

# The use of a Learning Management System to promote group interaction and socialization in a trainee project - *Unemployed Academics on their way to new jobs*

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### Abstract

The project is a cooperation between University College of Borås (UB), local Unemployment Agency and European Social Fund. The purpose of the project is to offer practice to unemployed academics at UB, let them develop themselves and find a new job. After 5 months 11 of 30 participants have got a job. The project uses a Learning Management System (LMS) to promote group interaction and socialization. An analysis of the use of online asynchronous discussion (OAD) within the LMS has been made and presented in this paper. The purpose of this analysis is to study the group interaction and socialization.

### Background

The rate of unemployment among people with higher education in Sweden more than doubled between 1994 and 2005 and is currently about 5% (SACO, 2007). Beside the obvious economic problems, unemployment has consistently been associated with high levels of psychological and psychosomatic symptoms, stress reactions and increased mortality. (Grossi, 1999) p.3ff. This has been explained by paid jobs fulfilling important psycho-social functions (Jahoda, 1982; Nordenmark, 1999). In studies of mental health and wellbeing the term "Sense of coherence" (Antonovsky, 1979, , 1987) is used to describe people's feelings about their daily life. Unemployment is commonly associated with low sense of coherence. (Alm, 2001; Feldt *et al.*, 2005; Volanen *et al.*, 2004), and low levels of mental wellbeing is associated with unemployment, both as a cause and as a result. (Hallsten, 1998)

It has also been demonstrated that people with fewer than average social contacts has an increased risk of both physical and mental afflictions. (Konarski & Hèalso- och sjukvèardsberedningen. Folkhèalsgruppen, 1992) p.93ff

In August 2006 a trainee program was initiated at the University College of Borås. It was conducted as a project in cooperation between the University College of Borås and the Swedish Employment Service, supported by The European Social Fund (ESF). The participants were out-of-work people with at least three years college education. The aim for the project was to strengthen the participants' position in their search for employment by job training, by getting contacts for future references at the college and by creating a network for coordinated efforts to find suitable employments. Another goal was to provide an opportunity for the participants to experience a social context, similar to that on a paid job.

To enhance group identity, cooperation and sharing of information a learning management system (LMS) was implemented and the participants strongly encouraged by the project leaders to use the discussion forum to maintain contacts in the group as well as using other tools in the LMS, such as posting a personal presentation, filing weekly reports and make notes in the online calendar. After about one week of introduction together the group members were assigned to different workplaces throughout the college. One group meeting was scheduled every week and, depending on their assignments, some of the participants would share lunch breaks etc on a daily basis. During the period considered some people left and others joined the group, but most of the time there were ca 20 people involved. For all participants filing a personal presentation in the LMS was mandatory, hence all group members had access to basic information about each other, in particular about educational background and work experience.

### **Learning management systems, LMS**

Learning management systems (LMS) are computer programs that integrate functions for education, evaluation and administration of courses. Other terms sometimes used is VLE (Virtual Learning Environment) (Dutton et al., 2004; Seeger & Åström, 2005) and the broader term ICT (Information and Communication Technologies) (Bongalos et al., 2006; Dutton et al., 2004) that often includes LMS as a component. Commercially available LMS have a lot of features in common, such as, shared documents, discussion board, assessments, a grade book and a chat room. (Britain & Liber, 1999; Seeger & Åström, 2005; Sigrén & Holmqvist, 2005)

Investigations show that learning management systems – LMS - in higher education are used mostly to distribute course documents to students, thereby saving the lecturers the time and effort of distributing paper copies.(Dutton et al., 2004; Garrote, 2006) The reason is rather obvious; lecturers use primarily the parts of a LMS that are likely to save time and/or lessen their workload. (Collis & van der Wende, 2002) Other tools, that might enhance learning but are not perceived as likely to make the lecturers work easier, may take long time to blend into the everyday work at educational institutions. In this paper we focus on one such tool, the module for online asynchronous discussion (OAD), and how to analyse the contributions in a discussion forum.

The term “(online) discussion forum” is used to describe a text-based asynchronous environment available online, intended to support learner(s)-to-learner(s) interaction. (Murphy, 2004; Murphy & Loveless, 2005) Social learning theories emphasize the effects of social interactions in education (Carlgren, 1999; Imsen, 2000; Säljö, 2000; Wenger, 1998) and discussion forums can be used directly to facilitate the work on group assignments in courses, or to enhance learning through sharing of information and social interaction.

Researchers in the field of distance education have given plenty of attention to problems connected to interaction amongst students, as well as between students and teachers in distance learning (Björck, 2004; Gisselberg, 2002; Irwin & Berge, 2006; Shin, 2002). There is less information about the use of online discussion forums to facilitate asynchronous discussions among participants in groups that also meet face-to-face during lectures or meetings.

The importance of a discussion forum in a LMS was pointed out in 1999 (although using the term VLE – virtual learning environment): “Asynchronous conferencing or discussion groups form the heart of many VLEs as they provide the means for students to engage in collaborative exchange about topics on the course.” (Britain & Liber, 1999) p.5. Nowadays a discussion forum is a standard tool in commercially available LMSs (Seeger & Åström, 2005; Sigrén & Holmqvist, 2005) and an OAD may be used, not primarily to facilitate distant education, but to enhance learning through “...the potential for a greater level of cognitive interaction and intra-action. Written language, in the context of educational computer conferencing, is interactive, anticipating or reacting to the ideas or queries of other participants”(Hopperton, 1998). Of course, the fact that “The online discussion forum allows students to work together on projects in small groups, participate in on-going discussions focused on course content, and to "present" group project products to the rest of the class.”(Markel, 2001) p.1 doesn't mean that activity in an OAD can be taken as evidence that any of these activities is at hand.

While there is a lot of research indicating that social interaction and cooperation is beneficial for learning and other activities there might also be concerns about *free riding*, a term used when some participants don't make their fair share of the job at hand, or *social loafing*, when individuals lower their efforts and rely on the group as a whole to do the job, also known as the Ringelmann effect (Piezon & Donaldson, 2005). On the other hand, any interaction may enhance learning by promoting the creation of a community of learners (Irwin & Berge, 2006) p.3ff Other investigations show that from the participants' point of view “the experience of taking part in forums were overwhelmingly seen as a positive one” (Hammond, 2000) p.254.

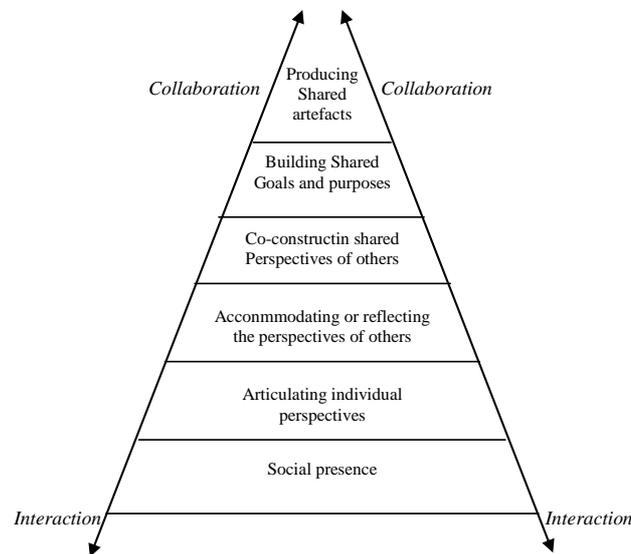
### **Scope and purpose**

The purpose of this paper is to present an analysis of the contributions in an OAD that was used to enhance socialization, group identity and cooperation among the participants in a trainee program at the University College of Borås. The investigation of messages in the discussion forum was used to evaluate the use of a LMS to facilitate interaction in such groups.

### **Method**

To evaluate the contributions in an OAD a couple of models have been proposed and tested (Moore & Marra, 2005; Murphy, 2004; Murphy & Loveless, 2005; Treleaven, 2003). For a model to work, the classification should of course reflect both the value of any given information and the message's importance for promoting further discussion and interaction. In this project the focus when using the LMS was on promoting interaction to build group identity, and it was not necessary or even desirable to restrict the use of the discussion forum to specific subjects.

It was of great interest to see if the postings would develop into complex levels of interaction, without group assignments and other shared tasks that would force the group members to cooperate. With that in mind the six levels of interaction from Murphy's model (see fig.1) was used.



Figur 1. Murphy model, (Murphy, 2004) p.428, table 2

The messages posted from September 5 to December 20 in the year 2006 in the “general discussions area” of an LMS were sorted according to content. There were a total of 531 messages but 11 were duplicates or corrections following immediately after a message, in which case it was counted as part of the original post. 520 messages were classified, using the six levels in Murphy's collaboration model, “Social presence - Articulating individual perspectives - Accommodating or reflecting the perspectives of others - Co-constructing shared perspectives and meanings - Building shared goals and purposes - Producing shared artefacts” (Murphy, 2004) p.423f. There were no messages falling into the last two categories and hence there were four levels of cooperation actually being used. Each message was also analysed and classified as to the position in the discussion thread, using the three groups “Start of line”, “Answer to message” and “Comment to message(s)” and so, there was twelve classes of messages, see figure 2.

	1.Start of line	2.Answer to message	3.Comment to messages
Social presence	S 1	S 2	S 3
Articulating individual perspectives	I 1	I 2	I 3
Accommodating or reflecting the perspectives of others	P 1	P 2	P 3
Co-constructing shared perspectives and meanings	C 1	C 2	C 3

Figure 2: The twelve types of messages.

## **Classification**

A message giving only personal information was defined as “Social presence” and a typical “Start of line” would be “Hello everybody, I got a phone this morning and my number is...”. The second level of interaction is “Articulating individual perspectives” and a “Start of line” could be “I was at the opera and saw ...I strongly recommend you go see it”. The third level, “Accommodating or reflecting the perspectives of others”, means that a message is referring to information given in another message or provides information from other sources. Since the group also had face-to-face meetings, a number of messages that dealt with earlier information were classified here even if they did not refer to an earlier message in the OAD. A good example would be the message “For those of you that might consider moving to another country, look at the following web sites....” responding to a discussion during a group meeting.

The fourth level is “Co-constructing shared perspectives and meanings”. The name implies that the people involved are sharing information, more complex than simple facts or personal opinions. However, this is not necessarily so, since some messages that is soliciting feedback (and thus classified at this level) is still only dealing with simple facts and trivial matters. More typical for this level were a number of messages dealing with how to prepare for job interviews and dress codes on different jobs.

A message about a new topic, unrelated to previous posts is defined as “start of line” whether or not it generated any responses. Messages directly responding to a specific post are defined as “answer to message” and messages related to previous messages but not responding to a specific message are defined as “Comment to messages”. It should be noted that the classification is based on the content of the messages and not on the thread structure in the system. The reason is that all members of the group were supposed to read all messages, so discussions could continue under a new heading, or a new subject could be brought up within an ongoing thread, without risk of participants losing track.

Since all messages was sorted into one and only one of the twelve classes it was necessary to look for the most typical features in many messages as well as taking into consideration related messages and knowledge of the proceedings in the group involved.

Message (the number refers to the chronological order of all postings in the LMS)	Level of cooperation	Position in discussion thread	Comment
(500) Here is my mail address...	S	1	Announcement providing personal information.
(337) Congratulations...and good luck.	S	2	Response to a person leaving for a new job.
(640) Thanks for the info.	S	3	Giving credit, but not commenting on the information given.
(71) Saw "Cats" yesterday. I recommend it, here is a link...	I	1	Suggestion to other group members.
(424) I was in there last summer, but...	I	2	Giving a response and adding to information given in a previous message.
(490) Well said...we still have freedom of speech.	I	3	Providing a personal opinion.
(274) ...here are some links about living and working in Denmark.	P	1	Continuing a discussion from a face-to-face meeting.
(583) Take it as a compliment. I understand you know a lot about...	P	2	Reflecting on previous messages and opinions.
(746) Do you mean that we should just listen and don't ask?	P	3	Discussion after a debate in the group, referring to other messages.
(259) How should one dress for a job interview?	C	1	Asking for information on a subject relevant to the trainees' situation.
(231) Yes you can bring it up during an interview, but maybe not right at the start.	C	2	Responding to a question, providing a point of view in a matter calling for judgment.
(541) Perhaps women compete in their own way.	C	3	Commenting in an ongoing discussion about gender issues.

Figure 3: Examples of classification (messages translated and abbreviated by the author).

## Result

The trainee project has after 5 months lead to new jobs for 11 out of 30 participants. Below there is a description of the specific result of the OAD analysis.

In figure 4 the number of messages in each of the twelve classes is shown. A number of problems with the model emerged after the practical work of classifying the messages started. For example most messages indicating that the writer has some kind of problem can be interpreted as a message “soliciting feedback” and hence belonging at the level “Co-constructing shared perspectives and meanings” but sometimes the responses triggered indicates that the message was only interpreted as a “social presence”- posting by the other participants and then it was classified as such. As a result of the model being used calling for interpretation of meaning, a number of messages and discussion threads had to be checked more thoroughly than expected, but on several occasions the classification of a message was rather ambiguous and so it is unavoidable that the exact figures given in figure 4 depends on the judgment of the investigator.

Number of messages				
Type of message	Start of line	Answer to message	Comment to messages	
Social presence	35 7%	41 8%	65 12,5%	141 27%
Articulating individual perspectives	31 6%	24 5%	70 13%	125 24%
Accommodating or reflecting the perspectives of others	36 7%	15 3%	35 7%	86 17%
Co-constructing shared perspectives and meanings	52 10%	68 13%	48 9%	168 32%
	154 30%	148 28%	218 42%	520 100%

Figure 4: The distribution of messages in the general discussions area within a LMS.

Looking at the distribution of messages it is clear that a rather high number reach the level of co-constructing perspectives, which means that the participants must have considered and reacted to information in a constructive way. So, the group clearly did engage in complex interaction and behaviour, commonly associated with socialization.

## Discussion

The messages in this investigation came from a group of trainees, each assigned to a workplace at the University College of Borås. The whole group did meet once a week and several members would meet informally in smaller groups during coffee breaks etc. The discussion forum in the LMS was used to enhance group interaction and promote cooperation about the search for jobs and other common fields of interest and all members of the group were expected to spend some time to follow and participate in the discussions. So the overall situation was rather similar to that of a group of students sharing an academic course, but since there were no common study plan, homework or group assignments, it was not to be expected that any messages would reflect the highest levels of collaboration - "Building shared goals and purposes" or "Producing shared artefacts". It turns out that many discussions did reach the level "Co-constructing shared perspectives and meanings" even when the subjects were not related to important problems or special interests of the members of the group. On the other hand, some potentially important information, judging by the comments that followed, was given only as a short stating of fact or as reference to a webpage and therefore classified as "Articulating individual perspectives". It is clearly not possible to reach a definite conclusion about the importance of a message from the classification within the model.

We find that the distribution of messages according to the collaboration model reflect the structure of a group discussion, irrespective of the subject of the discussion. That is to say, even trivial matters may result in a complex exchange of information, stimulating the creation of shared perspectives and meanings, and important information may be distributed in a discussion forum without creating any or only little response.

Social presence, resulting in interaction and socialization is probably beneficial for learning (Hammond, 2000; Shin, 2002) and activity in a discussion forum may be used as a measure for group interaction. Social interaction is probably beneficial both for the efficiency of the group, by promoting trust and cooperation in a relaxed working atmosphere, and for most group members by creating a social context, contributing to personal sense of coherence. An intermediate or high number of social connections is associated with lower risk of illness, both mental and somatic (Konarski & Hèalso- och sjukvèardsberedningen. Folkhèalsgruppen, 1992)p.93ff and hence an increase in social interaction is probably particularly beneficial for the wellbeing of people that are out of work.

When designing a future more general model for evaluating contributions in an OAD a number of points should be considered. First there should be operational, unequivocal definitions that avoid ambiguous classification and enhance the reliability of the classification. Secondly the classes should reflect the value of information in a message within the given context. Finally the classification should indicate the value of the messages for promoting overall goals of learning, cooperation and socialization. The model that was used in this investigation doesn't make a reliable connection between how a message is classified and the importance of the information given, and so this model should not be used to evaluate the contribution by individual participants in an

OAD, but is useful for measuring the interaction, and evaluating the socialization process in a group.

### **Conclusions**

The trainee project has showed such promising result while it is still running, that the goal to get jobs to 50 % of the participants within 3 months after the ending of the project with the exception of the vacation period of one month, seems to be reachable.

The investigation shows that discussions in an OAD take on a life of their own and develop into the level of co-construction of perspectives. There were some problems with ambiguous classification and low reliability due to lack of unequivocal definitions of classes, and the classification does not necessarily reflect the value of the information given in the messages, but there was clear evidence of interaction at a non-trivial level. We find it safe to conclude that the use of online asynchronous discussions does indeed help in promoting higher levels of group interaction. It is also reasonable to presume that such interaction tend to raise the participants' wellbeing by elevating their sense of coherence.

### **Acknowledgements**

The author thanks Tomas Pettersson and Kurt Hansson for their contributions to the research and writing.

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