



Self-esteem, academic achievement and vocational aspirations as a predictor of problem-solving competence among senior secondary schools' students

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ABSTRACT

In the present study an attempt has been made to study the contributory role of self-esteem, academic achievement and vocational aspirations in prediction of problem-solving competence among senior secondary schools' students. A Sample of 1000 adolescents studying in senior secondary schools was selected through multistage sampling. Problem solving competence dimension of Adapted version of Career Maturity Inventory by Gupta (1989) was used to study Problem solving competence of senior secondary schools' students. Self-Esteem Inventory by Prasad and Thakur (1977) was used for measuring the self-esteem of senior secondary school students. Marks obtained by students in tenth grade examinations conducted by H.P Board of School Education Dharamshala were considered as their academic achievement. To measure the vocational aspirations of senior secondary schools' students the vocational aspirations scale was construct by researcher herself. Multiple Regression analysis was applied to find the contribution of self-esteem, academic achievement and vocational aspirations in prediction of problem-solving competence among senior secondary school students. The findings of the study revealed that self-esteem academic achievement and vocational aspirations significantly predicts the problem-solving competence among senior secondary school students.

Keywords: Problem solving competence, self-esteem, academic achievement, vocational aspirations, senior secondary school students.

Introduction

Problem solving competency is the ability of an individual to use cognitive processes in real situations. Apparently, problem solving competency as a basic ability is considered an essential indicator of the efficiency of educational systems. Developing problem solving skills is one of the most important tasks of teachers based on creative thinking i.e. generating new ideas and on critical thinking i.e. considering and choosing formal alternatives. The concept of competence comprises up-to-date knowledge about the development and functioning of personality which regards competence i.e. the ability to act effectively as one of the most important features of personality,

Problem solving is a mental process which is the concluding part of the larger problem process that includes problem finding and problem shaping. Problem is defined as a state of desire for the reaching of a definite goal from a present condition that either is not directly moving toward the goal, is far from it or

needs more complex logic for finding a missing description of conditions or steps toward the goal. In problem solving, there are problems which are generally faced by individuals in decision making process and the assumption is that the more mature an individual the more capable he or she is in solving problems that rise in decision making in an integrative, socially acceptable and personally satisfying way.

The Problem-Solving Cycle

Problem solving cycle consists of a series of steps. These steps are:

Identify the Problem

The first step consists in recognizing the existence of a problem that needs to be solved. In order to find an appropriate solution, we need to identify and name the problem.

Explore Possible Strategies

The next stage is to research the problem as fully as possible and to explore possible problem-solving strategies. Think about the different elements of the problem by watching it from different angles.

Set Goals

Goal setting is crucial to reach our strategic objectives. Goal setting is a powerful process for thinking about the ideal future and for motivating yourself to turn your vision of this future into reality.

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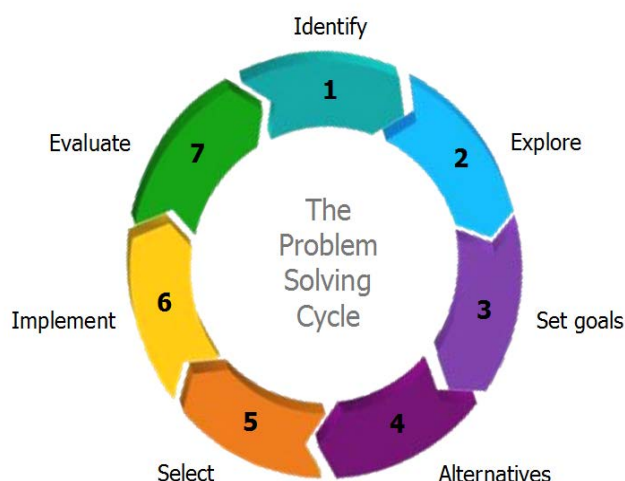


Figure 1: Problem Solving Cycle

Look at Alternatives

How many different approaches can you think of that will solve the problem? What are the pros and cons of each approach? When you have decided what your goal is you need to look for possible solutions. The more possible solutions you find the more likely it is that you will be able to discover an effective solution.

Select a Possible Solution

From the list of possible solutions, you can sort out, which are most relevant to your situation and which are realistic and manageable. Once you have selected a possible solution put your plan into action.

Evaluate the Result

After a solution has been reached, it is important to evaluate the results to determine if it is the best possible solution to the problem. If the implemented strategy was successful in solving the problem and attainment of goal, then we know that we have effectively solved the problem. If dissatisfaction is obtained with the result, then try alternative possibilities by beginning the problem-solving cycle again.

Self-Esteem

Self-esteem is a term used in psychology to reflect a person's overall emotional evaluation of his or her own worth. It is a judgment of oneself as well as an attitude toward the self. Self-esteem has been described as the judgment that we make about our own worth and the feeling associated with those judgments. Self-esteem encompasses belief and emotions such as despair, pride and shame. Self-esteem is also known as the evaluative dimension of the self that includes feelings of worthiness, prides and discouragement. Self-esteem is a disposition that a person has which represents their judgments of their own worthiness.

Academic Achievement

Academic achievement of pupils refers to the knowledge attained and skills developed in school subjects. So, academic achievement means the achievement of students in the academic subjects in relation to their knowledge attaining ability or degree of competence in school tasks usually

measured by standardized tests and expressed in grades or numbers based on pupil's performance.

Vocational Aspirations

Vocational aspirations refer to decision made by a student on his/her future work, occupation or career or profession. Vocational aspirations are attitudes of likes and dislikes towards things and attitudes of vocational significance. These attitudes influence the life adjustments in general and vocational adjustments in particular, which in turn lead to satisfaction with one's life and a person engaged in a vocation, not directly or indirectly satisfying his/her needs, dispositions, fail to fulfill the vocational expectations.

Review of Related Literature

Manoharan and Ramganes (2009) conducted a study on creative problem-solving ability of 11th standard students. The objectives of the study were to identify the level of creative problem-solving ability of 11th standard students and to find out, if any, the significant differences in creative problem-solving ability in terms of background variables namely, sex, type of school, type of syllabus and locality. The finding showed that students who completed their high school under matriculation syllabus were more creative than the students who completed their high school under the syllabus prescribed by the government of Tamil Nadu.

Umadevi (2009) conducted a study on a study on the relationship between problem solving ability and academic achievement of secondary school students. The findings indicated that there was no significant difference in problem solving ability of boys and girls. There was significant difference in problem solving ability of students studying in government and private schools and there was a significant relationship between academic achievement of students with high, moderate and low problem-solving ability.

Manjula & Nataraj (2012) conducted the study on the topic titled as a study of problem-solving ability among the 9th class students. The results revealed that there was no significant difference in respect of the sub samples, type of family, mother's education, father's occupation and mother's occupation. While in respect of gender, locality, father's education and parental monthly income there was significant difference on their problem-solving ability.

Thakur (2013) studied the problem-solving ability among the undergraduate mathematical gifted students of Jabalpur, Madhya Pradesh. The results revealed that (i) the problem-solving ability of mathematical gifted students were high in colleges at Jabalpur. (ii) This investigation also revealed that there was significant difference in respect of the sub samples, gender, mother's education, category of educational institutions. While in respect of father's education, there was no significant difference on their problem-solving ability.

Need and Significance of Study

The 21st century is about new challenges and problems which require a new set of skills. The world around us is evolving rapidly and children need to learn essential skills such as critical reasoning, problem solving and critical thinking. Many studies have shown that children today need to develop these skills to solve key real-world problems.

Problem-solving is a systematic process that involves critical reasoning and thinking to find a suitable solution to problems to achieve desired objectives. There are the reasons why problem-solving is essential for school students: 1) It helps students to distinguish between solvable issues and problems that cannot be solved. 2) It is necessary for preparing school students to face complex interpersonal and academic problems. 3). When children solve problems individually or in a group, they become more resilient. They learn to look at problems from a new perspective. Therefore, it makes them capable of taking more calculated risks. 4). Problem-solving is essential to a child's development because confident and productive children usually grow up as successful and confident adults. 5). When students practice problem solving consistently, they can develop better social and situational awareness. They will also learn to manage time properly and develop patience. 6). Students who learn to solve problems from childhood are curious, resourceful and determined.

The World Economic Forum has also recognized problem-solving skills as one of the ten essential 21st-century skills. A focus on problem-solving during the school years helps students be more resourceful, confident and think methodically. It enables students to find constructive and unique solutions to the problems of current times. Parents and teachers need to focus on these skills for their child's overall development.

Objectives of the Study

To study the contributory role of self-esteem, academic achievement and vocational aspirations in prediction of problem-solving competence among senior secondary school students.

Hypothesis of the Study

Self-esteem, academic achievement and vocational aspirations do not contribute significantly in determining the problem-solving competence of senior secondary school students.

Research Methodology

The present study is descriptive in nature and survey method had been used. All the students, who were studying at standard XI in government and private senior secondary schools of Himachal Pradesh, constitute the population of the study. In this study, multistage random sampling technique has been used to draw appropriate representative sample from the population. In the first stage 12 districts of H.P are arranged in chronological order on the basis of their literacy rate. After that 12 district of Himachal Pradesh are divided into four strata having three districts in each stratum. From each stratum, one district is selected using simple random sampling technique. In this way, researcher selects four districts for her study. From these four selected districts, out of total senior secondary school (government and private), 10% schools are selected randomly. Lastly from the selected senior secondary, schools 15-20 students of class 11th are selected through systematic random sampling technique. Approximately 1000 11th class adolescents of government and private senior secondary schools of H.P constitute the sample.

Tools Used

Adapted version of Career Maturity Inventory by Gupta (1989) was used to study problem solving competence. Career Maturity Inventory provides two types of measures: The Attitude Scale and the Competence Test. Competence test

consists of six components i.e. Self-Appraisal, Occupational Information, Goal Selection, Planning and Problem Solving. So, its Problem-solving component was used to measure the problem-solving competence of senior secondary school students. Self-Esteem Inventory by Prasad and Thakur (1977) was used for measuring the self-esteem of senior secondary school students. Marks obtained by students in tenth grade examinations conducted by H.P Board of School Education Dharamshala were considered as their academic achievement. To measure the vocational aspirations of adolescents the vocational aspirations scale was construct by researcher herself.

Statistical Techniques Used

Multiple regression analysis was applied to determine at what extent self-esteem, academic achievement and vocational aspirations predict the problem-solving competence of senior secondary school students.

Discussion of the Results

In the present study self-esteem, academic achievement and vocational aspirations are the independent variable and problem-solving competence is the dependent variable. The Multiple Regression was applied to know that independent variables are the significant predators of dependent variables or not.

The Multiple Regression results were discussed below in Table 1.

Table 1. Summary of Multiple Regression Analysis to Predict the Problem-Solving Competence using Self-Esteem, Academic Achievement and Vocational Aspirations of Senior Secondary School Students

Variables	R ²	F	B		SE		Beta	t	Sig.
			Unstandardized Coefficients		Standardized Coefficients				
Problem solving Competence	.024	7.996							
Self-esteem			.004	.001	.095	3.022			.01
Academic achievement			.002	.001	.084	2.643			.01
Vocational aspirations			.023	.011	.071	2.216			.05

R=.153, Adjusted R square =.021

Table 1.1, indicates that the F-value is 7.996 which is acceptable at .01 level of significance. The coefficients (beta column) related to self-esteem, academic achievement and vocational aspirations variables are positive and corresponding t-values are significant. Therefore, it is inferred that self-esteem, academic achievement and vocational aspirations are the significant predictors of problem-solving competence of senior secondary school students. Table 1.1 further shows that the value of R² is .024, which implies that self-esteem, academic achievement and vocational aspirations jointly contributes 2.4% of variance in problem solving competence of senior secondary school students. Hence the hypothesis that "Self-esteem,

academic achievement and vocational aspirations do not contribute significantly in determining the problem-solving competence of senior secondary school students”, was rejected.

The results showed that the problem-solving competence of senior secondary school students was determined to a considerable extent by self-esteem, academic achievement and vocational aspirations. That is, self-esteem, academic achievement and vocational aspirations were significant predictors of problem-solving competence. The results of the study affirm the role of self-esteem, academic achievement and vocational aspirations in the determination of problem-solving competence of senior secondary school students.

Conclusion

It is universally known that school life is most important and crucial period in life of an individual characteristics and problems. The problems may create disturbances and disequilibrium in developing process of an individual. Therefore, the educators must re-define traditional teaching methodologies which often do not match students learning styles and skills needed in society. Educators can play an instrumental role in fostering an environment of teaching and learning by presenting topics in an activity-oriented manner to mitigate or prevent math anxiety. For instance, concept can be taught through relating day to day life activities, forming clubs for interaction among students on any problem, audio-visual aids, hands on activities and technology. Computer programming enhances problem-solving abilities and promotes creativity and reasoning ability of students. Teachers should use Inquiry-oriented instruction, tasks and activities, which can assist students to develop his/her talents. Various types of co-curricular activities can be organized frequently to promote qualities such as cooperation, tolerance, open-mindedness and sharing of responsibilities to enhance their problem-solving competence.

In this study self-esteem, academic achievement and vocational aspirations are the significant predictors of problem-solving competence among senior secondary school students. This study will help the senior secondary school students to believe in themselves and to understand the importance of their self-esteem, academic achievement and vocational aspirations in their problem-solving ability. Further, the results of the study will be helpful in providing the empirical base for organizing classroom teaching in most effective and satisfactory manner in senior secondary schools for enhancing the problem-solving competence of senior secondary school students. It may also help the teachers, parents and guidance workers for developing desirable problem-solving competence in children. Thus on the basis of above discussed factors and variables the present study has been designed to investigate the role of self-esteem, academic achievement and vocational aspirations in prediction of problem solving competence among senior secondary school students.

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