THE MOTIVATION TO LEARN ONLINE QUESTIONNAIRE

by

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(Under the Direction of Shawn Glynn)

ABSTRACT

In what ways does motivation to learn in online classes differ from motivation to learn in traditional classes? The purpose of the present study was to answer this question. A Motivation to Learn Online Questionnaire was developed, which consists of 37 items. This questionnaire was administered to 80 college students to assess the factors that motivate them in their courses. For each statement, participants indicated their level of agreement for traditional and online classes. Additionally, biographical data about the participants were collected—particularly data concerning their experience with the Internet and their technical proficiency using it. The study found that there were significant differences in intrinsic goal orientation and in social engagement in online and traditional classes.

INDEX WORDS: Motivation, Online Education, Online Classes, MSLQ, Social Engagement, Self-efficacy, Intrinsic Goal orientation, Extrinsic Goal orientation, Control of Learning Beliefs, Test Anxiety, Class Context

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# CHAPTER 1

## Introduction

The popularity of online courses is growing in America's colleges. A number of factors are contributing to this increased popularity, including the rising cost of providing college education, the rising popularity of higher education, the growing number of nontraditional students (Miltiadou & Savenye, 2003), and the insinuation of the internet into the daily lives of Americans. While online courses began as an experiment in the 1990s, they have emerged from the novelty of the educational fringe to become part of the mainstream in higher education. Today, many major colleges and universities regularly offer online courses as part of their standard curriculum. Courses that were once taught in lecture halls filled with hundreds of students are now offered online, allowing students to access the material from the convenience of their homes. Additionally, there is a growing, competitive market for online education. A number of online universities now offer both undergraduate and graduate degree programs that are conducted exclusively online. With traditional universities now entering the online education arena, what was frequently regarded as second-rate instruction is becoming increasingly accepted and popular.

Though the popularity of online classes in college is evident, there is debate over the quality of the instruction. The model of instruction used in traditional classrooms has evolved to its current state since the first medieval universities began to emerge in the thirteenth century (Ruegg, 2004). Over this time, many aspects of the model have been dissected, analyzed, and refined. Traditional classroom instruction is a more mature technology. Instruction in online classes, on the other hand, is still emerging. Are traditional classroom instructional techniques effective in the online classroom? Does the difference in social engagement affect learning? Do

students find online classes easier than traditional classes? These are just a few of the many questions that remain unanswered. The sudden and rapid shift of instructional context that has occurred with the advent of online education presents educators with the challenge of developing methods that make online classes as successful—perhaps even more successful— than classes offered in the traditional classroom.

Motivation is essential to academic success. Though it lacks a single overarching explanatory theory, student motivation is believed by most educational psychologists to be predictive of success in the classroom (Zimmerman, Bandura, & Martinez-Pans, 1992). From a social cognitive perspective, motivation occurs at the nexus of personality, behavior, and environment (Bandura, 1986). This recognition of the importance of the social component of motivation is necessary when assessing the need for further research on motivation in online classes. The most distinctive difference between online and traditional education is the context in which the instruction occurs. The role of social interaction and the means by which it occurs are dramatically altered when the students and instructors are removed from the face-to-face environment of the classroom and placed in the conceivably isolated online learning environment. Communicative subtleties, such as body language and intonation, which instructors often take for granted as tools for conveying meaning in the traditional classroom, are conspicuously absent in the online environment. While it is reasonable to assume that many of the motivational constructs that have been applied in traditional classes may carry over to the online classroom, current understanding of motivation in online classes is inadequate, and a greater understanding of it is needed to ensure the quality of online education.

# CHAPTER 2

## Review of the Literature

A survey of the field of motivation reveals an array of constructs that operate within a variety of competing theoretical approaches (Murphy & Alexander, 2000; Schunk, 2000). Despite the lack of consensus on the way that motivation operates, there is much agreement among educational psychologists on the fundamental role that motivation plays in learning. In addition to being considered a powerful and essential component of education by itself, motivation is also associated with other major factors involved with learning. Among these factors are self-regulation, metacognition, strategy use, and persistence (Pintrich & Van De Groot, 1990). When viewed in relation to these other factors in educational achievement, it becomes clear that motivation is a key component in a web of characteristics that, together, promote academic success.

The Motivation to Learn Online Questionnaire is designed to assess differences in student motivation in online and traditional classes. The Motivation to Learn Online Questionnaire is adapted, in part, from the Motivated Strategies for Learning Questionnaire (Pintrich, Smith, Garcia, & McKeachie, 1991). The developers of the Motivated Strategies for Learning Questionnaire identified a number of motivational constructs, upon which they based their research instrument. Since the Motivation to Learn Online Questionnaire is based on similar motivational constructs as those in the Motivated Strategies for Learning Questionnaire, these concepts will be reviewed in the following sections.

*Goal-Orientation: Intrinsic vs. Extrinsic*

Goal orientation is an essential component of motivation. To be motivated is to be motivated *toward something* (Ryan & Deci, 2000). That something is a goal. Goal orientation refers to the types of goals that motivate students—in particular, the direction from which those goals originate. There are two general types of goals: intrinsic goals and extrinsic goals.

Intrinsic goals are those that originate from within the individual. Goals that fall under this category include satisfaction, mastery, and the pleasure derived from simply being engaged in an activity. Intrinsic goals are often referred to as mastery goals. Extrinsic goals are those goals that originate from outside the individual. Examples of extrinsic goals include money, social recognition, grades, and avoidance of punishment. Extrinsic goals often take the form of rewards and are sometimes referred to as performance goals.

Generally, it is believed that intrinsic goals are more productive than extrinsic goals (Ryan & Deci, 2000). This is because research indicates that, while extrinsic goals are capable of affecting changes in behavior, those changes are only temporary. Students who change their behavior in order to reach extrinsic goals often revert to the original behavior after the promise of the extrinsic reward is removed. Furthermore, some research suggests that the application of extrinsic rewards to a task for which the individual is intrinsically motivated can actually undermine intrinsic motivation (Lepper, Greene, & Nisbett, 1973). On the other hand, intrinsic motivation is believed to be capable of affecting long-term changes in behavior, as well as fostering greater persistence toward achievement (Ryan & Deci, 2000).

It would seem that intrinsic goals are inarguably superior to extrinsic goals, but there is a trade off. Intrinsic goals are difficult to cultivate. Because intrinsic goals originate from within the individual, external agents, such as teachers, have little control over them. Conversely,

extrinsic goals are much easier to control. As a result, much of the motivation that occurs in the classroom focuses on extrinsic goals. More successful teachers though, promote student performance by providing extrinsic motivation while fostering the development of intrinsic goals (Ryan & Deci, 2000).

*Control of Learning Beliefs*

Control of learning beliefs refers to students' beliefs about the amount of control they have over their ability to learn class material. As a construct, control of learning beliefs is linked closely with attribution theory. Specifically, control of learning beliefs is concerned with the distinction between internal and external learning attributions.

A student who has internal learning attributions tends to attribute academic performance to some factor that is inherent in his being. "I made a good grade because I'm smart" and "I made a bad grade because I'm stupid" are both examples of statements that might be uttered by a student who possesses internal learning attributions. External learning attributions exist when a student attributes academic performance to some external factor. "I failed the test because the room was too cold" and "I got an A on the test because I got lucky" are both examples of statements that might be made by a student with external learning attributions. Academically successful students typically attribute successes to internal factors and failures to factors under their control, particularly effort (Weiner, 1979)

Locus of control is another notion closely associated with control of learning beliefs, as well as attribution theory. Like attribution theory, locus of control focuses on the internal/external distinction. Students with internal locus of control tend to believe they have control over events in their lives. Conversely, students with external locus of control tend to believe that events in their lives are outside of their control. Research on locus of control

indicates that students with internal locus of control tend to have greater motivation and higher levels of achievement (Anderson, Hattie, & Hamilton, 2005). As a construct, control of learning beliefs incorporates both locus of control and attribution theory. The theory behind control of learning beliefs argues that students who believe they have control over their learning, and attribute their performance to factors under their control (as opposed to factors such as ability or luck) will be more successful.

*Anxiety*

Stress is a necessary component of motivation. At its lower levels, stress is experienced as excitement. Stress makes both body and mind more alert. It quickens the pulse and brings attention to a point, providing the energy and the focus necessary to bring tasks to successful fruition. There is a stress threshold though—a point at which stress ceases to enhance performance and actually begins to inhibit it (Hebb, 1955). Stress at this level is experienced as anxiety. A common form of anxiety in the classroom is test anxiety. Test anxiety involves levels of stress greater than those that are normal and necessary for performance on a test. Test anxiety causes students suffering from it to under-perform (Pintrich & Van De Groot, 1990). This situation presents a quandary for teachers seeking to motivate students to learn. Too little stress fails to motivate students, but too much stress is counterproductive.

*Self-Efficacy*

Bandura's (2001) notion of self-efficacy is one of the primary components of motivation in the social-cognitive framework of learning. Self-efficacy refers to an individual's beliefs about his or her ability to perform well on a certain task, within a particular domain. Research suggests that self-efficacy is highly predictive of academic performance (Bandura, 1997). Robbins et al. (2004) conducted a study that indicated that self-efficacy had a powerful impact on grade point

average for college students. Additionally, self-efficacy has been linked to willingness to engage in new activities, effort, persistence, and cognitive engagement (Bandura, 1997; Pintrich & Schrauben, 1992; Schunk 1995). The strong links between self-efficacy and academic success indicate the importance of fostering self-efficacy in the classroom. By systematically exposing students to tasks that are increasingly challenging, yet within their reach, teachers can help them develop the self-efficacy necessary for success.

*The Present Study*

The purpose of the present study was to develop a reliable and valid instrument, the Motivation to Learn Online Questionnaire, which can be used by instructors and educational researchers to examine college students' motivation to learn online. In general, this instrument was developed to answer the following question: In what ways does motivation to learn in online classes differ from motivation to learn in traditional classes? In particular, the Motivation to Learn Online Questionnaire was developed to answer the following set of questions: Do students in online and traditional classes differ in terms of their intrinsic goal orientation, extrinsic goal orientation, control of learning beliefs, self-efficacy, test anxiety, preference for class context, and social engagement? If students do differ in some of these variables, then why do they differ?

# CHAPTER 3

## Methodology

### *Participants*

The sample for the Motivation to Learn Online Questionnaire consisted of 82 students enrolled in college graduate and undergraduate courses. For the purposes of analysis, the responses of two participants were discarded due to non-completion, resulting in a final sample size of 80. Participation in the research was voluntary and anonymous. The researcher offered no rewards or incentives in exchange for participation. Participants in the research were recruited in one of three ways: (1) Participants were informed about the research by an instructor who agreed to cooperate with the researcher, (2) Participants were informed about the research by the researcher, who delivered presentations about the research in the classrooms of participating instructors, and (3) Participants were informed about the research through fliers posted by the researcher. The majority of the participants were University of Georgia students, but a small indeterminate number were possibly from Athens Technical College and Georgia State University, where fliers were also posted.

The following is a brief summary of information concerning the sample population (see Tables 1 and 2). Fifty-eight of the participants were female and 21 were male. One participant declined to report gender. Sixty of the participants reported a grade point average in the 3.6 to 4.0 range. The average age of participants was 32.15 years. Ages ranged from 22 to 57 years. Seventy-four participants reported English as their native language, while the remaining six indicated that it was not. Of all respondents, all but one indicated that they had

access to a computer at home. Participants reported a mean of 14.55 hours per week on the Internet, excepting hours spent in online classes. The mean total number of online classes taken by participants was 5.34.

The well-established Motivated Strategies for Learning Questionnaire (Pintrich, Smith, Garcia, & McKeachie, 1991) will be described in detail in the following section. It was adapted, in part, and used to develop the Motivation to Learn Online Questionnaire.

*Motivated Strategies for Learning Questionnaire*

The Motivated Strategies for Learning Questionnaire was developed by a group of researchers led by Paul Pintrich ((Pintrich, Smith, Garcia, & McKeachie, 1991). Since its inception, the questionnaire has become a widely used tool for educators and researchers interested in assessing student motivation and cognitive strategy use. To some degree, the popularity of the questionnaire can be attributed to the fact that it was made available in the public domain, rather than copyrighted and sold (Duncan & McKeachie, 2005). The freedom to modify the Motivated Strategies for Learning Questionnaire to suit individual needs has also contributed to its popularity. Analyses indicate that the questionnaire has high levels of reliability and predictive validity (Garcia & Pintrich, 1995).

In its original version, the Motivated Strategies for Learning Questionnaire consists of 81 questions organized into two parts, both intended to assess motivation in college students enrolled in traditional classrooms. The first part of the Motivated Strategies for Learning Questionnaire is the motivational scales. There are six motivational scales, consisting of 31 questions. The second part of the Motivated Strategies for Learning Questionnaire is the cognitive scales. The cognitive scales contain 50 questions and were designed to assess the use of learning strategies by college students. While the Motivated Strategies for Learning

Questionnaire is a popular tool for assessment that is often used in its entirety, the present study is designed to address motivation and, consequently, the cognitive scales were not used and will not be described here.

The motivational scales of the Motivated Strategies for Learning Questionnaire are based on three motivational constructs: expectancy, value, and affect. Each of the six subscales that comprise the motivational scales is designed to assess some aspect of one of these constructs. There are two subscales devoted to expectancy. They are self-efficacy and control of learning beliefs. The three subscales related to value are intrinsic goal-orientation, extrinsic goal-orientation, and task value. Affect consists of only one subscale: test anxiety (Duncan & McKeachie, 2005).

The developers of the Motivated Strategies for Learning Questionnaire conducted analyses to establish the reliability and validity of the instrument; both of which have been confirmed by other researchers who have used and adapted the questionnaire for their own purposes. In the Motivated Strategies for Learning Questionnaire, internal consistency of items within the scales was determined by computing coefficient alphas for the scales. The number of questions that constitute the five relevant Motivated Strategies for Learning Questionnaire subscales ranges from four to eight, and the coefficient alphas range from .62 to .93 (Garcia & Pintrich, 1995). This indicates high levels of homogeneity within the scales. For more information on the coefficient alphas of the Motivated Strategies for Learning Questionnaire subscales, see Table 3.

The developers of the Motivated Strategies for Learning Questionnaire also performed analyses on the instrument in order to establish its construct validity. The instrument was administered to a population of 380 college students, in 37 classes, across 14 academic subjects

(Garcia & Pintrich, 1995). A factor analysis determined that the items that comprise the individual subscales do in fact measure one factor (the construct underlying that subscale), and not other factors (constructs underlying other subscales). The researchers found, "the measurement models tested in the analyses followed the theoretical framework, and the structural models freely estimated the covariances between the latent constructs" (Garcia & Pintrich, 1995, p. 10). The researchers concluded that the scales of the assessment were "reasonable representations of the data" (Garcia & Pintrich, 1995, p. 10).

*Motivation to Learn Online Questionnaire*

The Motivation to Learn Online Questionnaire consists of two sections. Section one, the student background section, is comprised of 10 questions designed to collect basic biographical information about the participants, their proficiency and experience with the internet and related technologies, and their experience with online courses. Because many of these questions have multiple parts, the 10 questions in the participant background section of the Motivation to Learn Online Questionnaire represent 24 elements of data.

Section two of the Motivation to Learn Online Questionnaire consists of two primary scales, each containing seven subscales. The two primary scales of the Motivation to Learn Online Questionnaire are the online scale and the traditional scale. These scales are comprised of 37 questions. For each question, there is a trunk: a statement that prompts participants to indicate their level of agreement with the statement in traditional classes and also in online classes. For each question, there are two instances of a Likert scale (one for traditional classes and one for online classes), which participants use to indicate their agreement with the statement.

The Likert scale ranges from one to five, and values for the scale are as follows: 1 = Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree. The scale is reverse scored for some questions

The 37 questions of the Motivation to Learn Online Questionnaire represent seven subscales. Five of these subscales are adapted from the Motivated Strategies for Learning Questionnaire. This study will focus on only five of these subscales: intrinsic goal orientation, extrinsic goal orientation, test anxiety, control of learning beliefs, and self efficacy.

For the purposes of the present study, the task value subscale was determined to be irrelevant. The reason for this is that, while research suggests that task value is strongly predictive of student task selection (e.g., a biology course vs. an art course), the task value questions in the Motivated Strategies for Learning Questionnaire focus on the value placed on the content of the course, rather than the context (Pintrich, 2004). This is appropriate within the Motivated Strategies for Learning Questionnaire because it is designed to be used in reference to one individual course. However, because the Motivation to Learn Online Questionnaire is designed to assess differences in the context of instruction, and it refers to online and traditional courses in general, all references to the content or subject matter of specific courses were removed.

Although the task-value subscale was removed, two additional subscales were created for the Motivation to Learn Online Questionnaire. These are the social-engagement and class-context subscales. Together, these two subscales were designed to measure a fourth motivational construct; environment. Many theories—particularly social-cognitive theory (Bandura, 2001)—emphasize the role that environment and social involvement play in motivation. Such a significant disparity in the educational setting constitutes further study. The social-engagement

subscale is intended to assess levels of social engagement in online and traditional classes. This subscale was added because the opportunities for social interaction in online classes and the methods through which it takes place are dramatically different from traditional classes. Additionally, the class-context subscale was designed to assess differences between online and traditional classes in reference to student preference, comfort, and success.

Though the reliability and validity of the Motivated Strategies for Learning Questionnaire are well established, it should not be automatically assumed that those features will transfer to the Motivation to Learn Online Questionnaire. There are several reasons not to make this assumption.

First, the motivational scales of the Motivated Strategies for Learning Questionnaire were designed to assess student motivation in a particular class. In its original version, all of the questions in the Motivated Strategies for Learning Questionnaire refer to a specific class, and the questionnaire was designed to be administered at the class level. The Motivation to Learn Online Questionnaire items, on the other hand, has been reworded to refer generally to traditional classes and online classes, respectively.

Second, as mentioned earlier, the task value subscale was removed in the creation of the Motivation to Learn Online Questionnaire, and the social-engagement and class-context subscales were added. Not only does this change affect the number of questions in the motivational scales, it may also affect the ways in which the subscales relate to the motivational scale as a whole. Additionally, the two new subscales have not been tested for either reliability or validity.

Third, the motivational scales of the Motivated Strategies for Learning Questionnaire were designed to assess student motivation in traditional classrooms, and they were standardized

using a traditional classroom population. The Motivation to Learn Online Questionnaire, on the other hand, is designed to assess student motivation in both traditional and online classrooms, and, in particular, differences between the two. The population, by definition, is either currently enrolled in an online class or has taken one in the past.

Keeping these concerns in mind, it is possible that the reliability and validity of the Motivation to Learn Online Questionnaire might differ significantly from those of the Motivated Strategies for Learning Questionnaire. As a result, the reliability and validity of the Motivation to Learn Online Questionnaire will be evaluated independently of the Motivated Strategies for Learning Questionnaire. The Motivated Strategies for Learning Questionnaire will, however, be used as a baseline in determining the concurrent validity of the Motivation to Learn Online Questionnaire. These issues will be discussed at greater length in the Results and Discussion sections.

*Procedure*

The Motivation to Learn Online Questionnaire was administered entirely online, in the form of a web-based survey. Participants accessed the questionnaire by entering the URL provided by the researcher into their web browser. After reading the consent form, they indicated their acceptance of the terms put forth in the form by clicking on the submit button. At that point, they were taken to section 1 of the questionnaire. After completing this section, they proceeded to section 2 by clicking on the continue button. Upon reaching the bottom of section 2 of the questionnaire, participants had the option of clicking on the, "SUBMIT DATA," button, which committed the data to the database, or clicking on the, "DISCARD," button, which erased the data they had entered and made no contact with the database. Additionally, if no button was selected, no data was committed to the database. Upon successful completion of the

questionnaire, users received a message confirming their choice (submit or discard) and thanking them for their participation. See the appendices for a complete list of the survey items, along with screen shots from the Motivation to Learn Online Questionnaire.

# CHAPTER 4

## Results

The Motivation to Learn Online Questionnaire was designed to assess differences in student motivation in online and traditional classes. In the following sections, the results for each of the Motivation to Learn Online Questionnaire subscales are reported and explained in terms of the hypotheses of this study. For paired-samples *t*-tests, two-tailed tests were conducted, unless otherwise explicitly indicated.

### *Intrinsic Goal Orientation*

The traditional intrinsic goal-orientation subscale consisted of 4 items, and reliability analysis yielded a coefficient alpha of .68. Individual item means ranged from 3.21 to 4.15 ($M$ = 3.85; $SD$ = .61). The online intrinsic goal-orientation subscale consisted of 4 items, and reliability analysis yielded a coefficient alpha of .68. The individual item means ranged from 3.15 to 4.09 ($M$ = 3.79; $SD$ = .63).

It was expected that the mean for the intrinsic goal-orientation subscale would be lower for online classes than for traditional classes. Intrinsic motivation is domain specific, meaning that students are likely to be motivated by the content of the class, rather than the context in which it is offered. Therefore, it was reasoned that subject matter, rather than class context, would more likely foster or inhibit intrinsic motivation. This is likely because students may often take online classes for reasons other than mastery of the subject matter. This hypothesis was confirmed by a one-tailed paired-samples *t*-test, which revealed that the difference in intrinsic goal orientation between traditional classes ($M$ = 15.41; $SD$ = 2.44) and online classes ($M$ = 15.15; $SD$ = 2.50) was significant, $t(79) = 1.91$, $p = .03$.

*Extrinsic Goal Orientation*

The traditional extrinsic goal-orientation subscale consisted of 4 items, and reliability analysis yielded a coefficient alpha of .61. Individual item means ranged from 2.90 to 3.66 ($M$ = 3.37; $SD$ = .77). The online extrinsic goal-orientation subscale consisted of 4 items, and reliability analysis yielded a coefficient alpha of .62. Individual item means ranged from 2.98 to 3.63 ($M$ = 3.38; $SD$ = .70).

It was expected that the mean for the extrinsic goal-orientation subscale would be higher for online classes than for traditional classes. Students who enroll in an online class are likely to be more concerned with getting a good grade in the class or satisfying a requirement than actually mastering the material. This is related to the class-context subscale. It is possible that students view online classes as being easier or not requiring as much work, so they are more inclined to take them. This hypothesis was not confirmed. A one-tailed paired-samples $t$-test revealed that there was no significant difference in extrinsic goal-orientation between online classes ($M$ = 13.50; $SD$ = 3.06) and traditional classes ($M$ = 13.46; $SD$ = 3.06), $t(79) = -3.49$ $p$ = .352.

*Control of Learning Beliefs*

The traditional control of learning beliefs subscale consisted of 4 items, and reliability analysis yielded a coefficient alpha of .57. Individual item means ranged from 2.98 to 4.31 ($M$ = 3.67; $SD$ = .66). The online control of learning beliefs subscale consisted of 4 items, and reliability analysis yielded a coefficient alpha of .66. Individual item means ranged from 2.99 to 4.24 ($M$ = 3.66; $SD$ = .70).

It was expected that there would be no significant difference between the online and traditional control of learning beliefs subscale means. A paired-samples $t$-test confirmed this

hypothesis, revealing that there was no significant difference in control of learning beliefs between traditional classes ($M$ = 14.68; $SD$ = 2.63) and online classes ($M$ = 14.63; $SD$ = 2.76), $t(79)$= .31, $p$ = .761.

*Self-Efficacy*

The traditional self-efficacy subscale consisted of 8 items, and reliability analysis yielded a coefficient alpha of .83. Individual item means ranged from 3.70 to 4.48 ($M$ = 4.05; $SD$ = .57). The online self-efficacy subscale consisted of 8 items, and reliability analysis yielded a coefficient alpha of .82. Individual item means ranged from 3.45 to 4.33 ($M$ = 3.96; $SD$ = .57).

It was expected that there would be a significant difference in the means for online and traditional classes in the self-efficacy subscale. Because self-efficacy is specific to task, goal, and domain, the change in context of instruction and performance was thought to be likely to produce differences in feelings of self-efficacy. However, a paired-samples $t$-test revealed that the difference in self-efficacy between traditional classes ($M$ = 32.43; $SD$ = 4.55) and online classes ($M$ = 31.69; $SD$ = 4.55) was not significant, $t(79) = 1.80$, $p$ = .075.

It was expected that the item mean for the self-efficacy subscale would correlate highly with item mean for technical proficiency, as indicated in part 1 of the questionnaire. Lack of self-efficacy in the technical skills necessary for the class may result in decreased perceptions of efficacy in relation to classes in general. This hypothesis was not confirmed. The traditional self-efficacy subscale correlated significantly with the proficiency scale, $r$ = .36, $p < .001$. Similarly, the online self-efficacy subscale correlated significantly with the proficiency scale, $r$ = .30, $p < .01$. However, neither of these was a strong correlation.

*Test Anxiety*

The traditional test-anxiety subscale consisted of 5 items, and reliability analysis yielded a coefficient alpha of .79. Individual item means ranged from 2.23 to 2.99 ($M$ = 2.67; $SD$ = .96). The online test-anxiety subscale consisted of 5 items, and reliability analysis yielded a coefficient alpha of .78. Individual item means ranged from 2.08 to 2.94 ($M$ = 2.63; $SD$ = .89).

It was expected that the mean for the test-anxiety subscale would be lower for online classes than for traditional classes. A teacher does not typically monitor tests administered in online classes, and there is often a considerably larger amount of time allotted to complete the test than in traditional classes. Additionally, tests in online classes are often, "open book," meaning that students have access to the text and their notes. In short, the online test-taking environment removes many of the traditional triggers of test anxiety, and it was expected that the Motivation to Learn Online Questionnaire test-anxiety subscale means would reflect that. However, this was not confirmed by the research. A paired-samples $t$-test revealed that the difference in test anxiety between traditional classes ($M$ = 13.36; $SD$ = 4.76) and online classes ($M$ = 13.13; $SD$ = 4.44) was not significant, $t(79) = 1.04$, $p = .151$.

It was also expected that there would be a strong negative correlation between the test-anxiety mean in online classes and technical proficiency, as indicated in part 1 of the questionnaire. Students less sure of their technical abilities will likely have concerns and fears about technical problems interfering with their performance on the test. Students with greater experience are less likely to harbor such fears, allowing them to focus more on the test itself. However, neither of the test-anxiety subscales correlated significantly with the proficiency scale. Of all the proficiency categories, only online Gaming ($M$ = 2.02, $SD$ = 1.07) was correlated

significantly with the test-anxiety subscales: traditional test anxiety, $r = .257$, $p = .021$; online test anxiety, $r = .256$, $p = .022$. Despite their statistical significance, both of these correlations are small.

*Class Context*

The traditional class-context subscale consisted of 7 items, and reliability analysis yielded a coefficient alpha of .45. Individual item means ranged from 1.84 to 4.19 ($M = 3.57$; $SD = .47$). The online class-context subscale consisted of 7 items, and reliability analysis yielded a coefficient alpha of .31. Individual item means ranged from 2.33 to 4.21 ($M = 3.66$; $SD = .53$).

Prior to embarking on the research, hypotheses were established concerning the class-context subscale. Due, however, to the low coefficient alphas, both subscales have been determined to be unreliable, and no conclusions will be drawn from them.

*Social Engagement*

The traditional social engagement subscale consisted of 5 items, and reliability analysis yielded a coefficient alpha of .84. Individual item means ranged from 3.93 to 4.19 ($M = 4.06$; $SD = .62$). The online social engagement subscale consisted of 5 items, and reliability analysis yielded a coefficient alpha of .68. Individual item means ranged from 2.81 to 3.81 ($M = 3.44$; $SD = .69$).

It was expected that the means of the social engagement subscale would differ in online and traditional classes. It was thought that the difference between the nature of social interaction in the two environments would likely produce a significant difference in the means of their respective subscales. This was confirmed by the paired-samples *t*-test, which revealed that there is a significant difference in social engagement between traditional classes ($M = 20.29$; $SD = 3.10$) and online classes ($M = 17.18$; $SD = 3.44$), $t(79) = 5.48$, $p < .001$.

# CHAPTER 5

## Discussion

Intrinsic motivation is learning for the sake of learning, whereas extrinsic motivation is learning to achieve an end (Schunk, 2000). The students in this study were found to be more intrinsically motivated in traditional classes than in online classes. A possible explanation for this finding is that students tend to enroll in traditional classes more often for intrinsic-motivation reasons (e.g., interest, enjoyment, and socialization) than extrinsic-motivation reasons (e.g., degree requirements and career advancement). There may also be a perception by students that online classes are easier, therefore students who are more concerned with getting good grades (an extrinsic-motivation reason) may be more inclined to take courses online.

This finding that students were more intrinsically motivated in traditional classes than in online classes is important because previous research shows that intrinsic motivation is more likely to produce learning and appreciation of subject matter (Grolnick, Ryan, & Deci, 1991). For this reason, it is essential for online instructors and instructional designers to make a special effort to foster intrinsic motivation in online classes. This may be a challenging task though, since many instructors struggle with this even in traditional classrooms.

Another important finding in this study is the large difference in social engagement between online and traditional classes. Students are significantly more socially engaged in traditional classes and this increased socialization facilitates learning, consistent with the social-constructivist views of the Russian psychologist, Lev Vygotsky (1962), and contemporary social constructivists (see Gredler & Shields, 2007).

The fact that students feel less engaged in online classes is not surprising. The evolution of human communication has occurred almost exclusively within the context of face-to-face communication. The nature of interpersonal communication is such that the participants provide one another with constant stimuli, in the form of both verbal and non-verbal cues. When people describe good interpersonal interactions, they often use phrases such as rhythm, or give-and-take. With relatively new mediums of communication, such as the Internet, the absence of these familiar methods of communication may increase the difficulty of communication and learning. According to Schunk (1999), in new or unfamiliar learning environments, such as the Internet, the lack of familiar methods of interaction may be adding a level of complication to the learning process that can lead to lower levels of motivation and learning than in traditional learning environments.

The present findings have implications for educators developing future online classes. Social-constructivist philosophical theories, such as Vygotsky's (1962), and social-cognitive learning theories, such as Bandura's (1989), stress the role that social engagement and human interaction play in learning. Failure to take engagement and interaction into account in online classes will hurt instruction. In the present study, students reported that they felt much more "disconnected" from teachers and fellow students in online classes than in traditional classes. Prior research indicates that social engagement and students' self-perception of social competence is closely linked with motivation, academic self-efficacy, and academic achievement (Patrick, 1997). While much of the research between social engagement and academic success focuses on the role of social rejection, it is reasonable to speculate that the potential for the absence of social affirmation that is present in online classes may lead to lower academic achievement.

When deprived of physical proximity, instructors need other tools to facilitate a sense of community and connectedness in the online classroom. It is impossible to exactly replicate the traditional classroom environment in the online classroom; however, the online classroom does offer some communication options that traditional classes do not. These options should be taken full advantage of in order to foster learning in online classes. In particular, the capacity for both synchronous and asynchronous instruction could result in an online classroom that offers the immediacy of communication that exists in the traditional classroom, as well as a sense of permanence that the traditional classroom cannot offer. Although resolution of these issues falls beyond the scope of the present study, the present findings do point the way for future research.

*Limitations of the Present Study*

The present study had an adequate sample size ($N = 80$) for its purpose of piloting a new instrument. Furthermore, the topic of the instrument was relevant to the sample: Online education was relevant to students who were either currently enrolled or previously enrolled in online classes. This study, however, used a voluntary response sampling method. While this sampling method is popular due to the relative ease of recruiting participants, its shortcomings are well documented. This sample fails to satisfy the criterion of representation: Because the sample used for this study was a convenience sample—not a random one—it is very possible that it is not an accurate representation of the population it seeks to study. In other words, students who do not perform well in online classes, who are not very comfortable with technology, and who exhibit low levels of academic motivation are a lot less likely to participate in a completely voluntary online study that offers no incentive for participation. This can perhaps be seen in the grade-point-average (GPA) distribution reported by participants.

Sixty respondents (75%) reported a cumulative GPA that ranged from 3.6 to 4.0, on a 4-point scale. While it is possible that this statistic is representative of the GPA of the target population, it seems unlikely.

Misrepresentation of the population is a common and legitimate criticism of studies that use convenience samples. Because the sample may not accurately reflect the target population, it may be difficult to apply study results to the general population. Most statistical analysis methods (including the ones used in this study) include random sampling as one of their basic assumptions, and failure to meet this assumption may—under some circumstances— invalidate the conclusions drawn from the analyses. While a misrepresentative sample is never desirable, that risk is not a serious obstacle in this study.

There is great value in gaining insight into the ways in which student motivation differs between online and traditional classrooms, and the present findings provide such insight. However, the primary purpose of this research is to establish the Motivation to Learn Online Questionnaire as an instrument available for future motivational research. Though the information gained about both the instrument and the population that it targets may be mildly skewed by a non-representative sample, it is reliable enough to serve as the foundation for future refinements of the questionnaire.

The relatively low coefficient alphas produced by several of the subscales present another limitation of the study and indicate another area for future research on the Motivation to Learn Online Questionnaire. In particular, the coefficient alphas produced by both of the class-context subscales indicate reliability so low that clear conclusions could not be drawn from them.

In the class-context subscale, for both the online and traditional versions, item 12 ("Cheating on tests is easy") was not correlated significantly with item 5 ("Classes are easy for me.") and actually correlated negatively with other items in the subscale. For both versions of the subscale, removal of item 12 results in a large increase in the subscale's coefficient alpha. Additionally, the admission of cheating that is implicit in answering item 12 may induce anxiety in participants. In future versions of the Motivation to Learn Online Questionnaire, this item should be deleted and better items should be constructed because, even with item 12 deleted, the coefficient alpha is still low.

In addition to the low coefficient alpha produced by the class-context subscale, some of the Motivation to Learn Online Questionnaire subscales produced alphas weaker than those of their Motivated Strategies for Learning Questionnaire counterparts. The traditional control of learning beliefs subscale, in particular, produced an alpha much lower than its counterpart. The online control of learning beliefs subscale alpha, on the other hand, is consistent with the alpha from the Motivated Strategies for Learning subscale from which it was derived. The means and standard deviations for the two subscales are very similar.

The other instance of a large discrepancy between analogous subscale alphas occurred in the social-engagement subscale. Though there is no Motivated Strategies for Learning subscale alpha to serve as a baseline for the social-engagement subscale, the difference between the online and traditional subscale alphas is rather large. However, in this instance, the difference in reliability alphas is accompanied by considerable differences in subscale means. While explanations for the large difference between the reliability alphas in these two subscales are speculative, it is possible that the higher coefficient alpha for the traditional social engagement subscale is reflective of the fact that students are more familiar with forms of social engagement

in traditional classes, and, therefore, more capable of identifying those items on the questionnaire. This could also be partially responsible for the large difference between the social-engagement subscale means.

In addition to the considerable difference in subscale means for social engagement, there is also a potentially problematic item. Item 8 ("I enjoy class discussions.") may be ambiguous to participants who might not apply the term, "class discussion," to communication in online classes. Future versions of the questionnaire should avoid this potential ambiguity by explicitly stating types of online class discussions (messageboards, online chat, etc.) in parentheses next to the question.

*Directions for Future Research*

Future research regarding the Motivation to Learn Online Questionnaire should focus on instrument enhancement by means of item revision, use of student interviews and focus groups, and cross-validation with a new and larger sample of students, using guidelines suggested by DeVellis (2003). The class-context subscale needs to be reworked so that it reliably assesses the construct that underlies it. Unreliable items, such as Item 12, should be deleted from future versions of the Motivation to Learn Online Questionnaire and new subscale items should be developed.

Future development of the questionnaire should be conducted before an official version is released. Future tests should be conducted on larger, more heterogeneous samples. The sample for the present study was small ($N = 80$) and limited largely to residents of a small geographic area in Georgia. Furthermore, the majority of the participants are likely from one research

university (the University of Georgia), which suggests that those participants have only encountered one school's approach to online classes. As such, any generalization of the findings to other populations is questionable.

It is possible that students from other universities perceive their experiences in online classes differently. Additionally, norms of communication and social engagement may vary according to geographic region, which could affect the results of the questionnaire. Variations according to race, age, gender, nationality, and socioeconomic status also need to be taken into consideration. Of those characteristics, only age and gender were identified in the present study. Both were skewed. The mean age was 32 years, well above the traditional mean age of college students, and 73% of the respondents were female.

Tests of the questionnaire, conducted on larger and more diverse samples and underrepresented groups, may not only resolve the issues of the low and inconsistent subscale coefficient alphas, but may also provide more accurate data. The sample size for the present study was too small to conduct a factor analysis; however, a sample size of 200 to 250 would be sufficient. The effect of a factor analysis would be two-fold. First, it would establish construct validity. If the number of factors in the study corresponds with the number of subscales, and the items that comprise each subscale load on the same factor, there is further evidence that the subscales measure the constructs they were designed to measure. The second effect of the factor analysis would be the refinement of the subscales, which would in turn increase the subscale reliability alphas. By analyzing which items load the strongest on the factors, researchers can select the best items and make the subscales more accurate.

Differing study designs should also be employed. In order to avoid the pitfalls inherent in voluntary-response samples, other sampling methods should be used for future tests. Additionally, a longitudinal or multi-part study needs to be conducted in order to establish the predictive validity of the Motivation to Learn Online Questionnaire. Survey responses, obtained while participants are currently enrolled in an online class, need to be correlated with grades attained at the end of that class, as well as overall grade point average. Qualitative studies should also be performed. Interviews with participants could shed light on the reasoning behind their responses. Furthermore, student focus groups should be formed to discuss motivational issues they find relevant in classes. This information could prove very useful in the future development and refinement of items on the questionnaire.

*Conclusions*

While additional studies need to be conducted to improve the reliability, validity, and convenience of the Motivation to Learn Online Questionnaire as a research and classroom instrument, its potential usefulness has been demonstrated in the present study. The students assessed by it were found to have a higher level of intrinsic motivation in online classes. Bearing this in mind though, instructors of online courses can concentrate their efforts on ways to facilitate intrinsic motivation in their students. Furthermore, students were found to be more socially engaged in traditional classrooms than in online classrooms. Possible causes for this include lack of proximity, differences in method of communication, and lack of familiarity with the online environment. Because social engagement is closely associated with academic success, instructors and instructional designers should focus their efforts on increasing social engagement in online classes.

Online education is still in its infancy. Convenience, economic issues, and the increasing power of the Internet as a platform for the delivery of education are converging to increase the popularity of online education. As a result, many educators find themselves in the midst of a paradigm shift—one which has them pressured on one side by the responsibility of providing quality education and on the other by the technological expectations of both students and society. With additional research, the Motivation to Learn Online Questionnaire will become an important resource for instructors and administrators to use to assess, understand, and improve the effectiveness of online instruction.

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Table 1

*Participant Data Description*

| Item | Mean | Median | SD |
|---|---|---|---|
| Consecutive Years in College | 3.01 | 2.00 | 2.24 |
| Age | 32.15 | 30.00 | 11.46 |
| Proficiency with Email | 4.64 | 5.00 | .579 |
| Proficiency with Online Reading | 4.25 | 4.50 | .893 |
| Proficiency with Writing Online | 3.64 | 4.00 | 1.15 |
| Proficiency with Shopping Online | 4.15 | 4.00 | .86 |
| Proficiency with Online Research | 4.00 | 4.00 | .81 |
| Proficiency with Online Gaming | 2.03 | 2.00 | 1.07 |
| Proficiency with Social Networking | 2.61 | 3.00 | 1.22 |
| Proficiency with Messageboards | 3.08 | 3.00 | 1.16 |
| Weekly Hours on Email | 7.36 | 5.00 | 7.55 |
| Weekly Hours Reading Online | 4.58 | 2.00 | 6.94 |
| Weekly Hours Writing Online | 1.64 | 1.00 | 3.16 |
| Weekly Hours Shopping Online | 1.31 | 1.00 | 2.67 |
| Weekly Hours in Online Research | 5.19 | 4.00 | 4.94 |
| Weekly Hours Gaming Online | .73 | .00 | 4.52 |
| Weekly Hours Social Networking | 1.54 | .00 | 3.85 |
| Weekly Hours on Messageboards | 1.13 | .00 | 2.61 |
| Total Non-academic Hours Online | 14.55 | 10.00 | 12.41 |
| Total Number of Online Classes | 5.34 | 3.50 | 5.15 |

Table 2

*Participant Data Distribution*

| Category | Frequency | Percent |
|---|---|---|
| **Gender** | | |
| Male | 21 | 26.3 |
| Female | 58 | 72.5 |
| Unidentified | 1 | 1.3 |
| Total | 80 | 100 |
| **GPA** | | |
| 2.1 – 2.5 | 1 | 1.3 |
| 2.6 – 3.0 | 3 | 3.8 |
| 3.1 – 3.5 | 14 | 17.5 |
| 3.6 – 4.0 | 60 | 75.0 |
| Unidentified | 2 | 2.5 |
| Total | 80 | 100 |
| **Language** | | |
| Native English | 74 | 92.5 |
| Other | 6 | 7.5 |
| Total | 80 | 100 |
| **Home Computer** | | |
| Yes | 79 | 98.8 |
| No | 1 | 1.2 |
| Total | 80 | 100 |

Table 3

*Subscale Coefficient Alphas*

| Subscale | MSLQ | MLOQ – Traditional | MLOQ - Online |
|---|---|---|---|
| Intrinsic Goal Orientation | .74 | .68 | .68 |
| Extrinsic Goal Orientation | .62 | .61 | .62 |
| Control of Learning Beliefs | .68 | .57 | .66 |
| Self-Efficacy | .93 | .83 | .82 |
| Test Anxiety | .80 | .79 | .78 |
| Class Context* | NA | .45 | .31 |
| Social Engagement* | NA | .84 | .68 |

* = Subscale not included in Motivated Strategies for Learning Questionnaire

Table 4

*Scale Item Means*

| Scale | Mean | | SD | |
|---|---|---|---|---|
| | Traditional | Online | Traditional | Online |
| Intrinsic Goal Orientation | 3.85 | 3.79 | .61 | .63 |
| Extrinsic Goal Orientation | 3.37 | 3.38 | .77 | .70 |
| Control of Learning Beliefs | 3.67 | 3.66 | .66 | .70 |
| Self-Efficacy | 4.05 | 3.96 | .57 | .57 |
| Test Anxiety | 2.67 | 2.63 | .96 | .89 |
| Class Context | 3.57 | 3.66 | .47 | .53 |
| Social Engagement | 4.06 | 3.44 | .62 | .69 |
| Whole Scale | 3.64 | 3.54 | .31 | .32 |

Table 5

*Scale Means*

| Scale | Mean | | SD | |
|---|---|---|---|---|
| | Traditional | Online | Traditional | Online |
| Intrinsic Goal Orientation | 15.41 | 15.15 | 2.44 | 2.50 |
| Extrinsic Goal Orientation | 13.46 | 13.50 | 3.06 | 3.06 |
| Control of Learning Beliefs | 14.68 | 14.63 | 2.63 | 2.76 |
| Self-Efficacy | 32.42 | 31.69 | 4.55 | 4.55 |
| Test Anxiety | 13.36 | 13.13 | 4.76 | 4.44 |
| Class Context | 24.99 | 25.64 | 3.30 | 3.09 |
| Social Engagement | 20.29 | 17.18 | 3.10 | 3.44 |
| Whole Scale | 134.61 | 130.90 | 11.36 | 11.83 |

Table 6

*Traditional Scale and Subscale Correlations*

| Scale | IGO | EGO | CLB | Self | TA | CC | SE | Traditional |
|---|---|---|---|---|---|---|---|---|
| IGO | 1 | -.157 | .470* | .402* | .349* | .323* | .475* | .519* |
| EGO | -.157 | 1 | .071 | .083 | .422* | -.141 | -.217 | .362* |
| CLB | .470* | .071 | 1 | .551* | -.413* | .083 | .156 | .466* |
| Self | .402* | .083 | .551* | 1 | -.322* | .371* | .354* | .706* |
| TA | .349* | .422* | -.413* | -.322* | 1 | -.158 | -.180 | .138 |
| CC | .323* | -.141 | .083 | .371* | -.158 | 1 | .660* | .604* |
| SE | .475* | -.217 | .156 | .354* | -.180 | .660* | 1 | .611* |
| Traditional | .519* | .362* | .466* | .706* | .138 | .604* | .611* | 1 |

IGO = Intrinsic Goal Orientation; EGO = Extrinsic Goal Orientation; CLB = Control of Learning Beliefs; Self = Self-Efficacy; TA = Test Anxiety; CC = Class Context; SE = Social Engagement; and Traditional = Entire Traditional Scale

* = Significant at the .01 level

Table 7

*Online Scale and Subscale Correlations*

| Scale | IGO | EGO | CLB | Self | TA | CC | SE | Online |
|---|---|---|---|---|---|---|---|---|
| IGO | 1 | -.026 | .439* | .439* | -.287* | .263 | .149 | .480* |
| EGO | -.026 | 1 | .211 | .201 | .335* | .251 | .000 | .571* |
| CLB | .439* | .211 | 1 | .482* | -.382* | .049 | .078 | .458* |
| Self | .439* | .201 | .482* | 1 | -.299* | .395* | .297* | .719* |
| TA | -.287* | .335* | -.382* | -.299* | 1 | .045 | -.250 | .136 |
| CC | .263 | .251 | .049 | .395* | .045 | 1 | .422* | .685* |
| SE | .149 | .000 | .078 | .297* | -.250 | .422* | 1 | .471* |
| Online | .480* | .571* | .458* | .719* | .136 | .685* | .471* | 1 |

IGO = Intrinsic Goal Orientation; EGO = Extrinsic Goal Orientation; CLB = Control of Learning Beliefs; Self = Self-efficacy; TA = Test Anxiety; CC = Class Context; SE = Social Engagement; and Online = Entire Online Scale

* = Significant at the .01 level

Table 8
*Subscales and Related Items*

| Subscale | Items in Questionnaire |
|---|---|
| Intrinsic Goal Orientation | 13, 26, 31, 32 |
| Extrinsic Goal Orientation | 18, 21, 23, 36 |
| Control of Learning Beliefs | 14, 20, 27, 33 |
| Self-Efficacy | 16, 17, 22, 25, 29, 30, 35, 37 |
| Test Anxiety | 15, 19, 24, 28, 34 |
| Class Context* | 1, 3, 4, 5, 7, 11, 12 |
| Social Engagement* | 2, 6, 8, 9, 10 |

* = Subscale not included in Motivated Strategies for Learning Questionnaire

Table 9

*Results of Paired Samples t-tests*

| Test | t | p | Effect Size |
|---|---|---|---|
| TIGO vs. OIGO | 1.909 | p = .03* | .11 |
| TEGO vs. OEGO | -3.487 | p = .352* | -.21 |
| TCLB vs. OCLB | .305 | p =.761 | .002 |
| TSelf vs. Oself | 1.801 | p = .075 | .16 |
| TTA vs. OTA | 1.042 | p =.151* | .05 |
| TCC vs. OCC | -1.318 | p =.191 | -.20 |
| TSE vs. OSE | 5.484 | p < .000 | .95 |

* = 1-tailed *t*-test
TIGO = Traditional Intrinsic Goal Orientation, OIGO = Online Intrinsic Goal Orientation, TEGO = Traditional, Extrinsic Goal Orientation, OEGO = Online Extrinsic Goal Orientation, TCLB = Traditional Control of Learning Beliefs, OCLB = Online Control of Learning Beliefs, TSelf = Traditional Self-Efficacy, OSelf = Online Self-Efficacy, TTA = Traditional Test Anxiety, OTA = Online Test Anxiety, TCC = Traditional Class Context, OCC = Online Class Context, TSE = Traditional Social Engagement, OSE = Online Social Engagement

# APPENDICES

## Appendix A

### Part I: Survey of Biographical Data

Please respond to all of the following questions. Once you have answered all of these questions, please click "Continue" at the bottom of the page. We do not ask your name, so that you will feel comfortable about candidly sharing your thoughts and feelings about learning online. Your responses will help improve online instruction.
Thank you.

1. How many consecutive years have you been in college?
    1. 1
    2. 2
    3. 3
    4. 4
    5. 5
    6. 6
    7. 7
    8. 8
    9. 9
    10. 10
    11. 11
    12. 12
    13. 13
    14. 14
    15. 15

2. Age

3. Gender
    1. Male
    2. Female

4. Is English your native language?
    1. Yes
    2. No

5. On a scale of 1 to 5 how would you rate your proficiency with the following activities?
    a. Proficiency with Email
        1. Very Low
        2. Low
        3. Moderate
        4. High
        5. Very High

b. Proficiency With Reading Online (e.g. News and Blogs)
1. Very Low
2. Low
3. Moderate
4. High
5. Very High

c. Proficiency with writing on Blogs
1. Very Low
2. Low
3. Moderate
4. High
5. Very High

d. Proficiency with shopping online
1. Very Low
2. Low
3. Moderate
4. High
5. Very High

e. Proficiency with online research
1. Very Low
2. Low
3. Moderate
4. High
5. Very High

f. Proficiency with online gaming
1. Very Low
2. Low
3. Moderate
4. High
5. Very High

g. Proficiency with social networking (e.g. Myspace)
1. Very Low
2. Low
3. Moderate
4. High
5. Very High

h. Proficiency with messageboards/chat rooms
1. Very Low

2. Low
3. Moderate
4. High
5. Very High

6. What is the average number of hours per week that you spend on each of the following activities while on the Internet?
    1. Hours on Email
    2. Hours reading (e.g. News and Blogs)
    3. Hours writing on Blogs
    4. Hours shopping
    5. Hours doing research
    6. Hours gaming
    7. Hours social networking (e.g. Myspace, Facebook, and Flickr)
    8. Hours with messageboards/chat rooms

7. Aside from the time spent in online classes, what is the average number of hours per week that you spend on the Internet?

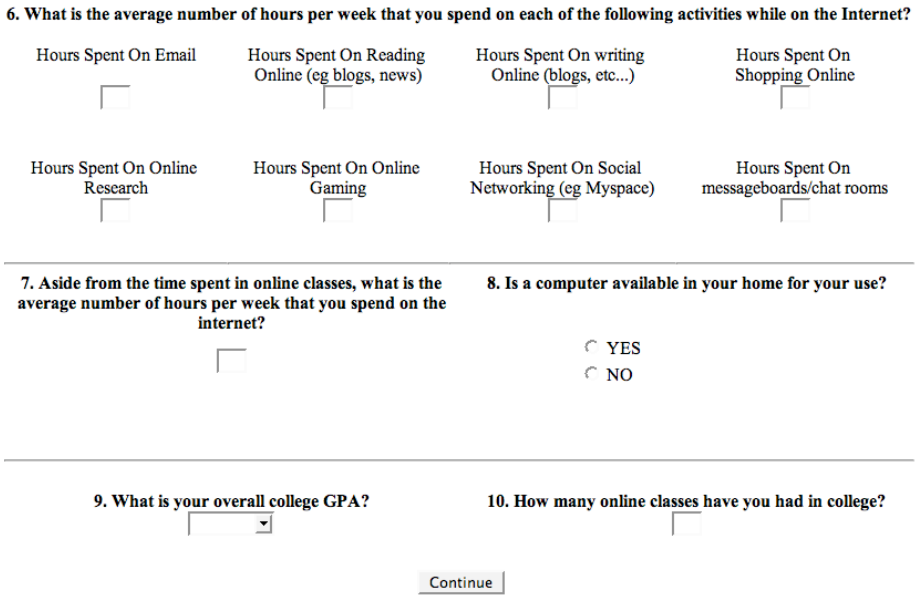
8. Is a computer available in your home for your use?
    1. Yes
    2. No

9. What is your overall college GPA?
    7. 3.6-4.0
    6. 3.1-3.5
    5. 2.6-3.0
    4. 2.1-2.5
    3. 1.6-2.0
    2. 1.1-1.5
    1. 0.0-1.0

10. How many online classes have you had in college?

# Appendix B

## Screenshot of Part 1



**6. What is the average number of hours per week that you spend on each of the following activities while on the Internet?**

Hours Spent On Email

Hours Spent On Reading Online (eg blogs, news)

Hours Spent On writing Online (blogs, etc...)

Hours Spent On Shopping Online

Hours Spent On Online Research

Hours Spent On Online Gaming

Hours Spent On Social Networking (eg Myspace)

Hours Spent On messageboards/chat rooms

**7. Aside from the time spent in online classes, what is the average number of hours per week that you spend on the internet?**

**8. Is a computer available in your home for your use?**

YES

NO

**9. What is your overall college GPA?**

**10. How many online classes have you had in college?**

Continue

Appendix C

Part 2: Motivation to Learn Online Questionnaire

Instructions

Please compare your online and traditional "classroom based" classes. Respond to each of the following 37 statements by selecting your level of agreement, first for traditional classes and then for online classes. It is possible, for example, to respond to a statement by strongly disagreeing in the case of traditional classes, but strongly agreeing in the case of online classes.

Once You Have Completed the Questionnaire, Click on "Submit Data" at the Bottom of the Page. If You Decide Not to Participate, Click on "Discard Data" and All of Your Responses Will Be Discarded.
Thank You.

**All participants responded to the following statements using the following scales:*

***In Traditional Classes***
***O Strongly Disagree O Disagree O Neutral O Agree O Strongly Agree***

***In Online Classes***
***O Strongly Disagree O Disagree O Neutral O Agree O Strongly Agree***

1. I enjoy classes.

2. I feel "disconnected" from my teacher and fellow students in classes.

3. I learn the content well in classes.

4. I have control over my learning process.

5. Classes are easy for me. .

6. I pay attention in classes.

7. I choose classes because they fit my personal schedule.

8. I enjoy class discussions.

9. I feel like I can freely communicate with other students in classes.

10. I feel like I can freely communicate with the instructor in classes.

11. I think my classes are challenging.

12. Cheating on tests is easy.

13. I prefer material that really challenges me, so I can learn new things.

14. If I study in appropriate ways, then I'll be able to learn the material.

15. When I take tests, I think about how poorly I'm doing compared with other students.

16. I believe I'll receive excellent grades in my classes.

17. I'm certain I can understand the most difficult material presented in the readings.

18. Getting a good grade is the most satisfying thing for me.

19. When I take tests, I think about items on other parts of the tests I can't answer.

20. It's my own fault if I don't learn the material taught.

21. The most important thing for me is to improve my overall grade point average, so my concern is getting a good grade.

22. I'm confident I can learn the basic concepts that are being taught.

23. I want to get better grades than most of the other students in my classes.

24. When I take tests, I think of the consequences of failing.

25. I'm confident I can understand the most complex material presented by the instructor.

26. I prefer material that arouses my curiosity, even if it's difficult to learn.

27. If I try hard enough, then I'll understand the material presented.

28. I have an uneasy, upset feeling when I take exams.

29. I'm confident I can do an excellent job on assignments and tests.

30. I expect to do well.

31. The most satisfying thing for me is trying to understand the content as thoroughly as possible.

32. I choose assignments that I can learn from even if they don't guarantee a good grade.

33. If I don't understand the material presented, it's because I didn't try hard enough.

34. When taking exams, I feel my heart beating fast.

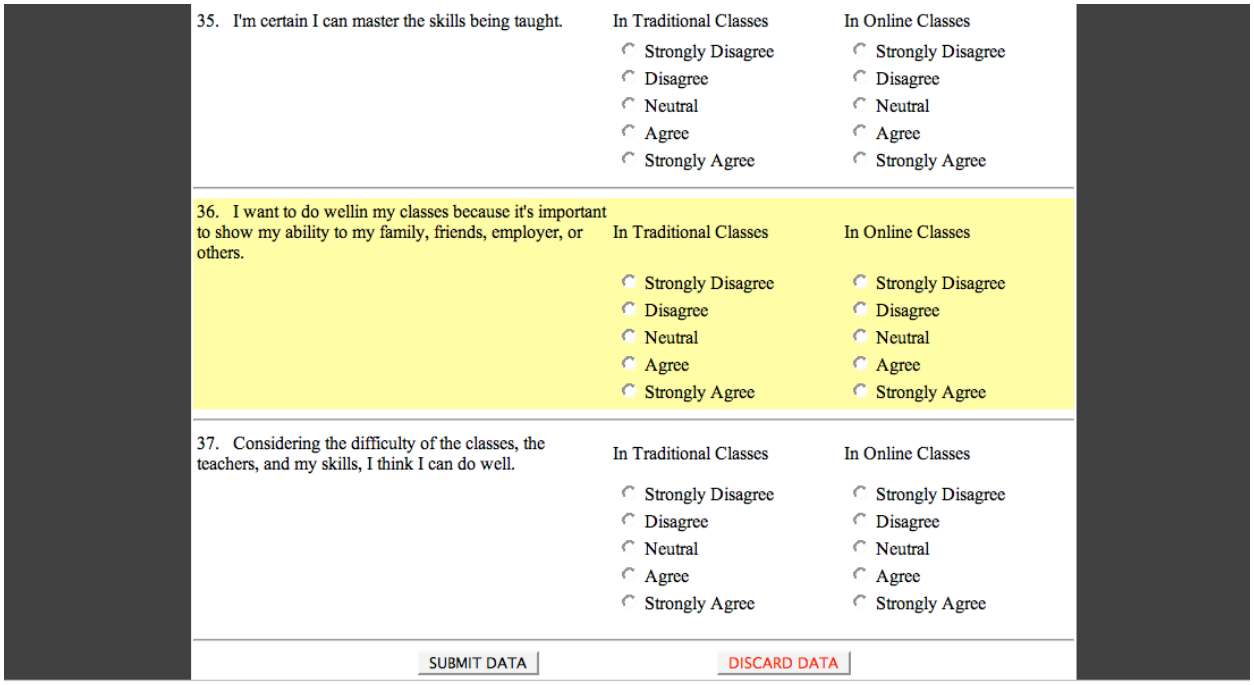
35. I'm certain I can master the skills being taught.

36. I want to do well in my classes because it's important to show my ability to my family, friends, employer, or others.

37. Considering the difficulty of the classes, the teachers, and my skills, I think I can do well.

# Appendix D

## Screenshot of Part 2



| | | |
|---|---|---|
| 35. I'm certain I can master the skills being taught. | In Traditional Classes<br>○ Strongly Disagree<br>○ Disagree<br>○ Neutral<br>○ Agree<br>○ Strongly Agree | In Online Classes<br>○ Strongly Disagree<br>○ Disagree<br>○ Neutral<br>○ Agree<br>○ Strongly Agree |
| 36. I want to do wellin my classes because it's important to show my ability to my family, friends, employer, or others. | In Traditional Classes<br>○ Strongly Disagree<br>○ Disagree<br>○ Neutral<br>○ Agree<br>○ Strongly Agree | In Online Classes<br>○ Strongly Disagree<br>○ Disagree<br>○ Neutral<br>○ Agree<br>○ Strongly Agree |
| 37. Considering the difficulty of the classes, the teachers, and my skills, I think I can do well. | In Traditional Classes<br>○ Strongly Disagree<br>○ Disagree<br>○ Neutral<br>○ Agree<br>○ Strongly Agree | In Online Classes<br>○ Strongly Disagree<br>○ Disagree<br>○ Neutral<br>○ Agree<br>○ Strongly Agree |

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