The Effects of Academic Emotions on Motivation in e-Learning

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ABSTRACT

The purpose of this study is to examine the impact of students’ experienced academic emotions on motivation in e-Learning. In terms of motivation, this study identifies meanings and importance of students’ academic emotions in e-Learning and draws implications for instructional design. With middle school students who enrolled an online mathematics course, the researcher measured academic emotions that study participants experienced during the online lectures and then measured motivational factors after online lecture by using self-reported instruments. The result indicates that correlations exist among several academic emotions and motivational factors. Similar to advanced research, furthermore, frustration and boredom negatively affected on student’s motivation and pride positively influenced on their motivation.

Keywords: Academic emotions, Emotions, Instructional design, Motivation, e-Learning

INTRODUCTION

Student’s academic emotions experienced in learning have not received sufficient attention of instructional designers or educational researchers. But different types of emotion that student experience in learning have impacts on concentration, memory, performance and learning process or achievement as well(Cacioppo & Gardner, 1999; Lee, 2012). Especially, many motivation theories and related researches include student’s emotional experience as major factor that influences to his/her motivation (Ainely, 2006; Linnenbrink, 2006; Meyer & Turner, 2006; Pekrun, 2006; Schutz et al., 2006). But most of the advanced researches were conducted in face-to-face learning. e-Learning environment has different factors that arouse student’s emotions from classroom (Hara & Kling, 2000; Ng, 2001; O’Regan, 2003; Wegerif, 1998, etc.). Therefore we need to analyze impact of academic emotions that student experience in e-learning process, and which elements of e-Learning environment have relevance to it.

THEORETICAL BACKGROUND

Emotion and Learning

Emotion is individual and psychophysiological experience. It arises in interaction between human being and surrounding environment (Myers, 2004). Also, human acts in a certain way under the influence of their emotion (Linnenbrink & Pintrich, 2002). Learning situation is where learner can experience diverse emotions. Considering the emotions’ role and function, emotions that learner experienced directly and indirectly can effect to learning process (for example, learner’s concentration, self-regulation,
Regarding cause of arising academic emotions, Elliot (1999), Frijda (1993), Lazarus (1991), Pintrich (2000), Schutz & Davis (2000), Smith (1991) asserted that learner’s appraisal of learning environment triggers his/her academic emotions and it related to their academic goal. Agreeing to this assertion, Pekrun (2000, 2006) integrated various theories related to emotions and suggested Control-Value Theory. Control-Value Theory assumes that learner conducts two types of cognitive appraisals related to his/her emotional experience. One is that “can I control my academic activities or achievement?” The other is that “This academic activities or achievement is valuable to me? (Positive or Negative)” In short, Learner generally experiences emotion going through the process: 1) Event or situation stimulates learner. 2) Learner conducts two types of cognitive appraisals. 3) Learner experiences some kind of academic emotions.

**e-Learning and Academic Emotions**

e-Learning environment involves factors that cause learner’s emotions. Some of these factors are not in face-to-face classroom. These relate to computer and web technology. e-Learner experiences various emotions, because e-Learning environment has properties that arouse student’s academic emotions: computer media, information network, web cyberspace. And emotions can be quantitatively as well as qualitatively changed according to that how much e-Learning environment satisfies learner’s need or expectation (Brave & Nass, 2002). O’Regan (2003) interviews 11 university students who participated in online courses. He found that students experience frustration because internet connection and instability of web site, complexity of web site’s structure, and so on. And students can experience anxiety, fear, concern because time delay, submitting assignment to website, digital literacy, and so on. Also, they feel excitement because convenience, accessibility to information for learning, connectivity to colleagues, feedback of instructor. Pride arises during online learning due to that they make public their assignment to website and feel tutors effectively manage their online course, get positive feedback from professor or colleagues.

In research of emotional intelligence, there is evidence that appear importance of learner’s emotions. Lee (2012) measured emotional intelligence of university students who participated in e-learning courses and verified that their emotional intelligence have effect to academic achievement. In result, empathy of emotional intelligence relevantly predicted to cognitive and attitude domain of academic achievement. Also, comparing off-line and on-line learning, on-line cooperative learning, Kang & Goo (2007) found that, in on-line learning, emotional intelligence significantly predicted learner’s academic achievement.

**Academic Emotions and Motivation**

Weiner (1985) asserted attribution theory that human experiences emotion when they think about the cause of consequence after behavior. And then, emotions influence their choice in next behavior. Ford (1992) emphasized that learner’s emotions play a significant role in process of managing his/her motivation. He found that academic emotions come from interaction between learners, learners and teacher. Also, emotions play role as indicator that provides important information to motivation and cognitive management. Pekrun have carried out many researches about emotions in learning. He assumed that learner’s experienced academic emotions influence his/her motivation. Following the same purpose, Pekrun et al. (2002) developed Achievement Emotions Questionnaire: AEQ) that measures learner’s emotions (enjoyment, hope, pride, relief, anxiety, shame, anger, hopelessness, boredom) in classroom, learning, test and examined middle school and university students’ emotion related to learning and motivation, learning strategies, cognitive load, self-regulation, learning achievement. Analyzing the results, they found that positive emotions and inner/external motivation have positive correlation. In contrast, negative emotions and motivation have negative correlation. Since then, Pekrun (2006) integrated empirical researches and theories, and suggested conceptual model that include cognitive appraisal and learner’s emotions, academic achievement. This model appears that learner’s emotions influence their learning strategies and cognitive resource, self-regulation, motivation (see pekrun, 2006). These researches show that learner’s experienced emotions have relevance to their motivation, and provide important information about their learning process.
RESEARCH METHODS

In that point of view, in order to investigate the impact of academic emotions (enjoyment, pride, anxiety, frustration, boredom, and learning environment anxiety from Pekrun et al, 2002) on learning, the current research analyzes relations between academic emotions and motivational factors (intrinsic/extrinsic goal orientation, task value from Pintrich et al., 1991) that advanced research (Ainely, 2006; Linnenbrink, 2006; Meyer & Turner, 2006; Pekrun, 2006; Schutz et al., 2006) have suggested. With middle school students who enrolled an online mathematics course, the researcher measured academic emotions that study participants experienced during the online lectures and then measured motivational factors after online lecture by using self-reported instruments. Correlation and regression have been conducted for analysis of these data.

RESEARCH RESULTS

The result indicates that correlations exist among several academic emotions and motivational factors. Furthermore, learning environment anxiety and frustration predict intrinsic goal orientation ($R^2 = 81\%$, $p < .01$). Learning environment anxiety, frustration and pride predict extrinsic goal orientation ($R^2 = 72\%$, $p < .01$) and learning environment anxiety and boredom predict task value ($R^2 = 52\%$, $p < .01$). Students who participated in online mathematics course differently experienced both positive and negative emotions to students who join in face-to-face classroom.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Effect of Academic Emotions to Motivation</th>
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<tbody>
<tr>
<td>Motivation</td>
<td>Academic Emotions</td>
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<tr>
<td>intrinsic goal orientation</td>
<td>learning environment anxiety</td>
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<td></td>
<td>frustration</td>
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<td>extrinsic goal orientation</td>
<td>learning environment anxiety</td>
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<td>pride</td>
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<td>task value</td>
<td>learning environment anxiety</td>
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<td>boredom</td>
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* $p < .01$

CONCLUSION

These results come from environmental properties and subjective characteristics that the online course has. Similar to advanced research, furthermore, frustration and boredom negatively affected on student’s motivation and pride positively influenced on their motivation. In contradistinction to advanced research, but, learning environment anxiety negatively predicted to all factors of motivation. In our research, learning environment anxiety related to guidance of e-learning system, stability of web site, guidance of online course, etc. And a degree of learning environment anxiety was not serious for learning ($M = 3.91$, $SD = 0.96$). These results present that learner who was motivated sensitively reacts to e-Learning environment: guidance of e-learning system, stability of web site, guidance of online course, etc.

The present study results implicate that there is a need to considering learner’ emotional experience when instructor designs e-Learning courses. Course designer checks e-Learning environment (especially, related to technology) whether there are some problems that cause learner’s negative emotions (for example, anxiety or frustration, anger, etc.) and resolve it. On the other hand, instructional strategies or elements that boost learner’s positive emotions were included in e-Learning course or system (for example, professor or colleagues’ positive feedback).
REFERENCES


