COLLEGE STUDENTS’ APPROACHES TO SELF-REGULATION AND LEARNING: AN INTEGRATIVE MODEL

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ABSTRACT

In this study, the college students’ approaches to self-regulation and how they view their learning were surveyed. Analysis of the self-regulation processes college students utilize in understanding a subject matter and examining its relevance with their field of study was used in coming up with an integrative model of self-regulation. Specifically, this study aimed to, first; analyze the self-regulation processes college students use; draw out relevant themes on self-regulation from students’ journal entries; and establish a model of self-regulation. The findings revealed that college students learn more when they utilize their experiences in the classroom. They saw their classmates and teachers significantly contributing to the learning process, particularly to self-regulated learning. The students identified their teachers’ approaches in the delivery of the lessons to be useful in learning more about the topic while reading books and other related materials contributed to what they learned from the discussions. The learning brought about by the discussions of their teachers consequently elicited emotional appreciation on the topic. The themes generated from the journal entries were used in developing a model to understanding students’ self-regulation.

Keywords: self-regulation, college students, forethought, performance, motivation

Introduction

College is widely regarded as a place where inquiring students comprehend and challenge complex ideas. Consequently, in college, students are encouraged to make sense out of information, theories, experiences, and opinions that confront them inside and outside the classroom. In addition they are likewise expected to assimilate new information and possibly make their prior learning congruent with their new learning experiences. In the learning process, the students should be focused on the context and importance of the information being given so that they can integrate these to actualize the competencies needed for their fields of specialization. However, with all the possible distractions and changes they are confronted with, they may not fully optimize what they should be learning in terms of skills and mastery of the field. Furthermore with all the available information, they may not appropriately select what is relevant to become effective students. There is a need, therefore, to collaborate and engineer their learning experiences so that they may fully make use of what college has to offer specifically in terms of maximizing their cognition.

Over the past years, metacognition and metacognitive and cognitive strategies has been a subject of considerable research (Baharom, 2003; Schloemer and Brenan, 2006). Findings of these studies (Zimmerman, 1998; Cao and Nietfeld, 2007) yielded
imperative pieces of information regarding how psychologists view effective learning and its essential components, one of which is self-regulation. Effective learning requires students to self-regulate their cognition, motivation and behavior. Pintrich (in Montalvo, 2004) describes self-regulation as the “active, goal-directed self-control of behavior, motivation, and cognition for academic tasks by an individual student.” Self-regulation involves self-generated thoughts, feelings, and actions that are planned and systematically adapted as needed to affect one’s beliefs and motives (Ruohotie, 2000). In addition, Kayashima and Inaba (2005) discussed that self-regulation skills include monitoring one’s thinking process, recognizing where he/she is in his/her plans, evaluating it with his/her goals, and adjusting his/her cognitive activity. Students who are considered skillful at academic self-regulation understand their strengths and weaknesses as learners as well as the demands of the specific tasks. They approach learning with an assortment of strategies they might apply to achieve their goals and an understanding when and how to implement their plan. In this day and age of distractions in the form of various technologies, students may have not learned to self-regulate their academic studying very well. Self-regulation researchers have sought to understand students to provide help in developing key processes they lack such as goal setting, time management, learning strategies, self-evaluation, self-attributions, seeking help or information, and important motivational beliefs such as self-efficacy and intrinsic task interest.

As an element of metacognition, self-regulation does not only emphasize knowledge aspects and deductive reasoning such as selecting cognitive strategies. Self-regulation also depends on self-beliefs and affective reactions, such as doubts and fears, related to specific performance contexts (Zimmerman as cited by Montalvo, 2004) or decision-making with regard moral issues and concerns.

Pintrich (in Montalvo, 2004) proposed a theoretical framework based on sociocognitive perspective; its objective is to classify and analyze the different processes which play a part in self-regulated learning. In this model, regulatory processes are organized according to four phases: a) planning; b) self-monitoring; c) control; and d) evaluation. Within each of these phases, self-regulation activities are in turn structured into four areas: cognitive, motivational/affective, behavioral and contextual (Montalvo, 2004; Ruohotie, 2000; Paris, 2002).

For Pintrich, these four areas represent a general sequence which the student steps through as he or she carries out the task, but they are not hierarchically or linearly structured (Montalvo, 2004; Paris, 2002). The phases can occur simultaneously and dynamically (Ruohotie, 2000), producing multiple interactions among the different processed and components included therein. Furthermore, Pintrich indicates that not all academic task explicitly involve self-regulation: sometimes, the performance of certain tasks does not require the student to strategically plan, control and evaluate what he or she is going to do; rather, the execution can be performed more or less automatically (or implicitly), as function of the student's prior experience with the same.

For Zimmerman, self-regulation is a process through which feedback from prior performance directs new efforts (Ruohotie, 2000). Because personal, behavioral and environmental factors are constantly changing, an individual has to monitor these
changes continuously in order to know whether any changes are required. Zimmerman (as cited by Ruohotie 2000) described the interrelationship between monitoring one’s inner state, behaviors and environment. Regulation of personal factors, which is referred to as covert regulation, involves monitoring and adjusting cognitive and affective states, such as the use of imagery for retrieving information or relaxing. In cases involving a moral problem, a person envisions the resolution to the crisis by putting things considering the problem and what it entails (cognitive state) and processing his or her feelings about the problem and the solution he or she wishes to apply (affective state). Behavioral regulation comprises self-observation and applicable performance process, such as learning methods. Environmental self-regulation refers to the observation and adjustment of environmental conditions and outcomes.

Self-regulated learning can be described as a cyclical, three-phase process (Montalvo, 2004). The phases in this learning cycle are forethought, performance or volitional control, and self-reflection. Forethought precedes learning. The determinants of forethought are goal-setting, strategic planning and personal beliefs (self-efficacy, goal orientation and intrinsic interest). They reinforce commitment to act and prepare the learner for the actual efforts required by learning. Performance or volitional control guides the learning process and regulates concentration and learning performance. Self-reflection refers to looking back on the learning experience; that is, giving meaning to the learning experience (Montalvo, 2004). The cycle continues throughout the course of learning. Some traditional views of reflection describe it in a way that is passive, contrived, after the fact, time-consuming, narrow and context independent. Others, however, such as Seibert (as cited by Ruohotie, 2000), describe reflection as an active mental process of conscious involvement with experience that requires deliberately bringing one’s thinking to the level of conscious awareness. Therefore, it is a matter of understanding learning experiences not only on the level of action but also on the level of conscious thinking. Thus, reflection becomes a natural adaptive response on turbulent learning conditions. In rapidly changing conditions, the right moment for reflection is not retrospectively after the learning experience; instead, reflection has to take place during an experience so that it can have an impact on the experience.

Each phase of the learning cycle can be further subdivided into components/factors. Learning depends on the learner’s ability to manage these different aspects of self-regulation. Forethought, for example, can be described in terms of goal setting, strategic planning and self-efficacy beliefs. Goal setting refers to specific learning outcome decisions. On the other hand, strategic planning refers to the selection of those learning strategies and methods with which the learner tries to attain a desired goal. A number of personal beliefs such as the learner’s self-efficacy, outcome expectations and goal orientation, as well as intrinsic interest in the subject or skill to be learned affect goal setting and strategic planning. Performance control strategies help the learner to focus on the given task and to optimize performance. By focusing and concentrating his/her attention, the learner is protected from different distractions and competing interest.

Self-reflection begins with self-evaluation, which is the process whereby an individual compares information attained through self-monitoring to extrinsic standards or goals. He/she wants to have fast and accurate feedback on his/her performance as compared to others. Self-evaluation leads to attribution interpretations; the learner interprets the reasons for success or failure. Attribution interpretations can lead to positive self-
reactions. The learner might interpret the failure of a moral decision as the result of too little effort and then increase his/her efforts, but if he/she interprets the reason for failure as being a lack of ability, the reaction is liable to be negative. Attribution interpretations reveal the possible reasons for learning mistakes and help the learner to find those learning strategies which best suit the given situation. They also develop/promote the adaptation process. Self-regulated learners are more adaptive. They evaluate their performance appropriately. Positive reactions (e.g., self-satisfaction) reinforce positive interpretations of oneself as a learner and intrinsic interest in the task.

Finally, Zimmerman (as cited in Montalvo, 2004), discussed that the reflection or evaluation phase includes judgments and evaluation that the student makes regarding his task execution, comparing it to previously established criteria (his or her own, or the teacher's); attributions made regarding the causes of successes or failures; affective reactions experienced due to the results, as a consequence of attributions made; choice of behavior to be followed in the future, as well as general assessments about the task and the class environment.

**Purpose**
The purpose of this research is to analyze the self-regulation processes college students utilize in understanding a subject matter and examining its relevance with their field of study. Specifically, this study aimed to, first; identify the self-regulation processes used by students, and second to propose a model for self-regulation among college students.

**Methods**
The study will make use of qualitative research focusing on content analysis. Berelson (in Baker, 1999) stressed that content analysis is a “technique for the objective, systematic, and quantitative description of the manifest content of communication.” A characteristic of this method in analyzing data is studying the presence or absence of an attribute thus allowing contingency analysis or documents being categorized in their totality by major themes. The data generated from this study will be analyzed based on the characteristics and distinct features of the participants’ responses using reflective journals and questionnaires concentrating on the observations and sharing of meanings. These meanings were examined in relation to the components of self-regulation in the integrated frameworks of Zimmerman, Pintrich and Ruohotie.

**Sample and sampling technique**

Two (2) classes taking General Psychology during the 2nd semester of school year 2010 - 2011 were chosen as participants of this study. Each class had 30 - 35 students. The bases for the selection will be the completed reflective journals, assignments, and if the students were able to answer the questionnaire that was administered by the researcher. The respondents came from a private institution.

**Data Generation**
The student filled out a reflective journal after each topic. There were seven topics covered by the reflective journals. Their inputs were used in identifying the self-
regulation behavior of these students. During the first meeting, the students were oriented as to the purpose of journals. They were also told that they can write their observations of their behaviors while learning the topic as well as how they plan to use what they learned. Completed journals were submitted before the start of a new topic. The students were particularly told that journals would not have any bearing with the grades that they will receive for the subject and the main purpose is to help the teacher in the effective delivery of the lessons. They were also reminded that the journals will not serve as an alternative evaluation tool on the performance of the teacher. In addition, the students were assured of the confidentiality of their journals and that in the analysis of the journals, their identities will not be disclosed. Furthermore, they were given the option to express themselves in Filipino or English. Figure 2 illustrates the reflective journal used in this study.

![Prototype of the reflective journal](image)

At the start of the semester, a questionnaire was given to the students to fill out. The questionnaire looked into the goals of the students for the semester specifically for the course. The purpose of the questionnaire was to gauge the students’ view of his/her coursework and how he/she planned to study and comply with the requirements. Five questions were answered ranging from the student's goals in the subjects he/she takes; contributions to the courses; and plans to achieve these goals. The figure below presents the questions asked:

![Sample questions of the questionnaire](image)

1. What goals do you set for yourself in terms of:
   a. the courses you take
   b. your contribution (performance) in the courses you take
2. What plans do you have or set for yourself to achieve these goals?
3. How do you keep yourself focused to achieve these goals?
4. How do you think do your previous experiences in school help you in achieving these goals?
5. How can I use it?

The data generated from the reflective journals and questionnaires will be organized and explored using the within case and cross-case analyses to examine the themes and coherence of the respondents’ answers with reference to meaningfulness and saliency.
of the statements. Three college teachers teaching Psychology in a private institution (2) and a state university (1) were requested to examine the responses and group them according to the predetermined themes as suggested by the literature review.

Prior to grouping them according to the predetermined themes, each journal was analyzed by the generating themes from the actual responses. These generated themes were compared with the existing literature on self-regulation. The teachers (2 assistant professors and 1 instructor) at the time of the study were handling research, content area and field work courses in Psychology. Particularly, responses to the reflective journals and questionnaires were categorized based on phase process of self-regulation using the behavioral indicators as its guide. Frequency was first used through counting the frequently used words by the students to describe their experiences. The qualitative analyses on the data were applied by categorizing the responses using the integrated frameworks after which, the sorted data were presented to the teachers in an analysis session and, together with the researcher, came up with an agreed set of classified responses.

Fifty-five (55) students completed the reflective journals in the seven (7) topics covered by the General Psychology classes. First, they were given the questionnaires to fill-out to approximate their goals for the semester specifically for the subject. After the filling out of the questionnaires, the reflective journals were introduced and the purpose was explained. The 55 students answered the journals and submitted them to their teacher at the start of a new topic.

The responses were analyzed using the models of self-regulation and the recurring themes were listed and discussed by the three teachers.

**How College Students Learn**

*Finding Meaning*

Looking into the responses of students on their journal college students learned by utilizing their experiences in the classroom, this is done by analyzing what their teachers provide them and drawing out meaning from the materials. The meanings are equated with how they were able to apply the concepts to their everyday lives. Their learning experiences in the classroom tend to elicit behaviors that motivate them to perform other related behaviors that would provide better understanding to those experiences such as looking forward to other discussions, and appreciating the material taught. The sample responses of the students were:

- *I enjoyed the sessions and I look forward to our other discussions.* *(Male, 17)*
- *The discussions made me better understand and appreciate General Psychology.* *(Male, 16)*
- *My teacher motivated me to learn more about the topics that we will discuss.* *(Female, 16)*
- *I consider our discussions to be okay. I like this subject.* *(Female, 18)*
- *Our professor was able to discuss it well so it became easy for me to understand the very complex functions of the nervous and endocrine systems.* *(Female, 16)*
One salient characteristic found in the students’ journals revolved around how their teacher served as catalyst for them to be able to understand and appreciate the lessons. Responses with words such as discussing it well and answering our questions clearly were observed among the respondents. Given this information,

Across the seven topics presented to them, it appeared that their classmates and teachers significantly contributed to the learning process, particularly to self-regulated learning. They also acknowledged their efforts in further understanding and contributing to the classroom discussions. The sample responses were:

\[
\text{I learned the topic through reading books in Psychology and participating in the discussion.}
\]
\[
\text{It was not a boring discussion because I was able to participate. We also took down notes.}
\]
\[
\text{My classmates gave me ideas as to how they felt about the topic. I was able to share too.}
\]

Students identified their teachers’ approaches in the delivery of the lessons to be useful in learning more about the topic while reading books and other related materials contributed to what they learned from the discussions. This behavior describes the helpseeking component of the performance phase of Zimmerman’s model. Zimmerman (1998) identified that to recognize others’ significant contribution in one’s own learning is a manifestation of self-regulated behavior. He further pointed out that help seeking differs from social dependence by its selective focus and limited duration, and there is considerable evidence that students who are not self-regulated tend to avoid asking for assistance because of concern about adverse social consequences of such requests. In the case of the five students, they consistently made use of help-seeking as a learning strategy throughout the semester. This finding is consistent with the research results of Cao and Nietfield (2007) that students, despite of having awareness on the extent of difficulties of their learning experiences, do not prompt strategy shifting. This may account to students’ perceptions that teachers are facilitators of knowledge and that they can rely on the teachers’ instructional preparation in delivering the lessons. Ng et.al. (2005) identified in their study that teachers’ extent of interaction with the students may become a venue for students to become self-regulated. As students identified the effort of their teacher to prepare their lessons, they were motivated to strive harder and perform well in the succeeding discussions.

The learning brought about by the discussions of their teachers consequently elicited emotional appreciation on the topic. Having acquired new knowledge, they were able to view the lessons as meaningful or important to their lives. Specifically, they reported that the new pieces of information will be used when they become parents, and professionals. The sample responses were:

\[
\text{I need to study Psychology to become an effective teacher in the future.}
\]
\[
\text{I can use the knowledge to take care and balance my systems, my body and emotions.}
\]
\[
\text{I can use these ideas and learning when I am already a teacher. I can better understand the reasons why children and students act that way.}
\]
I can also use it when I get married someday and eventually have a baby.

They also understood the immediate application of their learning experiences by relating them with the courses they are currently enrolled in or in the future courses they will be enrolled. These behaviors characterize the self-reaction, specifically the self-satisfaction and adaptive, respectively, in the self-reflection phase of self-regulation model.

What I learn in this subject, I can use in my Biology subject also.
I can say that I know more now in the field of Psychology that can help me understand more about this subject.

In relation to the forethought phase responses were observed to be inclined to self-efficacy beliefs, outcome expectations and intrinsic interest or value. In the case of the five students.

The figure below presenting the cyclical model of self-regulated learning was adapted from Zimmerman’s model (1998) the process continues in the determination of appropriate approaches students perceive to be effective in learning. These concepts are imperative in describing the process of self-regulation among college students in the form of a model.

Figure 1: Conceptual Paradigm of the Study
References


