

The Efficacy of Motivation Management Training for Students' Academic Achievement and Self-Concept

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Abstract—This study examined the efficacy of motivation management training for students' academic achievement and self-concept. The pretest–posttest quasi-experimental study used a cluster random sampling method to select subjects for the experimental (20 subjects) and control (20 subjects) groups. Posttest was conducted with both groups to determine the effect of the training. An academic achievement and academic self-concept questionnaire (grade point average requirement) was used for the pretest and posttest. The results showed that the motivation management training increased academic self-concept and academic achievement.

Keywords—Motivation management, academic self-concept, academic achievement, students.

I. INTRODUCTION

THE evaluation of the antecedents and consequences of academic achievement and self-concept has always been a concern for educational system researchers. These factors have been identified and classified in numerous studies in proportion to their importance and impact. However, it's important to investigate about these factors and experimentally attempted to reduce the negative factors affecting academic achievement. Therefore, an important issue that is raised in the area of learning in school is academic achievement and self-concept.

Academic achievement depends on several factors, including individual, social, educational, and psychological factors. Evaluating these factors and specifying the contribution of each to academic achievement leads to strategies for identifying the factors that affect academic achievement and failure, which helps educational planners to improve the effect of the positive factors and to reduce the impact of the negative factors.

Self-concept is one of the factors associated with academic achievement. It is related to a wide range of performance indicators. In education, self-concept is positively correlated with academic achievement, motivation, and attitude toward school [1], [2]. Academic self-concept represents people's knowledge and understanding of their strengths and weaknesses in a specific field of study and their belief in their abilities to successfully accomplish academic tasks at designated levels. It refers to students' perceptions of their competence in relation to learning in school, which affects their academic achievement and is affected by it as well. It

seems that there is a bilateral relationship between self-concept and academic performance [3]. Based on a meta-analysis, Huang [4] showed that high positive self-concept is associated with high academic performance, and low self-concept with low academic performance. In addition, according to the study of Suárez-Álvarez et al. [5], students' academic performance can be predicted by the self-concept, expectations, and socioeconomic level; accordingly, students with high self-concept and motivation have better academic performance compared to other students. Furthermore, academic self-concept is one of the best predictors and mediators of effective and ineffective motivational variables and is an important factor affecting the learning process [6]. Academic self-concept, with its normative nature, strongly relies on relative social information and is a reflection of others' assessment. In other words, each person's academic self-concept is obtained in comparison with others [7].

A weak correlation between academic self-concept and academic achievement can be explained in different ways. For example, when a student has low academic achievement, it does not necessarily mean that his or her individual value has been reduced, but that the cause and effect of motivation should be examined. In addition, academic achievement provides positive feedback to the self-concept and the true self-perception of abilities [8]. Accordingly, motivation management can increase positive academic self-concept, positive thoughts, and motivation, and finally lead to the emergence of positive emotions and academic achievement [9]. Motivation management refers to all strategies and methods that are used to orient people's motives, increase motivation, create appropriate conditions for helping people to orient their motives, promote positive and constructive incentives, and increase their efficiency [10].

Vecchione, Alessandri, and Marsicano [11] reported that motivation is a predictor of students' academic achievement. Their study revealed that academic motivation, which was significantly associated with school attendance and classroom behaviour, predicted students' academic progress and achievement. Regarding increased self-concept and academic achievement, it can be said that motivation and relevant studies of motivation will be a focal point in the education system in the future. Rush and Vitale [12] reported that motivation was the best factor for learning, which means that the greater the motivation a person has for learning, the more effort and suffering the person will undergo to achieve the ultimate goal. Students with the same level of intelligence often react differently to homework because of the difference in their motivation for the homework [13].

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Motivation is a cognitive factor that influences a person's performance and behaviours, such that it specifically affects his or her choice of type of activity, the amount of effort, and the outcomes of his or her actions [14]. After environmental and genetic factors, motivation for learning opportunities is the most important reason for the difference in learning performance [13]. Inheritance cannot enhance learning, but motivating factors can. By identifying motivating factors and their management, sufficient motivation can be created in people. Students who are self-motivated are involved in activities that promote learning; they pay attention to education, review new information, organise their knowledge and relate it to what they already know, and apply their skills and knowledge in different situations. They feel competent as they learn more, do not feel anxious, are self-motivated for completing assignments, and have more conceptual understanding of issues compared to students who work for external rewards [14].

When students are empowered to learn, they can reinforce their own strengths and improve their academic weaknesses [14]. Reinforcing strengths includes developing sources of motivation and supporting them, so that learners can use these resources to improve their academic performance. Improving weaknesses means reversing motivational deficiencies, so that students can reduce their academic vulnerability, such as achievement anxiety, academic burnout, test anxiety, and so on, and overcome them. This strategy explains the role of motivation management by students, through which students learn all strategies used for orienting their motives, increasing motivation, creating appropriate conditions for orienting their motives, promoting positive and constructive incentives, and increasing their efficiency [15]. Guay, Ratelle, Roy, and Litalien [16] showed that autonomy and motivation play a mediating role in the relationship between self-concept and academic performance. In addition, Clark, Middleton, Nguyen, and Zwick [17] revealed that motivation (especially intrinsic motivation) brings academic progress and achievement. In other words, students who have high academic motivation make greater effort to succeed in their education compared with other students [19]. According to the above-mentioned literature and the importance of motivation and its management for students' academic self-concept and achievement, the present study examined the efficacy of motivation management training for academic achievement and self-concept.

II. METHODS

A. Design and Subjects

This was a quasi-experimental study with a pretest–posttest design and a control group. The population included high school students, who were selected using a cluster random sampling method. To this end, one school was randomly selected from high schools in a city and a class of 40 students was selected to participate in the study and statement regarding the ethical approval and conduct of the study was obtained. The selected class was randomly divided into

experimental (20 students) and control (20 students) groups. First, a pretest was given to both groups. Then, only the experimental group received the motivation management training protocol. Finally, a posttest was given to both groups to determine the effect of the training.

III. MATERIALS

Delavar Academic Self-Concept Scale. The Delavar Academic Self-Concept Scale, which was developed by Auwalu et al [18], was used at pretest and posttest. This scale is general and includes 40 items with a four-point Likert scale ranging from 1 [strongly disagree] to 4 [strongly agree]. The total score is calculated as the sum of the scores given. In this scale, some questions are scored in reverse, and a high score indicates a high academic self-concept. Based on a study conducted with students of Allameh Tabataba'i University, the reliability coefficient of this scale was 0.78 [18]. In addition, Khojasteh Mehr et al. [19] reported the Cronbach's alpha coefficient of this scale to be 0.84. Khojasteh Mehr et al. [19] also used criterion validity to determine the validity of the Delavar Academic Self-Concept Scale, which was 0.49.

Motivation Management Training. Once the subjects were selected and randomly assigned to the experimental and control groups, the experimental group received motivation management training based on a researcher-made curriculum for two months [one session per week]. The training session topics and practical exercises were arranged in eight two-hour sessions using this curriculum, such that discussions were first raised about each educational topic in each training session and the topic was then discussed in groups. At the end of each session, exercises were provided for the subjects to practice educational topics outside the educational setting. The objectives of each individual session were as follows:

1. Greeting, introducing the researcher, and becoming familiar with one another.
2. Knowing oneself and one's abilities [strengths and weaknesses] and familiarity with the objectives.
3. Familiarity with decision-making and the concept of motivation and its types.
4. Familiarity with attributional styles and ways to change or improve them.
5. Familiarity with the concept of learning and methods of study.
6. Providing various ways to create preliminary focus and passion for learning.
7. Providing strategies for increasing learner involvement in order to master learning.
8. Summarising the contents provided.

IV. RESULTS

As presented in Table I, the highest mean was found for motivation in the experimental group (90.16). Furthermore, the highest and lowest standard deviation pertained to the responsibility in the experimental group (29.18). The results of the Levene's test showed that the statistical significance level of $F = 0.81$ was greater than 0.05. Therefore, the error

variance of both the control and experimental groups was equal and no difference was observed between them.

TABLE I
THE MEANS AND STANDARD DEVIATIONS OF THE EXPERIMENTAL AND CONTROL GROUPS OF SUBJECTS

Groups		N	Mean	Standard deviation
Academic achievement	Experimental	20	16.49	1.56
	Control	20	16.57	1.31
Motivation	Experimental	20	90.16	16.54
	Control	20	57.65	10.91
Self-concept	Experimental	20	47.38	6.63
	Control	20	26.55	7.40

TABLE II
ANALYSIS OF COVARIANCE OF THE EFFECT OF MOTIVATION MANAGEMENT TRAINING ON ACADEMIC ACHIEVEMENT

Source of changes	Sum of squares	Degrees of freedom	Mean Square	F	Significance level	Eta squared
GPA	74.33	1	74.33	6887.64	0.000	0.99
Group	0.40	1	0.40	37.74	0.000	0.51
Error	0.37	35	0.01			
Total	10470.49	38				

Note. GPA = grade point average.

As shown in Table II, academic achievement, after controlling the effect of the pretest, was significant at $P < 0.001$. Therefore, the mean score of academic achievement was different between the experimental and control groups,

which means that the motivation management training significantly increased the academic achievement of the experimental group.

TABLE III
ANALYSIS OF COVARIANCE OF THE EFFECT OF MOTIVATION MANAGEMENT TRAINING ON SELF-CONCEPT

Source of changes	Sum of squares	Degrees of freedom	Mean Square	F	Significance level	Eta squared
Pretest	51.792.24	1	51792.24	1040.91	0.000	0.96
Group	4114.03	1	4114.03	82.68	0.000	0.69
Error	1791.22	36	49.75			
Total	59262.00	38				

As presented in Table III, after controlling the effect of the pretest, the self-concept score was significant ($p < 0.001$). Therefore, the mean score of self-concept was different between the experimental and control groups indicating that the motivation management training significantly increased the self-concept of the experimental group.

V. DISCUSSION

The results of this study showed that motivation management training could increase students' academic achievement and self-concept. If we draw a baseline at the beginning of the intervention, it shows that there were changes in the students' self-concept and academic achievement at the end of the intervention and indicates that the motivation management training was successful to a great extent. This finding is consistent with those of Henderson-King, and M. Smith [19], Auwalu, Norsuhaily, Sadiq, and Kabara [18] and Abu-Bakar et al. [20]. Uguroglu and Walberg [21] also revealed a correlation between motivation and academic achievement. In a study by Gurcia and Pintrich [6], a positive and significant relationship was found between self-efficacy and motivation regulation strategies. The results of studies of the relationship between motivation management, regulation, and students' academic achievement have shown that learners who are more able to maintain their motivation to continue

working and finish their academic tasks are more successful in education [14]. The finding of the current study can be explained by the fact that motivation management includes measures that help people to have a better understanding of goals and appropriate ways to achieve them, and of choosing and following appropriate motivational orientation in life. Therefore, motivation management can bring great success for a person, such as academic achievement and social competence.

In addition, the results of the present study showed that motivation management training had a significant effect on academic self-concept. In other words, the implementation of the motivation management training protocol increased students' academic self-concept. This finding is consistent with previous research findings e.g. [13], [14] Based on social learning theory, self-concept is one of the important consequences of causal attribution in relation to internal and external locus of control; the positive consequences of behaviour attributed to internal causes increase the person's sense of pride and self-confidence and create a positive self-concept. Given that people's internal locus of control is emphasised in motivation management training, they can observe their capacities better and value them. The same thing also happens with their emotions and eventually their self-concept is reinforced. Furthermore, academic self-concept

leads to students' understanding of their competence in relation to learning in school, and both affects academic achievement and is affected by it; therefore, motivation and self-concept seem to have a close relationship with academic performance [22]. Motivation management strengthens students' academic self-concept by emphasising their positive and constructive incentives, such that they become more certain about their abilities to perform academic tasks. As such, their academic self-concept increases, and high academic self-concept itself predicts academic achievement [10]. Therefore, motivation management training can increase students' self-concept by encouraging and educating them to believe in their internal control in all matters, including social and academic functions, and causes them to compare themselves with others in terms of self-concept. Motivation management can help people to assess themselves based on their real capabilities. Studies have shown that people with high self-concept have better mental health compared with others and experience less anxiety [10]. In general, to explain the relationship between motivation management and academic achievement, it can be said that the quality of student learning and the willingness to continue learning, which are closely related to academic-social goals, are affected by motivational features and having classes with a reward structure [22]. In other words, motivation management associates the formation of motivational features with the reward structure and predicts academic achievement.

A limitation of the current study was the failure to obtain some demographic information from the subjects in the research process (i.e. social, cultural, and economic status); collecting this information could increase the credibility of the findings. Overall, the results showed that motivation management increases the mean academic achievement. Therefore, it seems necessary to establish workshops for trainers, teachers, and officials to introduce motivation and its types, and to apply the motivation management tool for improving student learning. In addition, as motivation management training increases students' academic self-concept, we can strengthen students' self-concept by using the motivation management training protocol.

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