The effects of teaching self-regulated learning strategy on students’ academic delay of gratification

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Abstract

The purpose of this study was to examine the effects of teaching self-regulated learning strategy on students’ academic delay of gratification. The sample size consisted of 50 student’s high school, 25 each in experimental and control groups, and the method used was of a random cluster multiple-stage sampling type. The measurement tool consisted of academic delay of gratification scale Bembenutty and Karabenick (1998) that was executed as a pre-test in both groups. After which, only the experimental group was administered teaching in self-regulated learning strategies for 15 sessions. After the training, a post-test using the aforementioned scale was taken from both groups. Data was analysed by calculating the analysis of covariance (ANCOVA). The results of the study indicated that the teaching of self-regulation learning strategies has had a significant effect on students’ academic delay of gratification.

Keywords: Self-regulated learning, self-regulated learning strategy, academic delay of gratification

1- Introduction

Self-regulation is a difficult construct for even experts to define and operationalize [1]. Self-regulated learning refers to the process of learners actively taking control and responsibility for their learning. They apply a variety of learning strategies that aid in learning and applying the content. Self-regulation involves learners who proactively direct their behavior or strategies to achieve self-set goals. They also rely on affective, cognitive, motivational, and behavioral feedback to modify or adjust their strategies and behaviors when unable initially attain their goals [2]. Self-regulated learning as an active, constructive process by which the learner sets goals, monitors his/her learning and controls his/her motivation, behavior and cognition [3]. Generally, self-regulated learning involves a combination of skill and will. Skills refer to students’ use of different cognitive and metacognitive strategies that include planning and organizing for learning, goal setting, self-monitoring, self-evaluation, time management and resource-management strategies [4]. Will refers to students’ motivational orientation in terms of goals, value, and expectancies [5]. Thus, there are many varied definitions of self-regulated learning. These definitions are based largely on the theoretical framework of self-regulated learning that is used. Self-regulated learning strategy use can also explained differences between good and poor learners [6]. In addition, other researchers have demonstrated that self-regulated learning strategy use is the foundation of academic achievement [7].

Self-regulated learners try to control their behavior, motivation and affect, and cognition. They also have goals that they want to accomplish and they are in control of their actions [8]. Thus, the importance of self-regulated learning strategies to academic achievement has been fairly well established. Pintrich stresses the importance for faculty to model of self-regulated learning [8]. By modeling their thoughts on disciplinary content knowledge, the learning strategies and reasoning faculty can help students to understand what is required in the course and guide them to be self-regulated learners. In addition to that, letting students make decisions on what they will learn would also help them to develop self-regulated learning strategies. Self-regulated learning strategies refer to learners’ actions and processes, which are directed at acquisition of information or skills [9]. Students’ use of self-regulated learning strategies is found to be positively related with high achievement [10], motivation [11] and academic delay of gratification [12]. The self-regulated learning
process consists of execution of several major strategies, including (1) metacognitive strategies such as planning, goal setting, monitoring and self-evaluation, (2) motivational strategies, such as self-efficacy, attribution and self-satisfaction, (3) cognitive strategies for learning and comprehending the materials such as rehearsal, elaboration and organization, and (4) resource-management strategies including time management and help seeking[13].

There are four areas or dimensions of learning that can be the target of regulation by the learner [13]. One area, cognition, concerns the various mental processes individuals use to encode process or learn when engaged in academic tasks. Most typically, these processes have included students’ use of cognitive and metacognitive learning strategies. For example, students can monitor and control their use of rehearsal, organizational and elaboration strategies. Motivation and affect represent a second dimension of learning that individuals can self-regulate. In other words, their own level of motivation or motivational processing represents an important target for students who are working to manage their own learning. Prior work has identified many strategies that students use to sustain or improve their own motivation including self-provided rewards, self-talk about the importance or usefulness of material, and making learning activities into a game so they are more enjoyable [14].

A third area that students can self-regulate is their behavior or their actual participation, conduct, or other physical actions enacted as part of the learning process. For instance, time-management strategies that students use organize and control where and when they study fits into this area. Finally, the fourth dimension of learning identified as a potential target of students’ regulation is the context or environment [8]. This area includes facets of the immediate task, classroom or even cultural environment. Students, for instance, might monitor and control the lighting, temperature, and noise in their environment. As well, help-seeking strategies in which students’ manage their learning by effectively utilizing teachers, parents, peers or others within the social environment fits within this dimension.

Although it is possible to distinguish among them conceptually, these four areas overlap and intertwine with one another in practice [8]. Regulating the processing associated with one area (e.g., motivation) may also involve changes in functioning within the others (e.g., cognition, behavior). Students overall efforts to plan and control where, when, and with whom they study likely involves consideration of all four of these different areas. As an example, planning to study with friends, at the library, in the morning, by playing a flashcard game might be based on goals that reflect cognitive, motivational, behavioral and contextual considerations.

Successful learners are those who engage in self-regulation of learning by delaying gratification. Delay of gratification has received very little attention in academic learning settings. Academic delay of gratification refers to one’s intentions to postpone immediately available rewards and wait for a larger, although temporally distant, reward [15]. the students’ use of cognitive strategies, such as organization, rehearsal, and elaboration, and students’ use of resource management strategies, which refers to students’ self-management and regulation of their study time, environment, planning, scheduling, effort regulation, and help seeking [16]. The hypothesized relations were verified between students’ ADOG and their use of self-regulating cognitive and resource management strategies [16], students who were higher in ADOG also reported more frequent use of learning strategies as measured by the Motivated Strategies for Learning Questionnaire [16,17]. These included cognitive strategies (elaboration, organization, and rehearsal) and resource management strategies (regulation of time and study environment, effort regulation, help seeking, and peer learning) [16].

Students Choice to postpone immediate available opportunities to satisfy impulses (e.g., going to the movies and sport activities) in relation to favoring academic goals that were temporarily remote (e.g., High grade) among 369 college students enrolled in introductory psychology courses at a Midwestern university. The results indicated that students’ delay of gratification preferences were associated with students’ reports of using learning strategies known to facilitate academic success (e.g., time management, effort regulation, help seeking, peer learning, metacognition, elaboration, organization, and rehearsal). Further, delay of gratification was positively related to students’ final course grade [18].

Found an association between academic delay of gratification, academic performance, and self-regulation of learning among Korean junior high students [19].

Teachers who work with students more than parents or others do play important roles in teaching students how to be self-regulated in the classroom. To help students to become self-regulated learners, it is important for students to be aware of their behavior, motivation, cognition and academic delay of gratification.

Despite the importance of research investigating self-regulated learning strategy and academic delay of gratification, several key limitations of this research exist. These limitations are detailed below. In detailing these limitations, however, we also recognize the contribution of previous studies, and indicate how these
contributions relate to the limitations identified. Most previous self-regulated learning strategy and academic delay of gratification research has focused on the relationship between Self-regulated learning and ADG typically finding that positively correlation between Self-regulated learning and ADG [15, 18]. Also, few studies have investigated academic delay of gratification in non-Western contexts. This is a critical limitation in the literature because hypotheses concerning factors affecting academic delay of gratification may not hold across cultural contexts, even if there is support for such hypotheses in research emanating from Western contexts. For the reasons above, we sought to investigate academic delay of gratification: (a) in a non-Western context and (b) using experimental design. From the theoretical notions and empirical findings discussed above, the objective of this study was to examine the effects of teaching self-regulated learning strategy on students’ academic delay of gratification.

2- Method
2.1. Participants
The participants in this study were 50 (25 experimental vs. 25 control) high-school boys, mainly consisting of freshmen students, randomly Chosen by cluster method and divided into experimental and control groups. , whose ages Range from 14 to 17 (M= 15.84). All the students were Karaj Iranian.

2.2. Instruments
2.2.1. Academic Delay of Gratification Scale
The Academic Delay of Gratification Scale for students (ADOG) scale is a 10-item designed by Bembenutty and Karabenick [16]. The students rated their preference for an immediately available attractive option versus a delayed alternative. An example of the items is: “Go to a party the night before a test for this course” OR “Study first and party only if you have time.” Students responded on a 4-point scale: Definitely choose A, Probably choose A, Probably choose B, and Definitely choose B. Responses were coded and averaged across items so that the scores ranged from 1 to 4, with higher values indicating a greater delay of gratification. This has shown evidence of both validity and reliability in Bembenutty and Karabenick studies [16]. They reported consistency by Cronbach's alpha coefficients between 0.68-0.85 and concurrent validity was used motivation strategy learning questionnaire, were calculated and confirmed.

First, we describe how the English version was translated to and back translated from Persian. A committee approach was used in translating the original English version of the ADOGS into Persian. In this approach, a team of bilinguals is constituted to translate the items in the scale from the source to the target language. The members of the translation committee; spoke Persian as a first language and English as a second language. Members were Ph.D. The committee members debated and negotiated on the basis and merits of the specific versions of the translation for each item until a consensus was formed for each translated item. The translation committee convened at a later time, but this time to undertake a back-translation of the Persian translation into English. Back translation is a highly recommended technique by experts in cross-cultural research [20], and it involves translating back into the source language version in order to verify translation of the research instrument. However, in this study, the committee approach was maintained, where each member was again first asked to independently back translate the Persian items into English, after which the committee convened again to compare, discuss, and form a consensus on the back-translation. During the committee work, some of the Persian translations were adjusted or revised after the English back-translation indicated some conceptual differences with the original English version. After the translation procedure was done, a small scale pilot study was conducted to assess the appropriateness of the scales. In This research reported consistency by Cronbach's alpha coefficients 0.71 and concurrent validity was used motivation strategy learning questionnaire, were calculated and confirmed.
2.3. Procedure
This research is quasi-experimental study with an experimental and control group in a pre-test and post-test research design. This design maybe depicted in standard notation where O1 refers to the pretest used prior to treatment to make sure the participants in both experimental and control groups were comparable; O2 refers to post-test measurements, including academic delay of gratification; NR stands for non-random assignment and X represents experiment. Table 1 above illustrates the design of this study. The study was conducted in the spring semester of 2011 from the first week to the fifteenth week. The experimental group was taught self-regulation strategies for 15 sessions and the control group did not receive any training.

Table 1. Design of Study

<table>
<thead>
<tr>
<th>NR</th>
<th>O1</th>
<th>X</th>
<th>O2</th>
</tr>
</thead>
<tbody>
<tr>
<td>NR</td>
<td>O1</td>
<td>O2</td>
<td></td>
</tr>
</tbody>
</table>

3. Results
Due to the importance of pretest. Covariance was used for investigating hypothesis of the study. At first, we examine between covariate variable and dependent variable exist linear relationship and homogenous regression so we can run covariance. In table 2 the descriptive statistics related to the academic delay of gratification 25 students of the sample in each group are presented.

Table 2. Mean and standard deviation of variable in control and experimental groups

<table>
<thead>
<tr>
<th>Groups</th>
<th>Academic delay of gratification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre test</td>
</tr>
<tr>
<td></td>
<td>M</td>
</tr>
<tr>
<td>Control</td>
<td>27.92</td>
</tr>
<tr>
<td>Experimental</td>
<td>28.80</td>
</tr>
</tbody>
</table>

For the experimental group the increase of the average of the academic delay of gratification score (post-test) in comparison with the control group can be considered (see table 2). To check the homogeneity of variances hypothesis calculates the Levene statistic to test for the equality of group variances. This test is not dependent on the assumption of normality (see, table 3).

Table 3. Levene's Test of Equality of Error Variance. Dependent Variable: post- test of academic delay of gratification

<table>
<thead>
<tr>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>.225</td>
<td>1</td>
<td>48</td>
<td>.637</td>
</tr>
</tbody>
</table>

If a significant level is more than .05, as this research, there is homogeneity of variances. In order to determine the effects of the self-regulated strategy training on students’ academic delay of gratification, Covariance was performed. The results obtained for the research hypotheses are reported below.
Regarding the hypothesis, which states the teaching of self-regulation strategy increases students’ academic delay of gratification, table 3 demonstrates the results of the analysis of covariance for investigating the effects of instruction on the academic delay of gratification that there is a significant difference between the academic delay of gratification of experimental group in comparison with the other group (P<0.001).

Finally, results indicated that the teaching of self-regulated learning strategy increases students’ academic delay of gratification.

4. Discussion
The major purpose of this current study was to evaluate the effectiveness of the teaching self-regulated learning strategies, on academic delay of gratification in a community school setting. The findings of this study indicated that the intervention was helpful to learners on their academic delay of gratification. It implies that students who received self-regulation learning training have higher level of the academic delay of gratification. The findings of the study are in line with other researchers, such as [15, 16, and 18] These finding suggest that students who reported: using self-regulation learning strategy, staying in the library, asking instructors to clarify material, and reading all of the material, rather than: having fun with friends, leaving right after class, or reading just what they find interesting also reported preferences for engaging in behaviors that maintained and protected their intentions to pursue long-term academic goals, and ascribed higher expectancies and values to those alternatives.

Learners with high preference for delay of gratification are willing to maintain academic goals in spite of attractive alternatives in order to achieve long-term academic goals [12]. Thus, high self-regulated individuals delay gratification by enacting long-term intentions, by foregoing immediate impulse, and by deferring distracting activities.

Zimmerman’s model [6] proposes that learning is maintained through a cycle of self-regulatory processes that must be self-monitored during task performance and altered as needed. Accordingly, self-regulation involves three phases: The forethought phase (pre-performance) includes processes that set the stage for action (e.g., goal setting, strategic planning, self-efficacy beliefs, and intrinsic interest); the performance phase (during performance) includes the processes that affect attention and action (e.g., attention focusing, self-instruction, and self-monitoring); and the self-reflection phase (post-performance) that includes learners’ responses to their efforts (e.g., self-evaluation, attributions, self-reactions, and adaptively). When viewed within a self-regulatory framework, delay of gratification could be conceived as a strategy to ensure that goal-directed actions are carried out efficiently and without interruption during the performance phase of the self-regulatory cycle. Other phases could also be involved as well because forethought and reflection are probably also involved

Table 4. Analysis of covariance on post- test of academic delay of gratification dependent variable

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>217.748</td>
<td>1</td>
<td>217.748</td>
<td>12.42</td>
<td>.000</td>
<td>.93</td>
</tr>
<tr>
<td>Group</td>
<td>422.127</td>
<td>1</td>
<td>422.127</td>
<td>27.740</td>
<td>.000</td>
<td>.99</td>
</tr>
<tr>
<td>Error</td>
<td>715.212</td>
<td>47</td>
<td>15.217</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
in decisions to delay gratification and to persist. Whether students were aware of and/or able to invoke delay to accomplish efficient regulation is affected by the person and situation influences on delay discussed earlier.

Highly self-regulated learners are characterized by a willingness to delay gratification and sustain effort despite distractions and long-term waiting periods. They learn to plan their actions and set specific academic long-term goals in order to achieve them. In addition they can anticipate problems that could prevent them from achieving those goals. In contrast, poorly self-regulated learners are less efficient in identifying facts related to their tasks, have low self-efficacy, engage in ineffective self-evaluations and self-monitoring of their academic progress, and make detrimental attributions (e.g., Failure due to lack of general ability) [18].

5 - Conclusions
This study investigated the effects of Self-Regulated Learning strategy training on learner academic delay of gratification. The findings of this study indicated that the teaching of self-regulated learning strategy increases students’ academic delay of gratification.

Teachers could help student enhance their use of learning strategies by focusing them on assessing, understanding, and evaluating their self-system of beliefs and values and their goal orientations.

Academic delay of gratification is an important construct because it has an impact on the learning experience and academic success of students. Students who are able to engage in academic delay of gratification are more likely to have better educational outcomes. It might be useful for future Interventions to teach students delay of gratification. Future studies should try to find effective methods to reduce the participant dropout rate and to establish longitudinal and tolerable interventions for continued effects.

The small sample size of this current study might have affected the reliability of the study, and limited the generalizability of the results. Therefore, future research is recommended to reexamine the effects of the intervention with a larger sample size, more sophisticated study materials and maybe more advanced data analysis methods.

Even though the findings from this study were inconclusive to some extent, it can still be valuable to the education community in some respect. It empirically tested the effects of a strategy training intervention in a grade setting; it contributes to the understanding about self-regulated learning and academic delay of gratification in the community school population.
References


