

Investigating the Relationship between the Effective Inter-school Factors and Problem-solving Styles of Fifth Grade Students in Shabestar

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Abstract: The general aim of this study is investigation of the relationship between the inter-school factors and problem-solving styles fifth grade students in Shabestar. The population of the research is female and male students of fifth grade students in Shabestar. Their number is 1016, sample size is 280 based on Cochran's formulate and is selected by stratified random sampling. Data collection instruments are two questionnaires (self-made factors in the school, and standard problem-solving styles by Cassidy and Long). Kolmogorov-Smirnov and Pearson Tests are used to analyze statistic data. The results show that there is a significant relationship between effective inter-school factors and problem-solving styles of students. The results also indicate that there is a significant and reversal relationship between cognitive-environment and helplessness and significance and reversal relationship between physical environment and helplessness. There is a significant and reversal relationship between social environment and helplessness. There is a significant and positive relationship between cognitive environment and creativity, between physical environment and creativity, between social environment and creativity, between social environment and confidence, between cognitive environment and confidence. The results show that there is no significant relationship between physical environment and confidence. There is a significant and reversal relationship between cognitive environment and avoidance, between physical environment and avoidance, between social environment and avoidance. There is a significant and positive relationship between cognitive environment and tendency, between physical environment ant tendency, between social environment and tendency of fifth grade students in Shabestar.

Key words: inter-school factors, cognitive factors, social environment factors, physical environment factors, problem-solving styles

Introduction:

The definition of problem-solving is considered as a sober, rational and purposeful activity. Most of people consider the process of problem-solving as the greatest sample of thought. This process make available the effective and potential solutions for a problem and increases the possibility of selecting effective solutions from among different solutions. Problem-solving is as a general contrast strategy that facilitates compatibility, adaptability and competition. Problem-solving means engagement in a homework that its solution is not clear. In the past few years, solving approach focused on adapting and educating attitudes and skills of problem-solving as an intervention. Problem-solving is a contrastive and practical skill that causes to increase self-confidence and has a good relationship with personal adaption including five steps; self-perceiving, problem definition, providing a list of various solutions, making-decision about the best solution and trying the selected solution (Ghanbari Hashem Abadi & Balghan Abadi, 2012: 61).

In the case of problem-solving importance it should be noted that today, because of complexities of starting a business and the importance of preserving Quran, individuals need to necessary skills in the field of problem solving to success. Therefore, of the opinion that effective problem-solving is known as a base for

developing ideas and selecting the best of them for successful starting. As well as, a help that problem-solving gives an individual when faced with career and job stresses is known as one of the most important life skills by researchers. However, if individual's selected career is entrepreneurial activity, importance of problem-solving and problem-solving styles can be doubled. Accordingly, because individuals' problem-solving differs during planning and creating an action and idea and their preparing way for doing a behavior differs (Treffinger et al., 2008: 393), therefore, it seems that preferred styles of individuals lead to use kind of life style based on creativity or frustration while faced with the problem (Agha Yousefi & Sharif, 2011: 79).

School is as one of the main centers that in training future generation is responsible for having a basic role in learning problem-solving styles by students. The environment of school deals with age groups that is known as sensitive groups. Given that students more often spend their time in the schools and educational environments, it is clear that space of these situations will have important effects on how to deal with problems and challengeable situations (Kaveh et al., 2033). The role and function of schools on the eve of the third millennium has changed dramatically. In addition to play traditional role based on training intellectual people, schools are responsible for training responsible, developed citizenships who have social and emotional skills (Pellitte, 2006). School environment can effect on problem-solving styles from the several internal and external aspects. Since the students are placed in the context of the education system, they face with three aspects of school environment as «cognitive environment», «physical environment» and «social environment» that each of these aspects belongs to a clear and hide curriculum. These three aspects include major part of inter-school factors. In the case of effects of cognitive environment of school, the results of a study by Durlak & Wells (1997) showed that interpersonal student-centered teachings and problem-solving teaching and also strategies of changing school environment have the most impact on the students' mental health. Teaching materials efficiently and achieving educational goals require to appropriate educational space and environment. The researches indicated that physical features of school substantially effects on the type and amount of learning. Thus it provides social-welfare, emotional, cognitive and physical basis of the students (Dyment, 2004).

Therefore, it seems that efficiency of cognitive and physical environment of school in the field of problem-solving styles and students' development depends on the quality of interaction in and out of the school (Ausbrooks, 2000). Based on guidance pattern that is invented by identity as a set of services, the responsibility of providing students' mental health is not solely task of advisor and all those who work in school are responsible for doing this task and the advisor is the main answerable of advising plan (Shafi Abadi, 2004). Psychological problems among students, too much emphasizing on the need for training, inadequate educational spaces facilities, lack of proper interaction between school staffs and students in some schools, lack of definite plans for promoting problem-solving styles, lack of proper planning for students' leisure, weakness in developing adequate recreational activities indicate that education system does not have a coherent pattern in the field of planning based on inter-school factors to promote students' problem-solving styles. According to this, in the present study it is tried to develop a pattern based on effective inter-school factors with students' problem-solving styles in fifth grade in Shabstar and is tried to study this research question that what relationship is there between effective inter-school factors and students' problem-solving styles.

Research Methodology

This study is correlation and descriptive and its aim is applied. The population is the female and male students of fifth grade in Shabestar that its number is 1016. The following method is used to measure size of statistic sample that is obtained 280 person. The stratified random sampling is used to choose statistic sample from population. Then, at first the fifth grade students of Shabestar in two groups of 124 females and 156 males are selected. In this research, through self-made questionnaire assessing aspects of inter-

school factor are considered in three general aspects (cognitive environment, social environment and physical environment) to evaluate inter-school factors that based on this information of the questionnaire is assessing inter-school factors in the present research and includes 48 questions. Cassidy and Long model (1996) were used to assess problem-solving styles that during that assessing dimensions of problem-solving styles are six dimensions (helplessness factor in problem-solving, problem-solving controlling, creativity style, confidence in problem-solving, avoidance style, tendency style) and as well as, the number of problem-solving styles questions in the present study is 24. Self-made questionnaire is used to assess inter-school factors and Standard Cassidy and long questionnaire (1996) is used to assess problem-solving style by professors of management (supervisor) to give comment in relation to this whether the questions measure what is considered or not? Then, the comments of professors and experts were considered in the questionnaire and the required changes were created in the questionnaire. The correlation and the relationship among items that make the questionnaire or in other words internal consistency of the questionnaire required to be investigated to measure reliability of the questionnaire. For this purpose, Cronbach's alpha method were determined as follows. Self-made questionnaire of inter-school factors reliability is 0.710 based on obtained data that is provided as the following table (Karimi Sani, 2011). Cassidy and Long (1996) in a study obtained Cronbach's alpha of the questionnaire for helplessness, controlling, creativity, confidence, avoidance and tendency styles as 0.66, 0.66, 0.71, 0.52, 0.65, respectively and in another study they obtained Cronbach's alpha coefficients of this questionnaire for the mentioned dimensions as 0.86, 0.60, 0.66, 0.66, 0.66, 0.51, 0.53, respectively. Cassidy Burnsidi (1996) reported internal consistency of the mentioned factors as 0.86, 0.66, 0.71, 0.52, 0.65, respectively. In the study by Mohammadi (1998) alpha coefficients were higher than 0.50 (except for tendency). In addition, Mohammadi and Sahebi (2001) reported the internal reliability of the questionnaire as 0.60 by using Cronbach's alpha coefficient. As well as in a study by Babapour Kheiraddin (2003) alpha has been reported as 0.77 and its validity has been reported as 0.87 and by considering the reliability index as validity coefficient (validity coefficient is equal to square root reliability coefficient), validity of the scale was reported as 0.87. Reliability of the questionnaire of problem-solving styles is 0.707 based on the obtained data that is provided as the following table. In order to analyze the data obtained from the questionnaire, descriptive, statistic and inferential methods were used. Thus, to describe the answers of statistic sample, frequency distribution tables and percent of the related answers of questions were used and bar charts were used to show statistical data of general questions as integrative. In the case of inferential level, Kolmogorov-Smirnov and Pearson Tests with SPSS software were used to test the hypotheses.

Findings

Statistical description and comparison of variables mean

Table (1): descriptive statistics of the variables of inter-school factors and problem-solving styles

	Inter-school factors	Cognitive environment	Social environment	Physical environment	Problem-solving styles	Helplessness factor in problem-solving	Problem-solving controlling	Creativity style	Confidence in problem-solving	Avoidance style	Tendency style
Number	280	280	280	280	280	280	280	280	280	280	280
No reply	0	0	0	0	0	0	0	0	0	0	0

Average	4.925	3.176	3.407	1.909	2.418	2.194	2.265	2.719	2.461	2.406	2.462
Median	4.928	3.785	3.428	1.900	2.416	2.250	2.250	2.750	2.500	2.500	2.500
Mode	4.89	4.00	3.57	1.90	2.46	2.00	2.25	3.00	2.50	2.25	2.50
Standard Deviation	0.471	0.547	0.503	0.180	0.169	0.286	0.354	0.329	0.414	0.338	0.402
Variance	0.223	0.300	0.254	0.033	0.029	0.082	0.126	0.108	0.172	0.115	0.162
Rank	2.79	3.00	3.21	0.90	0.88	1.75	2.00	1.75	2.00	1.50	1.50
Minimum	3.36	2.00	1.64	1.50	1.88	1.25	1.00	1.25	1.00	1.50	1.50
Maximum	6.14	5.00	4.86	2.40	2.75	3.00	3.00	3.00	3.00	3.00	3.00

According to table 1, the average of inter-school factors, cognitive environment, social environment in the fifth grade students is evaluated above average (3) according to the average. But the average of physical environment, problem-solving styles, helplessness factor, controlling problem-solving, creativity style, confidence in problem-solving, avoidance style and tendency style among the fifth grade students is lower than average.

Determining Normality of the Research Variables

Kolmogorov-Smirnov Test

The normality of data can be determined by Kolmogorov-Smirnov Test that here we do this test for whole data and each variables in which the results are shown in table (2).

Table (2): Table of normality test results of the study's variables

Variables	Number of Data	Kolmogorov-Smirnov Statistics	P-Value	Result (normality and abnormality of distribution)
Inter-school factors	280	0.979	0.293	Normal
Cognitive environment	280	1.223	0.100	Normal
Social environment	280	1.368	0.058	Normal
Physical environment	280	1.173	0.128	Normal
Problem-solving styles	280	1.266	0.081	Normal
Helplessness factor in problem-solving	280	1.253	0.084	Normal

Controlling problem-solving	280	1.303	0.071	Normal
Creativity style	280	1.350	0.060	Normal
Confidence in problem-solving	280	1.149	0.133	Normal
Avoidance style	280	1.323	0.068	Normal
Tendency style	280	1.394	0.052	Normal

According to the results obtained from table (2), since the significant level (P) obtained from the test is lower than our significant level i.e. $\alpha = 0.05$, the hypothesis of data normality can be accepted and parametric methods can be used to study the hypotheses.

Inferential Analysis of Statistic Data (Research's hypothesis test)

The main hypothesis test. There is a relationship between effective inter-school factors and problem-solving styles of the fifth grade students in Shabestar.

Table (3): Correlation between variables (Pearson correlation)

	Problem-solving style	Helplessness	Creativity	Confidence	Avoidance	Tendency
Inter-school factors	**0.37					
Cognitive environment		** -0.57	**0.52	**0.47	** -0.35	**0.38
Physical environment		** -0.26	0.28	0.03	** -0.25	**0.26
Social environment		** -0.29	0.32	**0.28	** -0.27	**0.34

As can be seen in table (3), significant level of Pearson test is 0.000 and this level is 0.01 lower than the minimum significant level. Therefore, there is a significant and positive relationship between inter-school effective factors and problem-solving styles of the fifth grade students in Shabestar.

Hypothesis 2: there is a relationship between indexes of inter-school factors and indexes of problem-solving styles of the fifth grade students in Shabestar.

As can be seen in table (3), there is a significant and reversal relationship between cognitive environment and helplessness and there is also a significant and reversal relationship between physical environment and helplessness. There is a significant and reversal relationship between social environment and helplessness. There is a significant and positive relationship between cognitive environment and creativity, between physical environment and creativity, between social environment and creativity, between social environment and confidence, and between cognitive environment and confidence. The results show that there is not a significant relationship between physical environment and confidence. There is a significant and reversal relationship between cognitive environment and avoidance, between physical environment and avoidance, and between social environment and avoidance. There is significant relationship between cognitive environment and tendency, between physical environment and tendency, and between social environment and tendency of the fifth grade students in Shabestar.

Discussion and Conclusion

The results of the research indicated that there is a significant relationship between inter-school effective factors and problem-solving styles of the fifth grade students. The results also showed that there is a significant and reversal relationship between cognitive environment and helplessness and there is also a significant and reversal relationship between physical environment and helplessness. There is a significant and reversal relationship between social environment and helplessness. There is a significant and positive relationship between cognitive environment and creativity, between physical environment and creativity, between social environment and creativity, between social environment and confidence, and between cognitive environment and confidence. He results indicated that there is a significant relationship between physical environment and confidence. There is a significant and reversal relationship between cognitive environment and avoidance, between physical environment and avoidance, between social environment and avoidance. There is a significant and positive relationship between cognitive environment and tendency, between physical environment tendency, between social environment and tendency of the fifth grade students in Shabestar. The results of some studies as Yaghma (2005), Fasa (2002), and Shahrakipour and Bani Si (2004) indicate that there is a significant and direct relationship between inter-school effective factors and problem-solving styles of students (students' creativity, confidence and tendency) and there is a significant and reversal relationship between inter-school effective factors and problem-solving styles pf students (students' helplessness, avoidance, and controlling). Cognitive factors and social environment factors is more important in type of selecting problem-solving styles by the students, because students use them for learning, remembering and comprehending lesson, such as active participating in class works and participating in group and class works , These cognitive strategies has various types as mental review, extending and organizing strategies that reinforce entering into the higher levels of educational developing (Soleyman Nezhad & Hosseini Nasab, 2012). One of the factors related to selecting problem-solving styles by students is social environment and behavioral interactions. Unfortunately, unfamiliarity of social environment and social behaviors as one part of school's lessons always are not considered and this issue is considered when students show inappropriate behavior and in contrast with what is considered by parents. The presence of such status probably is related to more emphasizing by teachers on teaching few skills that are valuable from their view or sense of non-responsibility of teachers than teaching social skills so that it is not as a part of their task. Therefore, considering humans are social and they need interaction with others, it is necessary to understand numbers and complexity of rules that should we know in interaction with other and use it in correct way for providing emotional, social and biological needs. Based on social goals, social behaviors do not achieve naturally. A child needs for teaching to be social. Learning social skills in the process of problem-solving and issues has importance and basic role (Soleymani et al., 2011). The results of the present study is compatible with the study by Chen (2002) that he investigated the relationship of difference in students' cognitive styles and using problem-solving styles by them among the students of primary schools in Korea. The results indicated that difference in students' cognitive styles leads to different data processing. In cognitive styles individuals who has style depending on basis are called general-viewer and individuals who have style non depending on basis are called. The first group sees form and basis in a general combination and then, separating form from basis is difficult for them. They interested in receiving pattern generally and have difficulty in problem solving, but the second group's individuals sees form and basis separately and then, they can easily separate them and interested in break down pattern in various parts and consider its details and they effected by environment in problem solving rarely. In the present study the relationship of cognitive factors and problem-solving styles was approved. The results also is compatible with the results of study by Kickul et al. (2010) that investigated the relationship between problem-solving styles and inter-school factors (social interactions between students and teachers and cognitive factors) completely that its results showed that there is a significant and positive relationship between some problem-solving styles (students' creativity, confidence and tendency) and inter-school factors. According to this that the results of the study show there is a direct and significant relationship between inter-school effective factors and problem-solving styles of students

(students' creativity, confidence and tendency), therefore, positive changes for improving inter-school effective factors (cognitive, social and physical environment) can be effective in improving students' problem-solving (students' creativity, confidence and tendency).

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