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The Importance of Self-Regulation and Motivation in Online Learning Environments

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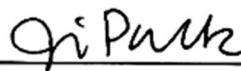
LEARNING ENVIRONMENTS

A Thesis Presented to the Graduate Faculty

of the Fort Hays State University in

Partial Fulfillment of the Requirements for

the Degree of Master of Science

by

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Abstract

Student learning satisfaction is important in the education world. Since the Covid-19 pandemic, learning environments have changed drastically from in-person learning to online learning. With this, more studies are needed to better understand learning satisfaction in online learning. The current study aims to use Bandura's Social Cognitive Theory (SCT) as a framework to explain potential factors involved in learning satisfaction in both in-person and online courses. SCT reasons that interactions between environment, personal factors (motivation and self-regulation), impact different behavioral outcomes (learning satisfaction) (Mantooth et al., 2020). With this framework, the current study investigated how intrinsic motivation and self-regulation could interact in predicting learning satisfaction. Literature has indicated that there is a relationship between intrinsic motivation and self-regulation where intrinsic motivation has been noted to be a potential cause or indicator of self-regulatory behavior (Chen & Pederson, 2012; Eom & Ashill, 2016). These factors are also important in education as students need to be engaged in their studies in order to experience learning satisfaction.

It was hypothesized that moderation effects would take place in the online learning environment to where high intrinsic motivation would predict high learning satisfaction when self-regulation was high. For the in-person environment, hypotheses stated that there would be no moderation effect. Results indicated that there was no moderation effect in both the online learning environment and the in-person learning environment. The result for the online environment was found to be surprising as the literature places emphasis for needing higher levels of self-regulation in online learning (Chen & Pederson, 2012).

Keywords: Student Learning Satisfaction, Self-Regulation, Intrinsic Motivation, Moderation, Learning Environment

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INTRODUCTION

The Importance of Self-Regulation and Motivation in Online Learning Environment

Student learning satisfaction is impacted by a variety of factors such as instructor characteristics, learner characteristics, course structure, learning outcomes, and learning environment (Bolliger & Wasilik, 2015). During Covid-19 pandemic, most, if not all educational institutions were forced to adapt using online methods of learning in order to reduce the spread of the virus. Since the coronavirus disease 2019 pandemic (Covid-19 pandemic), online learning has become more common, acceptable, and expanded opportunities for college level education for individuals who could not complete their degrees in traditional face-to-face learning. Despite its advantages, swift transition to online learning had its challenges. The initial switch from in-person to online learning was a struggle as many educational institutions were not readily equipped with the resources for online learning (Bećirović et al., 2022). In this initial switch, there was the question of how education would be constructed using the online technology without prior experience. The majority of in-person courses were transitioned to an online course format within a short amount of time without much preparation or careful thought-out plans for the transition. This left the question of how this transition impacted course quality and satisfaction. Multiple studies examined the course quality outcomes in the forms of student grades, teacher evaluations, and course evaluations (Bećirović et al., 2022). However, more studies are needed to investigate how students' individual characteristics impact learning outcomes and student learning satisfaction. The purpose of the current study is to evaluate how learner self-regulation, motivation and learning environment impact student learning satisfaction. Social Cognitive Theory (SCT) will be utilized to systematically evaluate these factors; SCT argues that interactions between learning environment and student motivation impact their

learning outcomes (Mantooth et al., 2020). Another important student factor proposed by SCT is self-regulation (Wang & Hong, 2018) which is predicted to interact with student motivation and learning environment as they relate to learning satisfaction.

Social Cognitive Theory (SCT)

Social Cognitive Theory (Bandura, 1997) argues the dynamic relationship between personal and environmental factors impact different behavioral outcomes in life. The social aspect of this theory explains the environment in which individuals reside and function. The personal factor in the theory refers to various cognitive mechanism (e.g., self-efficacy, self-regulation etc.) displayed by individuals. Behavioral outcomes involve various outcomes in different parts of life though Bandura was most interested in results in education or learning setting.

When conceptualizing the cognitive part of SCT, the term cognitive is considered to be a personal factor that interacts with other factors (Bandura, 1997). The cognitive processes within an individual results in behavioral outcomes that are displayed in how a person interacts with their environment. For this study, these cognitive processes will be shown through behaviors that are indicators of self-regulation within the specific environments of focus. Looking at the connection between the social and cognitive aspects, the relationships between the three factors are conceptualized with the term "social cognitive". These cognitive and personal factors have an interdependent relationship with environmental and behavioral factors resulting in outcomes such as social interactions or in this case, learning satisfaction.

The term social in SCT is considered environmental factors which is the circumstances or physical surroundings a person is in (Bandura, 1997). One of the most common factors evaluated in the literature when using SCT is the impact of the environmental factor such as the physical

classroom. Typically, the physical classroom environments are evaluated to look at differences across students which are assumed to interact with other factors in student learning such as their self-efficacy. Most research seem to support the in-person learning environment for fostering positive student growth looking at these factors (Mantooth et al., 2020). With the in-person environment being favored in general, the focus of current studies is to investigate differences between online and in-person learning environments and examine the interactions between self-regulation and motivation within these environments. These interactions will help to gain a better understanding of the different nuances of online learning and understand the impact of learner characteristics on learning satisfaction.

The main factors of interest in the current study are self-regulation and motivation (personal factors), learning environment (environmental factors) to examine learners learning satisfaction (behavioral factor) by utilizing the SCT model. Self-regulation itself is considered to be a concept that is a student's metacognitive process that involves their time management and comprehension of material in relation to their school work (Chen & Pedersen, 2012). Self-regulation is measured through various behaviors in relation to schoolwork. These behaviors involve the engagement of planning, self-monitoring, evaluation, reflection, effort, and self-efficacy (Toering et al., 2012). Demonstration of these behaviors are indicators of high levels of self-regulation which is required for effective learning in the different learning environments. Specifically, self-regulation could be a more important factor in online learning environments than in-person learning as high self-regulation is needed for online environments. This is partially due to the fact that there are less external motivating factors and collaboration between learners in the online learning environment (Wang & Hong, 2018). A student's behavior can be a major determinant in course outcomes and satisfaction in in-person learning. For example,

student interaction in in-person learning can create a collaborative environment where students can collaborate towards the same class goals. In-person environments encourage this collaboration more than the online learning environments (Wang & Hong, 2018). However, in an online learning environment, self-regulation will be more important to maintain motivation and engagement as there are fewer interactions with peers when in the online learning environment when compared to the in-person learning environment.

As a whole, SCT is a useful framework in evaluating learning satisfaction outcomes. The adaption of the theory for current purpose examines the external environment being classified as a learning environment. The cognitive personal factors in the theory are defined as self-regulation and the behaviors that demonstrate self-regulation. An additional personal factor being considered in this study would be intrinsic motivation. The current study aims to utilize SCT as a theoretical framework and investigate the differing levels of learning satisfaction in the online and in-person learning environment. The scope of this work is to understand the impact of personal factors, such as cognitive factors, on their learning satisfaction. In the next section, the impact of learning environment, focused on the differences between in-person and online environment, on student learning satisfaction will be discussed.

Learning Environment

In general, there is still a strong preference for in-person learning due to social interactions. Examples of these preferences can be taken from studies such as Lyke and Frank (2012) where students were found to be more satisfied with the in-person learning environment. There were two different groups of students with one group taking the course online whereas the other took the course in-person. The quiz scores and student satisfaction levels were evaluated in both classes and analyzed for differences. One of the takeaway differences were found in student

satisfaction with in-person levels being higher than online levels. With the age of the study and progress made in online learning, this gives reason to further research how the course modality or learning environments show differences in learning satisfaction. Another study examined the importance of communication and interactions between students and the instructor on student satisfaction (Um & Jang, 2021). Online courses involving high levels of interactions within the course have seen students to complete the course with higher levels of learning satisfaction. These high levels of interaction only occur when the instructor is able to establish a solid and consistent line of communication and feedback with the students. This type of online interaction is not always guaranteed.

Other studies offer a more direct comparison of the in-person learning environments to online learning environments. Some studies evaluated the differences in an in-person learning environment without additional online components or enhancements and compared this environment to a more technology enhanced class. Mantooth et al. (2020) assumed that the physical environment would impact student outcomes and attitudes when learning a statistics course. The students in all learning environments started out with similar attitudes towards the course. At different points during the semester, student attitudes and self-efficacy were evaluated in each class through the distribution of a survey. By the end of the semester, the students were found to have an increased feeling of self-efficacy in the in-person learning environment compared to the technology-based learning environment. The technology-based learning environments did not help boost or maintain student self-efficacy and self-regulation. This suggests environmental interactions with self-regulation and self-efficacy in evaluating outcomes and attitudes.

Despite the aforementioned weaknesses, online learning offers flexibility and accessibility from a distance (Lim et al., 2008). Online learning has expanded and enhanced the delivery of education over the years. This flexibility and accessibility were enhanced with COVID-19 pandemic as online education became a necessity. This shift aided in creating an increased level of online presences in courses across the country as students and instructors were forced to set clear goals, organize activities, and give feedback within the new format of learning (Arsenijević et al., 2023; Bećirović et al., 2022). The pandemic accelerated the online learning environment as there was an imminent need for online learning to be implemented worldwide. With the fast growth rate of online learning, this leaves the question of how online learning can compare to in-person learning. The standing problem is that there is no set standard for online learning across the nation. Studies are being continuously done trying to incorporate new strategies to help students learn and improve the satisfaction and outcomes in the online learning environment (Chen et al, 2019).

Though online learning has its weaknesses, it could be overcome by instructional changes. A study focused on an online learning environment evaluated interactive components that were intended to engage students on a deeper level in terms of learning (Chen & Pedersen, 2012). The study focused more on the quality of a student's learning in an online learning environment as a way to enhance online learning. This was evaluated through interviews and evaluations of their responses to various assignments in the class. These evaluations looked to see how a student cognitively processed the course material and if the understanding was on a surface level or a deeper level. This aligns with more recent studies emphasizing the importance of interactions in online learning through teaching presence (Arsenijević et al., 2023). Several

significant factors highlighted were the amount of time spent on course engagement, self-efficacy, and the student grade point average (e.g., Bećirović et al., 2022).

Though there are considerable challenges that students face in the online learning environment, mitigating the effects of these outside influences is dependent on the students themselves. While learning environment will not be directly involved in the proposed moderation model, using two different models for the two different environments can provide useful comparisons to evaluate the role of individual differences in learning such as motivation and self-regulation when explaining learning satisfaction.

Motivation

When looking at potential individual differences involved with learning satisfaction, student motivation is key personal factor in SCT that plays an important role in higher education. Motivation itself is intertwined with self-regulation as the two factors have been studied from various angles in the literature. In the current study, we follow the definition from the self-determination theory and divide motivation into intrinsic and extrinsic motivation. This division is commonly used within organizational psychology research as well as educational psychology (Tremblay et al., 2009). When applying this to an educational context, factors considered in relation to motivation are autonomy, social factors, and competence (Usher et al., 2021). These are outlined to be basic psychological needs that drive students in the choices made towards academic work and the type of motivation that drives students towards completion in their academic work.

Eom and Ashill (2016) examined motivation as an aspect impacted by self-regulation which is the line of thinking this study looks to follow. Specifically, motivation has been thought to be an activator for self-regulatory processes. With this, we will be using their working

definitions of motivation through the division of intrinsic and extrinsic motivation. Intrinsic motivation looks at how tasks are done for oneself in search of a feeling of satisfaction whereas extrinsic motivation will be looked at as tasks done due to having external factors encourage task completion. In such cases, the external factor that motivates students would be a favorable outcome in the student's point of view (Zeng et al., 2023). In considering the intrinsic motivation, a student's drive allows them a greater engagement of academic materials, which in turn is expected to result in higher course satisfaction.

Wolters and Benzon (2013) researched how motivational strategies were incorporated into student learning. These use of motivational strategies in relation to academics are not needed when intrinsic motivation is high because intrinsic motivation does not need to be regulated due to a student's internal drive. Students' high interest in learning and cognitive engagement in the subject move them forward with their academic coursework. For extrinsic motivation, motivational strategies need to be utilized more as inherent interest in the subject is not apparent. This motivation can come from a need to earn higher grades or avoid failing grades (Zeng et al., 2023). Extrinsic motivation has also been found to have higher correlations with anxiety in reference to course work.

In the other direction, motivation has also been studied as a factor that promotes self-regulation. Intrinsic motivation has been associated with higher levels of cognitive processing (Chen & Pederson, 2012). This intrinsic motivation leads to students engaging in self-regulatory behaviors such as planning and self-monitoring. This reduces their anxiety as these behaviors put them in charge of their academic achievement and learning. These behaviors can be inspired by the student's learning environments as well (Mantooth et al., 2020). When looking at how motivation plays into learning satisfaction, much of the literature investigates motivation in

terms of academic achievement. As seen, motivation can vary depending on the learning environment the student is in which could impact learning satisfaction. When considering intrinsic motivation in particular, there have been positive associations with intrinsic motivation and self-regulation when looking at learning outcomes (Eom & Ashill, 2016). For this study, learning satisfaction will be seen as an outcome whereas intrinsic motivation will be hypothesized to be moderated by self-regulation based on the thought that intrinsic motivation can drive self-regulation.

Self-Regulation

Self-regulation is the cognitive factor in the SCT framework. Self-regulation itself is defined as the successful and consistent engagement in the behaviors of planning, self-monitoring, evaluation, reflection, effort, and self-efficacy (Toering et al., 2012). This group of behaviors involve various cognitive and metacognitive processes in learning (Wolters & Benzon, 2013). When considering these behaviors, earlier it was established that motivation can encourage self-regulation so this study looks to follow this by considering self-regulation as a moderating factor (Eom & Ashill, 2016).

Self-regulation of motivation is an important factor in the academic setting. Wolters and Benzon (2013) evaluated the use of motivational strategies in self-regulation and found that the motivational aspect of self-regulated learning is related to cognitive and metacognitive aspects of self-regulation. Self-regulation for the purposes of this study can be defined as a metacognitive process that impacts comprehension and time management in school (Chen & Pederson, 2012). This metacognitive process allows for students to have more discipline and control in terms of task related goals which is related to the behaviors students engage in to complete these tasks. High self-regulation is needed for online environments due to the fact that there are less external

motivating factors present in learning. High levels of self-regulation have six factors which are the behaviors of planning, self-monitoring, evaluation, reflection, effort, and self-efficacy (Toering et al., 2012). Successful engagement in these behaviors means that there is less of a chance for students to engage in behaviors such as procrastination. Procrastination itself has been defined as a failure of self-regulation and the failure of engagement in learning strategies is the failure of self-regulation as students were not able to stay engaged in their coursework (Klingsieck et al., 2012).

Different studies have examined the impact of self-regulation on learning environment to compare the in-person and online learning environments by looking at academic achievement. One study indicated that self-regulated students were engaged more in online environments which can help students become more successful in terms of their grades (Bradley et al., 2017). While there was no direct correlation to grades, high self-regulation has seen to be related to learning satisfaction. Only students who were able to engage in self-regulatory behaviors had successful overall online course outcomes. Similar results were observed in a study where high school students were the target sample in an online learning environment (Bećirović et al., 2022). The results were similar to Bradley et al. (2017) in that indicators of self-regulation, such as time, had a positive correlation with student satisfaction in online learning. In other words, the more time students dedicated to their online classes meant that there were also higher levels of learning satisfaction. These positive associations were found in relation to academic achievement as well. As a whole, students who demonstrated higher levels of self-regulation continued to show higher levels of satisfaction and achievement as well.

Other studies have linked self-regulation with learning satisfaction through different class formats (Chen et al., 2019). One study utilized a flipped classroom design where students in this

particular class had to engage in higher levels of self-regulation through completing homework and readings before the lesson. The class design did not differ in online or in-person but the design of the revised class design motivated students to engage in self-regulation and different learning strategies. Students in this class were found to have higher levels of learning satisfaction when they were forced to engage in higher levels of self-regulatory behaviors such as implementing different learning strategies.

As a whole, lower engagement of self-regulation can result in negative learning behaviors such as procrastination (Klingsieck et al., 2012). This behavior is a failure of self-regulation that shows that students are not fully processing their class material which prevents in-depth engagement of course content (Chen & Pedersen, 2012). Deep learning and engagement are signs of successful self-regulation where students were observed to employ various cognitive and learning strategies towards their academic work. Students who failed to self-regulate were shown to demonstrate only surface level engagement with academic content meaning that they were not truly learning the information efficiently. This could lead to lower levels of course satisfaction.

Learning Satisfaction

The three previous variables in the SCT framework so far explains how personal and environmental factors in this model interact with each other and predict learning satisfaction (behavioral factor). Learning satisfaction can be conceptualized as a combination of factors in the student experience of a course. Previous studies examined different factors such as a student's effort, course quality, success, and grade (Um & Jang, 2021). Experiences with faculty and the course design have also been seen to be correlated with learning satisfaction (Eom & Ashill, 2016; Nguyen-Thi-Phuong et al., 2022). For the purposes of this study, learning

satisfaction will comprise of four key factors being instructor factors, learner factors, course factors, and course outcomes (Bolliger & Wasilik, 2012).

Learning satisfaction itself can come from various aspects of a course such as structure, results, and effort. Studies have linked learning satisfaction to different processes like self-regulation as students who were shown to have higher levels of self-regulation also demonstrated higher levels of learning satisfaction (Chen et al., 2019). There are other studies that show that satisfaction with online learning has been traditionally lower when compared to in-person learning (Lyke & Frank, 2012).

Outside of course structure and outcomes, teaching and learner factors also play an important role. In looking specifically at instructor factors, interaction and communication play an important role. Arsenijević et al. (2023) places emphasis on the role of the instructor which falls in line with instructor factors. This can encompass communication and how the teacher engages the students through their course structure such as giving feedback on assignments and addressing questions. This aligns other studies in recognizing the impact of faculty interactions and course structures on learning satisfaction (Eom & Ashill, 2016; Nguyen-Thi-Phuong et al., 2022). Essentially, higher rates of instructor interactions and feedback could be linked to higher satisfaction. As a whole, instructor duties and interactions contribute to a student's learning satisfaction as student's engage with them consistently either through the completion of assignment or directly. In shifting to learner or student factors, there can be more focus on how the students interact with the course through content (Arsenijević et al., 2023). With the interaction between students and course content, the students interact with the course content varying levels which impact factors such as effort, success, and overall grade (Um & Jang, 2021).

All previous work in learning satisfaction connects to each other through the conceptualization of similar or the same factors outlined by Bolliger & Wasilik (2012). Instructor factors, learner factors, course factors, and course outcomes will be evaluated in the current study learning satisfaction. Learning satisfaction itself is an important aspect of higher education as it can be a motivating factor in students furthering their education (Um & Jang, 2021). Positive or high levels of learning satisfaction keeps students engaged in both learning environments but has more importance in the online learning environment. The extent of importance is one of the questions the current study looks to answer.

Hypotheses

With the current review of the literature, there are potential interacting relationships between intrinsic motivation and self-regulation that results in varying degrees of learning satisfaction. The purpose of the current study is to further investigate these relationships in two different environments being the online learning environment and the in-person learning environment. The literature indicated that the personal factors of intrinsic motivation and self-regulation are related (Chen & Pederson, 2012; Eom & Ashill, 2016). Intrinsic motivation was specifically identified as a potential activator of self-regulation. With this, the current study hypothesized a moderating relationship in addition to predictive relationships regarding intrinsic motivation and self-regulation. Specifically, the interacting relationships would be that intrinsic motivation is moderated by self-regulation resulting in learning satisfaction. This moderation would differ depending on the learning environment. With this, the purpose of the current study is to see if self-regulation has a moderating effect on learning satisfaction and to see the difference in moderations between the two learning environments.

H1: High levels of intrinsic motivation will predict higher levels of learning satisfaction.

H2: High levels of self-regulation will predict higher levels of learning satisfaction.

H3: Self-regulation will moderate the relationship between intrinsic motivation and learning satisfaction when looking at online learning environments. Particularly, it is predicted that high levels of intrinsic motivation will predict higher learning satisfaction when self-regulation is high.

H4: Self-regulation will not moderate the relationship between intrinsic motivation and learning satisfaction when looking at in-person learning environments.

To evaluate these hypotheses, a moderation analysis model was used as the statistical test for the current study. This statistical test identifies when there is a specific interaction between variables that influences the outcome.

Pilot Study

An initial pilot study was conducted to investigate the relationship between learning environment and self-regulation in relation to learning satisfaction. This was a preliminary test of the hypotheses with self-regulation and learning environments as predictors of learning satisfaction.

Participants

The sample consisted of a total of 57 participants (Men: 24, Women: 32, Other: 1; Mean $_{Age}$: 21.67, SD $_{Age}$: 7.11) from a small midwestern university's General and Abnormal Psychology courses. About 25% of these participants were in Abnormal Psychology and 75% were in General Psychology. A majority of participants were White (72%), Hispanic (18%), Black (7%), American Indian (2%), and some preferred not to answer (2%). When looking at

enrollment status, a majority of students were full-time which is 12 or more credit hours (84%). For the breakdown of participants by learning environment, there were 46 students in the traditional learning environment and 11 in the online learning environment.

Measures and Procedure

A pilot study was approved by the Institutional Review Board. Upon consent, participants completed the survey which consisted of informed consent, course indication, learning environment indicator section, the, demographics section, and ended with a debriefing section.

Results

The data was cleaned and checked for reliability before analysis. All measures fell within acceptable reliability ranges. Data analysis consisted of running t-tests and multiple regression to analyze potential predictors of learning satisfaction.

When looking to evaluate the differences between the online and in-person learning environment in reference to learning satisfaction, an independent samples t-test was run to evaluate these differences. Group 1 (in-person learning environment) had a total of 46 participants whereas Group 2 (online learning environment) had 11 participants. The assumption of homogeneity of variance was assessed by Levene's test, $F = 1.35$, $p = .25$. The data indicated that there were no significant differences between the groups in terms of learning satisfaction, $t(55) = -1.28$, $p < .21$. Collinearity diagnostics were used to test the assumption of multicollinearity and tolerance and VIF values indicated that multicollinearity was not an issue in reference to the predictor variables. When looking at both of these predictors of learning satisfaction, the overall regression model was significant, $[F (2, 56) = 4.59$, $p = .01$; $R = .38$; $R^2 = .11]$.

When looking specifically at online learning environment compared to in-person learning environment, the regression was not statistically significant indicating that there were no significant differences between the learning environments, [t (54) = .61, p = .54, β = .08]. When evaluating how learning satisfaction is predicted by self-regulation, self-regulation was the only factor found to be statistically significant in predicting learning satisfaction, [t (54) = 2.71, p = .01; β =.35]. The squared semi-part that estimated how much variance in learning satisfaction is uniquely predicted from self-regulation, sr^2 = .11. Thus, about 11% of the variance in learning satisfaction is uniquely predicted from self-regulation.

Discussion

Findings from the pilot study confirmed that self-regulation is an important factor in student satisfaction no matter the learning environment. There were no true differences concluded in regards to the type of learning environments due to the uneven sample distribution and lack of significance. This limitation calls the need for an increased sample size that is more evenly distributed across both learning environments. One way this could be addressed is to expand the range of the survey to cover general education classes outside of psychology courses in order to collect a larger sample size in the main study.

<div align="center">METHODS</div>

Participants

Based on the results of the pilot study, methodology was improved for the current study. The participant sample was drawn from students enrolled in Fort Hays State University from both online and in-person courses across different departments at the university. The total sample size was 195 (Men: 46, Women: 149, Mean AGE = 27.07, SD AGE = 9.43). The target population was students within the age range of 18 up to 65 years. The demographics were also

broken down by learning environment as well (Online: 142, Men: 29, Women: 113, Mean AGE = 29.81, SD AGE = 9.71; In-person: 53, Men: 17, Women: 36, Mean AGE = 19.90, SD AGE = 1.92). There was no specific target race or ethnicity for the purpose of this study but the majority of participants were White (79%), followed by Hispanic (10%), Black (5%), Asian (4%), American Indian or Alaskan Native (1%), and 1% preferred not the answer or didn't answer.

Materials

Learning Environment

To separate the online and in-person learning environment, participants were asked what course they were enrolled in and which format the course was being taken in. In our sample, we had 142 participants in an online course and 53 participants in an in-person course. There was an additional question asking them to select which specific course they received the survey that gave them a set of options and a fill-in option if the course was not found in the given options.

Self-Regulation

To measure self-regulation, the Self-Regulation of Learning Self-Report Scale from Toering et al. (2012) was utilized. Confirmatory factor analysis in the original scale development paper demonstrated strong construct validity. Further validity can be drawn from the alignment of the sub-scales of self-monitoring, planning, and self-efficacy as these were common factors of self-regulation evaluated across the literature (Bradley et al., 2017; Chen & Pedersen, 2012; Eom & Ashill, 2016; Wolters & Benzon, 2012). This measure has a total of six subscales including planning, self-monitoring, effort, and self-efficacy which utilized a four-point Likert scale ranging from 1 as "almost never" to 4 as "almost always". The evaluation and reflection subscales used a five-point Likert scale ranging from 1 as "never" to 5 as "always". While the

survey included all the subscales for data collection, the subscales of specific focus for data analysis were planning, self-monitoring, reflection, and self-efficacy.

Example items from these subscales include, "I know how to handle unforeseen situations, because I can well think of strategies to cope with things that are new to me," from the self-efficacy scale. An example item from reflection includes, "I think about my past experiences to understand new ideas." An item from self-monitoring includes, "I check my work while doing it.". Finally, the planning subscale uses, "I carefully plan my course of action to solve a problem."

In the literature, reliability for all the subscales has been found to acceptable with all six demonstrating a Cronbach's alpha of .70 and above. The reliability from the current study demonstrated a Cronbach's alpha of .91 using the four subscales selected.

Intrinsic Motivation

The Academic Motivation Scale (Vallerand et al., 1992) was used to account for intrinsic motivation. The specific subscales were intrinsic motivation to know, intrinsic motivation towards accomplishment, and intrinsic motivation to experience stimulation. Each subscale had a set of four statements for participants to rate on a seven-point scale. The specific questions for the subscales such as the intrinsic motivation scale to know included, ".." The subscale of intrinsic motivation toward accomplishment included, "For the satisfaction I feel when I am in the process of accomplishing difficult course assignments." Finally, the intrinsic motivation to experience stimulation subscale included, "For the pleasure that I experience when I read interesting authors."

Vallerand et al. (1992) originally demonstrated the reliability of the subscales with the use of two posttest samples. All three scales were found reliable as the intrinsic motivation to

know subscale had a Cronbach's Alpha of .90, intrinsic motivation toward accomplishment had a Cronbach's Alpha of .87, and intrinsic motivation to experience stimulation had a Cronbach's Alpha of .84. The Academic Motivation Scale has been used in a variety of studies where the validity of the scale of been confirmed. Vallerand et al. (1992) was also able to establish discriminant validity in the original creation of the scale between the intrinsic motivation subscales. The current study demonstrated a Cronbach's Alpha of .93 using all three subscales.

Learning Satisfaction

To measure learning satisfaction, Bolliger and Wasilik's (2012) scale to measure online learning satisfaction was adapted to apply to both in-person and online learning environments. Validity in this study can be drawn from how factors of instructors, learners, course structure, and learning outcomes have been studied across the literature and have overlapped with other studies (Eom & Ashill, 2016; Nguyen-Thi-Phuong et al., 2022; Um & Jang, 2021). This scale covers the factors of instructor, learners, course structure, and learning outcomes on a set of subscales. The instructor subscale contains a set of seven questions, the learners' subscale has a set of five questions, course structure has a set of four, and learning outcomes has a set of four questions. All of these questions are rated on a scale of one to five ranging from strongly agree to strongly disagree. While the survey included all of the subscales for data collection purposes, the subscale of focus for data analysis was the subscale of learners' learning satisfaction.

Bolliger and Wasilik (2012) found acceptable reliability for the final version of their learning satisfaction scale (Cronbach's Alpha of .91). With data analysis using only the learner's learning satisfaction for the current study, reliability was found to demonstrate a Cronbach's Alpha of .80.

Procedure

Upon Institutional Review Board approval, instructors across the university were contacted during the of the spring semester of 2024. The investigator reached out to instructors that teach the same course in both the online and in-person learning environment initially. Instructors of the courses were contacted before opening the survey. As data collection proceeded, additional online instructors were contacted as well. In the email correspondence, instructors were given instructions with the survey link should they have agreed to distribute the survey to their students.

The survey was distributed around five weeks into classes during the spring semester to allow time for students to have engaged in their coursework. Google Forms, a survey administration software, was used as data collection platform. The Google Form link was emailed to instructors to distribute to their students via course post and email. The survey started with an informed consent form and consenting students completed the online survey which included 32 items to measure self-regulation, 12 items to measure motivation, 13 items to measure student learning satisfaction, and demographic questions. The survey concluded with the debriefing section.

RESULTS

Data Screening and Regression Analyses

Once data collection was finished, the data collected in google forms was transferred to SPSS for data cleaning and analysis. There was a total of 201 responses but six participants were deleted during this process due to systematic missing data and underage participants. Once the data cleaning was completed, data analysis proceeded with conducting an overall regression using intrinsic motivation and self-regulation as predictors of learning satisfaction. Regression analysis found that both intrinsic motivation and self-regulation were predictive of learning

satisfaction [F (2,192) = 30.78, p <.001; R = .49; Adjusted R^2 = .24]. About 24% of the variance in learning satisfaction can be explained using these predictors. When looking at each predictor individually, intrinsic motivation [t (192) = 3.48, p < .001; β = .24] and self-regulation [t (192) = 5.13, p < .001; β = .35] both positively predicted learning satisfaction.

For the moderation analyses, the data was divided into two groups based on learning environment so that separate moderation analyses could be conducted. Two moderation analyses were conducted (one for in-person learning group and one for online learning group) to assess the prediction of learning satisfaction from levels of intrinsic motivation and self-regulation with self-regulation acting as the moderator. To reduce any possible issues of multicollinearity, intrinsic motivation and self-regulation values were standardized, and an interaction term using these standardized variables was created. A hierarchical regression analysis was performed to evaluate whether the interaction of intrinsic motivation and self-regulation was predictive of learning satisfaction. Make-up of the different samples can be seen by course level and course subject in Table 4 and Table 5.

Moderation Analysis for the Online Learning Environment

Overall, the regression model for the online learning environment was significant [F (3, 138) = 7.63, p < .001; R = .48; Adjusted R^2 = .24]. About 24% of the variance in learning satisfaction was accounted for through intrinsic motivation and self-regulation. Even with this significance, the interaction of intrinsic motivation and self-regulation was not found to be significant [t (138) = .07, p = .94; $β$ = .01; R^2 change = .00]. The significance in this moderation model can be found with intrinsic motivation, [t (138) = 3.09, p = .002; $β$ = .25], and self-regulation, [t (138) = 4.30, p < .001; $β$ = .34] in the second block but not the interaction of the two variables.

Moderation Analysis for the In-Person Learning Environment

The regression model for the in-person learning environment was also found to be significant [F (3, 52) = 5.65, p = .002; R = .51; Adjusted R^2 = .26]. About 26% of the variance in learning satisfaction was accounted for through intrinsic motivation and self-regulation. Even with this significance, the interaction of intrinsic motivation and self-regulation was not found to be significant [t (52) = .41, p = .69; β = .05; R^2 change = .002]. The significance in this moderation model comes from intrinsic motivation and self-regulation in the second step but not the interaction.

Additional Analyses

Additionally, one-way ANOVA analyses were conducted to eliminate the possibility of differences between specific courses and levels of learning satisfaction. The first ANOVA examined the differences between the different course levels such as 100, 200, 300, 400, and other level courses. Results of the omnibus test indicated that there was a significant difference between course level and learning satisfaction, F (4, 190) = 2.78, p = .03. Overall, η2 was equal to .05 suggesting a small effect or small difference between the comparison groups. The assumption of homogeneity of variance was assessed by Levene's test, F (4, 190) = 1.98, p = .10; this indicated no significant violation of the equal variance assumption. As such, Tukey's post-hoc test was conducted based on equal variances being assumed. Post-hoc comparison's found that there was significance in only one comparison. Level 400 courses (M = 4.46, SD = .62; p = .05) were found to have significantly higher levels of learning satisfaction than level 100 courses (M = 4.06, SD = .78). There were no other differences found among the other course levels.

Additional ANOVA analyses were also conducted using intrinsic motivation and self-regulation as dependent variables to examine differences between course levels. For intrinsic motivation, results of the omnibus test indicated that there were no statistically significant differences between course level and intrinsic motivation, $F(4, 190) = 2.04$, $p = .09$. For self-regulation, results indicates that there were no statistically significant differences between course levels and levels of self-regulation, $F(4, 190) = 1.29$, $p = .27$.

Lastly, a one-way ANOVA was conducted to evaluate the differences between the in-person and online learning environments. There were no statistically significant differences found between the online and in-person learning environments in terms of learning satisfaction, $F(1, 193) = .003$, $p = .96$.

DISCUSSION

Past studies have shown the different impacts of online vs. in-person learning. For example, one of the key outcomes of learning student, learning satisfaction, has shown differences depending on the learning environment. Though online vs in-person environments have been researched extensively in the literature, the current study aimed to add to the literature by investigating the potential differences through the variables of student self-regulation and intrinsic motivation since Covid-19 pandemic. Despite finding supporting evidence for the positive impact of self-regulation and intrinsic motivation, the current study found no support for the moderation effect between the two variables in both online and in-person learning environments.

In support of hypothesis one (*High levels of intrinsic motivation will predict higher levels of learning satisfaction*) and hypothesis two (*High levels of self-regulation will predict higher levels of learning satisfaction*), both higher levels of intrinsic motivation and self-regulation

predicted higher levels of learning satisfaction. In addition to testing hypothesis one and two, hypothesis testing for hypotheses three and four were conducted. A moderation effect was expected to occur in the online learning environment, but there were no significant interactions between intrinsic motivation and self-regulation for both the online and in-person learning environments. Though both overall regression models were statistically significant, the interaction of the self-regulation and intrinsic motivation was not found to be significant in either model when predicting learning satisfaction. Thus, hypothesis three (*Self-regulation will moderate the relationship between intrinsic motivation and learning satisfaction when looking at online learning environments*) was not supported, and hypothesis four (*Self-regulation will not moderate the relationship between intrinsic motivation and learning satisfaction when looking at in-person learning environments*) was supported.

The literature supports that the variables of intrinsic motivation and self-regulation contribute to learning satisfaction directly which could be seen with the results of the current (Chen et al., 2019; Eom & Ashill, 2016). The current results also showed support for the direct relationship between intrinsic motivation and learning satisfaction in both in-person and online environments. Past studies also noted external motivation, such as physical interaction with classmates in in-person class, as a distinctive difference between online and in-person learning. External motivation in in-person environment could function as an additional protective factor in academic success (Wang & Hong, 2018). When intrinsic motivation is low, external motivation is commonly related to academic work as students work according to pressure and deadlines in order to alleviate feelings such as anxiety (Zeng et al., 2023). These are factors within the in-person learning environment were expected to be a possible explanation behind the non-significant moderation since the external motivation of the in-person environment can either

replace or reduce the effect of intrinsic motivation. Past studies showed that low intrinsic motivation is more common in the in-person learning environment as students are surrounded by their peers (Chen & Pederson, 2012).

While this could be true for the in-person learning environment, these same explanations could also explain the lack of moderation effects for the more technologically advanced online learning environment. The initial transitions from in-person to online learning impacted students as institutions were unprepared for the initial transitions (Bećirović et al., 2022). However, online learning has changed throughout and after the Covid-19 pandemic as significant advancements were made in online education. Some of these changes could have possibly increased level of interactions between instructors and students in online classes. This, in return, could have increased similarities between in-person and online courses. In other words, students taking online courses might not have to rely so heavily on intrinsic motivation or self-regulation to experience high levels of learning satisfaction due to presence of external motivators such as deadlines, reminders from an instructor, or interactions with classmates through discussion boards. Other factors could be that online courses have improved in efficiency and interactions between students and instructors which have been factors evaluated in other studies (Arsenijević et al., 2023; Eom & Ashill, 2016; Nguyen-Thi-Phuong et al., 2022). These possible explanations for the lack of interactions between intrinsic motivation and self-regulation in online environment leave room for further exploration of specific factors unaccounted for in this study. Examples of such factors would be relational and interactional factors outside of student or learner factors. One other explanation could be found in self-selection bias. Students may be willingly enrolling in different course formats based on their own knowledge of their self-regulation skills and interests. Students who perceive their self-regulation to be high might be

more willing to enroll in an online course than students whose perception of self-regulation skills is low. Students are aware of their capabilities and study habits so selecting a learning environment that is beneficial or preferable to them could be a factor that contributes to the lack of moderation effect between two different learning environments.

Though the moderation between intrinsic motivation and self-regulation was not significant in the online model, main effects of these variables were significant. This finding was surprising as past studies on online environments emphasized the importance of an increased need for self-regulation and motivation to stay engaged in academics to show high levels of learning satisfaction. In terms of self-regulation, much of the literature supports that self-regulation is important in maintaining online engagement in academic work. Successful and satisfied students are seen to be highly self-regulated in online learning environments (Bećirović et al., 2022; Chen & Pederson, 2012). The current study found similar results. Self-regulation was found to be a significant predictor for learning satisfaction in both the online and in-person models. There has been evidence that specific class design, whether in person or online, can encourage self-regulatory behaviors such as a flipped classroom design investigated by Chen et al. (2019). There is no definitive reason for these findings but self-regulatory changes could be a result of changes and improvements in course design and instructor interactions.

Additionally, the behaviors encompassing self-regulation include multiple subcomponents (Toering et al., 2012) and planning, self-monitoring, reflection, and self-efficacy were the behaviors of focus. Different subcomponents of self-regulation could result in varying levels of learning satisfaction due to the different nature of each component. For example, some components, such as planning, self-monitoring, and reflection, are external behavior focused, whereas some components, such as self-efficacy, are more internal traits or qualities that are not

intentionally activated by students. Though in the current study a composite score was used as a measure of overall self-regulation, dividing these behaviors by intentional and inherent behaviors could provide additional information regarding self-regulation.

In looking at differences with the current study, there were significant differences found within the sample based on course level between the 100 and 400 course levels when looking at levels of learning satisfaction. The specific differences demonstrated in the pos-hoc tests indicated that participants in level 400 courses experienced higher levels of learning satisfaction than participants in level 100 level courses. When looking at other variables such as intrinsic motivation and self-regulation, there were no statistically significant differences by course level. These differences could be pointing to other interfering factors in the model such as topic interest as the current study gathered participants from a variety of course subjects. At course level 400, the topics covered are more specialized compared to level 100 courses. While there were statistically significant differences in terms of learning satisfaction, these results should be interpreted with caution as the difference is minimal when looking at the means of each group. The difference by means in each group was around .40 which shows that on average, scores in learning satisfaction were similar.

Intrinsic motivation has been an indicator of academic engagement where course information is truly processed on the cognitive level according to interest (Zeng et al., 2023). If there is a major difference in intrinsic motivation within these two levels, then course levels would need to be investigated separately and controlled for in future studies. Participants in 400 level courses may already be experiencing higher levels of intrinsic motivation and learning satisfaction due to the fact that these course levels indicate further progression in a specific area of study.

Utilizing SCT, self-regulation was the cognitive factor, intrinsic motivation was the personal factor, and the learning environment was the external environmental factor. As a whole, the current study provides information about specific areas that are important to student learning satisfaction. Both self-regulation and intrinsic motivation were found to be significant factors when predicting learning satisfaction. Self-regulation and intrinsic motivation showed predictive relationships with learning satisfaction and both variables deserve further attention in both the online and in-person learning environments as their significance provides grounds for further investigation.

Limitations

There are a few limitations in this study. Firstly, this data was only collected in one point in time around half-way through the semester, weeks five to eight. Learning satisfaction and scores on self-regulation could change during the second half of the semester which is not accounted for in this current data set. In addition, course outcome (e.g., final grade) could also play a role in learning satisfaction which is an aspect that could not be accounted for due to the timing of this survey. Data also indicated that there were significant differences between 100 and 400 level courses and also between course subjects which were not factors controlled for in the current study. There is not enough information collected in the current study to know the exact reason for these results which is an additional avenue of research for the future.

With these limitations, future directions of the research could aim to either evaluate learning satisfaction throughout the semester or just gather data at the end of the semester. In a scenario where data are collected throughout the semester, changes in learning satisfaction between online and in-person classes based on student self-regulation and intrinsic motivation could be observed as the semester progresses. The role of self-regulation might be more

important in the second half of a semester where a greater exertion of self-regulation is required to maintain high levels of learning satisfaction. Future studies collecting data at the end of the semester might render varying results to provide a broader understanding of overall learning satisfaction.

Other future directions can also investigate an additional explanation for the lack of interaction between self-regulation and intrinsic motivation. This additional factor could be the relationship between student effort, intrinsic motivation, and self-regulation as student effort could be a factor that explains the relationship (or lack of) between intrinsic motivation and self-regulation. Students with less intrinsic motivation could overestimate the amount of effort invested in their work. However, even when intrinsic motivation is low, when students exhibit high self-regulation, they might not feel as strained in terms of effort when engaging in their academics. With this, students are therefore more inclined to continue in their academic work whereas students who are extrinsically motivated may feel that they are exerting more effort due to factors such as deadlines or expectations. This intrinsic motivation could also be associated with course interest as well since the sample extended across multiple types of courses.

Conclusion

Learning satisfaction is becoming more important as online learning is progressing and is being developed and utilized across universities. In addition to the type of course utilized, there are also the factors relating to the student such as self-regulation and motivation that impact academic outcomes and learner satisfaction. SCT can help explain why these relationships occur and aid to explain the factors of learning satisfaction. The theory proposes that aspects like environment, motivation, and cognitive processes like self-regulation have an impact on outcomes (Mantooth et al., 2020). While the current study did not observe a moderating effect

with the variable of self-regulation, support was given to intrinsic motivation and self-regulation being factors that can predict student learning satisfaction in both online and in-person learning environments. This emphasizes the direct relationships self-regulation and intrinsic motivation have with learning satisfaction which can be further investigated in reference to both the online and in-person learning environment to establish possible differences in future research.

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Figure 1

Moderation results when self-regulation moderates the relationship between intrinsic motivation and learning satisfaction in the online learning environment.
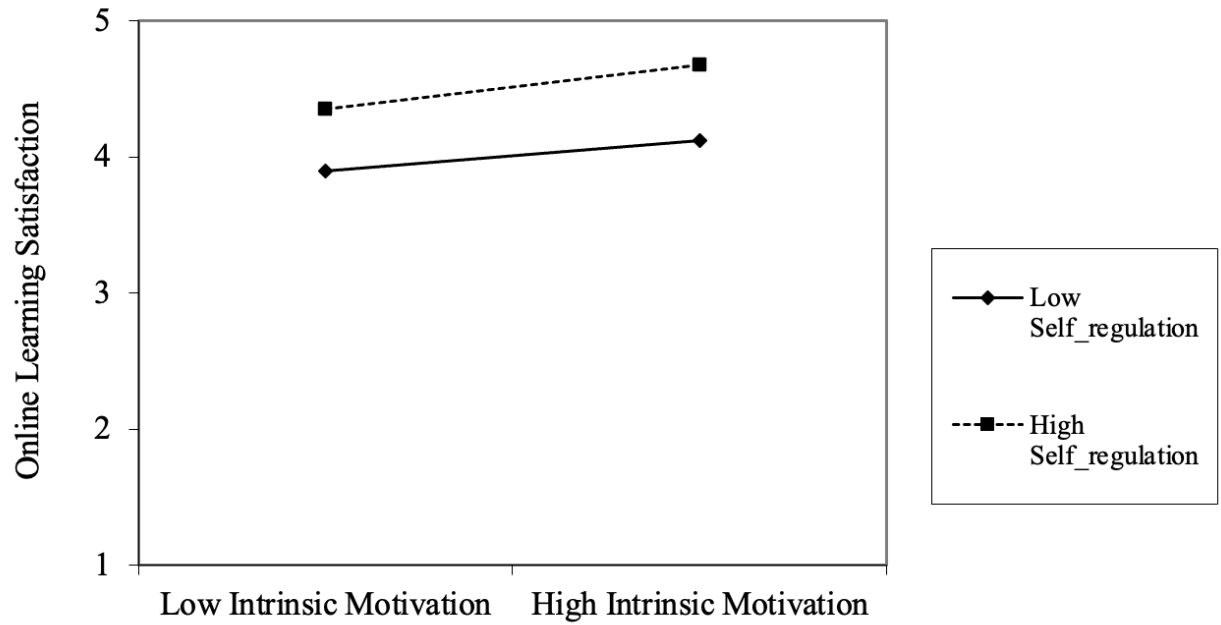
Figure 2

Moderation results when self-regulation moderates the relationship between intrinsic motivation and learning satisfaction in the in-person learning environment.
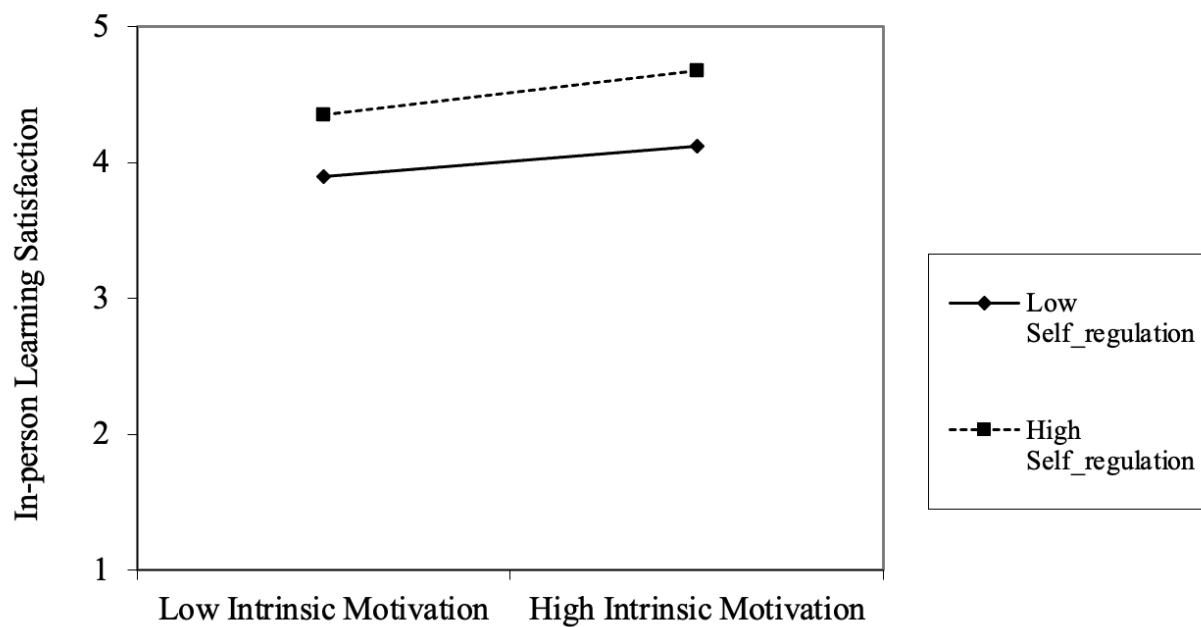
Table 1

Intercorrelations and descriptive statistics from the online learning environment model.

	1	2	3	Skewness	Kurtosis	*M*	*SD*
1. Intrinsic Motivation	_			-1.22	1.66	5.02	1.20
2. Self-Regulation	.37**	_		-.09	-.21	3.36	.35
3. Learning satisfaction	.38**	.44**	_	-1.34	1.64	4.27	.72

** *p<.01*

Table 2

Intercorrelations and descriptive statistics from the in-person learning environment model.

	1	2	3	Skewness	Kurtosis	*M*	*SD*
1. Intrinsic Motivation	_			-1.74	.66	4.85	1.09
2. Self-Regulation	.44**	_		-.09	-.21	3.35	.43
3. Learning satisfaction	.37**	.47**	_	-1.05	.61	4.28	.66

** *p*<.01

Table 3

Intercorrelations and descriptive statistics for the overall variables.

	1	2	3	Skewness	Kurtosis	*M*	*SD*
1. Intrinsic Motivation	_			-1.08	1.34	4.97	1.17
2. Self-Regulation	.39**	_		-.05	-.12	3.36	.37
3. Learning satisfaction	.37**	.44**	_	-1.27	1.41	4.27	.70

** *p*<.01

Table 4

Frequencies from different course levels.

Course level	Online	In-person
100	33	19
200	9	0
300	37	18
400	28	12
Other	35	4
Total	142	53

Table 5

Frequencies from different course subjects.

Course Type	Online	In-person
Psychology	85	35
Sociology	16	0
Criminal Justice	7	4
Communication	2	6
Philosophy	9	0
Math	8	5
Leadership	1	3
Other/Unlabeled	4	0
Total	142	53

Appendix A

Self-Regulation of Learning Self-Report Scale (SRL-SRS) from Toering et al. (2012).

Planning

1= Almost never, 4= Almost always

1. I determine how to solve a problem before I begin.

2. I think through in my mind the steps of a plan I have to follow

3. I try to understand the goal of a task before I attempt to answer.

4. I ask myself questions about what a problem requires me to do to solve it before I do it.

5. I imagine the parts of a problem I still have to complete.

6. I carefully plan my course of action to solve a problem.

7. I figure out my goals and what I need to do to accomplish them.

8. I clearly plan my course of action to solve a problem.

9. I develop a plan for the solution of a problem.

Self-monitoring

1= Almost never, 4= Almost always

10. While doing a task, I ask myself questions to stay on track.

11. I check how well I am doing when I solve a task.

12. I check my work while doing it.

13. While doing a task, I ask myself how well I am doing.

14. I know how much of a task I have to complete.

15. I correct my errors.

16. I check my accuracy as I progress through a task.

17. I judge the correctness of my work.

Evaluation

1= Never, 5=Always

18. I look back and check if what I did was right.

19. I double-check to make sure I did it right.

20. I check to see if my calculations are correct.

21. I look back to see if I did the correct procedures.

22. I check my work all the way through the problem.

23. I look back at the problem to see if my answer makes sense.

24. I stop and rethink a step I have already done.

25. I make sure I complete each step.

Reflection

1= Never, 5=Always

26. I reaaprrasie my experiences so I can learn from them.

27. I try to think about my strengths and weakenesses.

28. I think about my actions to see whether I can improve them.

29. I think about my past experiences to understand new ideas.

30. I try to think about how I can do things better next time.

Effort

1= Almost never, 4= Almost always

31. I keep working even on difficult tasks.

32. I put forth my best effort when performing tasks.

33. I concentrate fully when I do a task.

34. I don't give up even if the task is hard.

35. I work hard on a task even if it is not important.

36. I work as hard as possible on all tasks.

37. I work hard to do well even if I don't like a task.

38. If I'm not really good at a task I can compensate for this by working hard.

39. If I persist on a task I'll eventually succeed.

40. I am willing to do extra work on tasks in order to learn more.

Self-Efficacy

1= Almost never, 4= Almost always

41. I know how to handle unforeseen situations, because I can well think of strategies to cope with things that are new to me.

42. If someone opposes me, I can find means and ways to get what I want.

43. I am confident that I could deal efficiently with unexpected events.

44. If I am in a bind, I can usually think of something to do.

45. I remain calm when facing difficulties, because I know may ways to cope with difficulties.

46. I always manage to solve difficult problems if I try hard enough.

47. It is easy for me to concentrate on my goals and to accomplish them.

48. I can solve most problems if I invest the necessary effort.

49. When I am confronted with a problem, I usually find several solutions.

50. No matter what comes my way, I'm usually able to handle it.

Appendix B

Academic Motivational Scale from Vallerand et al. (1992).

Intrinsic motivation - to know: # 2, 9, 16, 23

Intrinsic motivation - toward accomplishment: # 6, 13, 20, 27

Intrinsic motivation - to experience stimulation: # 4, 11, 18, 25

Please rate the following questions as it pertains to your current course.

Why are you taking this course?
    1= Does not correspond at all – 7= Corresponds exactly

2. Because I experience pleasure and satisfaction while learning new things.
4. For the intense feelings I experience when I am communicating my own ideas to others.
6. For the pleasure I experience while surpassing myself in my coursework.
9. For the pleasure I experience when I discover new things I did not know before.
11. For the pleasure that I experience when I read interesting authors.
13. For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments in the course.
16. For the pleasure that I experience in broadening my knowledge about course subjects which appeal to me.
18. For the pleasure that I experience when I feel completely absorbed by what certain authors have written.
20. For the satisfaction I feel when I am in the process of accomplishing difficult course assignments.
23. Because this course allow me to continue to learn about many things that interest me.
25. For the intellectually stimulating feeling that I experience while reading about various interesting subjects.
27. Because this course allows me to experience personal satisfaction in my quest for excellence in my goals.

Appendix C

Student Satisfaction Survey from Bolliger and Wasilik (2012)

1= strongly disagree, 5= strongly agree

Instructor (I)

I1. I am satisfied with the instructor's communication skills.

I2. I receive feedback on tests and other assignments in a timely manner.

I3. Course requirements were clearly communicated to me.

I4. I am dissatisfied with the use of eCollege. [R]

I5. The instructor is not accessible to me. [R]

I6. The instructor is enthusiastic about the subject matter.

I7. I am satisfied with the scheduling flexibility within the course.

Learners (L)

L1. I am comfortable in the online learning environment.

L2. I am satisfied with my ability to work on projects on my own.

L3. My level of self-directedness in this course is sufficient.

L4. I have access to reliable computer equipment to participate in my online course.

L5. I am dissatisfied with my performance in this course. [R]

Course (C)

C1. Assignments (e.g., quizzes, tests) in the course are relevant.

C2. I am satisfied with the pacing of the course.

C3. I am satisfied with the level of effort this course requires.

C4. The organization of course content is logical.

Outcomes (O)

O1. I can apply what I have learned in this course.

O2. My interest in the subject matter has increased because of this course.

O3. I am satisfied with my learning in this course.

O4. I will be happy with my final grade in the course.

Appendix D

Demographic questions

1. Please indicate which course you are currently enrolled in.

2. Please identify your student classification.

   -Freshman, Sophomore, Junior, Senior,

3. In reference to your current course, please select the format in which you are taking the

   course.

   -Online, In-person

4. What is your age?

5. What is your sex?

   -Male, female, other

6. Which best describes your racial group? (Choose one)

   -White, Black or African American, Hispanic/Latino, Asian, American Indian or Alaska

   Native, Prefer not to answer

7. What is your current enrollment status?

    Part-time Student (Under 12 credit hours), Full-time student (12+ credit hours)

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