

Studying the Influence (or Mutual Shaping) of Social Networks in a Learning Experience: Methods for a Pilot Study

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Abstract

This paper summarizes the methods and preliminary findings from the pilot study of a doctoral thesis with the research aim of determining how users can experience learning using social networking tools and how their literacies may influence this experience. The instruments used for the collection of data were: observation, an online forum, class discussions, a questionnaire and a semi structured interview. These methods were connected with a group of learning interventions that involved the use of social networking tools, within two master courses. The sample of this pilot study was a complete income of an international master course, divided in four teams. The participants interviewed were four team leaders, chosen by their own teams. The method for analyzing data was content analysis and a framework of categories was created to present the data in a certain order. The preliminary findings of this pilot study are related to: a) the identification of the most important issues of web 2.0 and social networks that are faced by users within a learning environment; b) a look at some of the challenges and opportunities of using social networks in higher education instruction related to the students' literacies; c) a look at the most useful activities for learning, within this study; and d) the topics the students learned about throughout the activities of this study. Finally, this paper indicates further refinements to be done on the methods prior continuing with the proper study.

Keywords: Web 2.0, Social Networks, Higher Education, Learning, Information Literacy.

1. Introduction

This paper summarizes the methods and preliminary findings from the pilot study of a doctoral thesis with the research aim of determining how users can experience learning using social networking tools and how their literacies may influence this experience. This pilot study took place in order to refine the methodology developed in a PhD dissertation in the Institute of Information Studies of Tallinn University.

Our working concept of social networks used throughout this research is: Web based applications that allow the publication or posting of user generated content and interactions between users. Kaplan and Haenlein (2010) set the genesis of these computer based social networks on 1979, when Tom Truscott and Jim Ellis, both from Duke University, created Usenet, establishing it in 1980. Usenet allowed its users to post and read messages into categories or newsgroups, resembling a bulletin board system. However, they claim that the age of "social media" as we know it, probably started when Bruce and Susan Abelson founded Open Diary in 1998: "an early social networking site that brought together online diary writers into one community" (p. 2).

Social networks as a sociological term is used to refer to groups of individuals gathered according to different reasons, such as: the place where they live, shared interests, religion, and functions in society. This point is being made because the Web 2.0 social networks we are discussing are not so far from this. They are mainly based on "real world" society and institutions, as Marchionini (2009) states; and some methods and theories developed for their analysis are similar. Similarly, Carter (2005) mentions that human relationships in cyberspace "...are actually being assimilated into everyday life. Furthermore, they are often moved into other social settings, just as they are in offline life." (p. 2.)

The methodological approach used is mainly qualitative and its methods follow a participatory action research perspective. The methodology and methods used are further explained in the next section of this paper.

The participants of this study were students of the International Master in Digital Library Learning (DILL) while they were taking their second semester in Tallinn University. This study involved the development of activities and learning interventions intended to reinforce some of the modules they were taking and also to gather data for the present study. The activities and learning interventions planned for the students follow the learning theory of constructivist learning. This choice is justified in the fact that this learning theory is followed by most academics in Tallinn University, and also corresponds with this research, which relies heavily on the use of social networking tools. Some of the bases of this research follow Vygotsky's ideas of learning, as his theories stress the fundamental role of social interaction in the

development of cognition (Vygotsky, 1978). Moreover, social interactions leads to learning scenarios that lead to practice, as this constructivist model "acculturates students into authentic practices through activity and social interaction in a way similar to that evident, and evidently successful, in craft apprenticeship" (Ackerman, 1996). Also, Mayer (2004) proposes learners should be "cognitively active" during learning and that instructors use "guided practice."

1.1 Aim and Objectives

The aim of this research was to determine how students experience learning using social networking tools and how their literacies may influence this experience.

Three objectives were proposed in this research:

- a) Examine what are the most important issues of Web 2.0 and social networks in a higher education context.
- b) To develop learning interventions, assignments or interactions within two master courses which would rely on the use of social networking tools in order to study the influence (or mutual shaping) of social networking tools in a learning experience and to analyze the group of participants' behavior as a community of practice.
- c) Study the challenges and opportunities of using social networks in higher education instruction based on elements of participants' social interactions and literacies (information literacies, digital literacies, new literacies).

1.2. Research Questions

Research questions of this study were:

- a) What are the most important issues of web 2.0 and social networks within a learning environment?
- b) What is the influence (or mutual shaping) of social networking tools in a learning experience?
- c) What are the challenges and opportunities of using social networks in higher education instruction related to students' literacies (information literacies, digital literacies, and new literacies)?

2. Methodology

The methodological approach for this pilot study was firstly qualitative, because it intended the collection of in depth data from the participants. As the participants' experiences and interactions when using social networking tools are diverse and subjective. The methods and design of the methodology follow a participatory action research perspective. This form of research builds on the action research and Group Dynamics models developed by Kurt Lewin in the early to mid 1900s and it has its focus on the effects of the actions of the researcher on within a participatory community in order to discover or improve practices. As it is intended to apply this method to education, we follow other pertinent literature, for example the works of Freire, supporting the active participation of students and his approach regarding the teacher-student dichotomy (e.g. 1990); and also Fals-Borda, with his incorporation of the community action into research plans (e.g. 1973).

The methods used for the collection of data were observations, an online forum, class discussions, a questionnaire and a semi-structured interview. Many methods were chosen for collecting data to be able to triangulate the data obtained

using each of them, in order to achieve a comprehensive analysis of the interactions and experiences that occurred along this study.

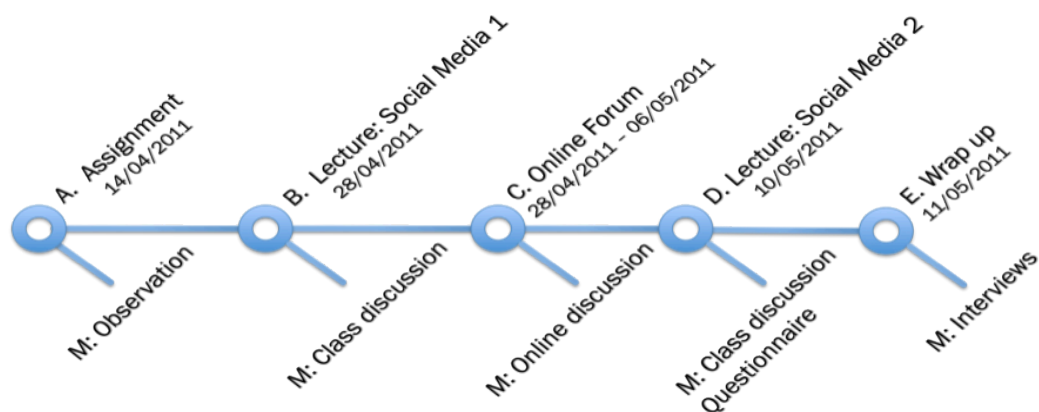
2.1. The Sample

Purposive sampling was used in this study because, as Pickard (2007) states, it is used for ensuring that participants chosen contribute different perspectives on the phenomena to study. The participants for this pilot study were one whole income of the International Master in Digital Library Learning (DILL) program. The classroom of DILL students was divided in teams and each team chose a team leader. The teams were to perform the activities indicated in the learning interventions part below, they were observed by the researcher and took the questionnaires. Finally, the team leaders apart took the questionnaires and were also interviewed individually. As an International Master, the choice of the DILL students for this study ensures that there is a large amount of diversity among them. Different sexes, backgrounds, countries, and ages are some of the elements that create this diversity, which in turn result in multiple perspectives, as mentioned above. However, these variables were not studied or connected with the findings, as they were beyond the scope and methods of this study. Nevertheless, they can indeed be studied in future researches, by performing, for example, gender studies.

The motivations for the choice of participants were: firstly, by practical reasons as they were individuals whom the researcher had access to and were willing to participate in the study. Secondly, because of their age and interests, their competence as social networks users was assumed. So they should be individuals who have experience using social networks in order to get valuable data.

2.2. Methods for the Collection of the Data

The following figure shows graphically the stages of the collection of data for this study and the methods used in every stage, according to the order in which they were planned and happened. The stages appear in the upper part of the figure and the methods used are in the lower part. Each stage is summarized in the following paragraphs.



The design of these stages, are based around the concept of learning interventions, due to the fact that this research follows a constructivist learning approach. Two learning interventions, in the form of an assignment and a two-part lecture, were established within the two courses that DILL students take in Tallinn University, with the collaboration of their respective professors. These learning interventions were developed taking into account that they could complement the curriculum of the courses and avoid disturbing their integrity. These activities also had to rely on the use of social networking tools to be within the topic of this research. They also should allow to study students' interactions, experiences and their challenges and opportunities as they depended on their literacies.

The stages for the collection of data were the following:

A. Assignment: the first learning intervention was in the form of an assignment to complement the two modules within the course Human Resource Management. This assignment involved role-playing; the students were told to create a framework for the communication for the human resources of a fictional digital library as well as a

channel of communication towards customers, as means of promotion and feedback. Given those guidelines, the students had to deliver a product made with social networking tools. They started developing the assignment in class, within two academic hours and then they had to submit the result within a five days limit, together with a short report reflecting on the issues and challenges the teams encountered when performing the task. Observations were made when the students were given this assignment; the researcher interacted with them and observed their work for two academic hours. Then, observations were done also on the products that the students developed as assignments. These products could be considered also as instruments for data collection themselves, as they were subject to analysis

B. Lecture Social Media 1: the second learning intervention was envisioned as a formal lecture in two parts (at stage 2 and 4), within a module of the course Information and Knowledge Management. The lecture was about the issues of social networking tools, current research on them and best practices for their use in organizations. Class discussions took place within this two-part lecture. Also, to make the lecture more active, the students were asked to prepare some of the topics of the lecture and present their parts in groups.

C. Online Forum: after the first part of the lecture (stage 2), students were asked to provide answers to three questions as an online debate. They were required to provide individually at least one answer per question and were told to reply to their classmates' answers if they wished to. The questions asked were: a) what are the most important issues and challenges posed by the use of social networking tools in this learning experience?; b) if you had the lecture about the issues of social networking tools before performing the group assignment, what would you do differently?; and c) have you encountered other issues? Which ones?

D. Lecture Social Media 2: this stage comprised the second part of the lecture planned as second learning intervention for this pilot study. At the end of this lecture, the questionnaires were applied to all the participants.

E. Wrap up: at this last stage of the pilot study, the team leaders were interviewed using a semi-structured interview, because it was assumed that the participants could bring up some topics that were not so explicitly asked for in the questionnaire, and they could make a subjective contribution due to their own experiences. And this was

true especially for the intended participants who are information professionals, who used social networks to a high degree. This choice was also motivated for the possibility to make extra questions to the participants to further develop unexpected topics. This approach was especially useful because it was more important to get qualitative data from the users using their own words as opposed to get data from methods such as log analysis.

2.3. Questionnaire and Interview Topics and Questions

The questionnaires and interviews were intended to bring information to answer the research questions.

On one side, the questionnaire asked the students to firstly rate in order of importance the issues of social networks in a learning environment and to explain shortly why each of them are/are not important in a learning environment. They were also asked to say if they think there are other issues not contemplated in the model studied. Then, regarding the assignment they made, they were to rate how challenging were a series of variables when they performed said assignment and explain why they are/are not challenges. The variables available to rate were: previous knowledge; group's knowledge; usefulness of the content of the courses; information literacy; digital literacy; new literacies; and communication within the group. Then, the questionnaire included questions asking the students for their opinion of including activities involving social networking tools in their studies and how do they see them fulfilling educational goals and if these activities helped them learn something and what did they learn. Finally, the students were to rate in order of their usefulness for learning, the different activities of this study: assignment; lectures; group presentations; class discussions and online discussions.

The interviews were intended to expand on the questionnaire's questions, by getting in depth information from the team leaders' insights about the issues of social networking tools, the challenges they had when performing the assignment, the usefulness of each activity of the study to help them learn and

the overall pertinence of using social networking tools to provide them a part of their learning experience.

2.4. Ethical Considerations

A privacy statement was handed over to the participants, although no personal information was needed given the purposes of this research. This privacy statement asserts that, among other things, that no information that could be used to identify these individuals, was used in this work and that no personal information will be given to third parties. The lectures and the class discussions were recorded in audio and video after receiving consent from all participants. All questionnaires were made anonymous. All interviews were recorded in audio format, with consent from the participants and then transcribed for analyzing the raw data derived from them.

The order of the learning interventions and stages for the collection of data had to be very strict as they occurred. This order obeys the fact that if they were to have the learning intervention of IKM first instead of the HRM one, a serious bias could have been introduced on this research. Because of the nature of the IKM lecture if the participants had this lecture prior performing the HRM assignment, their products could be influenced by this criteria or the discussion after the lecture. So it was assumed that in this way a possible serious bias and, in consequence, another ethical issue was avoided.

2.5. Methods for the Analysis of the Data

The method for analyzing data was content analysis, as Pickard (2007) puts it, “is [used] to present an explanation of those shared meanings and assumptions.” (p. 241). This refers to the shared meanings and assumptions of the participants. For the analysis of the data, it was coded and a framework of categories was created to present it in a certain order.

3. Preliminary Results

The preliminary findings of the pilot study as they appear in this article contain just a part of the analyzed data from the questionnaires. Partial results are as follows:

a) The identification of the most important issues of web 2.0 and social networks that are faced by users within a learning environment: the students were asked to rate of the most important issues of social networks in a learning environment. According to their answers, the top three [rating from 1 (least) to 5 (most)] is as follows:

- Trust (4.76/5)
- Privacy (4.52/5)
- Quality Control (4.47/5)

b) A look at some of the challenges and opportunities of using social networks in higher education instruction related to the students' literacies: the students were asked to rate the most serious challenges the students had in this study. According to their answers, the top three [rating from 1 (least) to 5 (most)] is as follows:

- Usefulness of background content of the unit (3.23/5)
- New Literacies (3.11/5)
- Digital Literacies (3/5)

c) A look at the most useful activities for learning, within this study: the students were asked to rate the most useful activities for learning. According to their answers, the top three [rating from 1 (least) to 5 (most)] is as follows:

- Lectures (3.64/5)

- Class discussions (3.41/5)
- Assignment (3.29/5)

d) The topics the students learned about throughout the activities of this study:
the students were asked what did they learn. Their answers are as follows:

- The use of social networking tools as learning tools, four students stated that they learned about this by being participants of this study. This sort of answer was unexpected by the researcher but nevertheless very encouraging and positive. Some of the participants of the study have experience as lecturers themselves, so even when unintended, it was good for them to learn this.
- The use of social networking tools in organizational settings: this was a specific topic tackled on the lectures, so it is good that it was among the top answers, with four students stating that they learned this.
- Nothing was an answer, which was repeated, three participants stated in their responses that did not learn anything. There were many young professionals among the participants, so only by age one can presume that the students stating they did not learn anything it is due to their everyday use of this sort of technology or professional experience using them and reading about their use.
- Other topics expressed by two participants per topic were: Cost effective means of communication/sharing, to be careful with the information shared, use different features of social networks, their importance for libraries, and the issues of social networks.
- Finally, the topics least mentioned, meaning that per topic only one student cited it, were: pros and cons of social networks, new ways of teaching, and the use of the privacy settings in these tools.

4. Conclusions

Related to the first research question of the study, with the data analyzed, the most important issues of social networking tools in a learning experience, according to the participants are trust, privacy and quality control. It was seen since the start of the pilot study that the students were very concerned with this aspects, to the point that the privacy statement handed over to them was discussed between them and the researcher under the light of these three elements, mostly with trust and privacy.

It is difficult to indicate at this time what are the exact refinements to be done in this methodology in order to continue with this study, as in this paper only superficial results has been shown and achieved. One element is certain, and that regarding the second research question, about finding out what is the influence (or mutual shaping) of social networking tools in a learning experience. It can be concluded that with the data analyzed up until this point it is difficult to see if this methodology can successful in answering this question, as it is not present in the emerging topics of the analyzed data.

Regarding the third research question, about the challenges and opportunities of using social networks in higher education, with the data analyzed so far, it is possible to claim that the design of the methodology to study this has to follow tightly the content of the courses where this study is embedded in. However, it is difficult to see right now if the usefulness of the content of the units the students followed were a challenge because this methodology strayed somehow from them, or if there are other variables influencing the answer of the participants on this matter. Regarding the students' literacies, they answered that the "new literacies" and "digital literacies" posed an important challenge as well. It is possible to see in their responses that mostly was due to the fact that some of them claimed that they do not conceive the use of these sorts of tools for education, and not exactly because they do not know how to use them. However, it is a subjective matter, as generational differences and access to technology are important aspects that define the familiarity of the individual with these technologies.

As a side note, in order to validate the use of these technological tools in the classroom and also to see if there is really an opportunity with their use, it is highly important to ask them as an open question "what did you learn", in this way it is possible to discover elements of their individual and subjective experiences and/or perceptions. However, perhaps it is necessary to re-think the activities of this study from the aims and learning outcomes of the students and the courses they are taking and create additional questions in the questionnaires and the interviews to find out if their learning would comply with learning outcomes. This could support the question if we can use social networking successfully in higher education.

Finally, it is fascinating to see despite working with these technologies that the students claimed that lectures and class discussions are still important, as it underlines their willingness to continue having physical contact in the classroom with their colleagues and lecturers.

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