



AENSI Journals

Journal of Applied Science and Agriculture

ISSN 1816-9112

Journal home page: www.aensiweb.com/jasa/index.html

The Effectiveness of Teaching Self-Talk Skills and Teaching Meta-Cognitive Skills on Learning Motivation Strategies of Students in Tehran Shahid Beheshti University

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ARTICLE INFO

Article history:

Received 20 January, 2014

Received in Revised form 16 April, 2014

Accepted 25 April 2014

Available Online 5 May, 2014

Keywords:

learning motivation strategies,

teaching self-talk skills,

teaching meta-cognitive skills

ABSTRACT

Background: students have an important role in the future of the country and dealing with the issues related with them is of great importance. Accordingly, the purpose of the present research is to investigate the effectiveness of teaching self-talk skills and teaching meta-cognitive skills on learning motivation strategies of students. **Objective:** the design of the present research is a quasi-experimental one with a pre-test and post-test accompanied with a control group. The statistical population of the research consists of all the students in ShahidBeheshti University educating in 2012-2013 school year. The sampling method was cluster random sampling. Finally the number of 60 students of faculty of engineering was selected as the samples, which were put into two groups of experimental and control. In order to collect the data the motivational strategies for learning questionnaire was used. The data was analyzed using ANOVA and Independent T-test in SPSS software. **Results:** based on the investigations, teaching self-talk and meta-cognitive skills have impact on learning motivation strategies of students and increase them. **Conclusion:** regarding the fact that motivation is the general factor in producing behavior, it is important to pay attention to the factor that lead to the increase of motivation in the person.

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To Cite This Article: Ensie Harbi, Asghar Jafari and Mohammad Ghamari., The Effectiveness of Teaching Self-Talk Skills and Teaching Meta-Cognitive Skills on Learning Motivation Strategies of Students in Tehran Shahid Beheshti University. *J. Appl. Sci. & Agric.*, 9(4): 1879-1883, 2014

INTRODUCTION

Motivation is the main factor in encouraging students to learn, and the lack of it makes students face problem in learning (EbrahimiGhavam and KhaghaniZade, 2008). In this regard, motivational strategies for learning refer to a group of behaviors which are related with learning and development (Ames, 1990). According to Bross *et al* (2007; quoted in EbrahimiGhavam and KhaghaniZade, 2008) motivational strategies for learning, are among one of the most important effective factors in successful learning, and if teachers pay attention to this factor, the learning atmospheres would be more attractive and happier for learners. Meanwhile, paying attention to the factors which lead to an increase in motivation for learning is of great importance.

One of these factors is meta-cognitive. Meta-cognition refers to the talent of understanding and controlling the point under question and is of great importance in improving and developing cognitive functions, and it can expand learners' learning skills. Meta-cognition plays a fundamental role in successful learning, and the higher learners' cognitive abilities, the more successful the process of learning. In other words the learners should play an active role in their own learning and they should learn to evaluate their own learning, and if their learning strategies are not working they should use new strategies (Sadeghi and Mohtashami2010).

Most of the problems in learning and conveying learning come from the lack of meta-cognitive skills and strategies. The mentioned skills and strategies give the person the chance to choose, control, observe, manage and consequently improve cognitive processes. Therefore, it is necessary for the learners to be trained in fields such as organization, self-control, planning and defining goals, so that they master cognitive strategies and create the foundation for new learning. Otherwise solving new tasks which are not seen before would be difficult for them (Sadeghi and Mohtashami 2010). So the fundamental goal of teaching meta-cognition is self-control and self-teaching so that the learners may be independent and they can guide, observe and improve their cognitive and learning processes to meet the specified goals (Flavell, 1988).

In this regard many studies have proved the effectiveness of this teaching method. For example, in their study, Safari *et al* (2013) mention the positive effect of teaching meta-cognitive strategies on meta-cognitive

awareness and say meta-cognitive teaching is necessary for educational success. Also Saeedi *et al* (2012); Safari and Mohammad Jani (2012) Sadeghi and Mohtashami (2010); Javadi *et al* (2010); Seraj *et al* and AtarKhameneh and Seif (2009) in their studies concluded that teaching meta-cognitive skills affects the educational outcome and improvement. Therefore the study of this variable and its impact on learning motivation in students is very important.

Teaching self-talk is another factor which can affect the students' learning motivation. Self-talk can be defined as a cognitive product which is reflected in what people say to themselves, expressing opinion about one person, the world and the relationships with other (Kaloot&Kandonso 2002). Positive self-talk has a direct relation with high efficiency and self-efficacy (Hardy *et al* 2005). In general comprehensive researches done in the field of internal self-talks show that internal talk, as a cognitive intermediate in producing thought and organizing behavior in the field of internal and social compatibility or lack of compatibility is of great importance (Clark &Mc Manus 2002).

Also in this regard it can be said that different researches including Ebrahimi and Dehdari (2013) showed that teaching self-talk reduces anxiety. The study by Kiyaeenejad (2011) also showed that teaching realistic self-talk is effective in increasing marital satisfaction. Clothanasios *et al* (2011) also indicated that self-talk is an effective method for increasing the performance of physical education students. Mosayebishirafkan *et al* (2010) also in their study showed that cognitive treatment based on self-talk skill is effective in decreasing social fear. The study by Hatzigeorgiadis *et al* (2009), which was done to show the role of self-talks in anxiety and self-confidence, indicated that self-talk is effective in increasing self-confidence and decreasing the amount of cognitive anxiety.

As it was seen, numerous studies have been conducted regarding the effect of teaching self-talk skills and meta-cognitive skills, but the majority of these investigations have evaluated the effect of these skills on factors other than learning motivation, which is a gap in this research field. Therefore the present study aims to investigate the effects of teaching meta-cognitive skills on learning motivation strategies of students.

1. Methodology:

the design of the present research is a quasi-experimental one with a pre-test and post-test accompanied with a control group, which in order to investigate the effect of teaching self-talk and meta-cognitive skills on students' motivation strategies, the groups were measured again. The first measurement was done using a pre-test and the second measurement using a post-test. To form the groups, the researcher using random sampling selected 60 students from the faculty of engineering in ShahidBeheshti University, who had the least scores in motivational strategies for learning questionnaire, and then put the items equally in the groups. The three formed groups were similar and measuring the dependent variable for three of them was done at the same time and under the same situation. The motivational strategies for learning questionnaire (MSLQ) was used to measure the level of motivation in learning. This questionnaire was made by Pntrich *et al* (1990) which has two criteria: motivational believes (25 items) and self-regulation strategies (22 items) adding up to 47 items. Motivational believes criterion include three sub-tests: self-efficacy, internal evaluation and test anxiety. The self-regulation criterion has two sub-tests: cognitive strategies and self-regulation. The items in this questionnaire are a kind of closed test of the five-choice Likert range from 1 (completely disagree) to 5 (completely agree). Razviye *et al* (2006), estimated the reliability coefficient of this test by retesting a 30-person group in one month to be 0.83. The amount of cronbach's alpha in the mentioned research was 0.90 for the whole test and in a range of 0.68 to 0.87 for each sub-test. Based on the sample in the study by Bijerano (2007) cronbach's alpha for marginal criteria was in a range of 0.60 to 0.84.

Teaching sessions for self-talk skills (Table 1): according to what is said in related researches' books and major articles, group teaching sessions for self-talk skills was held once a week with the time of 1.5 hours for 9 sessions: (Santrak 2004).

Table 1: Teaching sessions for self-talk skills.

Sessions	Topic
First session	introduction, conducting pre-test and talking on the rules of the group
Second session	getting to know the method of self-teaching
Third session	The methods of correcting behavior using self-teaching
Fourth session	changing internal monologue using self-teaching Method
Fifth session	repeating constructive statements called improving or positive internal monologues
Sixth session	regarding learning motivation in students encouraging students to think about their
Seventh session	performance improving positive thoughts and monologues In students
Eighth session	group discussion regarding what they have earned From positive self-talk
Ninth session	giving post-test

At the beginning of each session the homework were analyzed. In all sessions it was attempted to start the process of processing the members' information and create positive changes in all the systems through cognitive

system. After teaching cognitive method (self-talk) and in the end of each session, homework and summaries of the sessions were provided.

Teaching sessions of meta-cognitive skills (Table 2): according to what is said in related researcher's books and main articles, group test sessions of meta-cognitive skills, also, was held once a week with the time of 1.5 hours for 9 sessions: (Chan and Chil 1993).

Table 2: Teaching sessions of meta-cognitive skills.

Sessions	Topic
First session	introduction, conducting pre-test and talking about the rules of the group
second session	defining meta-cognition from different viewpoints and its role in motivating learning
Third session	meta-cognitive viewpoint by Flavell and stating meta-cognitive factors in this viewpoint
Fourth session	stating the use of meta-cognitive items in motivating learning and education improvement
Fifth session	using meta-cognitive method to improve the process of reading and reading comprehension
Sixth session	getting to know strategies for questioning, summarizing, explaining
Seventh session	making clear the complex points and predicting future events to improve teaching process
Eighth session	group discussion regarding what is taught about meta-cognition
Ninth session	giving post-test

At the beginning of each session the homework were analyzed. In all the sessions it was attempted to use meta-cognitive method to improve motivation for learning in students. After teaching the meta-cognition and at the end of each session, homework and summaries of the sessions were provided.

2. Finding:

The results for the first hypothesis regarding the effect of teaching self-talk skills on motivating learning strategies are given in table 1:

In order to use ANOVA test first the assumptions of covariance analysis- homogeneity of variances, normal distribution, the linear relationship between pre-test and post-test and the homogeneity of the slope of the regression coefficients- were dealt with, which were used by establishing assumptions from covariance analysis (Table 3):

Table 3: ANOVA test of motivating learning strategies in the two first experimental groups and control group

Source of changes	square	Degree of freedom	Mean square	F	Significance level	Eta Coefficients
Pre-test	6468.85	1	6468.85	0.03	0.854	0.01
group	2518.50	1	2518.50	35.31	0.001	0.64
error	1426.69	37	38.56			
sum	1211853.00	40				

R Squared=0.860(Adjusted R Squared=0.852)

In order to analyze the effect of teaching self-talk skills on motivating learning strategies in students, as it can be seen according to table 1 and the level of significance in pre-test ($p > 0.05$) and also the level of significance of the group in post-test ($p < 0.05$) we can conclude that teaching self-talk skills has an impact on the motivating learning strategies of students and increases it. Also according to amount of Eta it can be concluded that 0.64 percent of the variance in motivating learning strategies is explained by self-talk skill.

Regarding the second hypothesis about the effect of teaching meta-cognitive skills on motivating learning strategies; after analyzing the assumptions, the results are given in table 4:

Table 4: ANOVA test of motivating learning strategies in the two second experimental groups and control group.

Source of changes	square	Degree of freedom	Mean square	F	Significance level	Eta Coefficients
Pre-test	7275.13	1	7275.13	1.41	0.241	0.03
group	6837.67	1	6837.67	233.91	0.001	0.86
error	1081.56	37	29.23			
sum	1280198.00	40				

R Squared=0.92(Adjusted R Squared=0.92)

In order to investigate the effect of teaching meta-cognitive skills on the motivating learning strategies of students, as it can be seen according to table 2 and the level of significance in pre-test ($p > 0.05$) and also the level of significance of the group in the post-test ($p < 0.05$) we can conclude that teaching meta-cognitive has an impact on the motivating learning strategies of students and increases it. And also regarding the amount of Eta it can be concluded that 0.86 percent of the variance in motivating learning strategies is explained by meta-cognitive skill.

3. Discussion and Conclusion:

The results of the present research indicated that teaching self-talk skills has an impact on motivating learning strategies of students and increases it. Regarding the efficiency of teaching self-talk, the study by Ebrahimi and Dehdari (2012) confirmed the efficiency of this method on decreasing anxiety, and the study by Parvizi *et al* (2011) also confirms the efficiency of this method in increasing the performance of girl students in learning and doing basketball free throw. Also the study by Kiyaninejad (2011) indicates the effect of teaching self-talk on marital satisfaction. The study by Klonunis *et al* (2011) indicated that self-talk is an effective method for increasing students of physical education. Since self-talk is defined as an internal monologue, using that one can interpret their own thoughts and feelings, changes their evaluations and beliefs, teaches themselves or improves themselves. Other studies such as Mosayebi Shirafkan *et al* (2010), Hatzigeorgiadis (2009) and Ghamari Givi *et al* (2009) also have confirmed the efficiency of this method.

The results also indicated that teaching meta-cognitive skills has an impact on motivating learning strategies of students and increases it. In this regard the study by Safari *et al* (2013) showed that according to the positive impact of teaching meta-cognitive strategies on meta-cognitive awareness, and the necessity for meta-cognitive awareness in educational success, teaching these strategies to students is recommended. Also the study by Birjandi (2013) showed the efficiency of teaching meta-cognitive strategies on the listening performance of the students. This hypothesis is in line with studies by Saeedi *et al* (2012), Safari and Mohammad jani (2012), Sadeghi and Mohtashami (2011), Seraj *et al* (2011) and Atar Khameneh and Seif (2010). Since meta-cognition refers to our knowledge about our own cognitive processes and the howness of efficient use of them to reach learning goals, therefore teaching the methods of applying this skill may have an important role in people's success, and also teaching meta-cognition has an impact on increasing motivation.

So regarding the fact that motivation is the general factor in producing behavior, it is important to pay attention to factor which lead to increasing it. Since students have an important role in the future of the country and also according to the results of the present study which show that holding teaching sessions such as self-talk skills and meta-cognitive skills have a great impact on increasing motivating learning strategies, therefore paying attention to learning and motivational issues is of great importance. In this regard it is recommended to hold such sessions in universities, which are welcomed, in order to increase the level of motivation in students and pave the way for their improvement in the field of education.

Contents of subheading 2 goes here.

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