Blended Learning: How to Combine Different Ways to Interact Online

Monica Lervik, Hanne Haave, Tone Vold, Ole Jørgen Ranglund and Stig Holen
The Inland Norway University of Applied Sciences, Norway
monica.lervik@inn.no

Abstract: Adult students need to be activated and engaged to optimize a learning process (Knowles 1984, Rogers 2007). In online learning, it is challenging to obtain engagement and interactivity, even when combining asynchronous and synchronous communication. At The Inland Norway University of Applied Sciences, different takes on creating activity and engagement have been tried out. Projects using mandatory on-campus seminars, different types of media and live tutoring have shown that there is a need for blended learning. This paper present different ways of utilizing both on-campus and online teaching. Our approach to collecting data is a combination of qualitative and quantitative research. We have observed and interviewed students, and on a particular group of students that both have online and on-campus lectures, we have collected data from a survey. Our respondents have been both students and lecturers. Our theoretical backdrop rests mainly on theory on blended learning approaches, adult learning and theory on co-creation of consumer value. Findings and results are a combination of Lervik's PhD work and Vold's PhD work. Preliminary results points towards a combination of online and on-campus teaching is preferred and provide an optimized learning outcome. Some students, e.g. full time employees, prefer the blend of online and fewer on-campus seminars as this provide them with the opportunity of studying whilst keeping a full time job. It also allow them to stay at home – most of the time – and not move in order to study. Some students may also have a family situation that makes going away to attend classes e.g. every week is difficult. Our results also show that to start the semesters with an introductory seminar that requires attendance provide the students and teachers with the possibility of being acquainted. This enables the development of trust that lay the ground for involvement and engagement, and also boosts communication between peers (students) and between student – teacher. Lowering the threshold for contacting fellow students allows colloquial groups or "communities" to form easier that for students that only have access to online learning. Learning from peers is important for the total learning outcome. Different learning styles also require different approaches. A blend of different learning approaches will thus support the individuals learning outcome.

Keywords: blended learning, communication, engagement, interactivity, asynchronous and synchronous communication

1. Introduction

Adult students learn best when they are activated. One of the ways of activating students in higher education is called "Flipped Classroom". "Flipped Classroom" is not only about activating the students but also to promote collaboration between students, and making them confident enough to bring their experiences and/or interests forward. "Flipped Classroom" (or "inverted classroom") is defined by Lage, Platt and Teglia (Lage et al. 2000) as a blend of approaches to cater for different learning styles. They state that it was important that "students were supposed to come to class prepared to discuss the material".

However, it is important to note that online studies (like MOOC's) still struggle with high drop out rates, and there is an ongoing research into what may keep students in these courses. The results from this research will also benefit the students on campus (Xing et al. 2016).

At The Inland Norway University of Applied Sciences, there are three major types of courses; only online, online and seminar based, and on campus courses. Our students are not our only target group; hence the secondary target group are the students' future employers and the public. The future employers and the public expect high competence when they employ former students from a University.

Also, some employers pay for education for their employees. Needless to say, they also expect return on investment. It is thus important to comply in order to get more customers like this, as this is a way to get payed "up front". Hence, there is a financial side of reducing the dropout rate of the "ordinary". The Universities are "refunded" from the government as the students complete their study program, meaning the Universities carry the most of the costs of each student and only receive payment when the students finish their study program and have passed all exams.

PhD candidate Monica J. Lervik has done research into what factors that support enhanced learning outcome. Factors like face-to-face meetings, group size, teaching in real time are important to the quality of online teaching. Also an start up seminar that is a face-to-face meeting with students and faculty staff seems to be of

great importance as it seems to make it easier to form colloquial groups. According to PhD candidate Tone Vold's research, the personal meeting not only helps the students form study groups, but it also allows the lecturer to engage the students in adapting the blend of the learning initiatives. This means that it is possible for the students to suggest different activities for supporting their learning process, also when they are online. Our research question has thus been twofold:

How can lecturers best find the "perfect" blend of learning activities to enhance the learning outcome?
How can this blend support the experienced relevance of the courses/study programs?

In this paper, we present some theory that has guided us in our search for increasingly better learning outcome for our students. We also present our research and our results so far.

2. Theoretical backdrop for the study

Blended learning is a way of teaching that make use of different types of communicating the learning material (Deschacht and Goeman 2015). The communication may include using streaming video, online discussions and email conversations.

Gilly Salomon has developed a five stage model (Salmon 2011) that describes a five stage process for supporting and activating students in a digital learning environment. The communication and cooperation between the lecturers and the students are stressed as important to establish and secure the learning process. The different stages describe the steps necessary to ensure that the students and the teachers can form an environment that lay the grounds for an optimal learning environment.

Moore's transactional distance theory clearly state that dialogue and communication are crucial factors regarding succeeding within the area of offering online education. The theory includes "the universe of teacher(/lecturer)-learner relationship that exist when learners and instructor are separately space and/or time" (Moore 1997). The transactional distance is the universes that exist between the lecturer and learner relationship when they are separated by time and/or space. The transaction, the online teaching, occurs between teachers and learners in a context having the special characteristic of separation of lecturers from learners. The transactional distance is the psychological and communication space. According to Moore (1997) media like videoconference will permit a more intensive, more personal and more dynamic dialogue than can be achieved in using a recorded medium. Programs that use audioconference systems are therefore likely to bridge the transactional distance more effectively than programs using recorded media.

Moore emphasizes structure and autonomy as important components to successful teaching and education. *Structure* is a measure of the educational program`s responsiveness to the learner`s individual needs and A*utonomy* describes the extent to which in the learning-teaching relationship, it is the learner rather than the teacher who determines the goals, the learning procedures and resources, and the evaluation decisions of the learning program {Moore, 1997 #1339}.

The students in higher education can be classified as "adult learners". Adult learners need to be activated and engaged {Rogers, 2007 #595;Knowles, 1990 #275}. Supporting the students keeping active when learning will also keep them motivated and engaged which will enhance the learning outcome (Monk 2013, Rogers 2007). Dewey (2008) also suggest to utilize the learners own experiences. This can also be executed as an activity and to utilize the students own experiences and interests into their study program, will also support the important reflection processes. This is described by Kolb (1984) in his *experiential learning cycle* which gives an overview of how one can learn from an experience by reflecting upon it, evaluating the learning, expanding on the experience by forming a new experience based on the learning from the previous experience.

The reflection processes is also described by Schön (1987, Schön 1991) regarding reflecting before an action/experience, during an action/experience and after an action/experience. These reflection processes may be integrated in the blended learning, not only in the face-to-face seminars, but also adapted in the online part of the education, e.g. through different types of assignments.

Allowing and supporting the students to form groups will support the social learning processes. The forming of work groups will allow the students to learn not only together but also from each other. This can be compared

to what Lave and Wenger (1991) call "Communities of Practice" (CoP). CoP's are defined to be about persons (workers) coming together by a common interest {Lave, 1991 #1259}. Within the group there may be different levels of competence and one of the points of these groups is the possibility of learning together and from each other. The original idea of CoP's was a description of workers with a common interest voluntarily formed groups that learned from each other, often with a peer that had more knowledge than the others. Within the study programs at our University the students can either form groups themselves or be designated groups organized by the lecturers. Some students prefer to work on their own and there may be different reasons to this. Some students claim that work hours does not allow group work, for instance. However, all students are encouraged to take part in group work as this has proved very important for the total learning outcome (Haave et al. 2016).

Another important part of the learning activities is advising. Advising requires trust, something that requires experience and cooperation. The advising can be synchronous (via e.g. Skype or similar) or asynchronous (e.g. e-mail or discussion forum). Synchronous via e.g. Skype, offers a partial picture of the «reality», hence a slightly lesser offer rather than face-to-face. However, for students that need to travel far to get to campus, often prefer not to spend time travelling. The online situation regarding advising require that trust; trust regarding the competence and capabilities (Holen et al. 2016). A personal meeting in the start of the semester may establish this trust, rather than spending several online meetings to obtain the same level of trust, as it is then possible to meet up, become acquainted, test the gear used for the advising, etc. This may also support *personal mastery* (Senge 1992) within the advising session.

It is important to recognize that that there may be a difference in what is perceived and what was intended as a message. Interpretations may vary and is coloured by ones own experiences. If, for instance, the student has previously negative experience, this may influence the way the students approach the online advising, mostly in a negative way. Literature on teambuilding support the idea of the physical meeting in the beginning of a study in order to establish the necessary trust and confidence building (Hjertø 2013).

Kristian Aasbrenn (2010) has developed a framework for describing and analysing the connection between online learning and online advising. Here it is described how the motivation for joining the discussion and thus contribute, discuss actively or just completing will have an effect on the outcome. The distance both mentally regarding the distance between the student and lecturer, and physically through distance, may also affect the learning outcome. Other factors that may be regarded either as supporting or be an obstacle for learning, are financial issues (price of course, e.g.), language, culture and previous competencies, and requirements for study material.

The online advisor represents the University, and the student's perception of quality can be based on the relationship between the student and teacher. Hence the importance of the students and lecturers relational understanding, relational skills and ethical reflection.

When student and lecturer communicate online, they are two (or more) human beings that communicate in order to understand each other, and that may use different approaches and methods to communication. These methods follow different norms and adaptations, all within the institutions laws, rules, power balance, and motivation (Johnsen 2005).

3. Method of inquiry

The empirical data presented are collected in different ways. Some data are results from observations (qualitative data) and some are collected by surveys (quantitative data). PhD candidate Lervik's research material is collected by studying the on-line education in two different university colleges in Norway. The research project is developed as a case-study design. The approach is mainly qualitative, by using a combination of methods such as observation and interviews, both structured and semi-structured (Dalen 2011, Denzin and Lincoln 2005, Strauss and Corbin 1990). The structured interviews have been conducted by following an interview-guide with predefined categories. But by combining the structured and semi-structured interview approach, the researcher has made it possible to catch up unforeseen matters that emerge during the conversations. In addition, data derived from document analysis is taken in as part of the material.

As is common in case-studies, the categories are theory-based, making this an deductive approach. The data are analysed by a software system for analysing qualitative data. (Atlas). The use of triangulation of methods secure

multiple sources of data, and give a better accuracy of understanding when collecting and analyzing data (Lincoln and Guba 1985).

PhD candidate Tone Vold's data material is collected through a mixed methods approach {Creswell, 2007 #44}. It consists of interviews and observations (qualitative data) and results from a survey (quantitative data).

4. Results and analysis

Lervik's research shows that on-campus seminars is a key factor to supporting an enhanced learning outcome for the students. The teachers especially think that an on-campus seminar at the start of the studies is important. This is an opportunity to get to know the students which, will create the basis for communication and dialogue in the online teaching. Among the students the view on on-campus seminars is somewhat more mixed as some would prefer more flexibility and as little mandatory seminars as possible. The interviews with the students in both Lervik's and Vold's research material display a higher number of students that cooperate amongst the students that have attended the on-campus seminars. They also score higher regarding experienced learning outcome. The on-campus seminars include activities such as introduction to technology, writing courses, information course regarding library resources, administrative information, group establishment, group work, individual conversations, and social activities. During these seminars the students get to know each other and form groups. This support the students' activity and keeps the students engaged during lectures and seminars. The students that were interviewed also point out the importance of the activities and the socializing.

This use of on-campus seminars is a good example of blended learning as it combines physical seminars with online teaching. In this on-campus seminar the first step in Salmon's five stage model is carried out as it provides support to the students and promotes active participation.

The size of the group that have attended in the on-campus seminars from Vold's research have varied between 35 – 45/50 students. This group size that has been possible to keep active. An important factor has been to let all groups present their results from groupwork. With too many groups, there will be a lot of repetition and fellow students lose interest. From interviews with colleagues that only has online courses, the groupsize of attending students at online seminars are also important. The greater number, the less interaction is what they report when being interviewed. Lervik's research indicate that groupsize of 50 is too large and some of her informants indicate that 10-15 is the optimal number of students for online teaching. This is in coherence with what Bates (1998) present when he assumes that the size of classes involved in online education and the number of overall students involved are key factors in order to succeed with communication, dialog, activity and group discussions. Large groups may hinder all students to take active part. Regarding the transactional distance the number of students will, according to Moore (1997) be one of the environmental factors that will influence dialogue, activity and the transactional distance between teacher and learner. Large student groups being lectured online may inhibit the lectures interactivity with the students, which might cause more one way lectures without possibility of discussions, confrontations and critical questions. Foley (2003) suggest that group size or number of students online is a critical factor regarding the importance of communication, interaction and discussions. Palloff and Pratt (2003), claim that an experienced lecturer may handle between 20-25 students online whilst an unexperienced may handle only 15. Research shows that both quantity and quality interaction with the lecturer is a critical factor for success in online lecture (Woods 2002). In accordance to Palloff and Pratt (2003), they recommend having no more than 10 students whilst lecturing online because of the plausible confusions and inhibit communication with so many students simultaneously. Lervik's research has been on two colleges that have chosen to vary the classes between 10 and 50 students. The lecturers that have 50 students argue that this is group size is too large. They claim that the conversations and activity is hard to organize and the larger the group, the more the lectures resemble monologues.

Vold's research has focused on a combination of online and on-campus courses. The average number of students attending the on-campus attendance has been between 25 and 40. The experience is that this takes different approaches regarding getting most of the students to be active and contribute. There are, however, ways of organizing this work and there is ongoing research into how these ways can be used in online classes.

Most of the teaching at the colleges in Lervik's research was done in real time. Each online teaching session could last up to eight hours and includes activities like tutoring, group work, and lectures. In addition to this,

individual online tutoring sessions were also available for the students and cooperation between the students is highly recommended.

Both colleges from this study have responded to individual students needs which is according to what Moore (1997) promotes in the structure part of his transactional distance theory. By choosing teaching in real time, the colleges are also acting according to the recommendations from Hratstinski (2009). He argues that taped lectures is far less effective as this does not take into consideration the students' experiences, competencies, and requirements.

In Vold's data material there are contradicting results. Most of the students score the streaming video lectures high with regards to supporting learning outcome. This may, however, be due to the differences in the students background and work life attendance. For students in a work life, with difficulties of attending online synchronous classes may be difficult or impossible. For these students the streaming videos that can be watched when they have the opportunities of watching them will provide them with a possibility they would have missed.

Regarding relevance, the material show that the activities and being made able and empowered to contribute towards the lectures are activities that allow the students to reflect upon their work activities as well as reflecting upon their own work experiences. Utilizing their work experiences and interests into the education and being "forced" to reflect upon their experiences and interests, they claim to be important towards keeping the education relevant for them in their work life. This is in accordance to what Dewey {Dewey, 1938 #232} claimed. Also the blend of the different learning and teaching approaches they claim support their learning outcome. This is in alignment with what Kolb {Kolb, 1984 #202} claimed with regards to experiential learning cycle. Utilizing reflections upon their work and their learning also coheres with what Schön {Schön, 1987 #1453}{Schön, 1991 #1454} claim.

5. Conclusion

The students need to work together as the social setting and the possibilities of learning from each other is important for the students learning. Much like the forming of the Communities of Practice, the students (in work life: the workers) have different experiences and may have different areas of expertise. The possibility of learning from each other and establishing relationships can prove important towards an enhanced learning outcome.

The size of the groups may have an impact on the learning outcome, as the students may not take such an active part in the classes if the number of students are high. There are however ways of combating this in an on-campus class.

Securing a blend of learning activities that meets the students' needs is important, and the personal meeting may prove crucial with regards to establishing the needed relationship between peer students, but also between lecturers and students, as this will impact the advising online.

Utilizing students input from their own work experiences and/or interests seem to contribute towards their perception of relevance to their future or present work life.

5.1 Future research

The research is ongoing for both Lervik and Vold. Research will continue with regards to investigate the relevance issue with the organizations that the students are connected to. Also it is important to test out different ways of activating students online. Some of the ways that has been facilitated in the on-campus classes will be tested in the online environment.

There is also ongoing research on the issues of advising in the online environment. How the transactional distances can be reduced in order to secure the learning outcome, is also a part for this research.

References

Aasbrenn, K. (2010) Tjenester som treffer, Oslo: Universitetsforlaget.
Dalen, M. (2011) Intervju som forskningsmetode, Oslo: Universitetsforl.
Denzin, N. K. and Lincoln, Y. S. (2005) The Sage handbook of qualitative research, Thousand Oaks, Calif.: Sage.

Deschacht, N. and Goeman, K. (2015) The effect of blended learning on course persistence and performance of adult learners: A difference-in-differences analysis.(Report)(Author abstract). 87, pp. 83.

Dewey, J. (2008) Democracy and education: an introduction to the philosophy of education, [Champaign, Ill.]: [Book Jungle].

Foley, M. (2003) The Global development learning network: A World Bank initiative in distance learning for development. in Moore, M. and Anderson, W. G., (eds.) Handbook of distance education,Mahwah, N.J.: Lawrence Erlbaum Associates.

Haave, H. M., Hole, Å. S. and Vold, T. (2016) Educating Managers in Knowledge Intensive Organizations. in.

Hjertø, K. B. (2013) Team, Bergen: Fagbokforl.

Holen, S., Ranglund, O. J. S., Kiønig, L. V. and Vold, T. (2016) KM Strategies Taught for Crisis Preparedness. in: Academic Conferences and Publishing International.

Hrastinski, S. (2009) Nätbaserad utbildning : en introduktion, Lund: Studentlitteratur.

Johnsen, H. C. G. (2005) Aksjonsfaget : fra økonomisk demokrati til kommunikativ vending et idehistorisk perspektiv. in,Bergen: Fagbokforl., cop. 2005. pp. s. 197-217.

Knowles, M. S. (1984) Andragogy in action, San Francisco: Jossey-Bass.

Kolb, D. A. (1984) Experiential learning: experience as the source of learning and development, Englewood Cliffs, N.J.: Prentice-Hall.

Lage, M. J., Platt, G. J. and Treglia, M. (2000) Inverting the Classroom: A Gateway to Creating an Inclusive Learning Environment. The Journal of Economic Education, 31(1), pp. 30-43.

Lave, J. and Wenger, E. (1991) Situated learning - Legitimate peripheral participation, Cambridge: Cambridge University Press.

Monk, D. F. (2013) John Dewey and Adult Learning in Museums. Adult Learning, 24(2), pp. 63-71.

Moore, M. (1997) Theory of transactional distance. in Keegan, D., (ed.) Theoretical Principles of Distance Education: Routledge. pp. pp 22-38.

Palloff, R. and Pratt, K. (2003) The virtual student: A profile and guide to working with online learners. :. San Francisco: Jossey- Bass.

Palloff, R. M. and Pratt, K. (2003) The virtual student : a profile and guide to working with online learners, San Francisco: Jossey-Bass.

Rogers, J. (2007) Adults learning, 5th ed. ed., Maidenhead: Open University Press.

Salmon, G. (2011) E-moderating : the key to teaching and learning online, 3rd ed. ed., New York: Routledge.

Schön, D. A. (1987) Educating the reflective practitioner, San Francisco, Calif.: Jossey-Bass.

Schön, D. A. (1991) The reflective practitioner : how professionals think in action, Aldershot: Avesbury.

Senge, P. M. (1992) The fifth discipline : the art and practice of the learning organization, London: Century Business.

Strauss, A. and Corbin, J. (1990) Basics of Qualitative Research - Grounded Theory Proceduresand Techniques, Newbury Park, California: Sage Publications, Inc.

Woods, P. (2002) Teaching and Learning in the New Millenium. in Sugrue, C., Day, C., International Study Association on, T. and Teaching, (eds.) Developing teachers and teaching practice : international research perspectives,London ; New York: Routledge/Falmer.

Xing, W., Chen, X., Stein, J. and Marcinkowski, M. (2016) Temporal predication of dropouts in MOOCs: Reaching the low hanging fruit through stacking generalization. Computers in Human Behavior, 58, pp. 119-129.