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Metacognition-Based Strategies on Academic Procrastination in Male Students with Spelling Learning Disabilities

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A B S T R A C T

Learning disability is the cause of secondary problems in students who can be with the person until the end of life and hinder the growth and development of potential abilities of each person. In this regard, the aim of this study was to investigate the effectiveness of metacognition-based strategies on academic procrastination in ninth grade male students with spelling learning disabilities. The research method was experimental with pretest-posttest and control group. The statistical population included all seventh grade students of public model schools in Shiraz. Using multi-stage cluster sampling method, 30 seventh grade students were selected and randomly divided into two groups of experimental (n=15) and control (n=15). The research instrument was the Tuckman (1991), Academic Procrastination Assessment Scale. The experimental group underwent 12 sessions of metacognitive skills training as a group. Data were analyzed using SPSS 23 software using multivariate analysis of covariance (MANCOVA). The results showed that the metacognition training program has an effect on the academic procrastination of students with learning disabilities. In this way, this program has led to an increase in individual effort and thus reduced academic procrastination ($P<0.05$). Metacognitive education through increasing students' awareness of personal strengths and weaknesses in the learning process as well as excellent student consultation in learning will reduce the feeling of disability and thus improve their self-esteem. These results have important implications for the prevention, pathology, and treatment of this disorder. Therefore, this strategy can be used to improve students' academic vitality.

Keywords: Academic Procrastination, Metacognitive Strategies, Inability To Learn Spelling.

INTRODUCTION

In the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, the general categories are named Neurodevelopmental Disorders. This category is considered as disorders in which the growth and development of the brain or central nervous system is disrupted during development and has 6 main categories of special learning disorder, mental disability, inattention/hyperactivity disorder, communication disorder, autism spectrum disorder and movement disorder. Is, is known. According to the DSM-5 definition, Special Learning Disorder (SLD) is a hidden disorder or defect that cannot be seen with the naked eye, like blindness or

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other physical disabilities(Katz, Rosenbloom, & Fashler, 2015; Krueger & Eaton, 2010). SLD is a disorder of a person's ability to interpret what he or she sees or hears, or to relate input information from different parts of the brain. SLD can be a one-dimensional or multidimensional disorder that lasts a lifetime. Accordingly, there is no distinction between learning disabilities in the form of reading, spelling or math disorders and they are identified as speakers(Krueger, Hopwood, Wright, & Markon, 2014). Learning disabilities affect 2.7 to 30 percent and an average of 10 to 20 percent of the student population, and in boys it varies more than girls and in a ratio of 2 to 1 to 4 to 1. In the latest study, 8- to 11-year-old Indian children studied the overall prevalence of writing, reading, and math specifies at 12.5, 11.2, and 10.5, respectively(Mogasale, Patil, Patil, & Mogasale, 2012; Padhy et al., 2016), and in Iran, 600 third-, fourth-, and fifth-grade elementary students studied in the city. Ilam stated that the prevalence of learning disabilities was 11.4%. In the etiology of spelling learning problems, various causes such as visual and auditory deficits, phonological problems(Kerck & Chalfant, 1998). Problems in visual memory(Tabrizi, Tabrizi, & Tabrizi, 2011; Vlachos & Karapetsas, 2003), Problems in auditory memory(Lerner, 1989), Problems in motor memory(Fletcher, Lyon, Fuchs, & Barnes, 2018), are discussed. To explain the factors affecting the educational process, we can mention two categories of external and internal factors such as student readiness, general intelligence, talent and motivation, self-efficacy, need for academic achievement(Ullah, Iftikhar, & Yasmeen, 2014; Ullah, Richardson, & Hafeez, 2011, 2013).

Another problem that is observed in the educational field of students with learning disabilities is academic procrastination. Procrastination is a strategy that people use to get rid of their negative emotions. This means that by procrastinating in their tribes, they stay away from some of the things that make them excited, and thus do not experience the bad and negative feeling that comes from doing it. Procrastination is also a way to control intense thoughts, emotions and performance. This means that people use procrastination behavior in the face of the emotions of daily life and action to distance themselves from these emotions and anxiety, and in fact give themselves more opportunity to manage issues, and this in the short term reduces stress. And it becomes stressful. Because delay is the passage of time, and the passage of time itself is facilitative because a kind of adaptation to the situation occurs(Chen, 2019).

Rosário et al. (2009), say that although procrastination may occur in all activities of daily living, it has more homework. Solomon and Rothblum (1984), define academic procrastination in delaying academic assignments. Procrastinating students postpone exam preparation until the final night and as a result experience severe anxiety during the exam. Procrastination causes high levels of anxiety and depression in students and lowers their self-esteem(Scher & Osterman, 2002). In a way that Pourabdol, SOBHI, and Abbasi (2015), showed that students with special learning disabilities are faced with procrastination in completing homework and daily school-related tasks.

Accordingly, the specialized need of these children for treatment has encouraged child specialists and psychologists to use effective treatment strategies. As a result, various educational and psychological approaches have always been presented. Metacognition is a new and emerging concept in the field of psychology and educational sciences that has been welcomed by educational planners and other education scholars. Metacognition refers to psychological structures, information and events that play a role in controlling, correcting and interpreting thinking(Goldin et al., 2014). Metacognition is a multifaceted concept that refers to the knowledge or beliefs about thinking and the strategies that people use to regulate and control thought processes(Salkovskis et al., 2016; Wells et al., 2016). According to the S-REF model, emotional distress is associated with metacognitive maladaptation, and metacognition can be directly or indirectly involved in creating negative emotions and procrastination and reduced

academic performance. Research shows that the dimensions of metacognitive beliefs such as positive cognitive beliefs about worry and laziness, low cognitive trust and negative metacognitive beliefs about worry and anxiety are among the factors that initiate and maintain symptoms in social anxiety and procrastination(Soleymani, Amiri, & Afsharinia, 2020).

Theoretical foundations and research results indicate that metacognition and its components are effective on various educational dimensions of students. Therefore, knowing one's abilities and awareness of one's cognitive and metacognitive strategies reduces procrastination(Gieselmann & Pietrowsky, 2016; Rozental et al., 2015). However, none of the groups studied in the above research covers children with learning disabilities and the need to pay attention to this group of children with special needs is felt in the present research. In the field of students with learning disabilities, there is only one academic defect that is not due to mental retardation, and paying attention to this and timely interventions can significantly reduce the secondary problems of this group, and prevent the occurrence of acute psychological problems. Therefore, the aim of this study was to investigate the effectiveness of metacognition-based strategies on academic procrastination of students with learning disabilities.

METHODOLOGY

Research plan and participants: The present research, in terms of applied purpose and in terms of research design, is a quasi-experimental type of pre-test-post-test with a control group. The statistical population of this study included students of public model schools in Shiraz in the academic year 2017-2018. In the first stage, Dr. Hesabi was selected using the multi-stage cluster sampling method of the school. Thirty students were selected, then randomly assigned to two groups of 15 experiments and controls. The experimental group was presented with group metacognition strategies during the sessions and the members of the control group were placed on a waiting list. Inclusion criteria (not having any physical, behavioral, cognitive or mental problems that lead to a decrease in the child's mental health, as well as having complete satisfaction to participate in the research process, academic weakness approved by teachers). Also, the criterion for leaving the group was that they were absent from the training sessions for more than 3 sessions and were under medical and psychological treatment. Also, reassurance about the confidentiality of information and freedom of choice to participate in the research were among the ethical points observed in the present study.

Tuckman (1991), Academic Procrastination Assessment Scale: This scale was designed and developed by Tuckman (1991), to measure academic procrastination. This questionnaire has 16 questions and a Likert response range from I am not sure (1) to I am sure (4). Getting a high score on this scale indicates a high degree of procrastination. Also, the minimum score is 16 and the maximum score is 64. Tuckman (1991), calculated the reliability coefficient for it to be 0.86. This questionnaire was standardized in Iran by Mohammadi Bytamar et al. (2017), for the student population. This researcher confirmed the reliability coefficient of this questionnaire based on Cronbach's alpha coefficient of 0.86 and the validity of this test based on the opinion of psychometricians.

The intervention program was performed in 12 sessions of 60 minutes for the experimental group, twice a week and in groups. The collected data were statistically analyzed due to the presence of an intergroup factor (intervention) and an intragroup factor (measurement of academic procrastination) using multivariate analysis of variance with SPSS23 software. The title of group metacognitive therapy sessions in the present study was as follows:

Session 1: Establishing good communication between students

Second and third sessions: the method of closing

Fourth and fifth sessions: Mardar method

Sixth and seventh sessions: the method of mutual education

Sessions 8 and 9: Participatory Learning

Sessions 10 and 11: The method of asking two questions

Session 12: Summary and post-test.

After obtaining the necessary permission from the Scientific and Ethics Committee of the Department of Psychology of Azad University and the Department of Education of Shiraz, obtaining the consent and cooperation of principals and teachers and identifying students suspected of special learning disabilities, first in a letter to A general explanation was given to the parents about the psychological nature of the research, and after their satisfaction, a procrastination questionnaire was given to the students and they were asked to read the questions carefully and give the desired answers according to their circumstances. After this stage, based on the results of the above questionnaires, the students were randomly placed in two groups and one of these two groups was randomly selected as the experimental group and then the other group was considered as the control group. شد. Then, pre-test, intervention (12 sessions of 60 minutes for the experimental group), post-test were performed. All ethical considerations (confidentiality of personal information, implementation of intervention in metacognition study strategies for the students of the control group after the completion of the research process, authority to leave the research) were observed in the research. Participation in the study was completely voluntary and the consent to participate in the research was signed by the mothers before the research was conducted. Also, according to ethics, after the end of the research, several short-term sessions were considered to teach metacognition study strategies in the control group. Data were analyzed using SPSS23 software using Univariate analysis of covariance.

RESULTS

The sample consisted of 15 people in the experimental group (mean age = 13.73, standard deviation of age = 0.79) and 15 people in the control group (mean age = 13.93, standard deviation of age = 0.76). Findings related to the mean and standard deviation of pre-test and post-test scores of academic procrastination in both experimental and control groups are presented in Table 1.

Table 1. Mean and standard deviation of pre-test and post-test scores of academic procrastination in experimental and control groups

variable		Pre-test		Post-test	
Academic procrastination	Group	M	SD	M	SD
	experiment	39.80	2.95	33.06	2.31
	control	38.26	1.94	38.53	3.09

The findings of Figure 2 show a decreasing trend in academic procrastination in the experimental group. Thus, the average academic procrastination (39.80 vs. 33.06) compared to the control group has changed. Analysis of covariance was used to test the research hypotheses. The condition for normal distribution of scores of dependent variables was examined by kolmogorov smirnov test. The results indicated that the precondition was met (0.05 (p>). The precondition for equalization of covariance marties was examined by box test and confirmed. (P <0.791, F = 0.791, 2.573 (Box, s M =). = F1,28 = 1.59, p <0.22) According to these assumptions, the summary of statistical results of analysis of covariance of post-test data related

to dependent variables by eliminating the effect of pre-test compared to the experimental and control groups in Table 2 , Provided.

Table 2. Summary of the results of analysis of covariance related to the effect of metacognition training on academic procrastination of male students with spelling learning disabilities

Variable	S.O.V	SS	df	MS	F	P	Squared of η
Educational procrastination	group	243.445	1	243.445	49.980	0.001	0.65
	error	126.643	26	4.871			

The results of Table 3 show that by considering the pretest scores as a complementary variable (auxiliary), metacognition training has a significant difference between the experimental and control groups ($p \leq 0.001$). Therefore, metacognition intervention improves academic procrastination. Male students with learning disabilities were effective because the calculated F is greater than (0.001) with degrees of freedom (1 and 26), so the null hypothesis is rejected and we conclude with 0.99 confidence that there is a significant difference between the compared means.

CONCLUSION

The purpose of this study was to investigate the effectiveness of metacognition-based education on procrastination in the academic performance of seventh grade students with disabilities in spelling learning in Shiraz. Findings of this study showed that metacognitive strategies will be one of the appropriate strategies to improve students' academic procrastination, which is in line with the following research findings in reducing procrastination.

In explaining this research finding, it should be acknowledged that education will be effective when the two basic poles in the education program, namely the student and the teacher, are in line for positive alignment and interaction with each other. Mentally, physically, mentally, socially and morally, and the teacher facilitates the conversion of potential skills into actual skills with sufficient experience and expertise, and this is important except by knowing the individual differences and applying appropriate teaching methods that learn and develop various personality dimensions. Accelerate students; it will not be possible. Therefore, empowering students in the field of academic skills is very important and is the basic ground for acquiring appropriate capacities and failure to acquire basic academic skills such as eagerness to study is the cause of academic failure and interpersonal problems and serious mental health disorders. Cognitive strategies help us store new and old information in long-term memory, and metacognitive strategies are tools for guiding and monitoring cognitive strategies. In fact, the learner will make the most of his cognitive strategies with the help of metacognitive strategies. In fact, the purpose of teaching metacognitive strategies to children with learning disabilities is to turn them into skilled learners who move from cognitive strategies to cognitive development and review this progress through control tools such as metacognitive strategies continuously and in principle. Teaching these strategies to children with learning and reading skills deficits in the first place and the initial steps of learning will depend on external factors such as expert teachers because metacognitive strategies give teachers the ability to make the learning process purposeful for their students step by step. To support and assist in learning. From then on, it will be the students themselves who will apply the acquired metacognitive skills in a completely voluntary and purposeful way and will achieve the desired educational goal. This teaching and two-way communication provides the student with a mastery of learning, which then brings the teacher's involvement in the student's learning process closer to normal and allows the student to make more use of the teaching materials, leading to more conflict. The process of teaching and feeling will play an essential role in his learning process.

The metacognition curriculum, like other curricula, confirms the disability of students with learning difficulties and even normal use in proportion to metacognitive needs in learning, and it has been reaffirmed in this study that this curriculum in any title and method leads to progress and There will be a growth of potential competencies and in this way it will eliminate the level of procrastination due to academic failure or lack of learning. Students' academic motivation while learning and maintaining this state until the end of the learning process pays full attention, allows expansion and expansion to other fields of study and ensures full and active involvement of students during learning, this will increase the student's potential. He identifies and increases the amount of effort to achieve the desired results by paying attention to individual desires; Achieving this result is in line with reducing procrastination and increasing academic motivation as a result of achieving educational success. In this regard, Mohammadi Bytamar et al. (2017), in their research entitled "Study of the effectiveness of the training package of self-governing-metacognitive strategies on the components of academic procrastination showed that metacognitive strategies by increasing time management skills and choosing the right strategy. Reduces procrastination in learning. In fact, the method of metacognition, by teaching educational skills through an instructor to students who have these skills but cannot use them, engages them and is responsible for personal learning, and from then on, it will be the student himself who He knows his learning and practices learning in accordance with his spirits, so perhaps the factor that has led to such an influential power is the deep understanding that arises in students as an interest in learning, and this means self-knowledge and self-awareness. This means that the student tests his interest in learning and begins to learn with the student's approved knowledge, recognizes its strengths and weaknesses, and at each stage of learning seeks to eliminate weaknesses with full attention to strengths, while in other Research methods have been the main focus of the student's learning problem. In confirmation of this explanation, Gieselmann and Pietrowsky (2016), showed that metacognitive strategies focusing on individual ability and identifying the strengths and weaknesses of learners turn them into useful learners and active decision makers, thereby reducing procrastination in individuals. Therefore, due to the effectiveness of the metacognitive method in improving the academic procrastination of students with learning disabilities, it is recommended; This method is used in teaching spelling to primary and even preschool children and in psychological and medical clinics. It is also necessary to organize in-service education and workshops to teach metacognition to teachers of different levels so that they can learn the method of spelling with this Teach methods to children with and without a learning disability. It is suggested that this method be used in pre-school and preschool centers in order to somehow prevent the occurrence of learning disabilities during the academic year. Finally, it is recommended that parents of children with learning disabilities be educated about metacognition and its impact on academic achievement and performance.

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