Factors affecting student motivation in distance education

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Motivated students are important in all forms of education even more so in distance-education where students are alone in their efforts. The overall goal of this study is to increase the quality in distance education, course creation, and e-moderation. This paper examines the issue of motivating students and explores the various factors that influences motivation. The total sample was 398 students out of a population of 948 (41.9%). This study is based on two questions. Namely, (1) Self-studies of any kind relies heavily on personal motivation, what affects your level of motivation in a positive way? (2) Self studies of any kind rely heavily on personal motivation, what affects the level of motivation in a negative was? Data was collected during a summer course held 2009 and 2010 using an online survey tool and the data was then analyzed using grounded theory. This method of analysis is well suited for qualitative studies since it allows the researcher the ability to explore the collected data without the need of a predefined hypothesis, or a notion what the result might be.

This paper concludes among other things that the factors affecting motivation can be divided into two categories: (1) Course process and structure, (2) Life situation and personal variables. Both categories can have both positive and negative effects on motivation. For example students seem to think that educational structure decreases motivation more than it increases it. These categories will be further expanded inside the paper. A list of questions aiding teachers in course creation drawn from the results is also included.

Keywords: Motivation, distance education, factors affecting
Introduction

Distance education can in many aspects be a lonely affair where students are left to motivate themselves and to push through barriers and hurdles with less help and support from peers and teachers, the sense of isolation is ever present. (Dickey, 2004; Owens et al. 2009; Venter, 2003; Williams et al. 2006) In a situation where the student is left to self motivate and to drive his/her own studies forward there is an apparent need to understand what factors that affect motivation in distance education. Motivation has been identified as a critical factor for online education (Lim, 2004), however it has not been given the attention it deserves in online education (Jones & Issroff, 2005; Miltiadou & Savenye, 2003) This paper presents the result of a study conducted at the Department of Computer and Systems Sciences at Stockholm University aimed at identifying key factors that affect motivation.

Background

Motivation is important in all aspects of life be it in a professional capacity or as a student at a University. There are two basic types of motivation: (1) intrinsic and (2) extrinsic. Intrinsic motivation refers to a person’s internal motivation, his/her own driving force, for example a student that is interested in a topic/task itself. Extrinsic on the other hand is external motivation provided by outside parties, for example a teacher praising a students for his/her good work, or monetary compensation in the form of a bonus for a professional. (Ryan & Deci, 2000) There are a large number of motivation theories that deal with various motivational aspects. We will examine a subset of these theories that are related to learning and the topic of the paper. These theories have been selected based on the fact that most of the factors that will be presented tie in with these theories and these theories are also important in order to understand the result.

Control theory

Control theory refers to the need of being able to control aspects of our lives. An important aspect of control theory is self-regulation. (Cleary & Zimmerman, 2004) Self-regulation can be defined as follows: “In general, self-
regulation involves learners who proactively direct their behavior or strategies to achieve self-set goals. They also rely on affective, cognitive, motivational, and behavioral feedback to modify or adjust their strategies and behaviors when unable to initially attain their goals” (Cleary & Zimmerman, p.538, 2004).

**Cognitive evaluation theory**

When learners look at tasks in a course they choose/evaluate the tasks based on how it meets their needs of feeling competent and in control of their learning situation. Cognitive evaluation theory influences intrinsic motivation, negatively or positively, depending on how it affects the perceived competence of the learner. (Deci & Ryan, 1985)

**Endowed progress effect**

When a learner feels he/she is making progress towards a set goal by reaching milestones of sub-goals he/she, artificial or real is more persistent or motivated to continue towards the goal in question. (Nunes & Drèze, 2006)

**Goal seeking theory**

In order to keep ourselves on track we set goals that must be:

- Clear
- Challenging
- Achievable

The theory also states that goals set by us are more motivating than goals set by others. (Locke & Latham, 1990)

**Activation theory**

This theory states that mental arousal is needed for us as humans to function in a good effective way. However, there is a thin line between a healthy level of arousal that helps us stay focused and motivated and over arousal that creates stress and dissatisfaction. (Berlyne, 1949, 1967) The Yerkes-Dodson law shows us that as arousal increases so does motivation and performance, but only to a certain point after which it goes down again. (Yerkes & Dodson, 1908)

**Drive theory**

All humans have needs that we try to satisfy in our daily lives. The theory distinguishes between primary needs (survival, protection) and secondary (social, identity). When we strive to satisfy needs we pick up habits and certain behavior. (Hull 1943)

**Self-Determination theory**

This theory deals with self-determination and pressure from the outside. According to this theory there are three basic needs that must be satisfied: (1) Competence, (2) Relatedness, and (3) Autonomy. In SDT people are describe based
Method

The method used in this paper is grounded theory. This method was selected in order to give the researcher the freedom to explore the collected material without having a predefined hypothesis that might limit the exploration for factors affecting motivation. Grounded theory is a qualitative research method that is inductive and applied to information systems it is useful in developing context-based descriptions of IT-system events and phenomena (Myers, 1997; Goulielmos, 2004). Another strong point is the close connection between findings and the data, ensured by procedures and processes of the method (Orlikowski, 1993).

The total sample was 398 students out of a population of 948 (41.9%). This study is based on two questions that where a part of the course evaluation that students filled out once completing the course. Namely, (1) Self-studies of any kind relies heavily on personal motivation, what affects your level of motivation in a positive way? (2) Self-studies of any kind rely heavily on personal motivation, what affects the level of motivation in a negative way? Data was collected during a summer course in project management held 2009 and 2010 using an online survey tool. The collected data was then analyzed according to grounded theory.

Related studies

Radovan (2011) conducted a survey on students in a distance-learning program. The total sample was 319 students and the study showed the importance of motivational factors, task and goal orientation, and effort regulating strategies. It has also been shown that there is a positive effect of motivation and learning strategies on learning results (Ying et al. 2008). A study conducted by Delialioglu (2004) examined the sources of motivation among 25 students in a hybrid course (blended learning – meaning a mix between campus based and online education). This study showed that intrinsic motivation is the main component of distance and hybrid education and plays a more important role than extrinsic in student motivation. Chen and Jang (2010) tested the self-determination theory by Deci and Ryan on motivation in online learning and showed that motivation and self-determination was important but could not be used to predict learner outcomes. Gabrielle (2003) used the ARCS model by Keller (1983) to design strategies for online students. The study showed that ARCS based learning promotes student motivation. The concepts of self-efficacy (Bandura, 1982) in connection with motivation and e-learning has been studied by numerous researchers for example: Lee et al. (2011) studied e-learning system acceptance in organizations, Street (2010) studies students decision to drop out of distance learning, and Pan (2005) looked at the usage of e-learning management systems from a student point of view. Task value (Eccles, 1983) has also been studied in the context of online learning. Lee (2002) studies both concepts (self-efficacy and task value) and its effects on satisfaction and performance in an online course. Lee showed that the
two concepts could be used to predict online students performance and satisfaction.

Results

This section presents the results of the conducted study and discusses it from a learning viewpoint. As needed the results will be connected to the various motivational theories and put into a context for better understanding. This study was analyzed using grounded theory and our basic research question that we will try to answer is: “What factors affects students motivation in distance education”.

When coding the results in grounded theory there are three types of coding that the researcher goes through: (1) Open coding, here you assign passages from the collected data to categories, (2) Axial coding, refine the list of categories, (3) Selective coding, identify the core categories that will serve as foundation for theories. In order to make the results clear and understandable this paper will present the analysis in reverse order, meaning starting with the core categories that were identified in step 3 and then presenting the supporting results. Actual quotes from answers given by students will be inserted to support the various claims.

Core categories and support

After completing the analysis of the collected answers the identified core categories where: (1) Course process and structure and (2) Life situation and personal variables. Each of these categories contain sub-categories and ultimately factors.

Course process and structure

Course process and structure refers to the design of the online course itself, both out of a didactical viewpoint, how the course is given as well as the pedagogical foundation and idea of the creating teacher. Furthermore, it also includes the actions and behavior of teachers and teaching assistants when giving the actual course. This core category can be further divided into sub-categories that are more explanatory, namely:

<table>
<thead>
<tr>
<th>Course process and structure</th>
<th>Teacher interest, feedback and response</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Status, deadlines and goals</td>
</tr>
<tr>
<td></td>
<td>Structure</td>
</tr>
</tbody>
</table>

These various categories presented in table 1 can also be broken down to the individual factors that influence motivation (see figure 1):
Students feel that teacher involvement is important in motivation and that they are active in following up students and their progress, one of the respondents expressed it as “it is negative if teachers do not show an interest in my progress”, another student stated that “uninterested teachers and students affect motivation negatively”. The need for timely and qualitative feedback for teachers is also important in order to have motivated students, “feedback when asked for is important”, “feedback is a central part in what a teacher does and it must be of high quality and on time”. Respondents also expressed that deadlines and goals are central to self-motivation. The feeling of moving forward, accomplishing goals along the way is central and has great impact on motivation, “I am motivated by seeing progress, that the course move forward”. This is very much inline with the endowed progress effect presented earlier and shows the need of course scaffolding and creating clear and reachable milestones towards course completion. The various goals that teacher’s set up must be reachable for our students, “Goals must not be overwhelming”, “It is important that goals are reachable and clear”, also supported by the cognitive evaluation theory. The structure of the course in question, clarity of instructions, the technical platform are all factors that influence motivation greatly, mostly negatively.

**Life situation and personal variables**

This core category refers to the situation of the students and personal variables such as interest in the topic, the joy of development and personal growth, in other words more connected to intrinsic motivation. This core variable can in turn be divided into three different sub-categories, which are:

**Table 2 Life situation and personal variables sub-categories**

<table>
<thead>
<tr>
<th>Life situation and personal variables</th>
<th>Life situation/Social context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection to the real world, course context</td>
<td>Inspiration and joy</td>
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</table>
These sub-categories can then be broken down into individual factors that affect motivation as follows:

**Figure 2 Factors Life situation and personal variables**

Being a student in the 21st century is very different than before. The student body is less homogenous and students have a social context, such as family, being forced to work to larger extent, and a much broader and demanding social network. In a survey conducted in 2007 by the Swedish National census 40% of the students claimed that it was hard for them to combine studies with their social situation (women to a larger extent than men), for single parents the number was higher 67%, and for couples with children 50%. Almost 50% of the students had a social situation that more or less influenced their studies negatively. (Sauli 2007) Subsequently anything that effects this situation negatively or positively affects motivation. Students in this survey stated that “being able to strike a balance between my social situation and studies”, “freedom to plan my studies”, “that I have time left over” all effecting motivation positively. On the other hand they clearly state that “stress”, lack of time”, and a “complicated private situation” affect motivation negatively. The need for a context is also a sub-category that is apparent in the conducted study. Students are motivated by feeling a connection with future work (“That I feel that the topic/course is useful for me in my professional life”, “that there is a connection between the task at hand and what will useful in the future”, “that there is a connection to reality”) this applies to all aspects of the course, from the course itself to individual tasks. Inspiration and joy is important and the respondents of this study states that “being able to succeed, getting through the material”, “the
course must be inspiring”, “I am motivated by courses that tie into my personal interests”, “the joy and satisfaction of developing myself and my skills motivate me”.

**Discussion and Conclusions**

Student motivation is driven by many things and the obvious conclusion that needs to be drawn here is that teachers are forced to deal with everything from both intangibles such as student internal driving force, self-determination to succeed, to more tangible factors such as course structure, didactics etc. Examining the results, some factors such as teachers lacking pedagogical skills, technical issues, challenge, course structure, etc. have an overwhelming negative affect on motivation, and very little if any positive effect on student motivation. One way to interpret this phenomenon is that it resembles Herzberg’s hygiene factors, where a factor is necessary to avoid dissatisfaction but adds very little satisfaction if present. (Herzberg, 1966) For teachers and course developers this means that some things just have to be there and function for students to be motivated but it does not add to the level of motivation. Hygiene factor for distance education or online learning could be factors like: (1) A functioning LMS, (2) Timely feedback from teachers, (3) the quality of the materials used in the course etc. There are obviously many more factors but further research needs to be done to identify them with certainty. Two other central conclusions that can be drawn are that a large part of student motivation is internal and hard to affect, and that structure seems to be the most important factor when it comes to affecting motivation. Students want deadlines, goals they can achieve, clear instructions of assignments that challenge them just the right amount (Goal seeking theory) and they are motivated by achieving setup goals. This result further shows the need for scaffolding of course materials and not overwhelming the student with assignments and text. One category of factors that is extra interesting to examine is that of the social context of education and student personal life situation. Students have changed and for example allowing students the freedom to plan their own studies in a course will affect motivation among the students that have a complicated life greatly. Allowing student freedom will be very important for future education,
both on campus, blended learning, or completely online. Today’s students are also more aware of the value of an education or a course in aiding their professional careers or getting an edge in finding a job. The result indicates that the context factor is important and students want to be able to connect previous studies to their current, understand how the learned knowledge is applied in the real world, and to understand if the gained knowledge is useful. This goes hand in hand with the fact that students more and more look at employability and their chances of finding a high paying job, or get promoted when selecting courses and educational programs.

The factors presented in this paper are there to help teachers understand what is important and what is not when designing distance courses. As with all projects there is a budget and a limited time frame to create the course and these factors should help teachers focus on the right areas and give them help in selecting resources to use.

The following questions have been derived from the factors and the result of the study and can be used as a guideline when developing an online course.

1. Do we have enough teachers/TA’s working in this course to be able to cater to students needs when it comes to feedback and student contact?
2. Is there a mechanism in place in the LMS to track feedback and students contacts?
3. How will we track student progress?
4. Go through all the tasks in the course and ask yourself:
   a. Are the goals and sub-goals clear and understandable?
   b. Are we using scaffolding to break up large chunks of work?
   c. How is progress communicated back to students?
   d. Is it easy for students to see what is left to do?
   e. Are we challenging all students? It is very common that assignments are designed for the middle of the pack student and not the A student.
5. Do we have a clear pedagogy developed for this course?
6. Have we implemented the course in a sensible and good way for the students?
7. Is the material of high quality?
8. Have we implemented a logical course structure? Does it make sense to the students?
9. Is the LMS in order and functions properly?
10. Do we know our student, are they working full-time/part-time or are they 100% students? Your design of the course in question might look different depending on your target group.
11. Have we made necessary changes to cater to the target group?
12. Do we allow our students to plan their study time?
13. Do we make clear connections between the course topics and the real world?
14. What have we done to make the course interesting and inspirational?

References


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Myers, M.D. (1997) Qualitative research in information systems. MIS Quarterly, 21, 241–24


Orlikowski, W.J. (1993) CASE tools as organizational change: investigating incremental and radical changes in systems development. MIS Quarterly, 17, 309–34


Yerkes, R. M., and Dodson, J. D. (1908). The relation of strength of stimulus to rapidity of habit-formation. *Journal of Comparative Neurology and Psychology, 18*, 459-48