IDE 841 Peer Critique
Topic: *Investigating the Effectiveness of Self-regulation Learning strategies on Undergraduates' Perception of Motivation in Online Courses*
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Common Theoretical Backgrounds

Theoretical background as described by Creswell is a logical statement for relating the variables mentioned by authors in other studies (Creswell, 2011, page 121).

The two variables I guess this paper focuses on are, Self-regulation Learning strategies and Perception of Motivation.

In relation to other studies, this paper presented a study that shows "Enrollment in online courses rose at a faster pace between fall 2015 and 2016". It also references that this report as many other studies including Babson shows that it was the 14th consecutive year that growth in online enrollment has been reported. (Friedman,2018). I believe these studies or reports shows the current significant of online learning. But the unanswered question is, how does Self-regulation Learning strategies and Perception of Motivation relate to the growth of online learning?

Though the paper also presented the Report from Inside Higher Education (Straumsheim, 2016) as a shred of contrary statistical evidence; it still does not say how this Self-regulation Learning strategies and Perception of Motivation relate to the gap observed.

Also, this paper details the theoretical significance of self-regulation learning in an online learning environment. It also brings together significant research that shows that motivation and self-regulated learning promote the use of self-regulatory strategies.

Yet, I think a little more relationship in terms of other studies needs to connect students' perceptions of motivation and Self-regulation Learning strategies. Besides, Perception and motivation are two intrinsic concepts, so their alignment needs to have a theoretical foundation if they are a single variable in a study.

For the design critique of this study, please consider the bullets points as key points/questions in each section of your design I observed. These points/questions are the subjective inquiries that I think need to be expanded or made clear in your final designs.

Assignment 5: Experimental design

Research Problems

- Motivation perception as a variable was clearly dissected into students' intrinsic goal orientation, perception of task value and self-efficacy.
- More on how Chang's (2005) research and the resource management strategies ties with self-regulation and motivation in this paper need to be connected.
- What is the definition of embedded SRL strategies? How does it connect with other constructs in this paper?

Sampling

- The sampling size is adequate for making inferences which is the sole purpose of an inferential study.
- I think a more descriptive explanation is needed for the parameter of the study. In other words, what do you mean "different apartments at Syracuse University"?
- Will the 100 participants together be taught in a semester-long, 2-hour class for each week or will they be divided into sections? I think they should be divided into sections. A section with 100 participants all together may not be an effective instructional environment.

Measures

- The Motivated Strategies for Learning Questionnaire (MSLQ), developed by Pintrich et al which is used in this paper proves validity. That is, the instrument has been measuring the constructs it was created to measure over time consistently.
- The questionnaire is a self-reported Likert-scale but the number of items in the questionnaire was not mentioned. Maybe adding the number of questions might define the instrument's cognitive load.

Procedures

- The design appears to suggest that a pretest will be administered and afterward the control group will be instructed by regular instruction, while students in the experimental group will be instructed via instruction embedded SRL strategies. If that is true, it seems like the control group will be subject to regular instruction which looks like a treatment from the way it is presented in this work. I think if it is mentioned simply that the control group will not be treated that might help with interpretation.

Assignment 6: A Cross-Sectional Survey Design

Research problem

- This design reports that the SRL learning strategies is that factor that influences current attitude which is students' perception of motivation. If this exertion is true, the research question should be reworded to ask how SRL learning strategies or a SRL strategy as a factor enhance the various variables of perception of motivation as adopted in this research. I guess every SRL learning strategies might interact differently with each variable of the perception of motivation.

Participants

- The participant number in this study is reasonably sized. For inferential purposes, this sample might need to increase for reliability.
- Also, strata sampling of the 100 participants helps to control extraneous variables like course design, pedagogy, and other instructional strategies which I am sure this design does not intend to measure. Selecting a department and course within the school of education could be a great start for stratifying your sample.

Data Analysis

- The design proposes to use descriptive statistics analyzed from each category of the Motivated Strategies for Learning Questionnaire (MSLQ). With descriptive statistics, how does a quantitative data software SPSS 23 fits within this analysis?

Assignment 7: Outline of a case study design

Measures

- The Archived course documents (course syllabus, assignment descriptions, threaded discussions, course bulletin board, and student Web pages) as secondary data sources will be collected to explain how student self-regulation reflects on their performance. My guess is data collect form these sources will be analysis through content analysis.

Procedures

- As mentioned above in the Measure section, the archived course document will explain how student self-regulation reflects on their performance, will the Instructor interview not generate the same data? I think since the course is online, archived documents might be only reliable tangible evidence about the instructor's interactions with the students.

Data Analysis

- In the data analysis section, two data techniques were mentioned to be used in the study. These two were individual cases and cross-case analytic techniques. I think an explanation of these techniques' significance, when and how they will be used is important to mention as well.

Critique Conclusion

Overall, the flow of your design was aligning and layout well. There will be a need to review the alignment of the constructs used in these designs. Generally, the Method for participant sampling and procedure might need more specification.

I hope my subjective questions and suggestions can be a help to your final work.

Investigating the Effectiveness of Self-regulation Learning Strategies on Undergraduates' Perception of Motivation in Online Courses

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Common theoretical backgrounds

Enrollment in online courses rose at a faster pace between fall 2015 and 2016 compared with the previous three years, yet students are increasingly choosing local online degree programs, according to the "Grade Increase" report released by the Babson Survey Research Group Based on federal data from more than 4,700 colleges and universities, more than 6.3 million students in the U.S. – most of whom were undergraduates – took at least one online course in fall 2016, a 5.6 percent increase from the previous year. This is the 14th consecutive year that Babson has reported growth in online enrollment. (Friedman, 2018).

However, reported in *Inside Higher Education*, Straumsheim (2016, February 17) reveals that 48% of the students surveyed had no desire to take any of their college classes online. About 37% said they might take a few of their college classes online. About 9% were undecided and the remaining percentages thought they would take most (4%) classes online or half of their classes online (2%). This report indicated students were demotivated to take online courses.

Although motivation is essential to learning no matter the context, it is particularly critical when learning online, where whether students engage the material, how, and how long, is entirely within their control (e.g., Sansone et al. 2002). Successful online students must learn the material, and must maintain motivation to learn the material, on their own (Carol Sansone et al., 2010).

Students in online learning settings do not physically present themselves in a classroom and do not have the opportunity to interact face-to-face with their instructors and classmates. Students in online courses are responsible for their own learning as they decide when, where, and how long to access the learning materials (McMahon & Oliver, 2001).

Success in an online learning environment heavily relies on a student's ability to autonomously and actively engage in the learning process (Wang, Shannon, & Ross, 2013). It is therefore particularly important that online learners, compared to their traditional classroom peers, have the self-generated ability to control, manage, and plan their learning actions (Ally, 2004). Pintrich and Zusho (2002) defined self-regulated learning as an active and constructive process that involves the students' active, goal-directed, self-control of behaviors, motivation, and cognition for academic tasks (Pintrich, 1995). Learners in an online learning environment must be highly self-regulated to ensure that their learning effectiveness is not low (Kauffman 2004; Wang 2011).

Therefore, self-regulated learning (SRL) strategies are especially important when taking online courses (Wijekumar, Ferguson, & Wagoner, 2006). Self-regulated learning offers an important perspective on academic learning in current research in educational psychology (Schunk & Zimmerman, 1994). The model of self-regulated learning includes three general

categories of strategies: (1) cognitive learning strategies, (2) self-regulatory strategies to control cognition, and (3) resource management strategies (see Garcia & Pintrich, 1994; Pintrich, 1988a,b; Pintrich, 1989; Pintrich & De Groot, 1990; Pintrich & Garcia, 1991; Pintrich, Smith, Garcia, & McKeachie, 1993). There is evidence that students who are better able to regulate their learning in an intentional and reflective way often demonstrate greater academic motivation and achievement (Zimmerman, 1990). Using self-regulated learning strategies to influence students' motivation will eventually help them achieve higher academic learning outcomes.

Research has shown motivation and self-regulated learning promote the use of self-regulatory strategies. There is other research implicitly centered on how motivational beliefs predict self-regulation (Pintrich,1999). However, there is little empirical research on how SRL strategies influence undergraduates' perception of motivation in online learning environments. Therefore, this study seeks to fill that research gap. In this paper, three study designs are proposed to investigate the effectiveness of self-regulated learning strategies on students' motivation in online courses. Possible benefits and limitations are discussed at the end of each design.

Assignment 5

Research Problems

A true experimental design can be applicable to explore students' motivation and responses to online instruction with the assist of self-regulated learning strategies.

In the previous research, Chang (2005) revealed one of the three general categories of strategies, named cognitive learning strategies, enhanced learners' motivation perception. In this study, resource management strategies, which students use to manage and control their environment, will be incorporated into online course instruction to see the effectiveness on undergraduates' perception of motivation in online courses. Examples of resource management strategies include managing and controlling their time, their effort, their study environment, and other people, including teachers and peers, through the use of help-seeking strategies (cf., Corno, 1986; Ryan & Pintrich, 1998;Zimmerman & Martinez-Pons, 1986,1988).

The motivation perception in this study will be focused on students' intrinsic goal orientation, perception of task value and self-efficacy for learning and performance.

Intrinsic goal orientation is motivation that stems from primarily internal reasons (e.g., being curious, wanting to challenge, wanting to master the content). It would likely promote both short-term and long-term persistence toward the learning subject (Vansteenkiste, Lens, & Deci, 2006).

Task value is defined as an incentive to engage in academic activities, which represents a composite construct encompassing perceived importance, usefulness, and interest (Wigfield & Eccles, 1992).

Self-efficacy was defined as a "belief in one's capabilities to organize and execute the courses of action required to manage prospective situations" (Bandura, 1995, p. 2). It has shown convergent validity in predicting diverse forms of motivation (Zimmerman, 2000).

Because self-regulation is not a personality trait, students can be taught how to use self-regulatory strategies to improve their academic success (Pintrich, 1995). Studies have suggested

that self-regulated instruction benefits students across a wide spectrum of disciplines (Mace, Belfiore, & Shea, 1989).

This study will be designed to explore undergraduates' perception of motivation with embedded SRL strategies in the instruction in an online course. The questions are described below:

1. Do students improve their intrinsic goal orientation from the instruction embedded SRL strategies than those who only receive regular instruction?

2. Do students improve their perception of task value from the instruction embedded SRL strategies than those only receive regular instruction?

3. Do students improve their self-efficacy for learning and performance from the instruction embedded SRL strategies than those only receive regular instruction?

Sampling

200 freshmen or sophomores from different apartments at Syracuse University will be randomly selected from different online courses and assigned into two groups of learners. 100 individuals in the experimental group receive the experimental treatment, the others in the control group don't. The experimental group will receive a semester-long, 2-hour class for each week, with the guidance of applying self-regulated learning strategies in the instruction.

Measures

The Motivated Strategies for Learning Questionnaire (MSLQ), developed by Pintrich et al. (1991), is a self-report, Likert-type (1 = not true of me, to 7 =very true of me) instrument designed to measure undergraduates' motivational orientations and their use of different learning

strategies. In this study, sub-scales with items designed to assess students' intrinsic goal orientation, students' perception of the task value, and students' self-efficacy beliefs about learning and performance will be used.

Appendix A lists the items in these subscales. Responses to these subscales were provided by participants using a 7-point rating scale.

Procedures

Written consent with all the students and course instructors for conducting this research, the MSLQ will be administered at the beginning of the semester. In the motivation section, there are 31 items that assess students' goals and value beliefs for a course, their beliefs about their skill to succeed in a course, and their anxiety about tests in a course. All the learners will take the same pretest by using the tailored MSLQ.

Students in the control group were instructed by regular instruction, while students in the experimental group were instructed via instruction embedded SRL strategies. In the experimental group, students will learn and apply resource management strategies by using tutorials which would last approximately 15 minutes. The tutorials that contains interactive videos, self-challenge questions, checklists, and extra information about the strategies will be given to the experimental group by their instructors each week. The tutorials will be divided into 4 parts. Time management involves scheduling, planning, and managing study time. Effort regulation includes students' ability to control their effort and attention in the face of distractions and uninteresting tasks. Peer learning will teach students how to cooperate with peers to have a positively effect on learning. Help seeking helps students to identify someone from whom to ask for aid when they meet difficulty.

At mid-semester, students will have a group discussion in the discussion board, and, at the end of the semester, they will create a final report. Learners will be asked to review their own study records and make a comparison table to manage their self-learning process. From a study journal, they will be asked to highlight the strategy they used when studying the course content for each week. In class, students will integrate data from forms and learning journal into one table—study time, reflective summary score from self-challenge questions, and the strategy used for this course. At the end of the semester, the MSLQ will be administered again for all students as posttest. All scores will be saved for data analysis.

Data Analysis

To examine whether effectiveness differed across the control group and the experimental group, an independent-samples t-test will be conducted to answer the research questions about learners' goal orientation, perception of task value, and learners' self-efficacy for learning and performance.

Possible Benefits and Problems

Benefits

Most of the threats to internal validity don't arise because I will randomly assign individuals to the groups. Since I will use the same instrument for the pre- and post-test during the study, I expect to hold the instrumentation threats to a minimum. With specific instruction to help learners apply self-regulated learning strategies, they develop their self-regulation skills to take more responsibility for their own learning and learn with less intervention from the teacher. The results will provide a reference for both instructional designers and instructors who will facilitate students' self-regulated learning.

Problems

This study contains threats to both internal and external validity. Testing is a potential threat to internal validity because both groups will take the same test multiple times. Also, selection, mortality, and diffusion of treatments may compromise the experiment. Since the study lasts for one semester, students in the two groups may communicate with each other and affect the test scores. As for external validity, it's unknown whether the results can be generalized to other populations of learners since this study will be done within one university. Moreover, the population with different characteristics that I study should be more clearly in the future.

Assignment 6 A Cross-Sectional Survey Design

A cross-sectional study can examine current attitudes, beliefs, opinions, or practices (Creswell, 2019). The purpose of the current study is to test the relationships between graduate students' motivation and use of Self-Regulated Learning Strategies in online courses.

Research Problems

A cross-sectional study has been shown to be an efficient research method to investigate current behaviors, attitudes, and perspectives of participants (Gay, Mills, & Airasian, 2009).

The research questions are described below:

1. What SRL learning strategies should be instructed to enhance students' perception of intrinsic goal orientation?
2. What SRL learning strategies should be instructed to enhance students' perception of task value?

3. What SRL learning strategies should be instructed to enhance students' perception of self-efficacy for learning and performance?

Design

A cross-sectional survey design

Participants

In this study, a cross-sectional study with undergraduates who will be enrolled in an online course in Spring 2020 will be conducted. 100 participants will be chosen from School of Education, who will be pursuing a master's degree at Syracuse university in New York State. The students will take asynchronous online courses.

Measures

The Motivated Strategies for Learning Questionnaire (MSLQ; (Paul R. Pintrich, Smith, Garcia, & McKeachie, 1993) will be used to measure students' self-reported learning strategies. MSLQ is a validated self-report instrument to measure students' learning strategies. Thirty items for self-reported learning strategies were used. These items are classified into three subscales: (1) cognitive strategies (i.e., rehearsal, elaboration, organization, and critical thinking, (2) metacognitive strategies; and (3) resource management strategies (e.g., time management, effort regulation, help seeking and peer learning).

A demographic form will be assigned before MSLQ to obtain the information including gender, race, age as well as their learning preferences, the reasons why they take online course, how many other courses have they taken, and how many hours they have spent on this course.

Procedures

Online questionnaire will be used to collect data. The link of the survey administered by SurveyMonkey will be sent through students' email. The data will be analyzed for each category using descriptive statistics. The students will be asked for their anonymous participation in a 25-minute study to test the roles of SRL learning strategies and motivation in their learning. First, students have to complete the electronic consent. Then, with consent, students are required to complete the survey using the link. Lastly, follow-up email will be sent to lead to a high response rate.

Data Analysis

Data analysis (using computer software SPSS 23) aimed at addressing the three research questions that will be completed using the subscale averages. The normality of each subscale of the MSLQ questionnaires will be checked. Descriptive statistics will be then generated for demographics data and questionnaire scores (i.e., means, standard deviations). Path analysis will be used to identify relationships between SRL learning strategies and perception of motivation variables. The hypothesized path model for this study is displayed in Appendix B.

Benefits

This is useful to examine current attitudes, beliefs, opinions, or practices. With this design, researchers can define the correlations between the SRL learning strategies and motivation perception. Besides, it's convenient and cost-effective to collect and analyze extensive data. Additionally, since the data will be collected only once, there will be fewer variables so that researchers will complete the data much better than other designs.

Limitations

Frequently, surveys are not based on probability sampling strategies, so drawing inferences to a general population is difficult. (Creswell, 2019). This survey might not represent an entire population because we only get data from one specific school located in Syracuse University; the findings may not be generalized to a large population. Therefore, a larger sample size is typically required in this survey design compared to others. Also, the design may run into a risk of low response rate, overly negative or positive, security issues, and other technological problems. To prevent this, the approach wave analysis should be implemented.

Assignment 7 Outline of a case study design

A case study is an in-depth exploration of a bounded system (e.g., activity, event, process, or individuals) based on extensive data collection (Creswell & Poth, 2018).

Research Problems

What Self-Regulated Learning strategies do students use to motivate themselves and regulate their own learning?

Design

A case study

Participants

In this study, the sample, 8 freshmen volunteers, would be needed to commit to approximately three hours of interviews during the semester and allow to access online journals and postings, and interview the instructor about their performance. Rights to privacy, confidentiality, and leaving the study at any time were assured. Students will fill out a brief

questionnaire about their technology background and interest in participation. Gender, age, ethnic background, and technology experience will be taken into consideration to achieve a balance.

Measures

Because this study will explore a rich picture of undergraduates' SRL strategies to motivate and regulate themselves in an online course, a naturalistic and descriptive method of inquiry (Lincoln & Guba, 1985), using a small group of students and their instructor as informants. Student interviews, an instructor interview, and the students' reflective journals will be primary data sources. Archived course documents (course syllabus, assignment descriptions, threaded discussions, course bulletin board, and student Web pages) will be secondary data sources.

Procedures

Student interviews. Each of the eight students for approximately one hour twice during the semester (third and seventh week) and once during the two weeks after course completion. Interviews will be conducted on the course assignment completion while students are working to see how they use SRL strategies to motivate themselves and regulate their learning. Students will be asked to describe how they complete assignments for the previous task, what strategies they have used, their challenges, and what supported them. Additionally, they will be asked to describe their thoughts, feelings, and motivations while learning online, and to evaluate their performance in the course. All interviews will be taped and transcribed.

Reflections. Students will be asked to write reflections after their assigned readings each week. The course instructor will assess each journal entry on idea development, evidence of how they accomplish the tasks, and timeliness.

Instructor interview. Before the course submission, the instructor of the course will be interviewed on the observation of 8 students' self-regulation learning strategy use on motivation. 2 hour-long interviews will be tape recorded, transcribed, and used primarily to triangulate analysis of the student interviews and journals.

Data Analysis

The individual case and cross-case analytic techniques (Patton, 1990; Stake, 1995; Yin, 1994) will be used in this study. A search for patterns within the data on each of the students, and then across all students, using a constant comparative method (Glaser & Strauss, 1967). Interviews and journals will be coded, frequencies for strategies used, significant strategy adaptations, motivational beliefs, social supports, and other environmental supports will be discussed in the same coding categories to summarize the interviews and online journals.

Benefits

Case studies allow the researchers to collect a lot of in-depth and multi-sided detail that would not normally be easily obtained through other research designs. The data collected is normally a lot richer and of greater depth than can be found through other experimental designs. Additionally, the researchers can use the collected data to turn opinions from the participants into useful information that can be verified as fact.

Limitations

One of the problems in this study is that the data collected cannot necessarily be generalized to the wider population. This leads to data being collected over longitudinal case studies not always being relevant or particularly useful. Also, conducting the case study is very time-consuming. It takes researchers a long time to develop one case study and analyze detailed data.

References:

A. Bandura (Ed.), *Self-efficacy in changing societies* (pp. 1-45). Cambridge, England:

Ablard, K. E. and Lipschultz, R. E. 1998. Self-regulated learning in high-achieving students: Relations to advanced reasoning, achievement goals, and gender.. *Journal of Educational Psychology*, 90: 94–101.

Alexander, P, & Zimmerman, B. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, 25(1), 82.

Bandura, A. (1995). Exercise of personal and collective efficacy in changing societies. In Cambridge University Press.

Chang, M. (2005). Applying self-regulated learning strategies in a web-based instruction-an investigation of motivation perception. *Computer Assisted Language Learning, 18*(3), 217-230. doi:10.1080/09588220500178939

Chang, M. M. (2005). Applying self-regulated learning strategies in a web-based instruction—an investigation of motivation perception. *Computer Assisted Language Learning*, 18(3), 217-

230.

Chang, M. M., & Wu, Y. M. (2003). EFL learners' self-efficacy and strategies use in a web-based learning environment. *Proceedings of the 2003 International Conference on English Teaching and Learning in the Republic of China, Taiwan*, ROC,117 – 125. Taiwan, Province University.

Cleary, T. J., & Platten, P. (2013). Examining the correspondence between self-regulated learning and academic achievement: A case study analysis. *Education Research International,* 2013, 1-18.

Cohen, L., Manion, L., & Morrison, K. (2000). *Research methods in education* (5th ed.). New York, NY: Routledge.

Corno, L. (1986). The metacognitive control components of self-regulated learning. *Contemporary Educational Psychology,11*, 333-346

Creswell, J. W., & Guetterman, T. C. (2019). *Educational research: planning, conducting, and evaluating quantitative and qualitative research.* New York, NY: Pearson.

Creswell, J. W., & Guetterman, T. C. (2019). *Educational research: planning, conducting, and evaluating quantitative and qualitative research.* New York, NY: Pearson.

De Munck, V. C., & Sobo, E. J., 1963. (1998). *Using methods in the field: A practical introduction and casebook.* Walnut Creek, CA: AltaMira Press.

Dianne L. Conrad (2002) Engagement, Excitement, Anxiety, and Fear: Learners' Experiences of Starting an Online Course, *American Journal of Distance Education*, 16:4, 205-226, DOI: 10.1207/S15389286AJDE1604_2

Duncan, T. G., & McKeachie, W. J. (2005). The making of the motivated strategies for learning questionnaire. *Educational Psychologist*, 40(2), 117-128.

Educational Psychologist, 41(1), 19-31.

Garcia, T., & Pintrich, P. R. (1994). Regulating motivation and cognition in the classroom: The role of self-schemas and self-regulatory strategies. In D. H. Schunk, & B. J. Zimmerman, *Self-regulation of learning and performance: Issues and educational applications*(pp. 127}153). Hillsdale, NJ: Lawrence Erlbaum Associates

Hughes, M. D. (2018). *Examining the role of self-regulated learning instruction on the performance and self-efficacy beliefs of struggling writers*

in self-determination theory: Another look at the quality of academic motivation.

Joo, Y., & Maeng, U. (2018). The effect of self-regulated learning strategy instruction on the reading comprehension of L2 learners. *The Journal of Linguistics Science, 87*, 587-615. doi:10.21296/jls.2018.12.87.587

Kormos,J.,&Csizer,K. (2014). The interaction of motivation, self-regulatory strategies, and autonomous learning behavior in different learner groups. *TESOL Quarterly*, 48(2), 275-299.

Lee, J., & Martin, L. (2017). Investigating students' perceptions of motivating factors of online class discussions. *International Review of Research in Open and Distance Learning*, 18(5), 148-172.

Lincoln, E., & Guba, E. (1985). Naturalistic inquiry. Newbury, CA: Sage.

Marshall, C., & Rossman, G. B. (2006). *Designing qualitative research* (4th ed.). Thousand Oaks, CA: Sage.

McMahon, M., & Oliver, R. (2001). Promoting self-regulated learning in an online environment. Ed-Media 2001 World Conference on *Educational Multimedia, Hypermedia & Telecommunications* (pp. 1299–1305). Charlottesville, VA: Association for the Advancement of Computing in Education (AACE).

Meyers, L. S., Gamst, G., & Guarino, A. J. (2006). *Applied multivariate research: Design and interpretation*. Thousand Oaks, CA: Sage. Miltiadou, M., & Yu, C. H. (2000). Validation of the online technologies self-efficacy scale (OTSES). (Publication No. ED 445 672). Retrieved from http://www.www.creative-wisdom.com/pub/efficacy.pdf

Mezei, G. (2008). Motivation and Self-Regulated Learning: A Case Study of a Pre-Intermediate and an Upper-Intermediate Adult Student. WoPaLP, 2, 79-104.

Paechter, M., Maier, M., & Macher, D. (2010). Students' expectations of, and experiences in e-learning: Their relation to learning achievements and course satisfaction. *Computers & Education*, 54, 222–229. doi:10.1016/j.compedu.2009.08.005

Parsad, B., Lewis, L., & Tice, P. (2008). *Distance education at degree-granting postsecondary institutions*: 2006–07. Washington, DC: National Center for Education Statisitics. Retrieved from http://nces.ed.gov/pubs2009/2009044.pdf

Pérez Cereijo, M. V., Young, J., & Wilhelm, R. W. (2001). Factors Facilitating Student Participation in Asynchronous Web-Based Courses. *Journal of Computing in Teacher Education*, 18(1), 32-39.

Pintrich, P. R. (1995). Understanding self-regulated learning. *New Directions for Teaching and Learning*, 63, 3–12. doi:10.1002/tl.37219956304

Pintrich, P. R. (1999). The role of motivation in promoting and sustaining self-regulated learning. *International journal of educational research*, 31(6), 459-470.

Pintrich, P. R. (1999). The role of motivation in promoting and sustaining self-regulated learning. *International Journal of Educational Research*, 31, 459–470. doi:10.1016/ S0883-0355(99)00015-4

Pintrich, P. R., Smith, D. A., Garcia, T., & McKeachie, W. J. (1993). Reliability and predictive validity of the Motivated Strategies for Learning Questionnaire (MSLQ). *Educational and Psychological Measurement*, .53(3), pp.

Pintrich, P., R., Smith, D., Garcia,T.,& McKeachie, W. (1991). A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ).

Ryan, A., & Pintrich, P. R. (1998). Achievement and social motivational influences on help-seeking in the classroom. In S. Karabenick, *Strategic help seeking: Implications for learning and teaching* (pp. 117-139). Mahwah, NJ: Lawrence Erlbaum Associates.

Sansone, C., Fraughton, T., Zachary, J. L., Butner, J., & Heiner, C. (2011). Self-regulation of motivation when learning online: The importance of who, why and how. *Educational Technology Research and Development, 59*(2), 199-212. doi:10.1007/s11423-011-9193-6

Sansone, C., Rodriguez, W., Nakatani, K., Wynekoop, J., Boggs, R., & Fornaciari, C. J. (2002). Best practices for motivating students in e-courses. AASA (*American Association of School Administrators) Professor*, 25, 36–42.'

Schunk, D. H., & Zimmerman, B. J. (1994). *Self-regulation of learning and performance: Issues and educational applications*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Sletten, S. R. (2017). Investigating flipped learning: Student self-regulated learning, perceptions, and achievement in an introductory biology course. *Journal of Science Education and Technology*, 26(3), 347-358.

Song, L., Singleton, E. S., Hill, J. R., & Koh, M. H. (2004). Improving online learning: Student perceptions of useful and challenging characteristics. *The internet and higher education*, 7(1), 59-70.

States, Districts Require Online Ed for High School Graduation(2012, October 24) Retrieved from https://www.usnews.com/education/blogs/high-school-notes/2012/10/24/states-districts-require-online-ed-for-high-school-graduation

Straumsheim, C. (2016, February 17). *Remaining Residential: Study Suggests Acceptance of Online Education Still Lags Among High School Students.* Inside Higher Education. Retrieved from https://www. insidehighered.com/news/2016/02/17/study-suggests-high-school-students-hold-negative views onlineeducation?utm_content=buffer7c68f&utm_medium=social&utm_source=facebook&utm_campaign=IHEbuffer

Study: More Students Are Enrolling in Online Courses（2018， January 1st）Retrieved from https://www.usnews.com/higher-education/online-education/articles/2018-01-11/study-more-students-are-enrolling-in-online-courses

Vansteenkiste, M., Lens, L., & Deci, E. L. (2006). Intrinsic versus extrinsic goal contents

Wigfield, A., & Eccles, J. S. (1992). The development of achievement task values: A theoretical analysis. *Developmental Review*, 12, 265–310.

Zimmerman, B., & Martinez-Pons, M. (1986). Development of a structured interview for assessing student use of self-regulated learning strategies. *American Educational Research Journal*,23, 614-628

Appendix A

Motivated strategies for Learning Questionnaire (MSLQ)

The Motivated Strategies for Resources Management Strategies Modules

The following questions ask you about how you regulate your time and your study environments. Use the scale to answer the question. If you think the statement is very true of you, circle 7; if a statement is not true at all of you, circle 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you.

		Not at all True of me						Very true of me
1	I usually study in a place where I can concentrate on my course work.	1	2	3	4	5	6	7
2	I make good use of my study time for this course.	1	2	3	4	5	6	7
3	I find it hard to stick to a study schedule. (REVERSED)	1	2	3	4	5	6	7
4	I have a regular place set aside for studying.	1	2	3	4	5	6	7
5	I make sure I keep up with the weekly readings and assignments for this course	1	2	3	4	5	6	7
6	I attend class regularly.	1	2	3	4	5	6	7

7	I often find that I don't spend very much time on this course because of other activities. (REVERSEP)	1 2 3 4 5 6 7
8	I rarely find time to review my notes or readings before an exam. (REVERSED)	1 2 3 4 5 6 7
9	I often feel so lazy or bored when I study for this class that I quit before I finish what I planned to do. (REVERSED)	1 2 3 4 5 6 7
10	I work hard to do well in this class even if I don't like what we are doing.	1 2 3 4 5 6 7
11	When course work is difficult, I give up or only study the easy parts. (REVERSED)	1 2 3 4 5 6 7
12	Even when course materials are dull and uninteresting, I manage to keep working until I finish.	1 2 3 4 5 6 7
13	When studying for this course, I often try to explain the material to a classmate or a friend.	1 2 3 4 5 6 7
14	I try to work with other students from this class to complete the course assignments.	1 2 3 4 5 6 7
15	When studying for this course, I often set aside time to discuss the course material with a group of students from the class.	1 2 3 4 5 6 7
16	Even if I have trouble learning the material in this class, I try to do the work on my own, without help from anyone. (REVERSED)	1 2 3 4 5 6 7
17	I ask the instructor to clarify concepts I don't understand well.	1 2 3 4 5 6 7
18	When I can't understand the material in this course, I ask another student in this class for help.	1 2 3 4 5 6 7
19	I try to identify students in this class whom I can ask for help if necessary.	1 2 3 4 5 6 7

Pintrich, P., R., Smith, D., Garcia,T.,& McKeachie, W. (1991). A manual for the use of the Motivated Strategies for Learning Questionnaire (MSLQ). National Center for Research to Improve Postsecondary Teaching and Learning, Ann Arbor, MI: Office of Educational Research and Improvement(ED), Washington DC

Appendix 2