

EDU 647: Research Article Critique II:
The Effects of Design Strategies for Promoting Students' Self-regulated
Learning Skills on Students' Self-Regulation and Achievements in Online
Learning Environments

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Author Note

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CEPSE Preliminary Exam Questions

A. Theoretical Perspective

1. Critique the author's conceptual framework.

In this study “The Effects of Design Strategies for Promoting Students’ Self-regulated Learning Skills on Students’ Self-Regulation and Achievements in Online Learning Environments” Cho(2004) focused on the main concept Self-Regulated Learning. The author defines the concept as follows: Corno and Mandinach (1983) viewed self-regulated learning as a deliberate planning and monitoring process and emphasized the importance of cognitive and meta-cognitive activities for self-regulated learning. The author well identified the initial definition from the literature.

However, Since the 1980s, researchers have applied the social cognitive learning theory of Bandura (1986) for which personal factors, behaviors, and environmental variables interact reciprocally in human functioning for self-regulated learning. The author should address the concept of self-regulated learning which has been expanded later before his publication. The concept of self-regulated learning has been expanded to consolidate the regulation and control of explicit behavior and learning environment as well as metacognition and motivation (Pintrich 2000). The author should conduct the history of self-regulated learning to have a multi-angle of view to deliberately examine how knowledge and perspectives have changed over time. (Labaree, 2009)

2. Comment on the need for this study and its importance.

The author clearly states in his own voice about the needs for this study and its importance in the abstract, which is not appropriate place to deliver the ideas. The abstract should provide a succinct overview of the research and should include information regarding the purpose of the

study, method, sample size and selection, the main findings and conclusions and recommendations (Conkin Dale, 2005). From the abstract the reader should be able to determine if the study is of interest and whether or not to continue reading (Parahoo, 2006).

The author indicates self-regulated learning skills are critical for students to succeed in learning not only in traditional learning environments, but also in web-based learning environments, especially online learning environment. The citations from the previous research emphasizing the importance of self-regulation learning are included in only one sentence, which is not adequate for the theoretical framework. The reason why the author conducts this study is not completely from principles of theories or prior research but from the inference. The author should conduct the research on the background of prior study and identify the need and the importance in the literature first and then justify what the significance and novelty of his study is. Last but not the least, the author should sufficiently summarize the important results of the related prior references before addressing the research questions.

Additionally, this part should be developed in the body of the article.

3. How effectively does the author tie the study to relevant theory and prior research?

The author did an explicit analysis on what self-regulated learning skills are critical. He especially interprets what cognitive and meta-cognitive activities are identified from the prior research. The author divides the categories of cognitive and meta-cognitive activities into specific activity that each category concludes. The author starts with the definitions of Self-regulated learning strategies and then states the rationale why these strategies are critical in learning. The author indicates the characteristics of high self-regulated learners and the importance of each self-regulated learning strategy but lacks of stating why some of the strategies are chosen for this study.

What is unclear to me is, has any prior research done on the application of the self-regulated learning strategies? What are the findings that would be helpful to conduct this study? Some amendments should be done to build a strong association between the prior research and current study.

4. Evaluate the clarity and appropriateness of the research questions or hypotheses.

This study proposes two clear and concise research “questions”: “Students studying in learning environments, which are designed to forcefully encourage the practice of SRL skills, will show a higher self-regulation than others studying in normal learning environments, which don’t support SRL activities.” and “Students studying in learning environments, which are designed to forcefully encourage the practice of SRL skills, will show a higher achievement than others studying in normal learning environments, which don’t support SRL activities.” These “questions” are based on the prior theoretical framework. They align well with the research orientation and theoretical background. They identify the research objectives and the key abstract concepts involved in the research. They reflect the relationship between both problem statements and the literature review.

However, they don’t look like questions to me. Research questions should be written as the form of questions. The author is trying to use hypotheses to look into the effectiveness of applying some self-regulated learning strategies in online environments. The researcher has differentiated the two terminologies. “Hypothesis is a formal statement that presents the expected relationship between an independent and dependent variable.” (Creswell, 1994) whereas “A research question is essentially a hypothesis asked in the form of a question.”

From the abstract, the author states this study is a true experimental design. Therefore, the statements should be formulated to satisfy the criteria for experimental hypotheses.

B. Research Design and Analysis (about 4 pages)

5. Critique the appropriateness and adequacy of the study's design in relation to the research questions or hypotheses.

The author uses the true experimental design for this study. Experimental designs are especially useful in addressing evaluation questions about the effectiveness and impact of programs. This is a bold design for this study to find the evidence to evaluate the effectiveness because the author's key concern is the self-regulated learning strategies' impact on the freshmen's self-regulation and achievements.

Emphasizing the use of comparative data as context for interpreting findings, experimental designs increase our confidence that observed outcomes are the result of a given program or innovation instead of a function of extraneous variables or events (Gribbons&Herman,1997). As for this study, the author's intent is to investigate the effects of design strategies for promoting students' self-regulated learning skills on students' self-regulation and achievements. Hence, it's appropriate to use the experimental design. The author includes two randomly assigned groups, which are the experimental group and the control group, common measured outcome(s), and specific tailored assignment. However, in this design, the individual background variables, for instance, gender, sex, educational background don't satisfy this requirement because in this design these variables can't be manipulated.

In this study, the author uses two online learning sites for both control and experimental groups with the use of the book, *"To Be A Master In TWE"* (Min, 2002).The author intends to

limit the study in a specific settings to control the variables, which might influence the findings from the study.

Additionally, the author employs semi-structured interviews as another powerful measurement. Drawing conclusions from these measurements to answer research questions can increase the reliability and credibility of results.

6. Critique the adequacy of the study's sampling methods (e.g., choice of participants) and their implications for generalizability.

This study chooses thirty students in a Korean university volunteered for this research for a month. According to the numbers of participants, the limitation to the generalizability is obvious. Most of the students were freshmen. The study's sampling methods are not significant because the author chooses the convenience volunteer group from the same university. This specific group can't be generalized to a broader generalizability. The degree to which a sample reflects the population it's drawn from is known as representativeness and in quantitative research this is a decisive factor in determining the adequacy of a study (Polit and Beck, 2006). In order to select a sample that is likely to be representative and thus identify findings that are probably generalizable to the target population a probability sample should be used (Parahoo, 2006). Thus, the author should consider enlarging the samplings.

Moreover, what criteria are used to include participants is not involved in this study.

7. Critique the adequacy of the study's procedures and materials (e.g., interventions, interview protocols, data collection procedures).

The study uses adequate data collection procedures that cover the research questions. The author conducts this study in one month. There is a pre and posttest in this study. Students' self-regulated learning skills and essay levels were measured before and after the treatment. Before the

study, the author didn't collect the necessary demographics information from the participants, which should be the fundamental part of the independent variables such as age, race, prior experience in self-regulated learning strategies, program focus, and employment status, etc. This step is essential when we conduct research because it helps us better understand certain background characteristics of participants.

The author chooses to use a previously designed instrument, which is clearly declared for me. In this study, the author uses a widely organized instrument (Regulated Learning Strategies Questionnaire developed by Yang (2000)) to measure students' SRL level. The SRL questionnaire in this study consists of cognitive, meta-cognitive, motivational and behavior strategies. The number of item is 84. It uses a self-reported five-Likert scale.

An essay topic randomly chosen from the ETS TWE topics is used to measure students' prior knowledge and achievements. These were measured by providing students a topic and letting them write an essay about the topic. The criteria used in ETS were also used in rating students' prior knowledge and achievements. ETS uses 0 – 6 scale points to evaluate students' essay where 6 is the best score.

In the end, the author uses interviews to identify the reasons why the treatment for the experimental group was not effective. The author should clarify whether the interviews, pre- and post-tests are online forms or face-to-face forms and how long students will spend on the interviews and tests. Although online forms have advantages of convenience, avoiding interviewers' impact, and keeping costs down, face-to-face forms may be the better route for collecting more quality data.

8. Critique the appropriateness and quality (e.g., reliability, validity) of the measures used.

The author uses Regulated Learning Strategies Questionnaire developed by Yang (2000) to evaluate the effectiveness of students' SRL level. A RLSQ questionnaire adapted by Yang and Park (2000) was from the original version of Zimmerman and Martinez-Pons (1986), and Pintrich and De Groot (1990) . It was used to measure the use of students' SRLS before and after the online learning. The 84-item self-report questionnaires measured the participants' SRL level. The reliability of the questionnaire was reported as, the adequacy of the self-regulated learning questionnaire employed in this study should be considered because it was adapted to measure the use of students' SRL level in online courses. If the instrument has been adapted in any way or is being used for a new population then previous validity and reliability will not apply (Beck , et al., 1990).

In addition, the natural effect of participants at extreme ends of a measure falling in a certain direction, the results of the findings may be influenced by the participants. To ensure the high quality of measure, a pilot study should be planned ahead of time. Before the author conducts this study, address the necessary changes in the measurement would be appropriate for this study. As for the external threats, we should consider the participants, who volunteer to be investigated in this study. The effect of the treatment will be influenced and limited to generalizability.

9. Critique the adequacy of the study's data analyses. For example: Have important statistical assumptions been met? Are the analyses appropriate for the study's design? Are the analyses appropriate for the data collected?

In this study the author uses t-test to test the four variables and analyzes statistical data, which is well demonstrated. The author used a table, which is a good way to enhance the clarification to compare the SRL level between the experimental and control group. Pre-test results showed that there is no significant difference in SRL between two groups. Also, there was no

significant difference in TWE level between two groups. Meanwhile, SRL Post-test indicated that there was no significant difference between groups. Also, there was no significant difference in SRL strategies between groups. This means that the treatment having students practice SRL skill was not effective.

As for the drawback, the author should analyze multiple comparison to get accurate results. For instance, the participants' age, race, prior experience in self-regulated learning strategies, program focus, and employment status, etc. may have an impact on the findings.

C. Interpretation and Implications of Results (about 3 pages)

10. Critique the author's discussion of the methodological and/or conceptual limitations of the results.

Methodological or conceptual limitations of the results are not found in this study. The author reflects back to the design and draws conclusions based on the weaknesses. This study's conceptual framework is limited because the author only identifies most of the concepts being studied but not on all the concepts in this study. In addition, the relationship between those concepts is not well identified. Self-regulated learning strategies are far more organized and complex based on the prior research.

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).

11. How consistent and comprehensive are the author's conclusions with the reported results?

A very concise and clear result of the research is presented in this study. All t-tests findings were reported and assessed in terms of significance. The explanations that the authors provide are detailed and do not go beyond reasonable conclusions that the statistical tests allow. The conclusions for each of the independent variables, including cognitive, meta-cognitive, motivational and behavioral are not explained in this study. The author only makes a conclusion that SRL Post-test indicated that there was no significant difference between groups. Also, there was no significant different in SRL strategies between groups. Experimental group's sum of SRL scores (276.85) were slightly higher than those of control group (274.07). However, it was not significantly different. This means that the treatment having students practice SRL skill was not effective.

12. How well did the author relate the results to the study's theoretical base?

The results in this study answer the two questions the author proposes in the beginning clearly but not precisely. In the results, students are compared and measured based on the self-regulated learning skills and essay levels. However, the author doesn't clarify the relationship between the concept "a higher achievement" in the second question and the concept "students' performances" in the results. These are different concepts and the author should clarify this and align the concepts well in this study. Moreover, the results from the semi-structured interviews are more about students' attitude towards practicing SRL skills, not the relationship between the practice of SRL skills and higher self-regulation. These make major threats to the validity and

reliability of this study. Overall, the results from the author don't align well with conceptual framework that the authors utilize in the study and is explained within this conceptual framework.

13. In your view, what is the significance of the study, and what are its primary implications for theory, future research, and practice?

The significance of this study is investigating the design strategies for promoting SRL skills on students' SRL skills and performance will help instructional designers, instructors and other practitioners to think about how to design instructional practices or training on students' SRL skills in online learning environments.

The avenues for future studies, which the author should indicate can't be found in this study.

This study cannot significantly affect future prospects in self-regulation learning theories. However, it may prompt practitioners to think about applications of the theories into students' learning process.

The researcher should make relevant and meaningful suggestions for future research in the area (Connell Meehan, 1999). In this study, the author identifies the reasons why the treatment was not effective by using semi-structured design. The author should also suggest and direct the future research, depending on the nature and purpose of the study. The three things the author mentioned in the study are good suggestions to consider when designing SRL practice and training SRL skills in online learning environments.

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