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The Effect of Self-regulation Learning Strategies Training on the Academic Motivation and Self-efficacy

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Abstract

The purpose of this study was to investigate the effects of self-regulation learning strategies training on the academic motivation and self-efficacy of students. Therefore, two twenty-three classes of female elementary students were selected as the sample. One of the classes was chosen as the experimental group who were taught the self-regulation learning strategies for 10 sixty-minute sessions and the control group didn't receive anything. At first, the experimental group was tested with motivated strategies for learning questionnaire (MSLQ), academic motivation scale and self-efficacy scale, and then the scores of the two groups were compared in post-tests. The design of research was quasi-experimental method with pre-test and post-test. For measuring the variables the academic motivation questionnaire (Harter, 1981) and the academic self-regulation (Mcilroy & Bunting, 2001) were used. 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 the academic motivation and self-efficacy of the students.

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Keywords: self-regulation training, academic motivation, academic self-efficacy

1. Introduction

Academic motivation is considered as a powerful factor for students in terms of doing their homework and making them more interested in learning (Artino & Stephens, 2009). This concept represents the difference of students’ effort for doing their homework. Hence it is recognized as a significant factor in teaching and training. Generally, in motivation theories the positive effect of academic motivation on students’ function is accepted (Ryan & Deci, 2000). Berger & Karabenick (2010) in their study state that there is a relation between students’ motivation and the usage of learning strategies.
Based on Bandore’s (1993) viewpoint, these effects are normally caused when students are internally motivated, they are engaged in tasks that enhance their learning. One of the substantial motivational factors which has a close relationship with self-regulation strategies is self-efficacy (Cleary & Zimmerman, 2004). Individuals with high level of self-efficacy are diligent and have perseverance in solving cognitional problems. They are more tolerant and use strategies for finding solutions (Pajares, 2000). That motivation is the most prominent condition for learning (Pintrich & Degroot, 1990), efficacious approaches for increasing motivation should be considered more. Learning self-regulation, could be one of these approaches. Self-regulation learning in other words, self-regulation of cognition and behaviour is one of the important aspects of learning and the academic function of students in the classes (Pintrich & Degroot, 1990).

Pintrich (1990) has a partially comprehensive definition for learning self-regulation. He considers this learning as an active and systematic process during which learners specify the aims for their own learning and then try to regulate, control and supervise their cognition, motivation and behaviour. Zimmerman (2001) cognizes self-regulation learning as a self-controlled process via that learners convert their mental abilities to practical skills related to them homework. This approach regards learning as an activity which students actively do. The results of the recent conducted studies in the field of self-regulation such as Ning & Downing (2010), Berger & Karabenick (2010), Perry et al. (2008), Liew & Mctigue (2008) Breuer & Eugestre (2006), Cleary & Zimmerman (2004) Pintrich & schunk (2002) and Wolters (1998) indicate that successful and self-regulated students have same characteristics like intrinsic motivation and self-satisfied beliefs. They also use more cognition and meta-cognition strategies and trust their own abilities and apply more resources for achieving their goals and reveal better efficiency. Based on what Pintrich (2000) found, students with self-regulation skill are more motivated in terms of academic success and learn better than other students. Zimmerman and kitsantas (2005) state that the prominent role of using cognition and meta-cognition strategies in the development of academic motivation is obvious. Tuckman (1999) believes that acquiring the learning strategies is vital for maintaining the motivation on. He also thinks that the reason for demotivation is having no knowledge about the suitable strategies in different situations.

According to the longitudinal study of Ning & Downing (2010), students’ self-regulation foresees their subsequent motivation. Aksan, in his study (2009) also recognized that debility in self-regulation further skills causes lower motivation and impedes learning. Paris and Oka (1986) point out that student should know various kinds do of efficient strategies for the learning and the essential success and those who are efficacious and motivated for learning then strategies will become more successful. Self-regulation learning strategies are the necessary instruments for students’ success and have a close relationship with their self-efficacy and the academic development. The results of Bruinsma’s (2004) study reveal that teaching cognition skills increase the students motivation. He found a significant relationship between the academic motivation and the process of analyze the information which is achieved by the usage of study skills. The results of Liew and Mctigue's study, that was done on first-grade elementary school student during 3 years, supported the development of students self-regulation skills in the elementary years of education and stated that the teaching leads to self-efficacy beliefs and students’ future academic success. Moreover the results of the research of Perry, et al. (2008) represent that applying reinforcing exercises and tasks which increase the self-regulation learning have a significant effect on the development of elementary students' academic function. The meta-analysis, which was done by comparing the results of forty-eight studies in the field of the effect of self-regulation learning on elementary students, represents that the program of teaching self-regulation is efficient for students success. (Dignath, et al. 2008)

Therefore, it is expected that teaching self-regulation skills has a significant role in increasing self-efficacy and the students’ academic motivation and success. Teaching of such general skills needs the sufficient and necessary support. Considering the importance of teaching these strategies from the first elementary years of education and the lack of such teaching in the elementary section in the national studies, this study seems important and essential.

2. Method of the study
Considering the current study’s purpose, the quasi-experimental method with experimental and control groups with pre-test and post-test.

2.1. Subjects
The subjects of this study are female fifth-grade students of Tehran. For choosing the experiment and control group the list of female fifth–grade schools, by random sampling, two schools were selected. From each school a twenty – three class as an experiment and control groups are chosen. The experimental group was taught self-regulation strategies for 12 sessions and the control group didn’t receive any training.
2.2. Instruments

Academic motivation. For measuring the academic motivation, the revised version of Harter’s (1981) scale of academic motivation that was constructed by Lapper (2005), was used. This scale is used in elementary section for measuring the motivation. This is also one of the most popular scales which measures the individual differences both intrinsic and extrinsic dimension of motivation.

Academic self-efficacy. For measuring the academic self-efficacy McIlroy & Bunting’s (2001) scale was utilized. This scale contains 10 sections which is arranged based on Likert’s seven-scale yardstick. (From “Strongly agree” to “Strongly disagree”). The Cronbach’s alpha was reported 0.18 by McIlroy & Bunting’s (2001).

Self-regulation learning schedule. Instruction of self-regulation learning strategies to female fifth grade students, base on Pintrich’s (1999) model during 10 session, was presented. Strategies were include cognitive, meta-cognitive, resource management, and motivation strategies. Because the students were very young in the elementary section, it was tried to present the issue in simplified way and with so many example from the course of fifth-grade and the previous course.

3. Result

Because of the importation of the pre-test. ANOVA was used for investigating each hypothesis of the study. At first, the descriptive statistic of the variable are explained than the analysis of co-variance is described. In table 1 the descriptive statistics related to the academic motivation and self-efficacy of 23 students of the sample in each group are presented. For the experimental group the increase of the average of the academic motivation & self-efficacy scores in comparison with the control group can be considered.

### Table 1. Mean and standard deviation of variables in control and experimental groups

| Academic self- efficacy | Academic motivation |
|-------------------------|---------------------|
| Post-test | Pre-test | Post-test | Pre-test |
| Mean | standard deviation | Mean | standard deviation | Mean | standard deviation | Mean | standard deviation |
| 7.2 | 58.04 | 49.13 | 16.10 | 132.04 | 21.39 | 113.13 | T |
| 8.41 | 51.09 | 50.35 | 19.37 | 117.26 | 25.59 | 114.04 | O |

Regarding the first hypothesis, which states the instruction of self-regulation strategies increases students’ academic motivation, table 2 demonstrates the results of the analysis of co-variance for investigating the effects of instruction on the academic motivation.

### Table 2. Analysis of covariance on post test of academic motivation as dependent variable

| Source | Sum of Squares | df | Mean Square | F | Sig & power |
|--------|----------------|----|-------------|---|-------------|
| Pre-test | 5336.16 | 1 | 5336.16 | 25.49 | 0.001 - 0.99 |
| Group | 2659.01 | 1 | 2659.01 | 12.70 | 0.001 - 0.93 |
| Error | 2093.88 | 43 | | | |

The analysis of co-variance in table 2, represents that there is a significant difference between the academic motivation of experimental group in comparison with the other group (P=0.001).

Considering the second hypothesis, the instruction of self-regulation strategies increases the academic self-efficacy of students, ANCOVA was used and its results are shown in table 3.

### Table 3. Analysis of covariance on post test of academic self efficacy as dependent variable

| Source | Sum of Squares | df | Mean Square | F | Sig & power |
|--------|----------------|----|-------------|---|-------------|
| Pre-test | 1803.88 | 1 | 1803.88 | 84.41 | 0.001 - 0.99 |
| Group | 769.50 | 1 | 769.50 | 36.01 | 0.001 - 0.93 |
| Error | 213.70 | 43 | | | |

The results of the ANCOVA represent that there is a significant difference between tow group in terms of the effect of the instruction of self-regulation learning strategies on the increase of the academic self-efficacy(P<0.001).
4. Discussion and Conduction

The study of the results demonstrates that teaching of self-regulation learning strategies has a positive and significant effect on the academic motivation and self-efficacy of the fifth-grade female students. It implies that students who received self-regulation learning training have higher level of the academic motivation and self-efficacy. The findings of the study are in line with other researchers, such as Guthrie et al (2004), Mason(2004), Schober & Ziegler (2001), Fuchs et al (2003), Shunck (1994).

For clarifying the results of this study it can be claimed that self-regulated learner are more active participants in the process of learning. For following their learning purposes, these students use various learning strategies and consistently supervise their own progress. Self-regulated learners are insistent on their efforts for learning and change their strategies if necessary, in order to learn better. These students start the learning process by specifying their purpose, then choose the appropriate strategy and continually control their own programs in order to achieve their purpose. Students who use self-regulation strategies more, try to make the information meaningful or make a logical association with the previous information and also control this process and making a suitable learning environment in order to learn the issue and develop their own academic efficiency. In other words, by using meta-cognitive strategies (self-questioning, self-controlling and self-assessing), these students are aware of the quality of their learning. They reach a substantial academic success by trial, enjoying the challenges of excuses, using opportune learning strategies, regulating then specific purpose, and revealing a high level of self-efficacy. While those students who use these strategies less have only rote-learning and just by repeating they have a short-term learning subject matters also will be forgotten soon if they won’t be used. Self-regulation capability makes it possible for the learner to observe and control his/her own behaviour. It means evaluating his behaviours assessing them by his criteria and encouraging or punishing himself. A person whose result of evaluation of him-self is positive is considered as self-efficient and learners with interest and perseverance. Because he believes that he could be more successful. And also a person who is not satisfied with his own evaluation necessarily won’t decrease his level of self-efficacy and motivation, of course, if he believe that he has the capability of being successful but the strategy that he has used was not appropriate yet. Such students can change their self-regulating process by hard working, perseverance selecting other strategies and getting help from their teachers and classmates. After learning self-regulation strategy, the more the student regulates his learning, the more successful he will be in the academic situation. Considering that there is a mutual relationship between motivation and the wage of self-regulating strategies, the same as students who have higher motivation may use more learning strategies the vice versa is true. It can be stated that self-regulation and the strategies that students use anticipate students’ future self-efficacy and motivation. Since student’s usage of better learning strategies and also their attention to their progress not only lead to deep learning, improving student’s self-efficacy believe and academic function but also is effective in internalising student’s motivation and better learning.

Generally, it can be expressed that the program of teaching self-regulation strategies can be significantly effective in increasing the fifth-grade student’s academic motivation and self-efficacy. Confinement of information resources to self-assessing tools and also not using parents or teachers information resources for the studies variables are the limitation of this research.

Regarding the importance of teaching these skills specially in the primary years of elementary school, it is suggested to include teaching these self-regulation learning strategies in in-service training programs of teachers and also to provide the background for teaching these strategies at schools. For more assurance, it is also recommended to use other information source and supplementary instruments like interview and observation in addition to self-assessing instruments for elementary basis.

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