DISTANCE EDUCATION - SOCIAL INTERACTION IN A LEARNING ENVIRONMENT

Marie Mörndal¹ & Péter Révay²
¹M Sc
²Ph D, Professor in Information Systems
¹,²Mälardalen University, School of Business
P O Box 883, S-721 23 Västerås, Sweden

ABSTRACT

Companies need of qualified and educated staff has stressed the importance of lifelong learning. Distance education can be one method to meet these demands. Distance education offers flexibility for students to choose time and place for their studies and the possibility to combine work and family life with university studies. The purpose of this study is to investigate a learning environment represented by a Learning Centre and a Learning Management System (LMS). The need of communication and social interaction in four different distance courses offered by Mälardalen University are explored. Both students and tutors appreciated an introduction meeting face-to-face and the students felt that support and feedback from the tutors were important. The four courses used different LMS:s and students as well as tutors were satisfied with the functionalities regardless of what kind of LMS they used. The Learning Centre was appreciated and utilized by half of the student group. Some of the workgroups felt it was easier to meet face-to-face than to use the LMS for interaction. The conclusion is that social interaction between students as well as students and tutors is important for the students’ learning processes. A LMS, while appreciating the importance of social interaction, can fulfill the demands of communication, collaboration, support and feedback from both students and tutors. Therefore a LMS can be seen as a learning environment on its own and a Learning Centre as a complementary part of the learning environment for students who appreciate face-to-face meetings.

Keywords: Distance Education, Learning Centre, Learning Environment, Learning Management System, Social Interaction, Collaboration

INTRODUCTION

Qualified and competent employees are an important resource for companies and organizations in the modern society. The need for lifelong learning is increasing and many Swedish commission reports stress the necessity of flexible education forms for adults in Sweden [1]. Distance education offers flexibility in time and place and is therefore a great improvement in education [2]. The concept of distance education is not new. The Bible describes St Paul’s letters to different congregations, which probably was the first documented use of this concept.

Information technology has made it possible to distribute, share and store information independent of time and place. This has lead to new alternatives for
education and learning; a flexible distance education [3]. In this paper the term “distance education” is used to describe education on distance utilized by a computer based Learning Management System (LMS) distributed by the Internet. It provides tools for course production, course administration and communication. One important tool for communication is a discussion forum which can be used for group discussions. This tool is especially important for collaboration issues [4]. In the study described in this paper students and tutors used a LMS for communication and collaboration on distance. To make use of the LMS the students needed access to computers. In order to facilitate distance education for students not owning a computer, a Learning Centre has become a common feature especially in the Swedish municipalities in sparsely populated areas. A Learning Centre can be described as premises available to students for different purposes such as studying in groups or using computers for distance studies.

Social interaction has a great impact on the learning process [5, 6, 7]. The intention of this study is to examine if a LMS and a Learning Centre, as two complimentary parts of a learning environment, can fulfil the students’ and tutors’ need for social interaction. The social interaction is studied by focusing on students’ need of feedback, support and possibilities to collaborate.

**LEARNING ENVIRONMENT AND SOCIAL INTERACTION**

Volery & Lord [4] stress the fact that self-learning is an essential aspect of distance education. Distance students must be able to understand the necessity of allocating enough time for their studies. Self discipline is also strongly related to distance education. With an adequate amount of time and self discipline students can plan and organize their study situation and their study accomplishments will turn out to be successful [4, 7].

The start of a new course is another essential issue. It has been proven that the quality of the introduction is decisive for the outcome of the studies [8]. An introduction meeting for distance students can be carried out in two modes:

- Students and tutors can meet face-to-face as in a traditional campus course. The meeting can take place in a Learning Centre or at a university.
- Students and tutors can meet on distance using a LMS as a virtual class room.

Both modes have the same purpose; to create relationships and give the students positive feelings of security and trust. This will improve the chance for students to accomplish good results [8]. For a successful introduction in a virtual environment some extra engagement is required from the tutor who needs to use different methods to create a kind of community feeling in the virtual class room [2, 8, 9].

If we accept learning as a social process, communication and collaboration are important for learning situations. Collaboration is especially important to strengthen critical thinking, problem solving or to understand different perspectives of a certain phenomenon. In these situations students need the opportunity to discuss and exchange ideas with others and this will help them to develop their own thoughts. By designing tasks that forces or stimulates students to work together the tutor can encourage and support collaboration. [2, 10, 11, 12].
Students may need different kinds of help and support to carry out and complete a distance course. Their achievements on a course are depending on their activity on the LMS. By monitoring the system, a tutor can use this information to encourage and give students adequate support and feedback [13].

According to Soong et al [12] there are some critical factors that need to be considered when using a Learning Management System (LMS). These are:

1. **Human factors** – the success of distance learning relies on both tutors and students. They must put in time and effort to make use of the LMS.
2. **Technical competency** - both tutors and students need some basic knowledge about using computers and the LMS.
3. **Mindset about learning** – what tutors and students perceive learning to be (construction or absorption) has a great impact on how they act in teaching and learning situations.
4. **Level of collaboration intrinsic in the course** – learning is a social process, the more interaction the more learning situations. Discussion forums are important for an active learning process.
5. **Level of perceived infrastructure and technical support** – teaching and learning on distance requires access to technical advice, expertise and support. The LMS must be perceived as user friendly and a technical problem means lack of flexibility in time and place.

The factors above should be considered in a holistic fashion meaning that the inadequacy of one of these factors can affect the overall success of the LMS usage [12].

Volery & Lord [4] underpin the importance of technical competency by identifying a student’s previous use of the technology as a critical success factor. In the same report the authors also emphasises technology as a second critical factor, meaning ease of access and navigation as well as level of interaction [4].

The five critical factors identified by Soong et al [12] are used in this paper as a framework to describe and discuss the case and the following conclusions. As a clarification a table [Table 1] is put together with some key words explaining each critical factor gathered from the different studies previously mentioned in this section.

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### Critical factors in distance education and keywords

<table>
<thead>
<tr>
<th>Critical factors</th>
<th>Key words regarding the study in this paper</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Human factors</td>
<td>Introduction, create security and trust, self discipline, adequate amount of time</td>
</tr>
<tr>
<td>2 Technical competency</td>
<td>Basic knowledge, previous use</td>
</tr>
<tr>
<td>3 Mindset about learning</td>
<td>Feedback, support, monitoring, social process</td>
</tr>
<tr>
<td>4 Level of collaboration intrinsic in the course</td>
<td>Communication, discussion forum, social interaction, designing tasks supporting collaboration</td>
</tr>
<tr>
<td>5 Level of perceived infrastructure and technical support</td>
<td>User friendly system, technical problem means lack of flexibility, access to technical support</td>
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**CASE DESCRIPTION**

The study is based on a project founded by EU. The purpose of the project was to increase the availability of higher education and to raise the educational level in the Fagersta region, an area in Sweden characterized by a relatively low educational level compared to the country as a whole.

Four different distance courses were studied: Industrial product development; Marketing management and organizational theory; Introduction to IT; Sociology A1. In none of the courses the same LMS were used because the tutors had their own idea of which kind of LMS they preferred.

Twenty students and four tutors have been interviewed. Each tutor was responsible for one distance course. The study was carried out by structured face-to-face and telephone interviews. The number of women and men interviewed was equivalent and most of them were employed, had children and were in the age between 30 and 40. They had no previous experience of university studies or distance education. Based on the framework described above [Table 1] the result has been analyzed and conclusions have been drawn.

**RESULT**

1 *Human factors*

All four courses started with an introduction meeting face-to-face, which was appreciated by most of the students. About half of the student group were satisfied with the study situation as a whole. Some of the students stressed the fact that studying on distance demands self discipline. Many of the students who felt dissatisfied did not expect the studies to be as time consuming as they felt they were. The tutors thought that an introduction meeting face-to-face was important for many students, but not for everyone. Their view was that it must be possible to start a distance course without having met face-to-face. One of the advantages with distance education is flexibility (i.e. the independence of time and place). If an introduction meeting face-to-face is compulsory, the flexibility could be lost.

2 *Technical competency*

Both students and tutors perceived that they had enough basic knowledge about using computers and a LMS for attending or tutoring a distance course.

3 *Mindset about learning*

Most of the students thought they got the support they needed both from the tutor and other students. The students who had not felt in need of support were fully aware of how to contact the tutor or the students. Some of the students asked for a quicker feedback from their tutor. The tutors followed the student’s progress by introducing exercises as a regular feature in the course, by monitoring the frequency of taken mini tests and by encouraging participation in discussion forums.
4 Level of collaboration intrinsic in the course

The tutors opinion was that collaboration is an important part in the learning process. The students who used the Leaning Centre appreciated the possibility to meet personally with the study group. Some of the students who did not attend the Learning Centre had problems to work in groups using the LMS and felt the lack of social interaction with other course participants.

The different LMS:s were mostly used for information purposes. Some of the students used the system for communication within their study group. The discussion forums were not used very frequently in an active way. All students used it for reading what others had written (the tutor and a few students) but most of them felt too uneasy to use it for discussions, feeling they did not know each other well enough. One of the tutors stressed the fact that it was important to encourage students to use the discussion forum. When he deliberately did not respond on a question immediately, he had noticed that students sometimes answered instead.

5 Level of perceived infrastructure and technical support

All students used the LMS designed for their course. Both the frequency in communication and the way the students communicated (e-mail, telephone, exercise reports) varied among the students. Many students used the LMS daily. The general opinion was that all the different LMS:s were user friendly and well working for the students needs. The students assumed that they would be able to use it anytime. When a server problem occurred they were very frustrated and felt the lack of the much appreciated flexibility. The tutors were satisfied with their LMS and appreciated the adequate tools for flexible learning and teaching. They were also aware of the technical problems and saw them as an important area of improvement.

DISCUSSION

1 Human factors

Students and tutors stressed the lack of face-to-face interaction and appreciated the introduction meeting at the start of each course. An introduction meeting can satisfy social needs and give a good start for both students and tutors in distance education. Human beings need social relations and we are used to social interaction face-to-face. An introduction meeting can, besides building feelings of security and trust for future discussions and exercises, also make it possible to introduce students and tutors to each other, form groups and supply students with information.

The students as well as the tutors pointed out that the studies required more time and self discipline than expected. A possible assumption could be that students applying for a distance course are not aware of these aspects in general. As a consequence they do not have enough time to spend on their studies which can even lead to drop-outs. Some of the students may also feel that independency puts too much pressure on them, especially if they are inexperienced.
2 Technical competency

Studying on distance requires adequate technical knowledge about how to use computers and computer based systems. This does not seem to be a problem in this study. Both students and tutors felt satisfied with the LMS:s used.

3 Mindset about learning

Students have different needs regarding social interaction with and confirmation from a tutor or fellow students. This means that a tutor has to monitor the students’ activity in order to furnish individualized support.

Both students and tutors stressed the importance of the tutors availability and fast feedback to students. To make schedules for tutors providing enough time for an adequate availability seems to be a challenge for a university organization. A solution could be to organize teams of tutors to increase flexibility in time and place.

4 Level of collaboration intrinsic in the course

The students felt it was easier to collaborate face-to-face than on distance using the LMS. The tutors thought the collaboration process was an important part of modern education. Obviously there could be some difficulties to start this process at a distance and therefore this requires extra focus on support and on the monitoring of the students. Collaboration on distance is not an easy issue but it is possible to have well-functioning groups if the tutor understands the importance to communicate, follow and encourage the students’ progress on the LMS.

5 Level of perceived infrastructure and technical support

Students as well as tutors were satisfied with the different LMS:s because they were user friendly and could be used as expected. This indicates that a LMS should be easy to use and also provide the required and expected functions for communication and tutoring. To meet the requirements of collaboration discussed above, it is necessary to have a discussion forum integrated in the system.

TO CONCLUDE

This study indicates that social interaction between students as well as students and tutors is important for students’ learning processes. An adequate learning environment for distance education requires a tool for social interaction. A tool, as a LMS, can fulfil the demands of communication, collaboration, support and feedback from both students and tutors and therefore be seen as an adequate learning environment. To be able to use a LMS the students need access to adequate computer equipment. A Learning Centre, as a complementary learning environment, can provide access for the students to this equipment. Other ways to make use of a Learning Centre can be as a meeting place for study groups or as the
silent environment that facilitates to focus and concentrate on the studies in comparison to studying at home.

An intention of this study was to capture both students and tutors perspective on interaction in distance education. Future studies will focus on students learning processes and what kind of features a LMS has to offer for efficient education on distance. Another future issue would be to compare students not familiar with university studies with study experienced students attending a distance course. To study the gender differences, if there are any, would also be a fascinating aspect of distance education.

REFERENCES


