

Research Article

Problem-solving Model for Managing Stress and Anxiety

Taghi Abutalebi Ahmadi

Department of Education, Farhangian University, Nasibe Branch, Tehran, Iran

Abstract: The purpose of this study is to take a look at problem-solving model for managing stress and anxiety. If each of us as a human being has an organized method for solving the different problems of our life, at that time we can get along with stress and anxiety easily. The capability of problem solving makes it possible for that person a) to distinguish emotions in himself and others b) to understand how excitement affects behavior c) to be able to show different reactions to different emotions. If we don't deal with emotional states such as grief, anger or anxiety properly, these emotions will have negative effects on the physical and mental health of the person. Problem solving teaching is a treatment method by which the person learns to utilize effective cognitive skills to get along with inter-personal and problematic situations. In this study, we would like to emphasize the importance of the problem-solving teaching, and learn about its varieties and principal and implementation techniques, so that we can use it to manage our internal and environmental stressors. Among the various models, I will mention the easy and helpful five-step problem solving approach of Dixon and Glover (1984, as cited Yari (2009)) as an example including describing the problem, stating the problem in precise and clear terms, selecting guidelines for solving the problems and prioritizing them, implementing the guidelines characterized at the previous stage, finally evaluating. At this stage, we will consider what we have gained vis a vis what we had hoped to gain.

Keywords: Anxiety, management, problem solving, stress

INTRODUCTION

We should say that problem solving method is the basis for all educational methods. Based on our life experiences, problem solving method easily makes the person

- Express his thoughts
- Expose them to criticism
- Discuss the matters
- Provide a report for what he has done or observed
- Do the necessary experiment
- Collect necessary information, classify and organize it
- Hypothesize and show creativity and make logical conclusion and finally he should be able to report the results of his activities to the others (Moradi, 2003). A person who uses problem-solving can identify the problems in his life more effectively and will make every effort to solve them. If the important problems aggravate, they will change into stress and anxiety and pave the way for physical and mental pressures (Zanozian, 2007). If each of us as a human being has an organized method for solving the different problems of our life, at that time we can get along with stress and anxiety easily (FirozBakht, 2006, as cited in Zanozian (2007)). The results of a study in which creative and non-creative university students used

problem-solving method indicated that even they could solve the problems more quickly using problem-solving method and could give creative answers. When a person faces a situation or assignment and can't respond to that situation or assignment through the use of information and the skills that are available to him, it is said that he has faced a problem. A problem is defined as a contrast or difference between the present situation and another situation that we want to create. Instruction of problem-solving is an instructional treatment method by which the person learns to prepare himself for getting along with problematic inter-personal situations using effective cognitive skills. The capability of problem solving makes it possible for that person:

- To distinguish emotions in himself and others
- To understand how excitement affects behavior
- To be able to show different reactions to different emotions. If we don't deal with emotional states such as grief, anger or anxiety properly, these emotions will have negative effects on the physical and mental health of the person.

PROBLEM-SOLVING SKILLS

Treatment of problem-solving or the clinical use of instructing P.S.T problem-solving skills started to grow in parallel with the growth of treatments in the late

1960s and early 1970s as part of the developmental process of clinical and psychiatric psychology. In 1986, "Spivak Plath and Shour" in their books indicated some evidences of relationships between the ability of problem-solving and psycho-pathology and recommended several studies to the children and adults about the instruction of problem-solving skills. Henceforth, from 1970s onwards, the speeding up of the number of P.S.T plans has been reported (Gold Vien, 1976; Dasbon, 1988, as cited in Yari (2009)). It is a treatment method by which the person learns to solve problematic inter-personal situations using his effective cognitive skills (Maher and Izadi 1999, as cited in Yari (2009)). For problem-solving, John Dewey proposed 5 stages: understanding of the existence of the problem, orientation, hypothesizing, the logical use and revision of the experience (Zanozian, 2007). In a study, the results indicated that some problem-solving skills such as logical operations, algebraic solutions, transferring knowledge and information, identification of mathematic relations, its understanding and concentration in the form of problem-solving instruction were effective and different in students. Nowaczyk (1984) believes that problem solving teaching is a treatment method by which the person learns to utilize effective cognitive skills to get along with inter-personal and problematic situations. Problem-solving skills have been directly attributed to the adaptability of the human beings. Problem-solving training can be defined as the process of aiding the person to help his learning growth as a result of increasing the probability of effective confrontation in a wide range of situations (Harlo, 1949, as cited in Amir Afshar (2001)). Problem-solving happens when the person re-looks at the problem and makes it into a concrete form. For this purpose, the person should design a picture of the problem in his mind and continue to make his efforts until that purpose is materialized (Baraaheni, 1998, as cited in McGraw, 2007). Self-image includes a series of beliefs, realities, opinions and perceptions of the person toward himself and it highly affects the person in terms of how he views the world around himself (McGraw, 2007). In a study, the data indicated that using the instructions of problem-solving strategies positively affected the functioning of the students (Caliskan *et al.*, 2010). In a study, they view the problem-solving method as the best and most beneficial factor in the multi-dimensional structure of the treatment (Cassidy and Long, 1996). Problem-solving method includes high level skills of thinking such as mental visualization, abstraction, understanding, manipulation, reasoning and analysis which should be managed properly. In a problem-solving method, the first step is problem diagnosis. Then, the problem is described using available information, and after undergoing some processes, the

person reaches the best solution through using some methods such as brain-storming, the use of alternative methods and paying attention to different perspectives.

THEORETICAL APPROACHES TO PROBLEM SOLVING

There are some approaches toward problem-solving including the followings:

Cognitivists: In this perspective, problem-solving includes problem-diagnosis and mental functioning for achieving the goal.

Connectionist: In this approach, the problem-solving is defined as using a chain of pre-fabricated links in the person's network of associations through using previous knowledge to learn and review new materials)

Computer-simulation approaches: This approach which is based on cognitive school envisaged the mind as a simulator in order to understand the processes of problem-solving. The input from different senses which is used for problem-solving looks like the input which is entered by the keyboard. And, it is also a processing which happens in human being's mind and finally what appears on the monitor screen is similar to the person's final decision-making and selection.

Gestalt theory of problem-solving: Problem-solving happens when the person suddenly gets aware of the correct relations of parts of the problem. This sudden awareness is often accompanied by experience and the person suddenly understands that he has found the answer of the problem (Heidari, 2004).

Learning based on Bruner's perspective of problem-solving method: According to Bruner, learning is not a problem-solving. It is aimed at organizing the cognition of learners. In exploratory method, the student learns how to express the problem. He also learns to search for the solutions using his previous information and to use the best method to understand it (Kadivar, 2003).

Problem-solving according to Ganyh: He thinks that when the child reaches the stage of problem-solving, at that time, we can believe he has learned something. Learning through problem-solving is an active and deep learning and prepares the person for dealing with real life experiences (Kadivar, 1999).

The theory of behaviorism about problem-solving: In this perspective, the problem is created when the person cannot give a proper answer to achieve the goal or his responses are not enough or he cannot give all the responses (Greeno, as cited in Moradi (2003)).

The perspective of information-processing about problem-solving: In this view, psychologists believe that the most important aspect of problem-solving is its re-looking. And in order for the person to be able to re-look at it, he should understand four aspects of that problem including the first condition, the favorable condition, actions and whether the areas of these actions are limited or unlimited (Gelaver and Bruning, 1990, as cited in Moradi (2003)).

The perspective of cognitive psychology about problem-solving: In this approach, we have mental searching in the problematic atmosphere and transfer from one form into another. The problem-solver looks for different forms in search for the final form until he achieves his goal (Moradi, 2003). With regard to training problem-solving skills to the infants and adolescents, Spivak and Shour mostly emphasize the following skills:

- **Creating alternative solutions:** The ability of devising several solutions) thinking for measuring the results of social actions (the ability of predicting probable results of several actions)
- **Means-end thinking:** The ability of determining the stages needed to achieve a goal
- **Social causal thinking:** The ability of measuring cause and effect relations
- **Understanding of inter-personal relations:** Awareness of a wide range of problems which appear in human interactions
- **Dynamic orientation:** Recognizing the differences of motivations and opinions and recognizing that a behavior may be a reflection of motivations or unwanted factors which cannot be easily diagnosed (Sharifi, 1993).

THE NECESSITY OF BENEFITTING FROM PROBLEM-SOLVING SKILLS

The results of a study done by Mendonca and Siess (1976) indicated that problem-solving method was more effective in controlling and managing anger. Data analysis showed that problem-solving as a basic factor for gaining knowledge and learning life skills was very effective and it did not have any negative effect. In another study, Dochy *et al.* (2003) showed that depressed patients are cured through problem solving under PST-pc program which is an effective program for treatment of depression and which improves the functioning of patients. PST method includes seven stages of treatment for solving the problem of depressed patients and implementation of this instructional treatment method was effective in restoring the person to health (Hegl, 2004). In another study, Count *et al.* (2004, as cited in Yari (2009)) indicated that by using logical problem-solving and though their full

participation and interaction, we can prevent depression, impulsivity, carelessness, adult anxiety and avoidance. In a longitudinal study, Baker (2001) showed adaptability with factors, stress control, mental health, progress motivation and academic functioning based on problem-solving and it was effective for social and psychological adaptability. Then, Larco *et al.* (2008, as cited in Khoshkam (2008)) in their study indicated that problem-solving along with perception protects physical health against perceived stress more strongly than predictors. In an article, entitled the effectiveness of problem-solving skills special for infants has been trained along with other training such as feeling diagnosis, sympathy, friendship and communicative skills, management of anger, solving individual problem and academic success. In this program, first, as a treatment program, in small groups, infants who showed oppositional indifference and who were diagnosed as having behavioral disorders, were studied and the results were satisfactory in terms of problem-solving. In another study done by Khoshkam (2008), the findings indicated that participation of students with visual impairment in training sessions of problem solving increased their level of social skills and reduced stress and behavior problems. In a research conducted by Kahrazehi (2003), the results indicated that problem solving skills can because full intervention to moderate depression and use of effective coping strategies (problem-focused). Islamieh (2008) in his study showed that training of problem-solving skills is effective for reducing depression in pre-university boys. In a research conducted by Mahmoudi (2007), the results showed the positive effect of the training of problem-solving and communicative skills on the IQ and the confidence (pp. 69-74). Then, in a research done by Moatteri (2005), the results confirmed the positive effect of training of problem-solving skills through group discussion on nursing students' level of self-concept. A research conducted by Bahrami (2005) showed that the training of problem-solving skills reduced female aggression. Finally, Yazdi (2009) in his study showed that the training of decision-making skills at 95% confidence level promoted the general health of individuals in the component of anxiety and social dysfunction as compared to the other two groups.

PROBLEM-SOLVING STAGES

In order to solve any problem, the following steps should be taken:

Problem diagnosis: The learner understands that there is a problem. In fact, an important part of problem-solving is to diagnose the problem. For example, when the car is broken down, or the phone is damaged, first, it must be properly diagnosed. Biller and Snowman

(1993, as cited in Yazdi (2009)) believe that the key to the identification and finding of a problem is curiosity.

Definition of objectives and representation of the problem: Wolf (2004, as cited in Yazdi (2009)) believes that story problems (which are expressed orally or in writing) should be properly represented so that the learner understands them.

Discovery of the solution: A problem is defined as a situation for which the learner cannot give a pre-fabricated answer. If there is no pre-fabricated solution beforehand, at that time, the Learners must search and discover a suitable solution among the possible solutions at their best.

Working on the discovered solutions and prediction of results: It refers to selection of a reasonable, realistic and applicable solution and finally putting it into practice and predicting the results.

Looking back and evaluating results of activities: You should look back and evaluate the results of activities. This step involve sex amining of the evidence to confirm the accuracy of the solution and the answer to the question. Psychologists have identified three stages in problem- solving which including preparation, production, and evaluation. Production means that the person who solves the problem should offer the possible solutions called hypothesis. The more the number of hypotheses is, the more it is likely to solve the problem. In evaluation, one or more possible solutions are presented and then the hypotheses are evaluate din order to determine the existing criteria which were provided in the preparation step. If none of the criteria presented in the preparation stage are accepted, we should return to the production stage and re-generate the hypothesis.

KINDS OF PROBLEM SOLVING METHODS

There are different methods for solving problems as follows:

Problem-solving through trial and error: If we encounter a problem, and we don't have any prefabricated rules and principles, we can solve it by trial and error.

Problem solving through in sight and recognition: Problem-solving method through in sight implies discovery of rules and pattern of relationships or principles that are hidden in the problem. Once these factors are identified, the issue will be resolved immediately.

Problem-solving based on analytical method: Incremental and step by step analysis toward reaching a

solution needs full understanding of all the stages and relevant relations. This method is a combination of trial and error, insight and logical thinking. Many geometric problems can be solved this way.

Problem-solving based on John Dewey method: He starts the process of solving the issue by finding the factors that cause the problem. Dewey has a five-step procedure as follows: defining the problem, guessing or determining the cause of the problem, considering possible solutions, choosing the best solution, and implementing the solution preferred and concluding (Safavi, 1999).

PATTERNS OF PROBLEM SOLVING FOR REDUCING STRESS AND ANXIETY

In order to reduce stress and anxiety, some patterns for solving problems can be mentioned as follows:

Dickson and Goldver (1984, as cited in Yari (2009)) mentioned a five-step method for reducing stress and anxiety including:

Defining the problem: The first task of the therapist is to help the client in expressing the problem by creating opportunities to express empathy so that he can feel safe enough to express his problem.

Selecting the goal: How to express the goal has got tremendous impact on solving the problem. In problem solving training, we should help people to express their ideas using precise and clear words.

Choosing the strategy: The clients may have the resources needed to achieve the goal before h and but the diagnosis and selection of the best solution between a couple of optimal solutions are difficult for him.

Implementing the strategy: At this stage, the counselor's job is to help the client work and practice strategies that were determined at the previous stage.

Evaluation: At this stage, what we achieved will be compared to what we had hoped to achieve (Heydari, 2004).

George Polia suggested another pattern in problem-solving. He believes that a problem is defined as the necessity of conscious searching for a helpful means to achieve a clear goal but at the beginning, it is inaccessible and problem-solving means to find that means. He also believes that the system of education and training does not teach students problem-solving skills and prevents problem-solving thinking (FazliKhani, 2009, as cited in Yari (2009)).

Further, Yari (2009) mentioned another pattern for problem-solving training including: the training of the concentration, thinking to find various solutions by

brainstorming or replacing a proper solution rather than aggression, thinking to assess implications and thus behavior results, thinking to find the cause (the ability of measuring cause and effect relationships), understanding the relationship between the individuals, ability to understand others' points of view and understanding (recognizing individual differences, the differences between people's beliefs, ideas and comments (pp. 6-7).

Finally, in order to do treatment based on problem-solving method, problem-solving skills are trained to the clients in an organized form and we help them to make their resources and skills to deal with the problems. Most of the methods of problem-solving treatment follow a seven-step approach like the approach suggested by (Dazorilaand Nezzo, 2001, as cited in LotfiNia (2007)):

- Training of the existence of the relationship between the experience of symptoms of discomfort and the various problems of life
- The contribution to achieve a sharper definition of a problem or problems
- Selecting achievable purpose or purposes for reaching solution
- Remembering potential solutions
- Selecting one or more suitable solutions among potential solutions
- Implementing the selected solution (s)
- Reviewing the results of the implementation of the selected solution (s)

According to McGraw (2007), the position of problem-solving treatment among other cognitive behavioral therapies is a special position-Being in such enables this treatment method to benefit from both behavioral and cognitive techniques (Minores-Wallis, 2006, as cited in Yari (2009)). Research on the use of problem solving skills indicated that those patients who have failed to solve the stress were more hopeless, but the ones that used problem-solving training were more successful in society.

CONCLUSION AND RECOMMENDATIONS

Problem-solving method is described as high level thinking skills. Some skills such as mental visualization, understanding abstractions, the level of understanding of human relations, trying to manipulate, change and making interventions in the affairs of life, are in line with achievable goals. Those who enjoy high levels of communicative skills and problem-solving ability show self-confidence, assertiveness and high self-esteem. They are more resistant against stressful stimuli and if they are faced with high stress, they can overcome it very well and they can solve the problems very well. As you know, the more the level of self-

esteem is in that person, external and internal stressful factors cannot easily defeat him, because in that case the individual accepts his stress as a fact of life accepts and overcome it by problem-focus method. It is also said that training of problem-solving skills is effective on the cognitive operations in understanding, mediating and resolving intra-and inter-personal conflicts and in that case, it automatically engenders Self-esteem, self-control and logical assertiveness of the person. As a result, logical assertiveness leads to the person's success and progress. With regard to the definitions offered by scientific sources and research scientists in this field, it can be said that the method of problem solving is considered the main axis of all educational methods. A person with this ability can better diagnose his and other's emotions in order to show timely reactions. Further, he can speak out easily without the least concern and anxiety. He can also listen to other people's logical answer. And, he has the ability to hear logical criticism from others and cope with it. He can engage in discussing the matters with the others and can identify his life problems very well and do at his best to resolve them. Also, he can adapt himself with external and internal stressors and does not stop trying until he removes the barrier. He knows if he does not resolve the problems or does not adapt himself with them, the problems will aggravate and will change into stress and anxiety and will pave the way for physical and mental pressures. Problem-solving leads to flexibility in accepting other people's key opinions and causes one to make up one's mind and change unpleasant habits. In terms of learning, we can say a student learns something when he can resolve the questions of his textbooks.

During the process of learning in problem-solving manner, usually all members of the group are active and based on the assigned tasks, they play their roles. Since they are aware of the results of their tasks, they continue to have necessary motivation to go ahead with their activities. Problem-solving method, having a positive effect on the process of teaching and learning is effective on academic achievement of learners. Through this educational method, his sense of self efficiency can be improved and as a result, with that sense created, he can function properly or with a minimum of stress. This kind of training can take people away from a sense of helplessness, despair and gloom, and finally will lead to more academic success as well. Since the educational and training centers are very important for the improvement of the life quality of many learners; therefore, the education and training authorities should provide equal opportunities conforming to the needs of the learners and effective patterns to protect and improve their mental health. In this regard, it is recommended that educational planners embody the courses of its principles in the curriculum in the

scientific implementation of an efficient problem-solving method and in terms of operationalization of its content, they create a good atmosphere. Problem-solving training are effective in education and training system when the learners at any level participate in developing educational programs and materials and the teachers also invite them for performing class activities.

REFERENCES

- Amir Afshar, A.A., 2001. Comparison of the effects of relaxation techniques and problem solving on reducing anxiety. M.A. Thesis, Central Tehran Branch, Islamic Azad University.
- Bahrami, F., 2005. The effect of training problem-solving skills on reducing aggression in female high school students, Fatemiyeh highschool in Qazvin. Iranian J. Psychiat. Clin. Psychol., 11, 4(43): 467-469.
- Baker, S.R., 2001. A prospective longitudinal investigation of social problem-solving appraisals on adjustment to university, stress, health and academic motivation and performance. *Pers. Individ. Differ.*, 35(3): 569-591.
- Caliskan, S., G. Selcuk and M. Erol, 2010. Effects of the problem solving strategies instruction on the students physic problem solving performances and strategy usage. M.A. Thesis, Department of Secondary Science and Mathematics Education, Buca Education Faculty, Dokuz Eylul University, Izmir, Turkey.
- Cassidy, T. and C. Long, 1996. Problem-solving style, stress and psychological illness: Development of a multifactorial measure. *British J. Clin. Psychol.*, 35(2): 265-277.
- Dochy, F., M. Segers, P. Bossche and D. Gijbels, 2003. Effects of problem-based learning: A meta-analysis. M.A. Thesis, University of Leuven, Afdeling Didactiek, Vesaliusstraat 2, 3000, Leuven.
- Hegl, M.T., 2004. Training residents in problem-solving treatment of depression: A pilot feasibility and impact study. *Family Med.*, 36: 204-208.
- Heidari, S.H., 2004. The impact of gradual tension training and problem solving skills on reducing the tendency to escape in girls exposed to escape. Senior Undergraduate Thesis, Faculty of Psychology and Educational Sciences, Al-zahra University.
- Islamieh, M.M., 2008. The effects of training of problem-solving skills on reducing depression in male students of pre-university school in Tehran, institute of education studies. *Paez Psychol. Sci. Period.*, 6(23): 271-281.
- Kadivar, P., 1999. *Application of Psychology in Education*, 6th Edn., SAMT Publication, Tehran.
- Kadivar, P., 2003. *Educational Psychology*, 4th Edn., SAMT Publication, Tehran.
- Kahrzahi, F., 2003. The effect of the training of problem-solving skills training on reducing depression in students. *Psychol. J.*, 2(7).
- Khoshkam, Z., 2008. The effects of the training of collective problem solving on social skills of students with visual impairment. Faculty of Education and Psychology, Isfahan University.
- LotfiNia, H., 2007. Comparison of the effect of treatment of problem solving in the depressed students with response styles of rumination and distraction, clinical psychology. Ph.D. Thesis, University of Medical Sciences and Health Services, Tehran Psychiatric Institute.
- Mahmoudi, R.M., 2007. The role of communication skills training and social problem solving on self-esteem and students' IQ, third grade, primary school. Supplement Department of Psychiatry, University of welfare and rehabilitation, No. 29: 69-74. Retrieved from: www.mhrn.net/search/researchersxml.asp.
- McGraw, P., 2007. *Self-awareness and Self-esteem*. Translated by Gholam Hossein Anahita Khanqai, Noandish Publishing Co., Tehran.
- Mendonca, J.D. and T.F. Siess, 1976. Counseling for indecisiveness: Problem-solving and anxiety-management training. *J. Counsel. Psychol.*, 23(4): 339- 347.
- Moatteri, M., 2005. Effect of problem solving on the self-concept of nursing and midwifery students' (SA), faculty of nursing and midwifery, Shiraz University of medical sciences. *Iran. J. Med. Educ.*, 5(2-14): 137-155.
- Moradi, S.H., 2003. Application of problem-solving methods based on the pattern of George Polia, high school psychology course in third grade in Tehran. M.A. Thesis, Tehran University.
- Nowaczyk, R.H., 1984. The relationship of problem-solving ability and course performance among novice programmers. *Int. J. ManMach. Stud.*, 21, 149160.
- Safavi, A., 1999. *The General Methods and Techniques of Teaching English (short text) along with New Patterns of Teaching*. 11th Edn., Moaser Publications, Tehran.
- Sharifi, G., 1993. The effect of the methods of training problem-solving skills on the treatment of depression symptoms of the youth (Shaahed). Iran University of Medical Sciences, Tehran Institute of Psychiatry, Clinical Psychology.
- Yari, L., 2009. Problem-solving skills training on reducing aggression and increasing social adjustment of delinquent girls Khorramabad city. M.A. Thesis, Islamic Azad University, Roodehen Branch.

Yazdi, M., 2009. The effects of problem-solving skills and decision-making in a collective manner on the mental health of addicted people referring to addiction clinic, personality psychology. M.A. Thesis, Islamic Azad University, Karaj Branch.

Zanozian, S., 2007. The effect of problem-solving training on changing the style of identity, coping strategies, anxiety and depression in college students of medical sciences and health services. M.A. Thesis, Tehran Psychiatric Institute and Mental Health Research Center, Iran.