

Academic Achievement In Relation To Intelligence, Creativity, Motivation And Study Habits Among Commerce Students

Miss Gagandeep Kaur Aujla

Dr. Davinder Singh Johal (Associate Professor)

Abstract:

The present study was conducted on a sample of 100 students (Males & females) who joined Post-graduation in the Commerce stream of Guru Nanak Dev University, Amritsar. All the students were in the age range of 20 to 24 years. The aim of the present study was to investigate the relationship between Academic achievement and Intelligence, Creativity, Motivation and Study Habits. Standard Progressive Matrices Test (Raven, 1984), Torrance Test of Creative Thinking (Torrance 1987), Academic Motivation Scale (Vallerland et. al. 1089) and Study Habits Inventory (Mukhopadhyay and Sansanwal 1983) were administered to assess Intelligence, Creativity, Motivation and study Habits respectively. Academic Achievement was measured on the basis of average marks scored in the last three years. Academic Achievement has shown a significant positive correlation with Intelligence, Creativity (Fluency, Flexibility and Elaboration), Motivation and Comprehension (A component of Study Habits). Regression Analysis was applied to locate the predictors of Academic achievement. Intelligence, Flexibility and Comprehension were found to be the predictors of Academic achievement in Commerce.

Keywords: Academic achievement, Intelligence, Creativity, Motivation and Study habits

Introduction:

In today's competitive world, everybody tries to give their best in all the fields, among them education is one field where we see maximum competition. Every parent wants their wards to excel in academics and score good marks. Good score adds to a student's credibility and predict future success. There is a boom in the corporate sector that has drawn students' interest towards commerce studies in schools, colleges and universities.

Academic achievement is considered as a main contributor of success generally among people and pupil's academic life. Instructions provided to students in schools and colleges and marks they obtain in their respective examinations determine academic achievement. According to Crow and Crow (1969) Academic achievement is defined as the extent to which an individual gains or profits from instructions and knowledge imparted to him. Academic achievement is influenced by several factors such as intelligence, motivation, self-regulation, education of the parents, family environment, school/classroom environment, anxiety, self concept, self esteem,

socioeconomic status, etc. But the present study has focused on the role of intelligence, creativity, motivation and study habits in academic achievement in commerce stream.

Intelligence has been long established as a predictor of academic achievement (Furham, 1995). Intelligence generally, was defined in terms of capacity to do abstract reasoning, the ability of an individual to learn and adapt in a new environment. Present view of intelligence confirms the role of an intelligent person in selecting and modifying his/her environment according to his/her needs.

According to Schneider (2013) intelligence is a potential for execution of potential. Though, both are considered separate abilities, but both are considered as two aspects of 'g' factors of Cattell's investment theory. Various researches have been done in attempt to gain insight about the relationship between intelligence and achievement in different aspects such as job performance (Gottfredson, 2002; Schmidt & Hunter, 2004), also in regard to health (Der, Batty & Deary, 2009) and wealth was also studied in relationship with intelligence and academic achievement (Zagorsky, 2007). Specifically in the field of education, intelligence standing out as crucial in better academic outcome. Correlation ranging .50 to .70 is shown by number of researches done in attempt to understand relationship between intelligence and academic achievement. (Lynn & Van Hanen, 2012).

For years, researchers have been curious to study the association between creativity and academic achievement. Researches carried out to study relationship between creativity and academic achievement conclude that there is no significant relationship between these two variables. However, other researchers have established that creativity plays a significant role in academic achievement. Some researchers have reported that creativity is related to higher levels of academic achievement, which need divergent ability.

The study, which left a great impact on psychologists in the field of education and which created a stir in the field of psychological research, was a study of 449 high school children in Chicago (Getzels and Jackson in 1962). They compared a group of middle class adolescents who scored well on intelligence test with students who scored remarkably on creativity test by Guilford. The results obtained show that students who scored high on creativity have shown superior academic achievement in comparison to children with high I.Q.

A student's motivation to learn is considered as a main determinant of success and outcome of learning (Mitchell, 1992). There are two basic orientations towards learning. One is Intrinsic other is Extrinsic. People are either motivated to achieve due to internal satisfaction or for external rewards. Intrinsic motivation patterns are linked with high perceived ability and control. A person motivated intrinsically does realistic task analysis and planning (Fincham &

Cain, 1986). A person who is extrinsically motivated to learn will exhibit concerns such as judgment of others regarding one's performance, grades and rewards. A child is motivated intrinsically when learning is determined by internal interests and extrinsic orientation is exhibited when a child is motivated to learn in order to gain teacher's approval (Harter, 1981). According to Ryan and Deci (2002) intrinsically motivated behaviors are those which act upon inner desires rather than outer rewards and recognitions. Intrinsically motivated people are self determined and indulge in activities out of free will and interest.

In order to be successful in school and obtain good marks, students must learn and practice effective study skills. Effective study habits include self discipline, time management, concentration, memorization, organization, etc. The development of good study habits is important not only in educational settings, but also in career. Academic achievement and study habits of the students to a large extent responsible for shaping their destiny. Vanita (2011) observed that a student who has potential to do good in studies may not be able to perform well without incorporating good study habits. Nagaraju (2004) also clarified that there is a strong link between study habits and academic achievement and this variable is one the most important topic in education researchers. If at a young age, students are equipped with good study habit, it can lead to better learning in them throughout life.

So keeping in mind the role of above stated variables, the present study was planned with the following objectives:

Objectives:

1. To study the relationship of academic achievement with intelligence among commerce students.
2. To study the relationship of academic achievement with creativity among commerce students.
3. To study the relationship of academic achievement with motivation among commerce students.
4. To study the relationship of academic achievement with study habits among commerce students.

To achieve the above stated objectives, the following hypotheses were framed:

Hypotheses:

1. There will be a positive significant relationship between academic achievement and intelligence.
2. There will be a positive significant relationship between academic achievement and different components of creativity.

3. There will be a positive significant relationship between academic achievement and intrinsic & extrinsic motivation.
4. There will be a positive significant relationship between academic achievement and the different dimensions of study habits.
5. All the variables used in this study will be the predictors of academic achievement.

Methodology:

Sample: Sample for the study consisted of 100 students (20 males and 80 females) studying in M.Com 1st Semester. The Sample was collected from Guru Nanak Dev University Campus, Amritsar and all the subjects were in the age range of 20 to 24 years.

Measures used:

1. Standard Progressive Matrices Test (Raven, 1984)

Standard Progressive Matrices Test (SPM) was used to measure intelligence. It consists of 60 items. All the items are divided into 5 sets (set A, B, C, D, E) and each set consists of 12 items. The Person is presented with ambiguous figures and they have to find the right fit in the place of the missing figure by perceiving a relation between them. The first problem is self-evident in each set, but as you move further difficulty level increases gradually.

2. Torrance Tests of Creative Thinking (Torrance, 1987)

The figural form of the Torrance test of creative thinking is pictorial in nature. Examinee's has to draw or complete incomplete figures in the form in the given time. This test of creativity can be used in kindergarten through graduate school. The Nature of the test is pictorial, but a small amount of writing is required to label the picture drawn. The test consists of 4 components, i.e. fluency, flexibility, originality and elaboration, the brief description is given below.

- a. Fluency: The number of meaningful ideas or responses a subject can generate in a given amount of time.
- b. Flexibility: The total number of categories covered by the subject's responses.
- c. Originality: How original, new and different ideas/responses a subject can generate.
- d. Elaboration: the total numbers of details given by subject in the responses.

3. Academic Motivation Scale (Vallerland, Blais, Briere, & Pelletier 1989)

The Scale consists of 28 items assessed on a 7 point scale. It measures intrinsic motivation, extrinsic motivation and amotivation among college students. 12 items are scored under extrinsic motivation, 12 items scored under intrinsic motivation and 4 items are scored under amotivation.

- a. Intrinsic motivation: Desire to accomplish something for personal satisfaction e.g. creating something new.
- b. Extrinsic motivation: Motivation to accomplish something for outward rewards.
- c. Amotivation: lack of motivation.

4. Study Habits Inventory (Mukhopadhyay and Sansanwal, 1983)

Study habits have been studied in two different ways in Indian researches as a research variable. Study habits are studied as dependent variable in one group of studies along with some other variables as its correlates. Another group of researchers studied study habits as predictors of specific other criterion variables. Among them academic achievement is the common one. The study habits inventory consists of nine types of study behaviors which are explained as are follows:

- a. Comprehension: Ability to understand study material.
- b. Concentration: Better concentration will contribute to better academic results
- c. Task Orientation: Ability to manage time and task.
- d. Sets: Physical and situational characteristics in which students study.
- e. Interaction: Students' interaction with their teachers, parents and friends contribute towards better learning.
- f. Drilling: Repetition of a topic.
- g. Support: Books, Newspapers, Magazines and Journals that a student read other than text books.
- h. Recording: Preparing notes for the study material is a sound base for better learning.
- i. Language: Medium of instruction and language of books should be same.

5. Academic achievement: Academic achievement of the subjects was measured by taking into consideration the average percentage of their score, they have achieved during graduation in the last three years.

RESULTS:

Correlation Analysis:

The Pearson Product Moment Correlation Method was applied to examine the relationship between Academic Achievement and Intelligence, Creativity, Motivation and study habits among students of commerce. The values of correlations are reported in Table 1.

Table 1 showing the values of Correlations

Variables	Correlation
Intelligence	.288**
Fluency	.239*
Flexibility	.292**
Elaboration	.201*
Intrinsic motivation	.200*
Extrinsic motivation	.244*
Comprehension	.297*

*p<.05, **p<.01

Results of Pearson Product Moment correlation indicated in Table 1 show that there is a significant positive correlation between academic achievement and intelligence ($r= 0.288^{**}$, $p<.001$). Correlation results also indicated a significant positive relationship between academic achievement and three components of creativity i.e. fluency ($r=.239^*$, $p<.05$), flexibility ($r= 0.292^{**}$, $p<.001$) and elaboration ($r= 0.201^*$, $p <.05$). A significant positive relationship between academic achievement and intrinsic motivation ($r= 0.200^*$, $p<.05$), extrinsic motivation ($r=.244^*$, $p<.05$), and comprehension ($r= 0.297^*$, $p<.05$) which is a component of study habits was also located.

Table no 2. Shows values of regression analysis.

Variables	R square	Fvalue	B value	T	Sig
Comp	.088	9.954	.297	3.075	.003
Comp intelligence	1.67	9.747	.291	3.137	.002
Comprehension	.223	9.203	.230	2.481	.015
Intelligence			.290	3.226	.002

flexibility			.244	2.631	.010
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Stepwise Regression Analysis Results:

Stepwise regression analysis method was conducted to know the predictor variables which are contributing to academic success among the chosen sample. The results reported in Table 2 clearly indicate that comprehension, intelligence and flexibility are significant predictors of academic achievement. It is clear from the values reported in the Table that comprehension (A dimension of study habits) significantly predicted academic achievement among the commerce students ($b= 0.230, p<.01$). Intelligence as an independent study variable also predicted academic achievement ($b= 0.290, p<.001$). Flexibility (A component of creativity) also predicted academic achievement. ($b= 0.244, p<.010$).

DISCUSSION:

Intelligence

The results reported in the Table 1 clearly show that academic achievement have shown a positive significant correlation with intelligence ($r=0.288$) among commerce students. It means that higher level of intelligence will lead to better academic achievement in commerce. Intelligence plays an important role in academic achievement in educational settings. Several studies have shown a high correlation ranging .50 to .70 between intelligence and academic achievement. (Lynn & Vanhanen, 2012) Hence, hypothesis 1 "There will be a significant positive correlation between academic achievement and intelligence" is accepted.

Creativity:

It is evident from the Table 1 that academic achievement has shown a significant positive correlation with different components of creativity i.e. fluency ($r= 0.239$), flexibility ($r= 0.292$) and elaboration ($r= 0.201$). Results explain that creative thinking among the commerce students' help them in obtaining better academic results. the results support the meta analysis done by Gajda, Aleksandra, Karwowski, Maciej, Beghetto, Ronald (2017) inspecting the relationship between creativity and academic achievement. Results showed that is a relationship between academic achievement and creativity which is constant over the time. Moreover, results show that when research was conducted using standardized test instead of grade point for academic achievement and creativity tests were used instead of self reporting

measures, results came out even stronger. Therefore hypothesis 2. "There will be a significant positive correlation between academic achievement and creativity" is accepted.

Motivation:

Correlation analysis explained a significant positive relationship between academic achievement and intrinsic motivation ($r=0.200$) as well as with extrinsic motivation ($r=0.244$). This means commerce students of post graduation are motivated to do well in their respective field academically and this motivation is coming from both inner and outer sources. There is inner drive and interest to pursue commerce studies and there is a need for recognition and rewards from the external world as well, such as teacher's praise, good job etc. High motivation in learning have been linked to increase in academic success among students' and lower drop rate. (Kushman, Sieber & Harold, 2000). According to a study of (Harter, 1981; Harter & Jackson, 1992) Both intrinsic and extrinsic dimensions of motivation can coexist and be responsible for academic achievement. Therefore, hypothesis 3. "There will be a significant positive relationship between academic achievement and motivation." is accepted.

Study habits:

Further results obtained from correlation explain us that study habits, precisely comprehension ($r= 0.297$) dimension of study habits share a positive significant relationship with academic achievement. Comprehension is an ability of an individual to understand a concept better. Better understanding of the subjects or topic yields better results in academics. Good study habits lead to good academic results. According to a study of Kumari & Chamundeshwari (2015) examined the relationship between achievement motivation, study habits and academic achievement, which revealed that there is a significant correlation between all above variables. Hence hypotheses 4. "There will be a significant positive relationship between academic achievement and study habits" is accepted.

Results yielded from stepwise regression analyses show that intelligence is a significant predictor of academic achievement among the commerce students which explains the contribution of intelligence in obtaining good results in academics. The Results support the Study conducted by Luo, Thompson, and Detterman (2003) which explains 30 variances shared between general intelligence and academic achievement.

Flexibility (A component of creativity) is also a significant predictor of academic achievement among commerce students. It means that ability to generate diverse ideas is instrumental in academic achievement. The study conducted By Struthers, Mence, Schonwetter & Perry (1996)

on 313 male and female students of Introductory Psychology at the University of Manitoba, supports the results, which explains the relationship between creativity and academic achievement. Comprehension (A component of study habits) is also predicting academic achievement among the chosen sample, which means that superior ability of an individual to understand the complex material better will improve his/her performance. According to a study of Anwar (2013) there is a positive relationship between study habits and academic achievement. Students who possess good study habits attain good results in academics where are students who perform poorly in academics showed poor study habits. Hence hypotheses 5. "All the variables used in this study will be the predictors of academic achievement." is partially accepted.

From the findings we can say that, all variables undertaken to study, i.e. intelligence, creativity, motivation and study habits share a positive relationship with academic achievement. Commerce students, especially of university level are not just driven from within, but also motivated by outside rewards to perform better because they are looking forward for better opportunities in a competitive world. Commerce students who would be future entrepreneurs, and CEOs who would take positions in corporate sectors are motivated enough to excel in academics so that they can compete in the real world. This research helped us in finding out factors that facilitate academic success and teachers can encourage and help students to reflect on their capabilities and areas that they need to work on to improve academic outcomes.

Implications:

The findings of the study may provide potential insights for future research. The commerce degrees are intended for acquiring a conceptual knowledge and management skills in this wide spectrum of business and industry and to provide highly qualified and smart commerce graduates. Hence it is essential to shape and mold the commerce students to suit the global changes.

To better predict achievement some other variables such as self-regulation, parental education, family environment, type of school, etc. are most likely to influence academic performance can also be included in the future studies. A study done by Nota, Soresi & Zimmerman (2004) shows self regulation as a significant predictor of academic achievement among students and a motivator to continue studies further. Regular counseling services to inculcate creativity among the students, constantly motivate them and train them on study skills and different strategies may enhance their academic performance.

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