

AN EFFORT TO RAISE ACADEMIC ACHIEVEMENT BY TEACHING SUCCESSFUL INTELLIGENCE.

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Abstract

The present study is an attempt to explore the relationship between academic achievement and successful intelligence of senior secondary students. The goal of this study is to apply successful intelligence in classroom, if this practise is applied in instructions and assessment, then it will definitely raise academic achievement and success in life. For this purpose, a sample of 400 students from CBSE Schools was taken. They were tested for successful intelligence and their matric result was taken as their academic achievement. The results were interpreted using inter-correlations. Significant relationship was found between three dimensions of successful intelligence and academic achievement.

Education is the most effective means to the way to success as it enables the child to develop his abilities to the maximum. In this world of competition, the educational status of an individual is highly depicted through the academic achievement. If education is an investment then academic achievement is the return. Academic achievement is generally taken as scores or grades obtained by a student. It is related to level of proficiency attained in scholastic or academic work. The academic achievement of an individual is a result of many cumulative effects. Educational researchers have always been highly interested in psychological correlates of academic performance. Positive educational environment, both at family and at school help to develop traits that support achievement. Among all, intelligence is the key determinant of one's academic success.

The relation between intelligence and academic achievement is one of the most relevant and well established findings in psychology. It is believed that what an individual can achieve or learn depends on one's intelligence as intelligence puts a limit on one's performance. There is ample research and growing body of literature that indicates a strong relationship between intelligence and academic achievement and this relationship helps us to understand, investigate and further explore the various predictors of academic achievement.

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In 1904, when Alfred Binet developed a test to measure intellectual abilities of school children, he had no idea that what impact his findings will have in the field of education and psychology. This aim of his research was to help teachers adopt their teaching methods to the needs and abilities of students. Students with problems or weakness in specific area could receive special help accordingly. Since then IQ and Achievement tests have changed the world of education. Researches all over the globe worked on assessing intellectual abilities; defining intelligence in their own perspective. We all believe intelligence is what intelligence tests measure, so we need to use such tests of intelligence which measures all aspects of intelligence. Traditional IQ tests measured mostly analytical abilities specially verbal and mathematical skills; combining these with mechanical, musical or social skills. Creative or practical abilities were not emphasised in traditional IQ tests. Sternberg discarded the traditional IQ and replaced it with successful intelligence, which according to him is the kind of intelligence that matters in reaching life's important goals. It is the intelligence that will be valuable and rewarding in the real world after school- both in work and in personal lives.

Robert Sternberg developed triarchic theory of successful intelligence that includes analytical, creative and practical intelligence. On the basis of these elements successful intelligence is defined as: (a) the use of an integrated set of abilities needed to attain success in life, however an individual defines it, within his or her socio cultural context. People are successfully intelligent by virtue of (b) recognizing their strength and making the most of them, at the same time that they recognize their weaknesses and find ways to correct or compensate for them. Successfully intelligent people (c) adapt to, shape, and select environments through (d) finding a balance in their use of analytical, creative, and practical abilities (Sternberg, 1996).

Mostly the creative students have less opportunity to make their abilities known, as our education system often favours more conforming types of behaviour. The creative students are unfortunately not appropriately rewarded or ranked in academics, our examination system focuses on analytical abilities and memory. According to Stenberg practical intelligence is also as significant as analytical and creative abilities as it allows people to adapt effectively to the demands of work and daily life. Sternberg asserts that practical intelligence predicts one's future job success more than traditional tests. This will also help to bring radical changes in the way students are educated, that is not only emphasizing on developing analytical abilities but also

stressing development of creative and practical abilities which will lead to better common sense. If we teach our students with emphasis on these abilities, it will definitely raise their academic performance. When a material is taught and assessed in different pedagogical ways involving analytical, creative and practical thinking then students have more opportunities to learn and comprehend the things in a better way, thus it improves their academic achievement.

Review of literature

Sternberg explored the question of whether conventional education in school systematically discriminates against children with creative and practical strengths. It was observed that the systems in most schools strongly tend to favour children with strengths in memory and analytical abilities. Very interesting as well as significant views are expressed by Sternberg in his theory of Successful Intelligence that it is not only the scale of marks of a student in exams but it is a fair play of all his analytical, creative and practical skills in life that will bring success to him (Sternberg & Grigorenko, 2000). Triarchically taught students outperformed students who were taught primarily for memory or for critical thinking (Sternberg, Torff & Grigorenko, 1998).

Sternberg (2003) stressed that creative skills can be taught, those children who are taught how to solve the insight problems using knowledge acquisition components gained more from pre-test to post-test than did students who were not so taught. Practical, creative and analytical abilities as measured by Sternberg Triarchic Abilities Test (Sternberg, 1993) contribute to the prediction of academic achievement.

Sternberg, Grigorenko, & Bundy (2001) did study on children in Kenyan villages and found that the better students were on the practical tests, the worse they were on the academic tests, and vice versa, those schoolchildren whose traditional skills are most prized by the community tend to do least well in school tests. In a related study, Grigorenko and Sternberg (2001) found that among Russian adults, although both academic and practical intelligence predicted mental and physical health, practical intelligence was the better predictor. Sternberg and The Rainbow Project Collaborators (2006) cited strong evidence that the measures of analytic, practical, and creative intelligence do predict college grade.

In another study by Grigorenko, Jarvin and Sternberg (2002), students were assigned to one of three instructional conditions. In the first condition, they were taught the course with no

intervention. The emphasis in the course was on memory. In a second condition, students were taught in a way that emphasized critical (analytical) thinking. In the third condition, they were taught in a way that emphasized analytical, creative, and practical thinking. All students' performance was assessed for memory learning (through multiple-choice assessments) as well as for analytical, creative, and practical learning (through performance assessments). As expected, students in the successful-intelligence (analytical, creative, and practical) condition outperformed the other students in terms of the performance assessments.

Brody (2003 a, 2003 b) believes that the theory of successful intelligence departs too much from the conventional theory of general intelligence. The measures of creativity of the test of successful intelligence show weak to moderate correlation with g-based measures (Lubart, Mouchiroud, Tordjman, & Zenasni, 2003). Whereas Gardner (1983), is of the view that the triarchic theory of successful intelligence does not move away from the conventional g-theory.

Anwar, Aness, Khizar, Naseer & Muhammad (2012) explored the relationship between academic achievement and creative thinking of secondary school students. The findings of the study showed a significant positive relationship between creative thinking and academic achievement.

Method

The present study was conducted to study the role of successful intelligence in academic achievement.

Sample

For this purpose, 400 students of senior secondary classes of CBSE Board were taken. The sample is selected from CBSE schools so as to maintain equality and uniformity for class 10th results. The sample was taken from Public schools of Jalandhar and Phagwara and is more or less homogenous on socio economic status, cultural background and academic milieu.

Tools

Matric result (CGPA) of the students was taken as score of their academic achievement. Successful intelligence of the students was tested with the help of the Sternberg Triarchic Abilities Test (STAT) level H by Sternberg, 1993. It measures three areas of mental abilities-analytical, creative and practical. Analytical questions focus on the ability to reason inductively

and to learn from context, creative part deals with ability to cope with novel situations and practical questions assess the person's ability to solve real life problems. STAT has nine multiple choice subtests, each subtest having four questions and each question having four options. The nine subtests belong to three kinds of abilities and each further having a verbal, quantitative and figural part. There are three essays, one in each part but the essay part was not included in this study.

Results and Discussions

The objective of the study was to explore the relationship between academic achievement and three dimensions of successful intelligence: analytical, creative and practical, of senior secondary students. The correlational analysis is used to find out the relationship between the variables. The results obtained are as follows.

Table no. 1 Showing the Correlations among variables using Pearson Correlation

	Analytical	Creative	Practical	Total
Academic achievement	.395**	.369**	.180**	.465**

**** Correlation significant at the 0.01 level**

The inter-correlations suggest that there is positive relationship between analytical abilities and academic achievement. ($r = .39$). This helps to interpret that analytical abilities play a significant role in academic results. The students having good reasoning, logical abilities and ability to learn from contexts achieve high grades. Strong positive correlation is indicative of the fact that examination system that evaluates the academic performance puts more emphasis on analytical abilities.

Another significant result is that creative abilities also has high positive correlation with academic achievement ($r = .36$). This shows creative abilities that is to think novel, abilities to deal with new situations, think out of the box, has significant relationship with academic grades. Students who achieve high grades show high creative abilities. Our examination system is also focusing on including questions and problems which are not only analytical abilities but also trigger creative abilities of students. Such questions have become part of papers which force students to think creative and our results support the relationship.

Further, the third dimensions of successful intelligence that is practical abilities has least inter-correlation with academic achievement ($r = .18$), which is though positive but not as strong as other two variables. Practical abilities include the person's ability to solve real life problems, to adjust or to change one's environment. This ability applies what is theoretically learned. Those who focus on theory may develop analytical abilities and get high grades but they may lack practical abilities which ultimately are more responsible to be successful in life. Our examination system gives less significance to practical aspects of theory. The focus of students is also more on content rather on its application or utility. Producing analytically or creatively intelligent pupils in the schools without any practical knowledge will result in people with lesser intelligence required to be successful later in life. The lesser degree of correlation indicates that in exams, questions are not linked or focused on applied aspects of syllabi. Those students who are always after grades and don't focus on other things, their practical abilities are not developed.

Table no. 2 Showing the Partial Correlation among variables.

	Academic achievement	Control Variables
Analytical	.290	Creative & Practical
Creative	.253	Analytical & Practical
Practical	.133	Analytical & Creative

The results were further interpreted with the help of partial correlation, which also suggest similar results. Partial correlation between academic achievement and analytical ability when controlled for creative and practical abilities comes out to be .29. Correlation between academic achievement and creative ability when controlled for analytical and practical abilities comes out to be .25 and correlation between academic achievement and practical ability while controlling the analytical and creative abilities comes out to be .13. These figures also emphasize that analytical ability have strongest say in academic results whereas practical abilities though significant hold lesser share.

In conclusion, few considerations may be taken into account. Successful intelligence is not totally innate; it can be developed and nurtured in schools by training students from very early age with the syllabus that will not only hone their analytical or memory skills but also challenge their creative and practical abilities. The idea is to develop successful intelligence and for that all

three dimensions should be given equal significance in academics. The content should be taught using methods which involve all three aspects.

Another important idea is to include these dimensions in evaluation system. Students focus more on things that are associated with examinations and grades. Thus involving questions related to analytical, creative and practical abilities will definitely help in their development. Parents will also stress those things and practical abilities which are usually ignored will get due attention. Examination patterns stressing too much on objective questions lead to development of analytical abilities whereas inclusion of more subjective questions will help in developing creative abilities and emphasis on practical and projects may develop practical abilities. We should construct such tests that require not only remembering or recognition of factual information but also searching of new answers, seeking innovative solutions, evaluation of information gained and practical implications of knowledge. If our schools reward all these three abilities and include them in their curricula and make them the part of academic results, then it will definitely help students to become successful later in life.

After senior secondary classes a student enters a vocational or professional course where practical ability is a must for adjustment and performance. Presently our academic abilities are assessed by measuring our memory or analytical abilities and when students enter in a profession or real world, they are just equipped with ability to analyse or remember things. This may help them to get good grades but may not help in dealing with real life problems. Thus students scoring 'A' grades in all subjects fail to establish themselves in a profession. They are unable to handle real problems and real people. They fail to live up to their potential because performance in real life is not related to school performance. If practical and creative aspects had been a part of academics, then not only it will increase the scores but also the abilities to be successful in life. The aim of all the educational programmes should be to develop successful intelligence that nurtures a blend of analytical, creative and practical abilities, as it allows him to adapt, shape and select the environment according to his needs and problems. The theory postulates that successful intelligence includes the creative skills that generate novel ideas, analytical skills which evaluate whether they are good or not and practical skills that help in successfully implementing these ideas. The goal of education should not only be developing cognitive abilities or memory rather it should also focus on developing social skills, concepts, creativity and practical application of the content. Academic achievement is the learning outcome of a

student, it should not be limited to school grades or marks but also to development of mental, emotional and physical abilities so as to be successful in coming years as well.

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