

STUDENT EXPERIENCES ON INTERACTION IN AN ONLINE LEARNING ENVIRONMENT AS PART OF A BLENDED LEARNING IMPLEMENTATION: WHAT IS ESSENTIAL?

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ABSTRACT

Interaction and community building are essential elements of a well functioning online learning environment, especially in learning environments based on investigative learning with a strong emphasis on teamwork. In this paper, practical solutions covering quality criteria for interaction in online education are presented for a simple implementation using standard generally available tools. The solutions are evaluated on the basis of student experiences reported in writing in response to a qualitative survey given to adult university business students. In student responses, the importance of an active online presence by instructors was emphasised, as well as the availability of team meeting platforms. Blogs were seen as an effective way to support learning. Face-to-face interaction, both between students and between students and instructors, was seen as less important than expected.

KEYWORDS

Investigative learning, e-learning, blended learning, interaction, online presence, blogs

1. INTRODUCTION

In this paper, a description of solutions for interaction in an online learning environment for adult business students in higher education will be given. The implementation is based on a learning model using investigative learning. The focus is on online solutions, although the implementation itself is a blended learning environment. The solutions will be evaluated on the basis of student experiences and views collected from two different student groups. Some background on the learning model applied here will be given first, as the learning model itself imposes demands on the implementation.

Fitting studying with working and family life is often a struggle for adult students. Efficient and appropriate learning environments are therefore especially important in adult implementations. When students are expected to do a lot of group work and learn in a community, facilitating interaction is particularly essential. The solutions that work with adult students can, with some consideration, be applied to other student groups as well.

2. LEARNING BY DEVELOPING

The learning method called Learning by Developing is defined as investigative learning applied to development projects (Rauhala, 2006). Hakkarainen et al. (2004, 17) claim that learning is at best an investigative process. This means not only analytical information processing and assessment, but also practical experimenting and learning from experience. Wenger (1998, 73) proposes that learning and expertise are transmitted through unofficial communities of practise. These communities have common goals, exist at work or other environments, but their members are not necessarily aware of this communal structure.

One aspect of learning in a community is the sharing of the learning process and its outcomes. Sharing one's expertise provides a forum for testing that expertise and justifying one's viewpoints (Hakkarainen et al., 186). In collaborative problem solving the participants typically adopt different roles and serve their different viewpoints to each other, thus deepening their understanding of the problem (Miyake, 1986). To the individual, the community or the group provides scaffolding, permitting the individual to perform tasks more demanding than would be possible for them by themselves (Brown, 1993, 191).

In authentic situations, contrary to traditional educational environments, there are often no known solutions to the problems. The solutions are always the result of a more thorough process, including the definition, analysis and description of the problem, as well as the choice of suitable methods to be applied (Fränti & Pirinen, 2005, 37). Most of these steps will be omitted when the problem is defined and proposed by the teacher. With this approach, it is hoped that flexible and intuitive problem solving will be achieved, not restricted to specific situations and contexts. This fulfils an important requirement of professional expertise, as defined by Tynjälä (1999, 160-161).

The key concepts behind the Learning by Developing model are authenticity, companionship, an experience-based, investigative approach and creativity (Raij, 2007). Authenticity is achieved through real-life development projects serving outside partners. In practice, this means that students mostly study in teams, carrying out projects. Companionship means shared working, learning and responsibility. Practical experience is the medium through which learning and new knowledge is reflected upon and identified. The investigative approach is the way in which learning is organised, as described above. Creativity is seen in the adoption of new solutions and working methods. An online environment can be a good platform to foster investigative learning. Reeves (1999) describes how the cognitive load of the learner can be deepened by online tools, with the teacher acting in the role of coach. This corresponds exactly to the roles of student and teacher in Learning by Developing.

3. ONLINE INTERACTION AND COMMUNITIES

A sense of community and social presence has been widely acknowledged to be a factor in enhancing both the quality of learning and the motivation to study (Haythornthwaite and Andrews, 2011, 111-112). In establishing an online learning community, different types of interaction play an essential role.

Berge (2002) reminds that interaction cannot be viewed only for its own sake, but in context with the methods and systems available in the given situation. That is also the approach here; the aim is not to provide a general framework but rather to investigate the possibilities and improvement needs in a given environment. The implementation follows the same design as that presented by Berge (2002): aligning learning goals, activities and evaluation, with a learner-centred approach, designed to provide interaction between active and reflective learning. For active learning to be encouraged, interaction needs to be activity-based (Hirumi, 2002).

Hirumi (2002) identifies three levels of interaction: the interaction of the learner with himself (level 1) or with human and non-human resources in the learning environment (level 2). The third level of interaction is a meta-level and describes the interaction of the learner with the e-learning strategy enforced. Although the third level is inevitably present, this paper focuses on level 2 interactions. The second level is comprised of the human interaction between students and of students with teachers, but also of the interaction of students with the content and interface of the learning environment. Other interactions are also possible, e.g. with people outside the learning environment, such as experts or project partners. Second level interaction is the most obvious one because it is related to the most visible parts of online learning if there is to be any interaction, but third level planning is just as important, if not more so, because it is the level that is often neglected when moving instruction online from traditional implementations (Hirumi, 2002). The process of planning and evaluation on online implementations follows quite closely the procedure proposed by Hirumi (2002), with learning goals as a starting point.

4. QUALITY CRITERIA IN ONLINE INSTRUCTION AND THEIR APPLICATION TO INTERACTION IN THE LEARNING ENVIRONMENT

Karjalainen has identified a list of goals to strive for in online education, based on Herrington's three types of approaches to quality in online education: pedagogies, resources and delivery strategies (Herrington et al, 2001). Similar ideas are presented by Berge (2002). Karjalainen establishes the following check list:

1. *A clear and organised structure.* Materials, assignments and activities should be structurally clear and easy to contextualise.

2. *Goal-oriented learning.* Students should know the learning goals and be able to relate them to their own goals.

3. *Authentic activities based on real life situations.* Learning tasks should be inquiry and problem-based and provide a meaningful context for students to develop their skills.

4. *Appreciation, connecting and application of knowledge.* The students' previous knowledge should be recognised and linked to the construction of new knowledge and its application to practice.

5. *Emphasis on collaboration and interaction.* The online material and activities should encourage collaboration and interaction between students, as well as between students and teachers.

6. *Activation.* The material and activities should activate learning.

7. *Learner-centred environment.* Design and implementation should be centred on learning, rather than teaching.

8. *Integrated and well-timed assessment and feedback.* Assessment should support the learning process and feedback should be integrated into the learning activities.

9. *Self-directed learning.* The students should be able to navigate the learning process independently at their own pace. (Karjalainen)

The pedagogical criteria were used to design an online environment as part of a blended learning implementation. All criteria were analysed and broken down into factors that could be used in the online environment to promote the above goals. As the focus of this paper is on interaction, only the fifth criterion will be discussed here. The following solutions were adopted to respond to the need for engaging students in collaboration and interaction.

Establishing an online presence in the environment. All teachers' photographs are provided with study unit presentations. The students are asked to upload their own photographs on a presentations page. Photographs are also linked to an online profile, which ensures them being appended to each message a user sends in the environment, whether it be on a bulletin board or as a comment to blog posts. In addition to this, the teachers attempt to show a constant presence online by commenting on students' posts and answering messages when needed.

Teamwork. Most assignments are project-based teamwork activities, forcing the students to find ways to work together.

Teamwork infrastructure. Student teams have their own folders in the online environment, with tools provided to facilitate interaction, including a discussion board and a video chat room. Additional tools are provided when possible if students express a wish to use them.

Study unit blogs. Blogs are used to provide a forum for content and activity-related discussion (as opposed to practical arrangements, for which an ordinary discussion board is used). Students can write blog posts asking questions or seeking clarification for assignments. They can share ideas or help each other with tips or explanations. Teachers use the blog to give feedback on assignments and to give tips or guidance on activities. They also write posts on face-to-face sessions. This serves the purpose of reminding students of the important ideas discussed there and of preparing them for the next teaching sessions.

Peer assessment. Making reports visible to all students and asking the students to give feedback on other teams' reports is a way to involve the students more closely in working together and helping each other.

Virtual group sessions. An online meeting environment is used for online lectures and guidance meetings.

5. STUDENT EXPERIENCES ON INTERACTION

Experiences and comments were gathered from students from two groups: first and third year students studying Business Management. The groups have face-to-face teaching about once a month (one evening and

two days at a time), while the students work full time and do most of the studying online. Thirteen students participated. They were asked to write freely about their thoughts on online interaction and more specifically about teamwork and about the tools mentioned above. The answers were gathered through an online questionnaire, containing mostly open questions.

Some background questions were asked to establish the students' orientation towards online studies and the learning model used in this context. Most of the students described themselves as being comfortable with studying online and with doing teamwork, although one third stated that they would prefer to study by themselves rather than with others.

5.1 Experiences about Online Teamwork Tools

The students thought that both advantages and disadvantages of teamwork are magnified in online studying. The advantages associated with teamwork were the support given by teammates, the benefit of having different views into the same topic and the possibility to share the work load with others. There was mainly one negative aspect brought forward: the different goals of team members and different degrees of commitment to the project and to teamwork. Students found it difficult to find ways to control teamwork and influence the team's results if other team members had different views. They also complained about the difficulty to agree on timetables.

When asked about the tools supporting teamwork, the students were almost unanimous in praising the virtual meeting rooms and chat rooms as useful. The frequency of using them differed, however, between teams, from weekly to infrequently. Some had been frustrated by technical difficulties (usually related to microphone use) and had moved to other tools not provided by the university, such as phone conferences or other chat rooms. Several respondents stressed that speech was not a necessary element in team meetings and they appreciated written communication for its precision and unequivocal documentation. The students noted that they frequently used other communication platforms such as Facebook for teamwork.

The students were divided on the usability of virtual meeting platforms for group sessions. Some had positive experiences of them, while others thought virtual meeting rooms were only suited for a few people at a time. The importance of planning the session carefully and having a clear agenda was emphasised by many.

5.2 Blogs

One of the most useful ways of interacting online seems to be the study unit blog. The students said that the most important online interaction is content-related and the blog was well suited to this. They wished that all questions would be asked through the blogs to make them visible to all and that everyone would share their thoughts on the subjects studied, as they appreciated the different views. The most useful functions in the blogs, according to the students, were tips and clarifications to assignments, the possibility to ask questions and blog posts about past teaching sessions. Also named were feedback posts about assignments and discussions about subject matters with other students.

5.3 Interaction between Students and Teachers

When asked what kind of interaction the students wished to have with teachers, they said that teachers should above all be regularly present and active. Answering questions promptly is important, as when this does not happen the students have to start sending questions by e-mail, thus removing the benefit of having the answers visible to all. The general opinion seemed to be that face-to-face or even virtual oral interaction with the teacher was not necessary if assignments and instructions were clearly formulated and feedback was well given. The importance of precise and useful feedback came up repeatedly in other contexts as well, as did the importance of well planned activities and assignments and information given in a timely fashion.

The students also expressed some more general views about the learning environment and pedagogy. Several students wrote that in a blended learning setting, face-to-face teaching sessions should really have some added value and not be held just for the sake of meeting and discussing things. This was a little surprising, as there has been an assumption that face-to-face meetings should include some time for discussion and less formal interaction. The students' wish for structured and "efficient" teaching runs counter to the generally accepted view that constructive learning benefits from the sharing of views and at least some degree of freedom in interaction.

6. CONCLUSIONS

The lessons drawn from this are twofold. On one hand, good planning and communication of learning goals and feedback are – unsurprisingly – important. On the other hand, the importance of direct interaction between teachers and students is less important than was originally thought. Hirumi (2002) warns of the overload to instructors caused by poorly designed interaction or too much planned learner-instructor interaction. These results suggest that this overload could be avoided with adequate planning, without too much risk of students feeling a lack of interaction. This frees the teachers to possibly use more resources for the non-interactive part of online learning facilitation, such as planning appropriate activities and working on assignments and material.

However, the importance of a constant online presence, even through seemingly small and trivial actions, cannot be underestimated. Slightly surprising – and delightful – is the positive attitude of the students to between-students interaction, as this has previously been a topic of concern. One subject not much addressed here is the building of an online community. The existence of a community is, both in teachers' and students' eyes, a fact from a very early point in time. Haythornthwaite and Andrews (2001, 120-121) support the view that face-to-face meetings foster this feeling of community. This has also been the assumption in the case described here, but some of the student comments reported above contradict this. How the online community and its building are perceived by students and what factors influence community spirit the most are questions that would benefit from a more systematic investigation.

The work continues, as solutions for the best online interaction will continue to be developed and tested. The other dimensions of online instruction quality deserve similar detailed evaluation.

REFERENCES

- Berge Z. 2002. Active, Interactive and Reflective eLearning. *In The Quarterly Review of Distance Education*, Vol. 3, No. 3, pp 181-190.
- Brown A. L., Ash D., Rutherford M., Nakagawa K., Gordon A., Campione J., 1993. Distributed expertise in the classroom. In *Salomon G. (ed.). Distributed cognitions: Psychological and educational considerations*. Cambridge University Press, Cambridge, UK.
- Fränti M. & Pirinen R., 2005. *Tutkiva oppiminen integratiivisissa oppimisympäristöissä BarLaurea ja REDLabs*. Laurea University of Applied Sciences, Helsinki, Finland.
- Hakkarainen K., Lonka K., Lipponen L., 2004. *Tutkiva oppiminen. Järki, tunteet ja kulttuuri oppimisen sytyttäjinä*. WSOY, Porvoo, Finland.
- Haythornthwaite C. & Andrews R., 2011. *E-learning Theory & Practice*. Sage, Chippenham, UK.
- Herrington A., Herrington J., Oliver R., Stoney S., Willis J., 2001. *Quality guidelines for online courses: the development of an instrument to audit online units*. <http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=5814&context=ecuworks>
- Hirumi A., 2002. A Framework for Analyzing, Designing and Sequencing Planned eLearning Interactions. *In The Quarterly Review of Distance Education*. Vol. 3, No. 2, pp 141-160.
- Karjalainen K. *Laadukasta verkko-oppimateriaalia tuottamassa*. http://www.vopla.fi/tiedostot/Laatukasikirja/Oppimateriaali/laadukasta%20verkko-oppimateriaalia%20tuottamassa_final.pdf
- Miyake N., 1986. Constructive interaction and the iterative process of understanding. *In Cognitive Science*, Vol. 10, pp 151-177.
- Raij K., 2007. *Learning by Developing*. Laurea University of Applied Sciences, Vantaa, Finland.
- Rauhala P., 2006. Pedagoginen ajattelu Laureassa. In *Erkamo M., Haapa S., Kukkonen M.-L., Lepistö L., Pulli M., Rinne T. (ed.) Uudistuvaa opettajuutta etsimässä*. Laurea University of Applied Sciences, Helsinki, Finland.
- Reeves T., 1999. *A Model of the Effective Dimensions of Interactive Learning on the World Wide Web*. Athens, GA, USA. The University of Georgia. <http://treeves.coe.uga.edu/WebPaper.pdf>
- Tynjälä P., 1999. Konstruktivistinen oppimiskäsitys ja asiantuntijuuden edellytysten rakentaminen koulutuksessa. In *Eteläpelto A. & Tynjälä P. (ed.), Oppiminen ja asiantuntijuus. Työelämän ja koulutuksen näkökulmia*. WSOY, Porvoo, Finland.
- Wenger W., 1998. *Communities of practice: Learning, meaning and identity*. Cambridge University Press, Cambridge, UK.