you have answers to the questions above, you have come a long way and you can decide whether Facebook suits your course.

If you cannot answer all questions about Facebook, take a look at the kind of activities and pedagogical possibilities in 'Facebook – Learning techniques guide for educators'. It lists all possible activities that you can start in Facebook, but also gives an overview of the pedagogical goals. From the matrix you will easily get an overview whether an activity and the pedagogy comply. This gives you an insight in what you can achieve with Facebook.

Course design

When you decided to integrate Facebook in your educational practice a good course design is the key to a successful implementation. In this section of the guideline we will address the various steps to take when designing a course that uses Facebook as a learning platform.

<u>Course outlines</u>
Learning goals are the start of any course design. To define how Facebook could be integrated successful it is important to formulate clear learning goals and course objectives. It can be helpful to list these learning goals and define how they can be achieved with the use of Facebook. In order to do so, you can use the defined learning techniques as described in in the tool-guide.

Formal vs informal
The difference between formal use and informal use of Facebook can have an enormous impact on your course. This decision is crucial for the way Facebook will be used by students and if Facebook contributes to the achievement of the predefined learning goals. For example: If students know they will be graded for their activity on Facebook, their participation will get a boost. But when they are

forced to be an active student they will interact differently on Facebook then when there are no consequences related to their participation. You should ask yourself if the formal integration of Facebook is justified in relation to learning goals and course outlines and what are the consequences for both educator and students. For instance, when using Facebook as a formal part of the course, the educator should spend more time in assessing students' online activity.

On the other hand, when using Facebook in an informal way, it is important that you are prepared to stimulate interaction based on the intrinsic motivation of the students. This can be challenging depending on the dynamics within the group and the willingness of students to participate.

Creating a communication protocol

To address the way the students will interact with each on Facebook, a communication protocol can be created. If the institution already provides a communication protocol make sure that it is in line. Create the communication protocol next to the existing protocol of the institution since it handles very specific ways of interaction. Remember that even though you use a separate ('closed') group in Facebook, all posted information will to some extent become available online. In order to facilitate a positive vibe and to have some control, a communication protocol can be very useful.

There are two possibilities. The first is to create this protocol in cooperation with the students, so everybody can add to the discussion and agree to the use of Facebook. Another way is to create the protocol yourself and let the students agree with your guidelines. Below are some guidelines you can use and complete.

- Knowledge and information can be shared, as long as these are non-confidential or not personal.
- Everyone is responsible for the content that he/she posts.
- Even though content can be removed, everyone needs to be aware of the fact that what has been posted is available indefinitely.
- In order to create a community with respect to its users, threatening, bullying or damaging people in some other way should not be tolerated and may lead to sanctions.
- An opinion that is posted is considered as your personal opinion and not the opinion of the institution or others.
- When you have doubts about a post, discuss it with the educator.

Creating a (closed) group

Research shows that when integrating Facebook in the educational practice a closed group is preferred since this gives the maximum control to an educator to create a safe and effective learning environment.

Creating a closed group on Facebook takes the following steps:

1. Login on Facebook with your username and password. In the left column you will find the menu item 'groups' and there you can find 'create group'.

2. A pop-up screen appears. Here you can enter the name of the group. Invite people to the group and select whether you want the group to be 'open', 'closed' or 'secret'. You have to add some people to the group but you can always add people in a later phase.
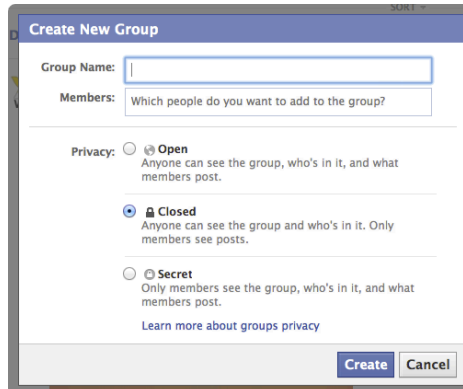
3. The group now appears in the left menu. In this case the group is called 'Facebook In the educational practice'. As you can see you can pick a pictogram to indicate the subject or purpose of the group.
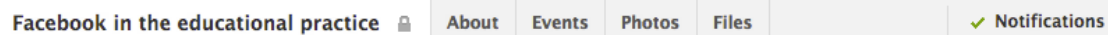
4. On top of the screen you will see a toolbar.

Facebook in the educational practice: this option leads you to the front page of the group.

About: Here you can describe the goal of the group (or welcome everybody) and you see the members.

Events: Post upcoming events. For example a guest speaker or the topic of the next course. If you post an event everybody gets a notification and can see this event immediately on their wall under the menu item Events (left column).

Photos: You can post photos with a short explanation.

Files: You can create files or upload files. Again students receive a notification on their wall.

Notifications: everybody can choose to set their notification on or off. Futhermore you can set the setting to receive an email of every notification on or off.

Students/group members are able to place events, pictures and files as well.

Write Post **Add Photo / Video** **Ask Question** **Upload File**

Write something...

5. Below the toolbar you will find another toolbar. This one is for posting direct (and short) messages on the wall of the group. You can write a message or upload a photo or video.
You can also 'ask a question'. Add a question and fill in the different answers. Your students can answer the multiple choice question. Note that everybody has direct access to the statistics of the question.

6. All group members can 'like' or 'react' on every message, picture, file or event that is placed or organized. In this way the group can become very dynamic. Don't forget to react on all the posts of you students since this will motivate them to become more active.

First assignment

To get students involved invite them and ask them to give a short introduction of themselves at the home page of the group. For people who do not have an account already there is a bigger challenge. You can ask them to create an account, upload a profile picture and give a short introduction. Note that in some cases students might not want to create a Facebook account due to privacy reasons or other ethical concerns. It is recommended to take these concerns seriously and explain them the options Facebook offers to protect their privacy. When students still refuse to create an account it might be a solution to suggest an alternative such as creating an account only for the course using a nickname to eliminate privacy issues.

During the course

How to inform students

When introducing Facebook to your students explain them the rationales behind its use and the way it is incorporated in the course. Make sure students do not feel reserved to post links to interesting websites, contact other students or you via Facebook. When integrating Facebook as a formal learning environment, explain how their participation will be evaluated.

Emphasize on the practical and social opportunities Facebook has to offer but also point out that it is not necessary to become 'friends' on Facebook in order to participate in a closed group.

If different roles are defined (educator, student assistant, students) explain the expectations and responsibilities addressed to each role. Also you should give instructions who to approach when there

are technical or personal issues round the use of Facebook. Finally introduce the communication protocol and, if available, direct your students to the institutions protocol that addresses the use of online social media.

How to place the students in an active role

Activating students in an online environment can be difficult. Therefore there are several ideas described to get your students in an active and involved role. Note that these are only suggestions and that it is important to adjust them in a way so they to seamlessly fit in your course design and meet the defined learning goals.

- Every week a student has to start a discussion on a certain topic using the Facebook group wall. It is the responsibility of the student to moderate the discussion and to stimulate participation. Give some advise on how to do this; with post, pictures, polls etc.
- During lectures integrate polls to get an insight in students' opinions on certain topics. Do not forget that you can use the answers to start a face-to-face discussion.
- Tell your students that to expect regularly new post, events and pictures and that they are free to post any interesting content to the group page as well.
- Be an active moderator and group-member yourself, if you post interesting information it is more likely students will do the same.
- Introduce certain moments on which you will be available online for students to answer questions using chat or group-wall.
- Invite external experts to participate in online discussions.
- Post questions to the wall that evoke reactions.
- Start a discussion during lectures and make sure it will continue online.
- Assign students to monitor all the activity on the group-page and present the highlights in the lectures.

Using learning techniques

As mentioned Facebook has a many functionalities that can be used in the educational practice. The developed tool-guide: 'Facebook – Learning Techniques Guide for Educators' (appendix7) gives an overview of the relation between these learning techniques and pedagogical goals. According to the tool-guide there are six dimensions to classify these learning techniques:

- Ease of use; how easy can the learning technique be used?
- Information transfer; Is this learning technique suitable for disseminating information?
- Assess learning; can this technique be used to assess the students learning process?
- Communication & interaction; is this tool suitable for communication and interaction among students?
- Student activity; does this tool increase student's activity?
- Student involvement; will the tool have a positive impact on student involvement?

This tool-guide is designed for facilitating the course design as well as to design ad-hoc interventions. It can be used in two ways. For each intervention you can decide which of the above dimensions is important for achieving the desired goals of the intervention. For example if you want to disseminate information to your students, check to column 'Information Transfer' and find out that 'assingments' is not the desired learning technique but Announcements is. The other way to use the tool-guide is to see the weakest parts of each of the learning techniques. You can see that Announcements will be not suitable for assessing students learning process and that special attention is needed when using them for increasing student activity and student involvement.

Facebook – Learning Techniques Guide for Educators

	Ease of use How easy can this be set up by you?	Information Transfer Is it a tool for disseminating information from you to your students?	Assess learning Will this tool allow you to assess your students' learning?	Communication & interaction Can it be used for communication & interaction among participants (you & your students)?	Student Activity Can you use this learning technique to increase student activity?	Student Involvement Does this technique has a positive impact on student involvement?
Assignments Giving students assignment	Tricky, Facebook is not a LMS. Administration is a manual job.	No. Assignments are not a distribution channel.	Yes, if designed in a way that students have to show gained knowledge & skills	Yes, student assignments are very suitable for discussions among students	Yes, students will be placed in an active and central role.	Yes, If well designed this technique will increase student involvement.
Announcements Use of Facebook for course related announcements	Facebook has a strong notification system which makes it useful for notifications.	Yes, Facebook is perfectly suitable for doing announcements.	No, this is learning technique is only about sending information to students.	Yes, students can react on announcements made on the group page wall.	Not really.But it could contribute to activity indirectly by stimulating visits.	Not really.But it could contribute to involvement indirectly by stimulating visits.
Questions Ask learners for their opinion via	The wall can be used for asking questions to	No. Questions are not a distribution channel.	Questions could be a very direct way to assess	Yes, it is a very direct way of ...	Yes, Asking questions is a very direct way of ...	Yes, If well designed this technique will ...

Evaluating the use of Facebook

Evaluation is a very important part of the educational process since it provides possibilities for improvements. Evaluate the use of Facebook in you course using of polls or feedback forms during the last lecture. Below an example of questions you can ask yourself and you students.

- How much time did you spend on Facebook for this course?
- How much time did you spend home on Facebook for this course?
- Do you think Facebook was an useful complement? If yes explain, if no explain.
- How do you think we can optimize the use of Facebook?
- Do you like the information you get via Facebook?
- How would you rate the information in general and explain why.
- Do you think you made a greater contribution to the course then without Facebook?
- How did you experience your involvement?

Appendix 8: Tool-guide

See next page for Tool-Guide

Facebook – Learning Techniques Guide for Educators

Learning technology

What you want to achieve (pedagogy)

	Ease of use — How easy can this be set up by you?	Information Transfer — Is it a tool for disseminating information from you to your students?	Assess learning — Will this tool allow you to assess your students' learning?	Communication & interaction — Can it be used for communication & interaction among participants (you & your students)?	Student Activity — Can you use this learning technique to increase student activity?	Student Involvement — Does this technique has a positive impact on student involvement?
Assignments Giving students assignment	Tricky, Facebook is not a LMS. Administration is a manual job.	No. Assignments are not a distribution channel.	Yes, if designed in a way that students have to show gained knowledge & skills	Yes, student assignments are very suitable for discussions among students	Yes, students will be placed in an active and central role.	Yes, If well designed this technique will increase student involvement.
Announcements Use of Facebook for course related announcements	Facebook has a strong notification system which makes it useful for notifications.	Yes, Facebook is perfectly suitable for doing announcements.	No, this is learning technique is only about sending information to students.	Yes, students can react on announcements made on the group page wall.	Not really.But it could contribute to activity indirectly by stimulating visits.	Not really.But it could contribute to involvement indirectly by stimulating visits.
Questions Ask learners for their opinion via the wall	The wall can be used for asking questions to students	No. Questions are not a distribution channel.	Questions could be a very direct way to assess students knowledge	Yes, it is a very direct way of starting a discussion with students.	Yes, Asking questions is a very direct way of activation students.	Yes, If well designed this technique will increase student involvement.
Polls Same as questions but uses the Poll functionality	Using polls the answers are directly visible in a histogram.	No. Polls are not a distribution channel.	Polls give a direct insight in the opinions of students.	Via one click students can answer a poll. A passive form of communication.	Yes, but on a low-scale since it is very easy to answer.	Not proven by research but likely.
Learning Material Link to a web page / media file	Facebook presents media or links in a very slick way.	Yes, Facebook is very suitable for presenting interesting links or media files	No, this is learning technique is only about publishing learning materials to students	Maybe, it depends on the culture of the group.	Maybe, it depends on the culture of the group.	Maybe, it depends on the culture of the group and the way
Learning Material Upload files	The file upload functionality is still basic and allows upload only a single file a time.	Yes, but the file upload is still in development, making it not a convenient option	Maybe if students are requested to hand in their assignments via 'upload files'.	Maybe, it depends on the culture of the group.	Maybe. It will strongly depends on its use and if it is the only place for sharing files	Maybe. It will strongly depends on its use and if it is the only place for sharing files
Communication Initiating and moderating course related discussions	It is easy to participate in discussions, but it can become time consuming.	Yes, especially when discussions are on the group page wall, visible for all students.	If communicated at the beginning, active student participation can be graded	Yes, it is the primary way of generating interaction and communication.	Yes but it needs to be relevant for students to take part in discussions.	Yes, if students are stimulated to participate.
Communication Direct communication to students with Comments / Likes	'like' button offers a very easy way but is not saying that much. A 'real' comment does	Yes but only informa since not all comments will be noticed by students.	If communicated at the beginning, active student participation can be graded	Yes, but the communication has a very private character.	Yes, research show that it is stimulating activity on the group-page.	Yes, It is likely that students are more engaged if there is more activity on the group page.
Chat	All users need to be at the same time online. It can be hard to keep a chat organized.	Yes but you should be aware if not all students participate in the chat.	No, chat is not designed for assessing students.	Yes. The chat is a direct way of communication.	Yes, but only on a short term. Only when live it will stimulate activity	Yes, but only on a short term. Only when live it will stimulate engagement
Grading	Very powerfull but also consumes time of both students and educators.	No, grading is not a distribution channel.	Yes.	No, grading is not designed for communication purposes	Yes, when students are graded on their activity.	Yes

Great fit

Can work w/ some learning design

Not best tool for the job

How to use this guide
- **Are you a teacher new to Facebook?** Use this guide to pick the right tool for the job.
- **Know which tool you want to use?** Follow its row across to see its strengths & weaknesses.
- **Know what you want to achieve?** Pick a column and follow it to see which tool will help you do it.

About this guide
- This guide is based on research to the various learning techniques Facebook offers to educators and their impact to student activity and student involvement. Both activity and involvement are depending on many factors including group dynamics, culture and the subject of the course. The educators can make a difference by actively participation and using various learning techniques.

Adapted by: Job Bilsen

EIT
Te Whare Takiura o Kahungunu

Joyce Seitzinger (@catspyjamasnz)
www.cats-pyjamas.net /