

# Guiding College Students To Develop Academic Self-Regulatory Skills

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## ABSTRACT

*This study aimed to explore the efficaciousness of a guiding model for Taiwanese college students employed to develop their academic self-regulatory skills. Twenty-eight undergraduates in a university in southern Taiwan were recruited as participants. The participants received training on the proposed guiding model and were asked to take their own academic self-regulatory actions, after which they submitted their action reports and subsequently partook in an individual interview. Content analyses of the action reports and interviews showed that the students were able to follow the steps of the model to guide their self-regulatory actions in various learning situations. Most of the students benefited more or less from their self-regulatory actions. Meanwhile, the students provided their opinions about the improvements derived from the guiding model and its training. Based upon the results, suggestions were provided for model revision and training.*

**Keywords:** Self-Regulatory Skills; Self-Regulation; Academic Learning

## INTRODUCTION

Previous studies have shown that students who had high self regulatory skills could achieve their academic goals and perform better than others (Pintrich & DeGroot, 1990; Zimmerman & Martinez-Pons, 1986; Zimmerman, 2000). Self-regulatory skills are the major determinants differentiating effective from less effective learners (Zimmerman & Risemberg, 1997); they are viewed as vital, not only to guide one's learning during schooling, but also to educate oneself and update one's knowledge after leaving school (Boekaerts, 1997).

In recent years, Taiwan's colleges acknowledged the importance of high quality learning and explored ways to foster students' learning. Chen (2004) found that many Taiwanese college students were not well-equipped with academic self-regulatory skills. They underachieved and left learning problems unsolved. There was a need to help Taiwanese college students to develop academic self-regulatory skills.

In order to intervene in the development of college students' self-regulatory skills, a guiding model was essential. This study aimed to explore the self-regulation guiding model for Taiwanese college students; the researcher reviewed the literature of academic self-regulation and proposed a guiding model. To realize the model's applicability, college students were trained to apply the model and its effects and problems were explored.

## LITERATURE REVIEW

Self-regulation is one's capacity to modulate one's behavior according to internal and external changing circumstances. It involves the self-implementation of specific operations, such as planning, executing and monitoring (Lemos, 1999). Self-regulation theorists view academic learning as an open-ended process that requires cyclical activity on the part of the learner (Zimmerman, 1998, 2000; Zimmerman, Bonner & Kovach, 1996).

Zimmerman, Bonner & Kovach (1996) propose a self-regulatory learning cycle which involves four interrelated processes. The first process is self-evaluation and monitoring, which occurs when students judge their personal effectiveness, often from observations and recordings of prior performances and outcomes. The second

process is goal setting and strategic planning, which occurs when students analyze the learning task, set specific learning goals and plans, or refine their strategy to attain the goal. The third process is strategy implementation and monitoring, which occurs when students try to execute a strategy in structured contexts and to monitor their accuracy in its implementation. The fourth process is strategic outcome monitoring, which occurs when students focus their attention on links between learning outcomes and strategic processes in order to determine its effectiveness.

Zimmerman (1998) proposes another academic self-regulatory cycle, in which self-regulatory processes and accompanying beliefs fall into three phases: forethought, performance or volitional control, and self-reflection. The forethought phase refers to influential processes and beliefs that precede efforts to act and sets the stage for such learning. The performance or volitional control phase involves processes that occur during learning efforts and which affect attention and performance. The self-reflection phase involves processes that occur after performance efforts and influence a learner's reactions to that experience. These self-reflections, in turn, influence forethought regarding subsequent learning efforts, thus completing the self-regulatory cycle.

Self-regulation may be viewed as a sequence of actions and/or steering processes intended to attain a personal goal (Maes & Gebhardt, 2000). Weinstein, Husman & Dierking (2000) indicate that the systematic approach to academic self-regulatory skills involves eight steps: 1. Setting a goal, 2. Reflecting on the task and one's personal resources, 3. Developing a plan, 4. Selecting potential strategies, 5. Implementing strategies, 6. Monitoring and formatively evaluating these strategies and one's progress, 7. Modifying the strategies if necessary, and 8. Summatively evaluating the outcomes to decide if this is a useful approach for future similar tasks or if it needs to be modified or discarded for future use.

Using the self-regulatory cycle of Zimmerman, Bonner & Kovach (1996) as their framework, Dembo & Seli (2004) conducted a self-management study assignment to help students to develop self-regulatory skills. In their study, four processes were applied, as follows:

1. Self-observation and evaluation: As students became aware and assess their previous and current academic behavior, they identified, observed and evaluated an academic problem by using a variety of formal and informal diagnostic instruments.
2. Goal setting and strategic planning: It begins with the students determining their intermediate and long-term goals. They should plan on using specific strategies to deal with their problem areas. It is important at this stage that students determine specific documentation methods to keep track of their strategy use.
3. Strategy implementation and monitoring: It occurs as students try to execute a strategy and monitor its effectiveness. Students attempted to answer the question: Am I reaching my goals through the strategies I created? The students were required to use documentation to support the answer to this question.
4. Strategic outcome monitoring: Students must look at their performance and answer the following questions: Did I attain each of the goals I set for myself? How do I know? The students needed to review every document, chart, journal, tally sheet, and/or checklist they used throughout the self-study and describe what each piece of evidence told them about how successful they were at reducing their problem. The students also needed to assess their academic performance and determine which strategies were the most and least effective in helping them to reduce their problem.

Synthesizing the process and steps depicted in the above studies, the researcher proposed a guiding model for academic self-regulation, as indicated in Table 1. It consists of four stages with their own goals and methods. By following the methods, students could guide themselves to solve their academic problem.

Table 1: Guiding Model for Academic Self-regulation

Stages	Methods
Stage One: <i>Problem Diagnosis</i>	Step 1: Identify a problem on learning <ul style="list-style-type: none"> <li>• Identify a subject-focused problem: to choose a subject that you feel is difficult or want to make some changes in the subject, or</li> <li>• Identify a general problem: to choose a problem that is not subject-focused but has been bothering you for a long time</li> </ul>
Goal: To target a learning problem and diagnose it	Steps 2: Observe yourself in regard to handling the problem <ul style="list-style-type: none"> <li>• Record your observations in the diary, or</li> <li>• Design some tables or other forms for recording and record it</li> </ul>
	Step 3: Diagnose your problem <ul style="list-style-type: none"> <li>• Specify your problem in detail, and</li> <li>• Specify your resources for solving this problem</li> </ul>
Stage Two: <i>Goal setting and strategic planning</i>	Step 1: Set your goals <ul style="list-style-type: none"> <li>• Goals should be specific and attainable, and</li> <li>• Arrange your goals into short-term, mid-term, and long-term goals if needed</li> </ul>
Goal: To set learning goals and choose appropriate strategies	Step 2: Choose available strategies <ul style="list-style-type: none"> <li>• Selecting those effective strategies you already know but have never tried, or</li> <li>• Observing others' effective strategies, or</li> <li>• Counseling from others, or</li> <li>• Searching effective strategies from books, Internet or other resources</li> </ul>
	Step 3: Develop an action plan <ul style="list-style-type: none"> <li>• Write down your goals and strategies, and</li> <li>• Schedule your strategy implementation, and</li> <li>• Set regular self-assessment intervals</li> </ul>
Stage Three: <i>Strategy implementation and monitoring</i>	Step 1: Implement the strategies <ul style="list-style-type: none"> <li>• Execute the strategies you have planned</li> </ul>
Goal: To implement the strategies and monitor them	Step 2: Monitor the strategies and make formative assessments of them <ul style="list-style-type: none"> <li>• Design your monitoring forms if needed, and</li> <li>• Record on the monitoring forms or keep a diary, including your thoughts and feelings about implementation, and</li> <li>• Assess your implementation regularly, and</li> <li>• If necessary, fine-tune your strategies</li> </ul>
Stage Four: <i>Evaluation of Strategy Implementation</i>	Step 1: Examine the improvement in performance <ul style="list-style-type: none"> <li>• Compare the goal performance and what you have achieved to see its improvement, and</li> <li>• Decide if the relationship between the improvement and strategy implementation was worthwhile</li> </ul>
Goal: To assess the effects of strategy implementation	Step 2: Revise the plan for the next cycle if needed <ul style="list-style-type: none"> <li>• Identify the problems (or difficulties) in action and search for the solutions, and</li> <li>• Revise the plan to make it more effective</li> </ul>

## METHOD

### Participants

The participants were twenty-eight undergraduates enrolled in a selective course: "Learning Strategy" in a university of southern Taiwan.

### Procedure

The training of the guiding model was designed as a part of the course. To introduce the model, the instructor showed it in slides and interpreted every step with examples. After introducing the model, two concrete examples on how to use the model to guide self-regulatory action were provided and discussed in class.

When the model demonstration was over, the instructor asked all of the participants to develop their own action plan during the following two weeks by using the steps depicted in Stages 1 and 2 of the model. During the

development of the plan, the instructor provided students with individual consultation if they had difficulties in making the plan.

After submitting the written plans, participants began to implement their planned strategies and evaluate them during the following six weeks by using the steps depicted in Stages 3 and 4. After that, they submitted their action reports as term papers for the course. The action reports were written in accordance with the stages of the guiding model, with a review of the whole process at the end of the report.

Subsequently, participants received a semi-structured interview individually. There were three questions: (1) Have you ever worked on a similar action before? If “yes”, please describe it. (2) What was the hardest part when you proceeded with this action? How did you overcome this part? (3) According to your self-regulatory experiences, including this experience and the experiences before, what do you suggest for the improvement of the guiding model and its training? The interviews were tape-recorded for transcription.

### **Data Analysis**

Students’ action reports and interview responses were collected and content-analyzed. Data analysis was used to combine the data from both resources.

### **RESULTS**

Participants applied the guiding model to improve their learning in various learning situations. Out of twenty-eight students, twelve students used it to improve subject-focused learning problems, such as bad performance, distraction, and failure of previewing. Ten students used it to improve the study time management problem. Six students used it to improve their English language ability. All of the students followed the steps of the model to make their own self-regulatory action plan and implement it. During the implementation, they designed monitoring forms to keep records in accordance with their needs, and reviewed the records to assess and fine-tune the strategies.

Nearly all of the students claimed that the hardest part of the action was persistence. Out of twenty-eight students, twenty-six students indicated that they experienced the persistence problem in Stage 3. The various hindrances included the disruption by unexpected factors, e.g. schoolwork, activities, or family obligations (“It is hard to persist because my plan was disrupted by the unexpected assignment”), the habit of procrastination (“It is hard to persist, because I am a lazy person and often procrastinate”), and the lack of extrinsic motivators (“There is no reward or punishment from other people to motivate me. I gradually lose enthusiasm to continue my action.”).

Although students had the problem of persistence, most of them (twenty-one out of twenty-six) overcame it by rescheduling the timescale, readjusting their goal and strategy, or conducting positive self-talk. These students subsequently indicated that they benefited more or less from their actions. The actions did affect their learning in positive ways, including: improving their learning performance, making them aware of the specific problems they have and the learning process, motivating their learning through self-recording, enhancing their work efficiency, or preventing them from procrastinating. A few students did not overcome the persistence problem; although they were aware of the problem, they neglected it or failed to solve it. Subsequently, these students reported that they did not benefit from this action.

Over half of the students had had similar self-regulatory experiences before this action. Out of twenty-eight students, sixteen students stated that they had performed similar actions on time management. Students claimed that those actions were quite un-systematic compared with this one. Twelve students had never conducted similar self-regulatory actions before; nevertheless, some of them had considered it, but had never put into practice.

Based upon their self-regulatory experiences, participants provided suggestions for the improvement of the guiding model and its training. The suggestions were twofold. First, the monitoring by other people (e.g. peers) and extrinsic motivators should be considered during the strategy implementation. Second, the model demonstration should cover more examples which targeted different learning problems.

## CONCLUSION

According to the results, the guiding model for academic self-regulation was applicable. Students could follow the steps of the model to guide their self-regulatory actions in various learning situations. Most of the students could benefit from their self-regulatory actions. Nevertheless, the model and its training needed revisions for future application. To make the guiding model more effective, it is suggested that monitoring by other people and arranging extrinsic motivators should be listed as alternative steps in the stage of strategy implementation and monitoring. In addition, in the training for the model, more model demonstration examples should be included and the persistence problem should be elaborated.

## AUTHOR INFORMATION

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