Cross Cultural Differences in Online Learning Motivation

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Globalization and technology are two of the many drivers that impact today's education locally and internationally. The purpose of the research study was to identify how online learners in Korea and the U.S. perceived online learning motivation differently and what learner characteristics and cultural orientation affected the online learners' learning motivation. Major findings revealed there was a significant difference in learning motivation between the U.S. and Korean online learners. The study also discusses how cultural orientation affects the learning motivation of online learners for each country.

Keywords: Online Learning, Learning Motivation, Cross-cultural Study

For higher education, twenty first century has started with the burgeoning of online education everywhere. As the usage of Internet increases, the application of online technologies to improve educational efficiency and effectiveness has been growing rapidly. For many researchers studying issues in traditional classroom environment, identifying different types of learning motivation and their impacts on students' learning have been a major field of study. As found from previous research studies, learner motivation tends to increase individual's energy and activity level during learning (Goslin, 2003; Maehr, 1984), lead individuals to certain learning goals (Dweck & Elliot, 1983; McCombs & Whisler, 1997), and promote and persist certain learning activities throughout a course (Franken, 2002; Stipek, 1988). Several researchers have reported learning motivation as the single most important factor that predicts students' learning achievement (Goslin, 2003; Vallerand & Senecal, 1993; Wlodkowski, 1985).

Parallel to the high interest in learning motivation in traditional classroom environment, identifying certain learning motivation types that are effective for online learning environment has been an important research issue for online learning researchers. Even though many studies have sought to assess online learners' motivation for successful online learning experience, little have been found to compare online learner's learning motivation across countries and different cultures. Identifying cross cultural and individual differences in online learning motivation is believed to a valuable research study topic since instructional designer and trainers in global learning environment need such findings to develop effective online instructions that transfer well between countries. This study seeks to assess how online learners' motivation in Korea and the U. S. differ and what cultural and learner characteristics affect the online learners' learning motivation.

Theoretical Framework of Online and Cross Cultural Learning Motivation

Motivation Variables

Numerous researchers have studied the effect of learning motivation on instructor-led classroom and other types of instruction such as computer-based and online instruction. The concept of motivation is defined as the organized pattern of a person's goals, beliefs, and emotions that the person is striving for (Ford, 1992). Motivation is a force to arouse, give direction to, continue, and choose a particular behavior (Wlodkowski, 1985). In an effort to specify motivation types valid for online learning, a thorough investigation of learning motivation theories and instruments was conducted. From the review, the researcher has identified six motivation types that meet the purpose of this study. They are reinforcement, course relevance, interest, self-efficacy, affect, and learner control. First, *reinforcement* is one type of the learning motivation that maintains and increases the probability of the response it follows (Vargas, 1977). According to social learning theorists, an individual's belief about the contingency of reinforcement influences learner behavior and learners will attain a high degree of learning achievement through instructional rewards such as grades and instructional feedbacks (Rotter, 1990; Lepper & Malone, 1987). Vroom (1964) adopts a similar motivation construct through Expectancy Theory, claiming that certain behaviors are followed by desirable outcomes or incentive awards. Pajares and Miller (1994) explain learner's behavior through the concepts known as stimulus-outcome relations and behavior-outcome relations. Common examples of reinforcement motivators in online instruction are grades, instructor feedback, peer support, and technical support. Other theorists also have noted reinforcement as an important learning motivation (Graham, 1994; Lepper & Malone, 1987; Weiner, 1994). *Relevance*, the second type of learning motivation in this study, refers to the value

residing in learning content toward learner's needs. Atkinson's expectancy-value theory (1964) explains an individual's achievement motivation as a combined force of the motive to achieve success, the probability of success, and the incentive value of success. Other motivation theorists such as Deci (1977), Herzberg, Mausner, and Snyderman (1959) indicate a similar motivation construct with the Expectancy Theory, expressed as "Motivation forces = Expectancy x Instrumentality x Valence." *Interest* is another type of motivation promoting learner involvement. When a learning task is challengeable and utilizes fantasy to present learning content, learners will be motivated (Malone, 1981). Keller (1987) adopts attention and relevance as such motivational components to sustain interest during learning process in the ARCS model of instructional design. Perception of *self-efficacy* refers to students' beliefs and feelings of self-worth in how well they can perform and be responsible in a learning task (Bandura, 1994; Foster, 2001). Students with high self-efficacy will engage in more meta-cognitive strategies and be more likely to persist at a task than students with low self-efficacy (Pintrich & De Groot, 1990). Students who are confident and motivated to learn will spent more time and effort and had better performance than those who are not (Salili, Chiu, & Lai, 2001). Self-efficacy is internal to learners and can positively or negatively affect learner motivation (Dweck, 1998). *Affect*, an intrinsic motivator, is a state of emotional feelings, concerns, and passions of individual learner while learning (Wlodkowski, 1985). In many cases, an individual's affect is influenced by organizational culture and climate, opinions of co-workers and supervisors, attitude towards change, degrees of frustration, and degree of determination and gratification in utilizing newly acquired knowledge and skills (Wlodkowski, 1999). *Learner control* is another motivation factor influencing learner's behavior. Learner control has been an important study subject in the field of instructional technology (Heinich, 1973; Hoban, 1965; Reigeluth, 1989). Chung and Davis (1995) categorize learner control behaviors into four types: learner control of content, learner control of sequence, learner control of learning pace (time management), and learner control of instructional display. Chung (1991) strongly advocates that instructors should facilitate and empower learners to take control of their learning. Each learner's control of instruction is inherently appealing to learners since it is verified that learners are more motivated if they are allowed some control over their own learning. The critical variables that influence learner control decision are the experience of individual learner and the importance of learning task (Chung & Davis, 1995).

Cross Cultural Issues on Learning and Learning Motivation

With increasing modernization, the differences in learning orientation and behavior between Western and Asian culture seem getting closer especially for the new generations (Yu & Yang, 1987). Many evidences, however, have proved that various differences still exist in learning and behavioral orientation between the two cultures. First of all, collectivistic values, such as more influence of family and social groups on achievement behavior, influence of Confucian teaching tradition on student learning, beliefs about financial and social advancement through more education, were found to affect the learning and behavioral orientation of Asian students (Sue & Okazaki, 1990). Authoritarian and examination oriented learning context of Asian cultures was another distinctive feature making the differences evident (Chen, Stevenson, Hayward, & Burgess, 1995). Some researchers have tried to explain the cross-cultural differences in motivation through the concept of meaning system. According to Grant and Dweck (2001), each culture has its own achievement-relevant beliefs, goals, and values. These researchers found that Asian students were oriented more toward effort attributions and performance goals, characterized by pressing immediate high performance than mastery of learning over time compared to American students. Li (2000) claims the Asian culture views learning as a process of self-perfection by seeking lifelong commitment, diligence, endurance of hardship, persistence, and concentration whereas the Western culture emphasizes thinking processes and learner's psychological characteristics such as learning style and intelligence. Even though the findings from these research studies may not prove all different faces of the learning behavior and orientation between the Asian and Western cultures, they are considered worthwhile to provide initial clues to assess certain cultural factors that influence the learning motivation of online learners in different cultures.

Purpose and Methodology

The purpose of the research study was to identify how online learners in Korea and the U. S. perceived online learning motivation differently and what cultural differences and learner characteristics affected the online learners' learning motivation.

The subjects for this study included 236 graduate and undergraduate students (34 undergraduate and 61 graduate students from Korean universities and 78 undergraduate and 63 graduate students from a U.S. university respectively) who took online courses in 2001 and 2002. Survey data for Korean students were collected from four universities in Seoul, Korea whereas the data for the U. S. students were collected from a southeastern university. All students were majoring education related studies such as higher education, human resource development,

instructional technology, teacher education, and instructional systems design. Gender distribution of the respondents was composed of 62 male and 174 female students (17 male and 78 female students from Korean population and 45 male and 96 female students from the U. S. population respectively).

In order to develop a survey instrument for this study, several learning motivation instruments used by educators and researchers were investigated. Those were Educational Participation Scale (Boshier, 1976), Instructional Material Motivation Survey (Keller, 1987), Motivated Skills Card Sort (Knowdell, 1981), Motivated Strategies for Learning Questionnaire (Pintrich, Smith, Garcia, & McKeachie, 1993), and Productivity Environmental Preference Survey (Price, Dunn, & Dunn, 1979). Of these six learning motivation instruments currently in use, two were selected for possible use in this study: the Instructional Material Motivation Survey and the Motivated Strategies for Learning Questionnaire. Each of these instruments was thoroughly reviewed for its applicability and statistical reliability. From the review of the item reliability and the content validity of each item of these instruments, 20 items that were related to the six motivation types and having a minimum item reliability alpha of .79 were selected to address the purpose of this study. In addition to the 20 items, 4 question items were newly developed to assess learner control in online learning environment. As a result, an online questionnaire composed of 24 question items was developed to measure online learner's motivation in the six sub categories (course relevancy, course interest, affect/emotion, reinforcement, self-efficacy, and learner control). Some examples of the 24 items include questions like asking "It is important for me to choose subjects that relate to my studies and/or my job." "I prefer course material that arouses my curiosity." "It is important for me to voice my opinions during class without fear of embarrassment." "When compared to other students, I am certain that I will do well on the lesson assignments." "It is important for me to have control over when and where I study." The instrument used a five point Likert type scale to measure the level of learning motivation (1 for "strongly disagree" to 5 for "strongly agree") and the data collection was completed via online. Regarding the reliability of the instrument used for data collection, a reliability alpha was .92 for the overall motivation scale.

Basic descriptive statistics was used to analyze the level of online learning motivation perceived by all students. T-test was utilized to measure gender difference in the learning motivation. One-way analysis of variance was carried out to verify the effect of student characteristics on the learning motivation. Multi-way analysis of variance was conducted to assess the effect of cultural differences on the six motivation types.

Findings

Overall, a significant difference in average motivation score was observed between the groups of the two countries (p<.001). Online students in the U.S. showed a significantly higher motivation mean score than those in Korea. The mean scores of the six motivation types are summarized in Table 1. Regarding the importance of each motivation type, course relevancy marked the highest mean score followed by learner control, reinforcement, course interest, self-efficacy, and affect/emotion. When students' motivation mean scores of the six sub categories were compared, Korean students indicated learner control as the second highest motivation type followed by course interest, affect/emotion, reinforcement, and self-efficacy while American students indicated self-efficacy as the second highest motivation type followed by reinforcement, course interest, learner control, and affect/emotion. To verify the difference in each motivation type between the two countries one-way analysis of variance (ANOVA) was conducted. Among the six motivation types, all motivation types except affect/emotion were found to show significant mean differences between the two countries. For the five motivation types with significant differences, Korean students scored significantly higher only for learner control while American students scored significantly higher for the other four motivation types (course relevancy, course interest, reinforcement, self-efficacy). To detect gender differences t-test was performed. As shown in Table 2, female students were found to have a significantly higher motivation mean score for learner control than male students. No differences were found between different academic status groups (graduate and undergraduate students).

Table 1. *Differences in Motivation Types between Countries*

Motivation Type	Mean (*SD*)	Country	N	Means for Each Country (*SD*)	One-way ANOVA *p*-value
Course Relevancy	4.61 (.67)	KR US	95 141	4.47 (.91) 4.71 (.43)	.006
Course Interest	4.07 (.70)	KR US	95 141	3.84 (.80) 4.23 (.57)	<.001
Affect/ Emotion	3.85 (.73)	KR US	95 141	3.83 (.78) 3.87 (.69)	.659
Reinforcement	4.13 (.73)	KR US	95 141	3.75 (.77) 4.38 (.57)	<.001
Self-efficacy	4.07 (.83)	KR US	95 141	3.46 (.78) 4.47 (.58)	<.001
Learner Control	4.25 (.81)	KR US	95 63	4.37 (.88) 4.06 (.67)	.017

Table 2. *Gender Differences in Motivation Types*

Motivation Type	Mean (*SD*)	N	Means male/female (*SD*)	T-test *p*-value
Learner Control	4.61 (.67)	Male - 38 Female - 120	3.99 (.96) 4.33 (.75)	.023

To assess the influence of employment status (full time, part time, not employed) and web learning experience on learning motivation, one-way ANOVA was carried out. In asking the web learning experience, the research asked if the subjects have taken classes through blended mode (web based, computer based, or classroom instruction) or web based instruction only. The mean scores, their standard errors, and the *p* values from the one-way ANOVA are listed in Table 3 and 4. From this analysis it was identified the mean scores of self-efficacy were significantly different among the student groups with different employment status (fulltime, part time, and not employed). Regarding the influence of web learning experience on motivation, those students with web learning experience had significantly higher mean scores for reinforcement and self-efficacy than those students with mixed learning experience through online instruction, classroom, and CD-ROM.

Table 3. *Effect of Employment Status on Online Learning Motivation*

Motivation Type	Employment Status	N	Means for Each Status (*SD*)	One-way ANOVA *p*-value
Self-efficacy	Fulltime Part time Not Employed	76 114 45	4.14 (.77) 3.88 (.86) 4.39 (.72)	.001

Table 4. *Effect of Web Learning Experience on Online Learning Motivation*

Motivation Type	Web Learning Experience	N	Means for Each Category (*SD*)	One-way ANOVA *p*-value
Reinforcement	Web only Mixed mode	134 102	4.26 (.06) 3.96 (.07)	.002
Self-efficacy	Web only Mixed mode	134 102	4.26 (.07) 3.80 (.08)	<.001

In order to assess what motivation types are affected by the students' characteristics and cultural orientation, multi-way ANOVA was performed. From this analysis only two motivation types were found to exist as they were affected by the students' academic status across countries. First, American undergraduate students' mean score for affect and emotion was found to be significantly higher than that of Korean undergraduate students. Second, graduate students' perception about the importance of affect and emotion did not significantly differ between the two countries. Third, for self-efficacy, American undergraduate and graduate students' mean scores were significantly higher than those of Korean students. Table 5 shows the results of the multi-way ANOVA.

Table 5. *Differences in Motivation by Country and Academic Status*

Motivation Type	Academic Status	Country	N	Means for Each Category (*SD*)	Multi-way ANOVA *p*-value
Affect/ Emotion	Undergraduate	KR US	34 78	3.58 (.74) 3.92 (.73)	.025
	Graduate	KR US	61 63	3.97 (.77) 3.81 (.65)	.216
Self-efficacy	Undergraduate	KR US	34 78	3.21 (.66) 4.47 (.62)	<.001
	Graduate	KR US	61 63	3.61 (.81) 4.47 (.52)	<.001

Discussion

National Differences in Learning Motivation

This study has sought to investigate the differences in motivation types between online learners in Korea and the U.S. and what learner characteristics affected the online learners' learning motivation. One major finding from this study was that American students indicated significant higher motivation scores for the four motivation types (course relevancy, course interest, reinforcement, and self-efficacy) than Korean students. Korean students scored significantly higher only for learner control. This result leads to a meaningful discussion of the influence of different cultural orientation on learner motivation. As Grant and Dweck (2001) assert, Asian students are oriented more toward effort attributions and performance goals while American students are emphasizing mastery of learning over time and enjoying the learning process itself. The four motivation types that American students scored significantly higher than Korean students can be explained in this regard since the content of the survey questions of the four motivation types were asking the importance of learning content, learning process, and learner's ability to learn. Similarly, the Korean students' significant higher mean score for learner control can be explained in this respect in that Korean students' orientation toward more effort attributions and performance goals might have affected the tendency toward more favor of the control of their own learning processes. Regarding gender difference in computer use, this study found that female students scored significantly higher for their control of learning process using

computers and Internet than male students. Compared to the general notion that male students have a more positive attitude and higher literacy when using computers than female students (Bannert & Arbinger, 1996; Brosnan, 1998; Shashaani, 1994), this study revealed a unique finding regarding the gender difference in online learning environment. If female students prefer more control of their learning than male students, different learning options should be allowed for female students to study online learning programs to result in better learner satisfaction and learning outcomes.

It was interesting to know that undergraduate students of the U.S. scored significantly higher for affect/emotion variable than Korean students. This means American students feel more accomplishment when completing online lessons, prefer voicing personal opinions during class, enjoy learning, and enroll in classes to obtain a sense of belonging as indicated from the related question items of the survey instrument. The collectivistic value of Asian cultures is another source to interpret this finding. As Chen et al. (1995) states, Asian students tend to avoid voicing their opinions and keep passive and quiet during class as they are influenced by the authoritarian learning context of Asian culture. Likewise, similar explanation can be used to the finding that American graduate and undergraduate students' significant higher mean scores on self-efficacy than Korean students. American students' tendency toward focusing more on mastering and understanding course content and materials might have increased their beliefs in self-efficacy (Salili et al., 2001). From these findings, it is advisable to explain the cross-cultural differences in online learning motivation through the concept of meaning system. As Grant and Dweck (2001) claim, culture has its own achievement-relevant beliefs, goals, and values and this meaning system tends to influence online learners' learning motivation.

Implications for Cross Cultural Online Learning

The remaining question is then how to fully utilize the study findings to improve current practices in online learning and to develop online programs that transfer and travel well across different cultures. Considering the exponential growth and needs of online learning programs and degree programs offered internationally, identifying effective instructional principles and strategies promoting higher learning motivation in cross cultural settings would be one of the key priorities that instructional designers of global learning environment should address. From the study findings, several recommendations could be drawn for this purpose. First of all, one major finding of the study is that all students, regardless the differences in national orientation, gender, academic and work background, and online learning experience, considered course relevancy as the most important motivational factor for their online learning. As several research studies suggested, values residing in learning content and material decide the level of motivation (Atkinson, 1964; Deci, 1977; Herzberg et al., 1959). To enhance the values of learning and elicit meaningful learning for application, one primary recommendation is that online content developers and instructors should make online instruction in such ways providing ample opportunities to apply learners' own learning experiences during learning processes. One strategy might be customizing assignments and class projects to incorporate learners' cultural examples and experiences, which will expand the application opportunities into their own cultural contexts. Stressing relevance in learning content to cultural and personal occasions will be another strategy to promote learner motivation and result in better learning outcomes and learner satisfaction. More specifically, some motivational strategies also deem viable to accommodate diverse cultural differences for meaningful learning. Among the studied motivation types, course relevancy, reinforcement, affect/emotion are controllable variables while others are not. To promote learning motivation for online learning occurred across cultures, facilitating these controllable motivation variables is considered an effective instructional strategy. For reinforcement, providing timely and frequent feedback and support is one possible way to engage students in the learning processes while keeping their learning motivation at a higher level. The weakest aspect of online instruction has been said the lack of instructor-student relationship through "eye to eye" communication that creates emotional involvement of online learners in the learning process. To resolve this kind of problem, facilitating direct communication experience among students and with instructors through alternative communication channels such as chat, threaded discussion, and audio/video conferencing would be a good strategy. To increase online learners' learning motivation through reinforcement some rewarding mechanisms other than grades should be utilized in managing online instruction. For instance, checking students' learning progresses and sending frequent emails for feedback and encouragement are good ways to increase students' awareness level in taking online instructions. Sharing good examples of students' assignments or accomplishments might be another way to support reinforcement motivation.

Implications for HRD

For researchers in education, learning motivation has been an ongoing research agenda to verify the diverse faces when applied in different learning situations and contexts. Online learning in cross cultural learning environment is

one new addition that makes the faces of learning motivation more diverse. This study revealed several meaningful findings in cross cultural online learning motivation. Some findings were common to the two different cultures while others were unique to each one's own cultural context. One implication for HRD from this study is that a good e-learning design addressing diverse motivational issues will work for people in many cultures while different motivation variables may exist as they affect online learners of those cultures with different degree. The importance of transfer factors in instructional design is another implication that has been arising from the study findings. Either in online or traditional classroom, designing instructional programs meeting the transfer needs at organizational as well as cross cultural learning environment must be one of the top priorities any instructional designers should seek for.

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