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Significance of successful intelligence in the academics of adolescents: a literature review

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Abstract

Adolescence is a period characterized by emotional upheaval as well as both exposure to more opportunities and risks (Chow, 2005). According to Piaget this is the highest stage of cognitive development. At this stage they transit from concrete operation to formal operation, they start abstracting and solve problems in a systematic way. Hence during this stage more complex analytical skills are given through the curriculum. However in the contemporary society, analytical intelligence alone is not enough to succeed, they also need to be equipped to deal any situations creatively and practically. The integrated use of these three intelligences in every-day situations makes a person self efficient and needed to be successful in life (Sternberg, 1999) [12]. In this context the present study makes an effort to review the articles which talks about the importance successful intelligence in academics and in adolescence years. The reviews clearly indicate that the components of successful intelligence influence positively in adolescents academic achievement and learning. The results of these studies reveal that successful intelligence can be used to teach different subjects in schools. Teaching for successful intelligence is beneficial to all students with different learning patterns and it enhances efficacy and level of performance among students.

Keywords: Successful Intelligence, Adolescents, Academics

1. Introduction

Adolescence is a period of stress and storm, academic success is the most expected thing in this stage. In the process of achieving this adolescents concentrate on memorizing than on learning the things. If at all they learn, they will not be knowing the application of that knowledge into everyday life situations. The theory that addresses this problem is Successful Intelligence theory by Robert Sternberg. According to this theory, being intelligent is something more than studying lessons. Intelligent person is one who knows how to use the acquired knowledge under different situations (Sternberg, 2009). He is concerned with analysis and explanation of processes as to see how and with what mechanisms people resolve subjective assignments and issues, how they promote skills related with thinking and reasoning and expose better performance in dealing with various issues (Sternberg, 2007; Negahban Eslami *et al.*, 2014) [16, 10].

Major elements which constitute the basis of successful intelligence program are as follow (Sternberg *et al.*, 2011; Sak, 2007) [18, 15]. The ability to attain success in accordance with personal standards in the heart of social cultural context of the person; The ability of the individual to acquire success hinging on utilizing strong points and reform or making up his own weaknesses; Successful intelligent people are successfully intelligent; To adapt with the environment, forming and choosing them requires a skill based balance; Implicit knowledge and wisdom are cornerstone of practical intelligence; Success is made via certain balance among three dimensions of intelligence; analytical, creative and practical. Analysis ability is used when the person performs analysis, assessment and comparison. Creative ability is used when the person creates, invents and discovers. Practical ability is applied when the individual performs that which he has learned (Sternberg, 2008) [17]. Successful intelligent people show balance in use of these three abilities.

In adolescence and early adulthood the nature of development undergoes a change as it transitions to self-development based on building life plans in a time perspective. Teenagers' notions about success is a benchmark in their construction of an image their future.

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Understanding success impacts their goal- setting and assessment of its achievements, which is essential for forming a teenager's conceptions of himself and his life, his self-esteem and psychological well-being as a whole (Bozhovich L.I, 1997 & Lisina M.I. 1997) ^[1, 8].

2. Objectives

1. To know the relationship between intelligence and academic achievement.
2. To understand the perception of success among adolescents.
3. To understand the influence of components (Analytical Intelligence, Creative Intelligence and Practical Intelligence) of successful intelligence on academic achievement.
4. To know the influence of total successful intelligence on academic achievements.

3. Methodology

The researcher has made an attempt to understand the topic by collecting articles related to the topic from various sources like journals, books, news papers, experts etc. The collected articles were then reviewed and compiled under different headings.

4. Results

The collected reviews are brought categorized the following headings.

4.1 Intelligence and academic achievement

Intelligence and academic achievement are always correlated with each other. People think that students who achieve more in academics are more intelligent. In actual process people who can remember things and reproduce whenever required are good achievers. Hence students with good memory power can be good achievers many a times than students who have poor memory.

Some research studies are conducted to understand the influence of intelligence on academic achievement.

A study conducted by Chandra and Azimmudin (2013) ^[2] examined the influence of Intelligence and gender on Academic achievement of secondary school students of Lucknow city. The findings of the study reveal that there is a significant influence of Intelligence on academic achievement whereas gender has not significantly influenced the academic achievement.

In a case study conducted by Farsani *et al.*, (2016) ^[22] to know the Role of Intelligence in Learning and Success This article states a definition of intelligence as comprising the mental abilities necessary for adaptation to, as well as selection and shaping of any environmental context concludes that, although the behavior that is labeled as intelligent may differ from 1 environmental context to another, the mental processes underlying this behavior do not. The abilities are applied to achieve external correspondence to the world and internal coherence among various knowledge and belief structures.

4.2 Adolescence and success

Adolescence is a crucial period. They are influenced by internal and external factors while choosing a career and how they perceive the success.

Few studies tries to understand the perception of success among adolescence.

One of the studies conducted by Karabanova and Bukhalenkov (2016) ^[6], aims to study the perception of

success in adolescents, on the basis of classifications developed in social psychology, dictionary definitions of the word and the results of the pilot study. The results revealed that, most of the adolescents are characterized by the perception of success as popularity in society, social recognition and achievements. They are much more satisfied with their lives, make plans for the future, however they are not so confident about the possibility of its implementation.

4.3 Theory of successful intelligence

4.3.1 Creative intelligence in classroom

It is understood that creativity is nothing to do with academics, but according to research studies below, academic achievement is influenced by creative thought process.

A study by Fleith, Renzulli and Westberg (2002) ^[4] investigated the effects of a creativity training program, New Directions in Creativity, on students' divergent thinking abilities and self-concept in monolingual and bilingual elementary classrooms. The findings indicated that the creativity program slightly improved the divergent thinking abilities of students in the treatment group and the effect of the creativity program on the self-concept of students in the treatment group was small, and the control group students experienced a decline in self-concept between pretest and posttest.

Sternberg (2003) ^[23], describes creative thinking in the Classroom. He expresses that schools generally undervalue creativity and teachers think creativity is no different from general intelligence or that schooling cannot or should not value creativity, or they do not know how to teach for creativity. The author explains that creativity is different from general intelligence and teaching in a way that encourages and rewards creativity can improve school performance and children can learn to make certain kinds of decisions that will enhance their creativity.

4.3.2 Practical intelligence and academic achievement

Practical intelligence is the ability of a person to apply the knowledge to solve day to day problems. It is common sense and deals mostly with social situations. Some might refer this aspect of intelligence as street-smarts.

Here are some reviews which talks about the importance of practical intelligence in daily living.

Grigorenko *et al.*, (2004) ^[5], assessed the importance of academic and practical intelligence in rural and relatively urban Yup'ik Alaskan communities with respect to Yup'ik-valued traits rated by adults or peers in the adolescents' communities. The results indicated that everyday-life knowledge valued traits in the presented sample and that the predictive power of this knowledge is higher in adolescents (especially boys) from rural communities than from the semi-urban community.

A study to boost school achievement using practical intelligence through an intervention programme for middle school students by Williams *et al.*, (2002) indicates that the intervention program successfully enhanced both practical and academic skills in each of the target skill areas (reading, writing, homework, and test taking) in children from diverse socioeconomic backgrounds attending diverse types of schools.

4.4 Successful intelligence and academic achievement

Successful intelligence is the integrated set of abilities (Analytical, Creative and Practical abilities) to achieve success, by capitalizing on strengths and compensating for

weaknesses, to adapt to, shape and select the environment (Sternberg 1999) ^[12].

Here are the reviews that emphasis on the influence of these integrated set of abilities on academic achievement is been discussed.

The two studies were conducted Sternberg (1998) ^[19], among 3rd grade (primary school) and 8th grade (middle school) students to test the efficacy of the triarchic theory of human intelligence as applied to classroom learning and performance. Students at the 3rd grade level were taught a social studies unit and at the 8th grade level were taught a psychology unit in 1 of 3 ways: traditional instruction (primarily memory based), critical thinking instruction (primarily analytically based), and triarchically based instruction (involving infusion of analytical, creative, and practical instruction). Performance at both levels was assessed through multiple choice items measuring primarily memory and performance based items measuring analytical, creative, and practical aspects of achievement. Third grade students also provided self report measures. In general, triarchic instruction was superior to the other modes of instruction, even on multiple choice memory based items.

Further an article by Sternberg (2002) ^[24] describes how one can teach students more effectively by teaching for successful intelligence. According to the author teaching for successful intelligence involves instructing and assessing analytically, creatively, and practically, as well as for memory. Such teaching helps students recognize and capitalize on strengths, and at the same time recognize and correct or compensate for weaknesses. And he also describes how to teach for successful intelligence and presents empirical evidence that teaching for successful intelligence really works in the classroom in raising student achievement.

Three studies were conducted by Grigorenko *et al.*, (2002) ^[3] at the middle and high school levels to assess the effectiveness of triarchically based instruction and assessment—which emphasizes analytical, creative, and practical thinking and learning skills as well as memory oriented skills—to conventional instruction and assessment. Interventions emphasized reading in the context of instruction in language arts, math, physical sciences, social sciences, history, foreign languages, and the arts. In all three studies, triarchic instruction was more effective than conventional instruction in improving student reading achievement.

Sternberg and Grigorenko (2002) ^[3] in an article, the theory of successful Intelligence as a Basis for Gifted Education explain about the theory of successful intelligence and data in support of it, shows how to implement the model in schools and presents data in support of the success of its school implementation and relates the theory of successful intelligence to other models of gifted education.

In another article by Sternberg and Grigorenko (2004) ^[21] they explain the use of Successful Intelligence in the Classroom. According to the authors, many students could learn more effectively than they do now if they were taught in a way that better matched their patterns of abilities. Teaching for successful intelligence provides a way to create such a match. It involves helping all students capitalize on their strengths and compensate for or correct their weaknesses. It does so by teaching in a way that balances learning for memory, analytical, creative, and practical thinking.

In a study conducted by Samavatian, Latifi and Abedi (2014) ^[9] on 30 female and male students to investigate the effectiveness of successful intelligence training program on academic hopefulness of probation students of Esfahan

University of Technology, indicates that successful intelligence program training was effective to enhance academic hopefulness of probation students ($p < 0.05$). Given the results of present research, successful intelligence program training can be used as an intervention method in order to decrease harms because of dormitory and student life. A study conducted by Sternberg *et al.*, (2014) ^[13] addresses whether prior successes with educational interventions grounded in the theory of successful intelligence could be replicated on a larger scale as the primary basis for instruction in language arts, mathematics, and science. A total of 7,702 4th-grade students in the United States, drawn from 223 elementary school classrooms in 113 schools in 35 towns (14 school districts) located in 9 states, participated in the program. Students were assigned, by classroom, to receive units of instruction that were based either upon the theory of successful intelligence (SI; analytical, creative, and practical instruction) or upon teaching as usual (weak control), memory instruction (strong control), or critical-thinking instruction (strong control). The amount of instruction was the same across groups. In the 23 comparisons across 10 content units in 3 academic domains, there were only a small number of instances in which students in the SI instructional groups generally performed statistically better than students in other conditions. There were even fewer instances where the different control conditions outperformed the SI students. Implications for the future of SI theory and the scalability of research efforts in general are discussed.

5. Conclusion

From the article it can be concluded that, the components of successful intelligence influence positively on academic achievement and learning. Successful intelligence can be used to teach different subjects in schools. Teaching for successful intelligence is beneficial to all students with different learning patterns and it enhances efficacy and level of performance among students.

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