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Study the Effects of Teaching Cognitive and Metacognitive Strategies on Enhancement of the Academic Performance of Sama Vocational Schools Probation Students of Najaf Abad Branches in School Year 2013-2014

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ABSTRACT

Objective: This study examined the the effects of teaching cognitive and metacognitive strategies on enhancment of the academic performance of Sama vocational schools probation students of Najaf Abad branches in school year 2013-2014. **Methodology:** Semi-experimental method with pre-test and post-test study with a control group of 200 probation students in the first academic semester girls and boys, of whom 50 patients samples were randomly selected. **Results:** With random assignment to experimental and control groups (n = 25 for each group) were divided. **Conclusion:** Data using analysis of covariance showed that cognitive and metacognitive strategies training have a positive effect on academic performance.

1. Introduction

Trained manpower is one of the most innovative and effective instructional duties and responsibilities of all units and universities, as most of the breeding center specializing in the training of special status indicator. In the absence of education and adult literacy rate is one of the most important indicators of human development in a country; Students of the university's most valuable asset is a community attention to the training of scientific and cultural importance is carrying out a comprehensive plan for the education of a generation of skilled, experienced, knowledgeable and committed to the University's main tasks is considered. Student life can be a time to discover talents and personal growth. Student reaction to the training program that new insights and ways of thinking can bring to them; and in response to other students who are evaluating their personal values in response to the culture of the society and culture of other people who have different cultural, changed, and this change in thought patterns in a person's everyday reasoning often leads to improved (Davarpanah et al., 2012).

Newly arrived students are admitted each year to universities and their students graduate and enter the job market, this cycle is continuous and dynamic, dynamic and continuous attention to quality is a special place. But these are the students who are studying at the University for Various Reasons, are not able to complete their course of study. The main cause of non-completion of university, academic failure, and poor academic performance and low and deal with the phenomenon of probation, withdrawn or dismissed, the issue is one of the most important problems of the educational system has become. In the past it was thought that the academic success of every individual is directly and works closely with the intelligence and talents of the individual student. But today the idea was strong among the counselors and psychologists, and other important factors besides intelligence which can greatly affect the academic success of every individual to make their own. One of the most important factors affecting the use of cognitive and metacognitive learning strategie is strategies of action that will help us to link the new information and combined with previously learned information and its storage in long-term memory're ready. Metacognitive strategies, cognitive strategies and policies are for monitoring and controlling them (Seaif, 1999). Therefore, in this

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study, it is the effectiveness of these strategies for students with learning disabilities are faced with the phenomenon of probation, review the impact of this training on their motivation and academic performance and average grade determined (Ashari, 2011).

2. Materials and methods

2.1 Statement of problem

One of the factors contributing to successful academic performance and achieve high academic motivation, understanding and using learning strategies or the more technical term "cognitive and metacognitive strategies" that the past few years witnessed great progress in educational psychology have discovered these guidelines (Tucker et al., 2002). The purpose of the strategy, "the strategy" The general plan is a program or set up operations and to achieve a specific purpose, designed and implemented. Based on the record presented, the aim of this study is to answer the question whether the cognitive skills intrinsic motivation and metacognition can enhance and improve the academic performance?

2.1.1 Hypothesis

Cognitive and meta-cognitive skills training is effective in increasing student academic performance.

2.1.2 Academic Performance

The ability of people in generating answers to issues related to this topic with specific issue or predicted for a course called Academic Performance define academic performance, says study complex behaviors in both academic achievement and declining achievement in the field of information displayed. This feature can be used in conjunction with other factors such as class and academic activities, and communicate with classmates and professors are also shown.

2.2 Factors affecting academic performance

Academic performance is a product of so many factors. Among these factors include age, gender, family and sociodemographic characteristics, education and parental occupation, parental attitudes toward children's education, quality of education, the degree of acceptance and popularity of tachers and Professors and learning environment, peer group, their attitude toward continuing education, intelligence, cognitive and excitement, of hope and optimism for the future, when reading and learning strategies, self-efficacy in individuals, intrinsic and extrinsic motivation and achievement motivation, beliefs and values (values inside and outside the target), mental health of individuals, critical thinking, resource management, internal and external, individual effort and his former student .

2.3 Previous research

The Ash'ari, Shafiabadi and Sudani in the 2009-2010 research as the effect of learning strategies on academic performance and self-regulated learning among pre-university girl students in Ahwaz did. In this study, 60 students with poor academic performance were selected and have divided into two groups of 30 controls and testing. Results of univariate analysis of covariance (Ancova) in this study suggests that teaching learning strategies has between control and experimental groups make a significant difference in the levels of academic performance and the difference to the test track, which was a month later, was left standing. Similarly, in another study, Rezaei & Seif (2005) in a study entitled The role of motivational beliefs, learning strategies and gender on academic performance, which was conducted on 261 students, found that girls in most aspects of motivational beliefs and cognitive and metacognitive strategies in a more favorable situation than boys. Research of Ricks and Tennessee as quoted by (Karimighartamani, 2013) found that students who use cognitive strategies and metacognitive self-regulation and greater use, Less negligence resulting in better academic performance. Bembenutty (2008) research showed that many students who are aspects of cognitive, motivational and behavioral adjust their performance, is very successful as a learner. These findings suggest that cognitive and metacognitive learning strategies, is a predictor of academic performance and learners to achieve academic success, you must learn how to adjust their performance and its objectives in spite of difficulty of assignments, maintain. In this study, Tan & Laswad (2008) Impact of prior content and metacognitive knowledge in the performance of students in an introductory accounting period examined. The aim of this study was to investigate the influence of five factors, reflecting differences in the content of students' metacognitive knowledge and previous academic performance of students in the introductory accounting courses. Based on a foundation of conceptual knowledge, 5 agents on the performance of students, include previous accounting knowledge, age, gender, and native language education topics of interest.

Initially a questionnaire by the introductory accounting courses in college bound students who were enrolled was completed. Research hypotheses and the ability to predict five independent variables in the multivariate analysis of variance were tested by the students.

The results showed that the independent variable on the content knowledge and academic performance had a significant impact. The students' metacognitive knowledge on language and gender differed.

2.3.1 The population

All probation students was girls and boys (N = 200) of Sama Technical and Vocational Institute on Najaf Abad branches in the first semester of the academic year 2013-2014.

2.4 Sample size and Sampling

50 of the total number of students in vocational and technical schools Sama probation Najaf Abad Branch, which had 200 people stratified random sampling based on the school field and hit Dropped students in each selected and randomly assigned to experimental and control groups (25 patients in the experimental group and 25 patients in the control group), respectively. Accordingly, the total number of students in each category according to the statistics of randomly selected probation students from each discipline during a week's time every single one of them was invited to visit the College Counseling Office and University College

Harter and motivation questionnaires were administered to all of them individually. The subjects in each field were divided randomly into two groups and those groups were identified. Demographic characteristics of cases and controls, including gender, profession, number of semesters and the number of credits taken in the current semester are listed in the following tables.

2.4.1 The study methods

After approval of the research department Sama technical and vocational college were to speak of Najaf Abad and their satisfaction with college students in order to provide statistical information on the study was drawn. The list of statistics conditional first academic semester 2013- 2014 students was identified. Statistics of normal college students in the Spring 1274 patients, of whom 200 were students, as well as 25 individuals due to the multiplicity of the term of probation, conditional and authorized the completion of years of study at the school, expelled and excluded from the statistical community. Of the remaining students, according to the discipline of Statistics Dropped students from any discipline on the basis of a number of selected administrators group and their names were announced to people selected to conduct counseling center.

2.5 Research Tools

Average scores are posted on the school report card, in this study, to measure the academic performance of the students' mean scores listed in the records of two consecutive semesters (the semester before the semester of training and after training) is used.

2.6 Demographic

The form of the response of a motivation Harter (Appendix A) included gender, field of study, and year of entry, final numbers and marital status. Education experts believe the use of these strategies at any age can lead to the improvement of academic performance and students in all academic fields ranging from the humanities, engineering and the arts were trained.

2.6.1 Analysis of data

Methods of statistical analysis in this study is both descriptive and inferential analyzes were in the descriptive parameters such as standard deviation, mean and so on were calculated black and inferential statistics and Kolmogorov-Smirnov test for normality of distribution of variables Shapiro, Levine's test for default equality of variances and according to the research design for this study because of the pre-test and post-test analysis of covariance and post hoc test LSD.

3. Discussion and results

3.1 Inferental results

In Table 1, the normality of the test data is compared.

Table 1. Kolmogorov-Smirnov test (normally distributed variables)

Variable	Pretest Kolmogorov-Smirnov	Significance level	Posttest Kolmogorov-Smirnov	Significance level	Results Normal
Academic Performance	1.11	0.17	0.58	0.88	Normal
Intrinsic motivation	0.53	0.54	0.57	0.89	Normal
Extrinsic motivation	0.6	0.86	0.52	0.94	Normal
Prefer easy	0.74	0.63	0.72	0.68	Normal
Focus on pleasing the teacher	0.58	0.88	0.53	0.94	Normal

Dependence on the t	1.1	0.17	0.97	0.3	Normal
Motivation	0.7	0.69	0.64	0.8	Normal

3.2 Hypothesis

Cognitive and meta-cognitive skills training is effective in increasing student academic performance.

Table 2. descriptive statistics academic performance according to the experimental and control groups

Academic Performance	Posttest Average	SD	Pretest Average	SD
Experiment	10.97	0.853	13.1	1.51
Control	10.64	0.767	10.55	1.17

The mean pre-test scores and academic performance in the experimental group (10.97) that the education level (13.10) at posttest, indicating the effect of the program is increased.

Table 3. repeated measures test results Machel on the impact of education on academic performance

Machel statistics	df	Significance level
1	0	0

According to the results, statistics Machel in 0.05 is not significant. Results of analysis of covariance testing the effect of education on the academic performance

Table 4. Levine's test for equality of variances default

f	df 1	Df2	Significance level
0.29	1	48	0.59

Levine F observed for the test did not show a significant difference in the level $P \leq 0.05$. Thus, the assumption of homogeneity of variance, the null hypothesis is accepted.

Table 5. The results of analysis of covariance of the effect of education on the academic performance of the experimental group

Source	Sum of squares	Degree of Liberation	Mean square	F value	Significance level	Eta coefficient	test
Education	25.89	1	25.89	32.41	0.00	40.	1
Effects of training in the group	30.63	1	30.63	38.33	0.00	33.	1

Eta or eta coefficient expresses solidarity squares nonlinear regression is synonymous with r2 and expresses the percentage change in the dependent variable explained by the independent variables and the larger the value of 26 indicates a greater impact of independent variables. Due to the significant contrast between the results of pre-test and post-test group can be said to 0.000 average academic performance in two test confirms significant differences the difference between the experimental and control groups in terms of academic performance is significant, which confirms the important that education increases the academic performance of the group tested.

Table 6. Results of LSD post hoc tests examining the impact of education on the academic performance Group

Education on Academic	Performance	Mean difference	SD	Significance level

etest	**Posttest**	**-2.12**	**.18**	**0.000**

The results show that the difference between the average academic performances is a significant difference in pre-test and post-test. In other words, increased the academic performance is under review. In the pre-test and post-test mean 10.97 versus 13.10, grew by 2.1 units.

4. Conclusion

4.1 Hypothesis

Cognitive and meta-cognitive skills training is effective in increasing student academic performance. The mean pre-test scores and academic performance in the experimental group (10.97) that the education level (13.10) at posttest increased by about 2.12 units, indicating the influence of education. Also according to the significance level of the comparison between pre-test and post-test results in the group this experiment, both test are significant difference in the average academic performance confirms. The difference between the experimental and control groups in terms of academic performance is significant, it is important to confirm that education increases the academic performance of Group tested. In explaining these results, we can say that the experience of working in client counseling centers and academic figures show in many cases, students and students with an interest in their education and courses and efforts to achieve academic success, less optimal academic performance and its expectations will be achieved (Jauregizar, 2010). These are the conditions that surround the use of learning strategies and study skills, able to maintain motivation, planning more appropriate for classification, taking notes, reviewing and responding to questions there. In addition to these short-term goals that the student's success in school, the future direction for its draws to attain greater achievements in the higher positions (Usher, 1997).

4.2 Suggestions

According to the results of cognitive and metacognitive strategies to learners, it was found that the intellectual skills can be taught and learned and accordingly will be offered at all universities in the country, and meta-cognitive skills training workshops will be held for all newly arrived students of University of Education avoided many problems (Maleki, 2005). Also, although this study was conducted on university students and may not generalize to schools, but according to the results of similar schools with regard to Imam Khomeini famously said ((elementary to the university to find out too late)); Teachers will be offered primarily to learn cognitive and metacognitive strategies and embark on the second level, they teach students this way they can have a significant impact on their academic performance and to motivate students to improve their education. The proposed system of higher education and the education of all teachers and educators, rather than focusing on the size and quantity of educational materials in the classroom, learn ways to learn and enhance their skills in attention. By using this strategy, because learners can develop their learning skills and to acquire knowledge and thereby to embark become active learners (Shahniyeilagh et al., 2011).

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