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Exploring The Relationship Between Perceived Creativity Level Of Students Of Class Vii And Academic Achievement

Shameer Khokhar[1], Zill-E-Huma[2], Dr. Shah Mir Baloch[3], Manzoor Ahmed[4], Ruqia Mirwani[5], Zumrud Nisar[6]

[1]PhD Scholar Education Iqra University, Karachi.
[2] Academic Development Lead, IU School System Karachi.
[3]Assistant Professor in English, Department of English, University of Turbat, Balochistan, Pakistan.
[4]Lecturer in Education, Department of Education, University of Turbat, Balochistan, Pakistan.
[5]Lecturer in Education, Department of Education, University of Turbat, Balochistan, Pakistan.
[6]Lecturer (Education) Elementary Girls' College, Turbat.
Corresponding author email: shahmeerkhokhar@gmail.com

Abstract

This study investigates the relationship between the perceived creativity level of students of class VII and their academic achievement. The study participants were N=173 (92 boys and 81 girls) from 05 community-based schools (2 boys, 2 girls, 1 Co-Education). It was a cross-sectional survey, and the study instrument was the Creativity Styles Questionnaire, adapted with permission. A convenience sampling technique was employed for selecting the participants. Statistical Package for Social Sciences (SPSS) 26 was used for the data analysis. For the data analysis, the Pearson Correlation was used to explore the relationship between the students' perceived creativity and academic achievement. The study's findings reveal a significant relationship between some aspects of creativity and students' academic achievement. However, this relationship is negatively co-related. Thus, the study aims to contribute to the body of knowledge in making teachers aware of the role of creativity in students' academic achievement.

Keyterms: Creativity, academic achievement, creative thinking.

Introduction

Creativity is an area of great demand in professional fields such as business, engineering, and teaching. Almost all these fields need creative people who use divergent thinking, look at routine work from a new lens, and provide novel solutions to regular problems to compete in society. Ewoldsen, Black, and Mccown (2008) claim that creativity is essential to our daily lives and mandatory for a society's progress. According to Kampylis (2010), the 21st century has made people aware of the importance of creativity, and it has become a social demand in all the fields of human activity. The schools are continually endeavoring to provide opportunities to students that will enhance or develop their creative abilities. A society can never be creative if creativity is not valued in schools. Creativity is not only demanded in the professional field but also improves the students' academic results. Many researches have been conducted internationally on the importance of creativity and its impact on the performance of students in terms of their improved academic results (e.g., Alghafri & Ismail, 2014; Naderi, Abdullah, Hamid, Sharir, & Kumar, 2010b; Runco, 2007; Runco, Millar, Acar, & Cramond, 2010).

Creativity is one of the needed elements of Pakistani schools. Khan (2011) opines that creative writing is 'widely recognized' in Pakistani schools. The Pakistani education system is more focused on examination, and teaching and learning styles depend on the structure of exams. As a result, schools encourage students to memorize the answers to achieve good grades. According to Gustiawan, Emrizal, and Primadona (2014), throughout university life, the education system focuses on acquiring knowledge to get a job. No attention is given to the skills which make students creative. Only a few students can develop their creative talents during school and college. Therefore, attention should be given to developing the creative skills of learners in school, college, and university. Creative skills make children 'ambitious' and 'motivated' and make them capable of leading their work better (Education Scotland, 2013). The problem arises when the teachers in Pakistani schools become exam-oriented, prefer rote memorization to prepare students for public exams, and do not provide opportunities for creativity and originality (Rehman, Lashari & Abbas, 2023). The public examination in Pakistan is held from a single textbook, which compels teachers to teach solely from the books provided by the board (Samejo, Lashari & Mahar, 2023) and ensures that students rote memorize the

content to perform 'better' in the exams. As a result, the students are not exposed to creative styles of learning, which is probably the reason why when the students step into their professional fields, they are unable to apply creative thinking in their work (Christie & Afzaal, 2005; Ahmed, Lashari, & Golo, 2023; Lashari & Umrani, 2023).

The concept of creativity and measuring it through a valid source results from Guilford's (Sternberg (2012). Both psychologists have focused on divergent thinking as a basis for creativity (Sternberg (2012). Nami, Marsooli, and Ashouri (2013) state that although children have an innate ability to be creative, parents and teachers play a vital role in enhancing this ability of children. Therefore, if children are not provided with an environment that supports creative thinking, their knowledge will reduce with time. Supporting their view, Trevedi and Bhargava (2010) state that creativity cannot be forced on people; instead, a creative environment is to be provided where such abilities are encouraged because the environment plays an essential role in developing creative thinking.

Various tests have been developed by different researchers for measuring the creative abilities of people. The Torrance Test of Creative Thinking (TTCT) was developed by Torrance in 1966 and re-normed four times in 1974, 1984, 1990, and 1998 (Anwar, Anees, Khizar, Naseer, & Muhammad, 2012). Khatena-Torrance Creativity Perception Inventory (KTCPI), a combination of Torrance and Khatena developed in 1998, is another tool used for measuring the creativity level of students. KTCPI comprises two subscales: "Something about myself" (SAM) and "What kind of person you are" (WKOPYA) (Naderi, Abdullah, Aizan, Shrir, & Kumar, 2010a). Similarly, a questionnaire developed by Kumar and Holman in 1997 is also a valid tool to measure the creative abilities of people. The questionnaire measures people's strategies while working on a creative project (Kumar, Kemmler, & Holman, 1997). The questionnaire has been developed to measure the creativity level of professionals. Many researchers have studied the relationship between the group of creativity students have and academic achievement. After measuring the creativity level of the students through a reliable test or a self-reported questionnaire, the mean scores correlate with the student's academic achievement. For measuring academic achievement, most of the studies have used marks gained by the students in

the mid or final term and compared those marks with the creativity level of the respective students (Safarieh, 2020). Thus, a correlation between creativity and academic achievement is explored. Various research has explored a strong relationship between creativity and academic achievement. Many researchers are in favor of using creativity to enhance the academic achievement of students (Anwar, Anees, Khizar, Naseer, & Muhammad, 2012; Naderi, Abdullah, Aizan, Shrir, & Kumar, 2010a; Nami, Marsooli, & Ashouri, 2013; Trevedi, & Bhargava, 2010). Nami, Marsooli, and Ashouri (2013) concluded that there is a positive significant relationship between some aspects of creativity and academic achievement.

Research Problem

Given the demand for creativity in the professional fields, students must develop and use their creative skills from a very young age. According to Gustiawan, Emrizal, and Primadona (2014), throughout university life, the education system focuses on acquiring knowledge to get a job. No attention is given to the skills which make students creative. Only a few students can develop their creative talents during school and college. Therefore, attention should be given to developing the creative skills of learners in school, college, and university. Creative skills make children 'ambitious' and 'motivated' and make them capable of leading their work better (Education Scotland, 2013). The problem arises when the teachers in Pakistani schools become exam-oriented, prefer rote memorization to prepare students for public exams, and do not provide opportunities for creativity and originality. Christie and Afzaal (2005) state that the general examination in Pakistan is held from a single textbook, which compels teachers to teach solely from the books provided by the board and ensure that students rote memorize the content to perform 'better' in the exams. As a result, the students are not exposed to creative learning styles, which is probably why they are unable to apply creative thinking in their work when they step into their professional fields.

Significance of the Study

This study explores the relationship between grade VIII students' creativity level and their academic achievement. Thus, the study aims to contribute to the body of knowledge in making teachers aware of the role of creativity in students' academic achievement. The study provides insights to

teachers, schools, and parents regarding the need and importance of creative thinking. The study also highlights the relationship between creativity and academic achievement, which can help curriculum developers embed creativity as an element of every subject. An awareness of the relationship between creativity and academic achievement can ensure that teachers take appropriate measures for teaching and that pedagogical strategies can be chosen appropriately.

The Objectives of the Study

This study explores the relationship between the level of creativity of students and their academic achievement through achieving the following objectives:

- To investigate how the creativity of students is associated with their academic achievement.
- To explore the factors forming the association between students' creativity and their academic achievement.
- To find out the impact of students' creativity on their academic achievement.

Research Questions of the study

This study intends to discover the answers to the following questions through systematic procedure. The research questions of the study are as follows:

- How does the creativity of grade VII students correlate with their academic achievement?
- What are the factors causing the relationship between students' creativity and academic performance?
- How does students' creativity impact their academic achievement?

Research Hypotheses

Fraenkel, Wallen, and Hyun (2023) define a hypothesis as a prediction of an outcome of a research study. The following hypotheses were formulated for this research study:

H_o^1: There is no significant relationship between grade VIII students' self-perceived creativity capacity and academic achievement.

H_o^2: There is no significant relationship between grade VIII students' belief in their unconscious processes and academic achievement.

H_o^3: There is no significant relationship between grade VIII students' reported use of techniques to create new ideas and their academic achievement.

H_o^4: There is no significant relationship between grade VIII students' reported use of other people to develop new ideas and their academic achievement.

H_o^5: There is no significant relationship between grade VIII students' perceived final product orientation and academic achievement.

Literature Review

Creativity is necessary for the professional field and improves the students' academic results. Many research studies have been done on the importance of creativity and its impact on the performance of students in terms of their improved academic results (e.g. Ramdani, Mohamed, & Syam, 2021, Inuusah, Regine, Jonathan, Ebenezer, & Richard, 2019, Anwar, Anees, Khizar, Naseer, & Muhammad, 2012; Naderi, Abdullah, Aizan, Shrir, & Kumar, 2010a; Nami, Marsooli, & Ashouri, 2013; Trevedi, & Bhargava, 2010).

Nami, Marsooli, and Ashouri (2013) state that although children have an innate ability to be creative, parents and teachers play a vital role in enhancing this ability of children. Therefore, if children are not provided with an environment that supports creative thinking, their knowledge will reduce with time. Supporting their view, Trevedi and Bhargava (2010) state that creativity cannot be forced on people; instead, a creative environment is to be provided where such abilities are encouraged because the environment plays an essential role in developing creative thinking.

Children are naturally creative and are open to new experiences. Most children's creativity is imaginative, but with time, the creativity element in children starts declining (Lashari et al., 2023a). If children are not provided with an environment that supports creative thinking, their ability will reduce over time (Nami, Marsooli, & Ashouri, 2013). This may not only affect children's creative thinking ability but also on their academic achievement. There has been a decline in people's creativity in the past two decades and school children, with time, start losing their creative sense as the school does not provide the creative environment (Lashari et al., 2023b). Therefore, schools' primary responsibility is to provide a

creative environment to students that motivates and develops learners' imaginative abilities (Toivanem, Halkilahti, and Ruismaki, 2013).

Khan (2011) states that the Pakistani education system focuses more on examinations, and the teaching and learning styles depend on the exam structure. As a result, schools encourage students to memorize the answers to achieve good grades (Lashari et al., 2023c; Fayyaz et al., 2023). Supporting this view, Rehmani (2022) states that the public examination system in Pakistan dramatically impacts students' learning styles, and the students prefer rote learning to original thinking. Students need to be given opportunities to use their creative skills for better academic achievement as creativity and academic achievement are positively linked (Anwar, Anees, Khizar, Naseer, & Muhammad, 2012). Students must be made aware of their creative skills so that those skills can be utilized in their academic and practical lives.

In the Pakistani education system, children are neither given the opportunities to generate novel ideas nor the application of their intellectual skills given much importance. As a result, the children's innate ability to be creative is either reduced or their creative talents are not reflected in their academic performance (Jillani, Lashari, & Bukhari, 2022). Supporting this view, Khan (2011) concurs that English teachers in Pakistan do not develop creativity in students. Though creative writing is widely recognized in Pakistani schools, an environment that supports the application of creative skills is missing. The assessment procedures in Pakistan are primarily responsible for this decline in the student's creative abilities.

Various tests have been developed by different researchers for measuring the creative abilities of people. The Torrance Test of Creative Thinking (TTCT) was developed by Torrance in 1966 and re-normed four times in 1974, 1984, 1990, and 1998 (Anwar, Anees, Khizar, Naseer, & Muhammad, 2012). Khatena-Torrance Creativity Perception Inventory (KTCPI), a combination of Torrance and Khatena developed in 1998, is another tool used for measuring the creativity level of students. KTCPI comprises two subscales: "Something about myself" (SAM) and "What kind of person you are" (WKOPYA) (Naderi, Abdullah, Aizan, Shrir, & Kumar, 2010a). Similarly, a questionnaire developed by Kumar and Holman in 1997 is also a valid tool to measure the creative abilities of people. The

questionnaire measures people's strategies while working on a creative project (Kumar, Kemmler, & Holman, 1997). The questionnaire has been developed to measure the creativity level of professionals.

Many researchers have studied the relationship between students' creativity levels and academic achievement. After measuring the creativity level of the students through a reliable test or a self-reported questionnaire, the mean scores correlate with the student's academic achievement. For measuring academic achievement, most of the studies have used marks gained by the students in the mid or final term and compared those marks with the creativity level of the respective students. Thus, a correlation between creativity and academic achievement is explored.

Various research has explored a strong relationship between creativity and academic achievement. Many researchers are in favor of using creativity to enhance the academic achievement of students (Anwar, Anees, Khizar, Naseer, & Muhammad, 2012; Naderi, Abdullah, Aizan, Shrir, & Kumar, 2010a; Nami, Marsooli, & Ashouri, 2013; Trevedi, & Bhargava, 2010). Nami, Marsooli, and Ashouri (2013) concluded that there is a positive significant relationship between some aspects of creativity and academic achievement. Though children are naturally creative, providing a supportive environment helps enhance their creative abilities, which in turn proves beneficial for an improved educational environment. Supporting this view, another study conducted by Naderi, Abdullah, Aizan, Shrira, and Kumar (2010a) concluded that there is a significant relationship between creativity and academic achievement, but there exists a gender difference regarding specific aspects of invention. The study revealed that the female mean score was better than males in SAM, but the standard deviation was not very high. The females' mean scores were higher than the males' for environmental sensitivity, self-strength, intellectuality, and individuality, but the females' mean scores were lower than the males' for initiative and artistry. The males' mean overall score was higher than the females.

Another research by Trevedi and Bhargava (2010) has also pointed out a strong correlation between creativity and academic achievement but has also explored the difference in creativity levels among high achievers and low achievers and that of males and females. High achievers (those who scored

above 65%) differ significantly on almost all the subsets of creativity, such as seeing problem tests, unusual tests, consequences tests, tests of inquisitiveness, square puzzle tests, blocks tests of invention, and composite creativity. The study states no significant difference between high achiever males and females in creativity scores. High-achiever females have a significant mean difference in almost all subsets of creativity as opposed to low-achiever females. Low-achiever females scored better on some subsets of the invention (Naderi, Abdullah, Aizan, Shrir, & Kumar, 2010a). Anwar, Anees, Khizar, Naseer, and Muhammad (2012) have also found a significant correlation between flexibility, originality, elaboration, and academic achievement. Not all researchers are in favor of creativity having an impact on the academic achievement of students. Chandrasekaran (2013) has concluded that there is no significant relationship between creativity and academic achievement.

From the research studies, it is pretty evident that there is a strong relationship between creativity and academic achievement. Although children are naturally creative, their creative ability can decline if a supportive environment is not provided to them. On the other hand, if a supportive teaching and learning environment is provided, it can enhance the students' creative thinking, which improves the learners' academic achievement.

As creativity is an essential part of our daily lives it is to be given utmost importance from an early age. Schools should provide such an environment to the students in which their creative skills will be enhanced and in which students can explore their creative thinking for better academic achievement. According to Kampylis (2010) the 21st century has made people aware of the importance of creativity and it has become a social demand in all the fields of human activity. The schools are continually endeavouring to provide opportunities to students that will enhance or develop their creative abilities. Since more importance is given to rote learning in Pakistan the schools do not pay much attention to the development of creative skills in students (Christie & Afzaal, 2005). Furthermore, when the schools and examination systems do not promote creative thinking the students eventually stop attempting to be creative. Sternberg (2012) is of the opinion that the ‘conventional standardised’ tests do not provide space for children’s creativity and if any student tries to attempt the

answers in a creative manner the scores reduce and eventually the students stop attempting to be creative and attempt the answers in a conventional manner.

According to Nami, Marsooli, and Ashouri (2013), children have an innate ability to be creative but this ability reduces with time when a supportive environment is not provided to them. Creativity has a very profound relationship with academic achievement. Researchers have focused on the importance of creativity for improved academic achievement (e.g. Anwar, Anees, Khizar, Naseer, & Muhammad, 2012; Naderi, Abdullah, Aizan, Shrir, & Kumar, 2010a; Nami, Marsooli, & Ashouri, 2013; Trevedi, & Bhargava, 2010). The studies have used various tests such as (TTCT) developed by Torrance in 1966 and (KTCPI), a combination of Torrance and Khatena developed in 1998 to measure the creativity level of the students which are then correlated with the GPA for exploring the relationship between the academic achievement and creativity.

Using the creativity tests and correlating the mean score of the test with GPA of students, the researchers have found a strong relationship between the two determinants. A positive significant relationship between elements of creativity and academic achievement have been found (Nami, Marsooli, & Ashouri, 2013; Anwar, Anees, Khizar, Naseer, & Muhammad, 2012). However, Chandrasekaran (2013) believes there is no significant relationship between creativity and academic achievement. The studies have also explored the difference in the creativity level of males and females and have found there exists a gender difference regarding specific aspects of creativity but the difference was not significant in the creativity level of males and females (Naderi, Abdullah, Aizan, Shrir, & Kumar, 2010a). In another study, Trevedi and Bhargava (2010), a difference exists in the creativity level of high achievers and the low achievers.

Methodology

The Research Design

This study used a cross-section survey design within the quantitative paradigm to explore the relationship between academic achievement and the perceived creativity level of grade VIII students of community schools in Karachi.

Sample of the Study

The participants of the study n=173 grade VII students (92 boys and 81 girls) were selected through convenience sampling technique from 05 community-based schools (2 boys, 2 girls, & 1 Co-Education) managed by the Catholic Board of Education (CBE), Karachi.

Instrument of the Study

The tool used for this research study is a questionnaire developed by Kumar and Holman in 1997 in India and has been developed for students and professionals to measure their creativity level. Permission to use the questionnaire was taken from one of the developers Dr. Kumar through email. The original tool consisted of 73 items which were reduced to 40 items for this very study according to grade VII.

Reliability of the instrument

According to Kumar (2018), the reliability of the tool measures the consistency between the scores of one instrument and the other. A reliable instrument will give more or less the same score on each item of the questionnaire that is filled by a respondent. The score may vary but not significantly (Fraenkel, Wallen, & Hyun, 2023). The reliability of the tool was measured using Cronbach's alpha as it is the most common method for measuring the reliability of the tool. The overall reliability of the tool was found to be 0.636.

Results and Discussion

Before running the statistical tests for analysis, the data cleaning was done systematically. Missing values, out-of-range values, and outliers were removed from the data set so the results of the study are free from errors.

H_o^1: There is no significant relationship between grade VIII students' self-perceived creativity capacity and their academic achievement.

The data collected to test this hypothesis were normally distributed and thus Pearson correlation which is a parametric test was used to analyze the result. Table 4.3 represents the result.

Table 1: Pearson correlation test for finding a correlation between Self perceived creativity level and academic achievement

	Aggregate marks	**Mean: Self Perceived Creativity Capacity**

Aggregate marks	Pearson Correlation	1	.020
	Sig. (2-tailed)		.794
	N	173	170
Mean: Self Perceived Creativity Capacity	Pearson Correlation	.04.1 20	1
	Sig. (2-tailed)	.794	
	N	170	170

Table 1 clearly indicates that there is no significant relationship between academic achievement and the self-perceived creativity capacity of students (r= 0.24; p > 0.05). Hence, the first hypothesis stating that there is no significant relationship between grade VIII students' **self-perceived creativity capacity** and their academic achievement was accepted. Thus, it can be concluded that the way the students perceive themselves to be creative does not have any association with the academic achievement of the students.

H_o^2: There is no significant relationship between grade VIII students' belief in their unconscious processes and their academic achievement.

The data collected to test this hypothesis were normally distributed and thus Pearson correlation which is a parametric test was used to analyze the result. Table 4.4 represents the result.

Table 2: Pearson correlation test for finding a correlation between Belief in unconscious processes and academic achievement

		Aggregate marks	**Mean: Belief in Unconscious Processes**
Mean: Belief in Unconscious Processes	Pearson Correlation	1	.012
	Sig. (2-tailed)		.878
	N	173	172
	Pearson Correlation	.012	1
	Sig. (2-tailed)	.878	
	N	172	173

Table 2 clearly indicates that there is no significant relationship between academic achievement and students' belief in their unconscious processes for doing creative thinking and work (r= 0.02; p > 0.05). Hence, the second hypothesis stating that there is no significant relationship between grade VIII students' **belief in their unconscious processes** and their academic achievement is accepted. Therefore, it can be concluded that

the way the students believe in their unconscious processes to do creative work does not have any association with the academic achievement of the students.

H_o^3: There is no significant relationship between grade VIII students' reported use of techniques to create new ideas and their academic achievement.

The data collected to test this hypothesis were normally distributed and thus Pearson correlation which is a parametric test was used to analyze the result. Table 3 represents the result.

Table 3: Pearson correlation test for finding a correlation between use of technique and academic achievement

		Aggregate marks	**Mean: Use of Technique**
Mean: Use of Technique	Pearson Correlation	1	-.026
	Sig. (2-tailed)		.734
	N	173	172
	Pearson Correlation	-.026	1
	Sig. (2-tailed)	.734	
	N	172	172

Table 3 represents the result of hypothesis three and the results clearly indicate that there is no significant correlation between academic achievement and how students use various techniques to generate creative ideas ($r= 0.04$; $p > 0.05$). Hence, the third hypothesis stating that there is no significant relationship between grade VIII students' reported **use of techniques to create new ideas** and their academic achievement is accepted. As per the results it can be concluded that the way the students use various techniques to generate creative ideas does not have any association with the academic achievement of the students.

H_o^4: There is no significant relationship between grade VIII students' reported use of other people to create new ideas and their academic achievement.

The data collected to test this hypothesis were normally distributed and thus Pearson correlation which is a parametric test was used to analyze the result. Table 4 represents the result.

Table 4: Pearson correlation test for finding a correlation between use of other people and academic achievement

		Aggregate marks	Mean: Use of Other People
Mean: Use of Other People	Pearson Correlation	1	-.230**
	Sig. (2-tailed)		.003
	N	172	171
	Pearson Correlation	-.230**	1
	Sig. (2-tailed)	.003	
	N	171	171

Table 4 depicts a negative significant relationship between academic achievement and how students make use of other people for coming up with new ideas ($r= 0.13$; $p < 0.01$). Hence, the fourth hypothesis stating that there is no significant relationship between grade VIII students' reported **use of other people to create new ideas** and their academic achievement is rejected. Therefore, it can be concluded there is a significant association between how students make use of other people for coming up with new ideas with the academic achievement of the students.

H_o^5: There is no significant relationship between grade VIII students' perceived final product orientation and their academic achievement.

The data collected to test this hypothesis were normally distributed and thus Pearson correlation which is a parametric test was used to analyze the result. Table 5 represents the result.

Table 5: Pearson correlation test for finding a correlation between final product orientation and academic achievement

		Aggregate marks	Mean: Final Product Orientation
Mean: Final Product Orientation	Pearson Correlation	1	.042
	Sig. (2-tailed)		.584
	N	173	170
	Pearson Correlation	.042	1
	Sig. (2-tailed)	.584	
	N	170	170

The result of Pearson correlation, to test the fifth hypothesis, is presented in Table 5. The result indicates that there is no significant relationship between academic achievement and to what extent students are concerned about completing a creative task assigned to them ($r= 0.15$; $p > 0.05$). Hence, the

fifth hypothesis stating that there is no significant relationship between grade VIII students' perceived **final product orientation** and their academic achievement is accepted.

Thus, the way the students have an association with the final created product by them does not have any association with the academic achievement of the students.

The study focused on exploring the relationship between creativity level and the academic achievement of students of class VIII. Creativity cannot be confined to a few limited definitions and meanings; rather it has many different definitions which can be used in various different forms. The importance of creativity in the educational world cannot be underestimated or ignored. According to Gibson (2005), creativity has become an 'icon' for the education world and its significance cannot be ignored as it is a concept widely used in all fields ranging from fine arts to psychology. Supporting this view, Fillis and McAuley (2000) state that many recent research studies in the UK and Ireland have focused on exploring the element of creativity which is essential for the success of entrepreneurial work. Similar to business creativity is one of the most demanded concerns in education which is crucial for the success of students. Fillis and McAuley (2000) believe that the creativity of an individual depends on creative thinking, skills, and motivation. Furthermore, they are of the view that creative abilities are most visible in childhood but due to certain constraining factors it diminishes with time. Therefore, it becomes the responsibility of educational institutes to help students develop creative abilities that will help them not only in their academics but also in their professional lives once they grow up.

The creativity level of the students was measured on six different subscales. The findings of the study highlighted that when students involve others in their creative work their creative abilities are enhanced and there is a significant relationship between creativity and academic achievement of the students however the variables are negatively correlated. This finding is in contrast to Naderi, Abdullah, Aizan, Shrir, and Kumar's (2010) study which found that academic achievement was positively correlated to the extent that people were open to the ideas of others. However, the present study reveals the fact that there is a negative correlation between creativity and academic achievement.

The current study is also in contrast with the study conducted by Anwar, Anees, Khizar, Naseer, and Muhammad (2012). They are of the view that there is a strong correlation between all aspects of creativity and the academic achievement of the students. The findings of the study conducted by Candrasekaran (2013), it is in line with the current study to a great extent except for one of the aspects of creativity. His study states that there exists no significant correlation between any aspects of creativity and academic achievement. The findings of the study conducted by Tsai (2013) are similar in that it suggests that there is a negative correlation between creativity and academic achievement.

It was found that the creativity level of the students has a significant relationship with academic achievement when students take the help of others and involve others for generating creative ideas or for doing creative work. The more the students involve others in generating creative ideas or taking suggestions when they are faced with difficulties they tend to be more creative but interestingly the increase in creativity level lowers the academic achievement of the students. The higher the creativity level of the students the lower they score in terms of marks in core subjects. In other aspects of creativity, no significant correlation was found between creativity and academic achievement. The mean difference in creativity level across genders, only two were found to differ significantly. It was found that as compared to girls, boys are slightly better at perceiving themselves to be creative and are more oriented towards completing the creative tasks assigned to them rather than merely enjoying the process of creating something new. For the other hypotheses, no significant difference was found across gender.

Conclusion

The study presented a quantitative analysis of the relationship between creativity and the academic achievement of the student.. The study used a survey design to collect data from the participants of six community schools in Karachi. The relationship between creativity and academic achievement through a self-reported questionnaire which measures the creativity level and correlates it with the academic results of the students by obtaining the aggregate final examination marks of the students in their previous class. It also provides insights to teachers, schools, and parents in terms of the need

and importance of creative thinking. The study also highlights the relationship between creativity and academic achievement, which can help curriculum developers embed creativity as an element of every subject. An awareness of the relationship between creativity and academic achievement can ensure that appropriate measures are taken by teachers for teaching and pedagogical strategies can be chosen appropriately.

It is recommednded that the examination board should think of changing the pattern of the exam paper and try not to repeat the questions too frequently so that students do not rely only on past papers for exam preparation. Furthermore, the examination board should include such questions in the papers that do not only focus on rote memorization; rather analytical questions should also be asked so that some creative thinking skills are developed in students. Schools should prefer using alternative methods for teaching and assessing the students. A variety of assessment techniques that require students to use their creative abilities will help students utilize their analytical skills. Eventually, those students who do not prefer rote learning and use their creative abilities to answer the question will also get a chance to score better. The textbook board should not restrict the use of only one book so that the student's knowledge is not limited. Moreover, the board should also include some high-order thinking activities in the textbooks in order to develop divergent thinking in students.

References

Abraham, A., Thybusch, K., Pieritz, K. & Hermann, C. (2013, June 27). Gender differences in creative thinking: Behavioral and fMRI findings. Brain Imaging and Behavior. doi:10.1007/s11682-013-9241-4.

Ahmed, I., Lashari, A. A., & Golo, M. A. (2023). Evaluating Primary-Level English Textbooks of Single National Curriculum through the Lens of Bloom's Taxonomy. Pakistan Languages and Humanities Review, 7(3), 352-361.

Alghafri, A. D & Ismail, H. N. B (2014). The effects of integrating creative and critical thinking on schools students' thinking. International Journal of Social Science and Humanity, 4(6), 518-525. doi:10.7763/IJSSH. 2014.V4.410.

Anwar, M. N., Anees, M., Khizar, A., Naseer, M., & Muhammad, G. (2012). Relationship of creative thinking with the academic achievements of secondary school students. International Interdisciplinary Journal of Education, 1(3), 44-47.

Candrasekaran, S. (2013). Creativity and academic achievement of higher secondary school students in Tamilnadu. International Journal of Humanities and Social Science Invention, 3(8), 32-36.

Cohen, L., Manion, L., & Morrison, K. (2018). Research methods in education (8th ed.). New York, NY: Routledge.

Education Scotland. (2013). Creativity across learning. Retrieved from www.educationscotland.gov.uk/Images/Creativity3to18_tcm4-814361.pdf

Ewoldsen, B. R., Black, S. R., & Mccown, S. M. (2008). Age-related changes in creative thinking. Journal of Creative Behaviour. 42(1) pp 33-59.

Fayyaz, S., Lashari, A. A., Channar, H. B., Chang, M. A., Bano, N., & Buriro, S. A. (2023). Impacts of newly government-inducted teachers' performance on learners' outcomes. Al-Qanṭara, 9(4), 262-279.

Fraenkel, J.R., Wallen, N. E., & Hyun, H.H. (2023). How to design and evaluate research in education (11th ed.). New York: McGraw Hill.

Gibson, H. (2005). What creativity isn't: The presumptions of instrumental and individual justifications for creativity in education, British Journal of Educational Studies, 53(2), 148-167.

Inuusah, M., Regine, K., Jonathan, M. K., Ebenezer, A., Richard, M. (2019). Relationship between Creative Thinking and Students Academic Performance in English Language and Mathematics: The Moderating Role of Gender. Journal of Education, Society and Behavioural Science, 31(4), 1-10.

Jilani, S. A. A. S., Lashari, A. A., & Bukhari, S. S. H. (2022). Organizational Culture of Successful Secondary School in District Larkana: An Ethnographic Research. Global Educational Studies Review, VII, 626-634.

Kampylis, P. (2010). Fostering creative thinking: The role of primary teachers. Sini Rainivaara: University Library of Jyvaskyla. Retrieved from https://jyx.jyu.fi/dspace/bitstream/handle/123456789/24835/Kampylis_Panagiotis_screen.pdf?sequence=2

Khan, H. I. (2011). Testing creative writing in Pakistan: Tensions and potential in classroom practice. International Journal of Humanities and Social Science, 1(15). Retrieved from http://www.ijhssnet.com/journals/Vol_1_No_15_Special_Issue_October_2011/14.pdf

Khattak, S. G. (2012). Assessment in schools in Pakistan. Sa-Educ Journal, (9)2. Retrieved from.nwu.ac.za/webfm_send/58399

Kumar, R. (2018). Research methodology: A step by step guide for beginners (5th ed.). Los Angeles: Sage Publication Ltd.

Kumar, V. K., Kemmler, D., & Holman, E. R. (1997). The creative styles questionnaire: Revised. Creativity Research Journal, 10(1). pp 51-58. doi:10.1207/s15326934crj1001_6

Lashari, A. A., Abbasi, F. N., Kurd, Mirjat, M. A., Mahmood, T., Ahmed S. (2023a). The impact of mobile assisted language learning (MALL) on ESL students' learning, Onomázein, 60, 3, 137–148.

Lashari, A. A., Mahar, S. S., Solangi, M. A., Buriro, S. A., & Chang, S. H. (2023b). Music education in language and cognitive development: A critical review. PalArch's Journal of Archaeology of Egypt/Egyptology, 20(2), 2101-2111.

Lashari, A. A., Rizvi, Y., Abbasi, F. N., Kurd, S. A., Solangi, M. A., & Golo, M. A. (2023c). Analyzing the impacts of social media use on learning English language. Al-Qanṭara, 9(4), 133-146.

Lashari A. A., & Umrani, S. (2023). Reimagining self-directed learning language in the age of artificial intelligence. Grassroot, 57, 1, 92-114.

Naderi, H., & Abdullah, R., Aizan, H. T|., Shrir, J., & Kumar, V. (2010a). Creativity as a predictor of intelligence among undergraduate students. The Journal of American Science, 6(2), 189-194.

Naderi, H., Abdullah, R., Aizan, H. T., Sharir, J., & Kumar, V. (2010b). Relationship between creativity and academic achievement: A study of gender differences. Journal of American Science, 6(1), 181-190.

Nami, Y., Marsooli, H., & Ashouri, M. (2013). The relationship between creativity and academic achievement. Procedia-Social and Behavioural Sciences, 114, 36-39. doi:10.1016/j.sbspro.2013.12.652

Ramdani, Y., Mohamed, W. H. S. W., & Syam, N. K. (2021). E-learning and academic performance during COVID-19: The case of teaching integral calculus. International Journal of Education and Practice, 9(2), 424-439.
doi: 10.18488/journal.61.2021.92.424.439

Rehman, M. A., Lashari, A. A., & Abbas, S. (2023). Analysis of sustainable academic performance through interactive learning environment in higher education. Global Economics Review, 8(2), 129-139.

Runco, M. A. (2007). Achievement sometimes requires creativity: High Ability Studies, 18(1). P. 75-77.

Runco, M. A., Millar, G., Acar, S., & Cramond, B. (2010). Torrance tests of creative thinking as predictors of personal and public achievement: A fifty-year follow-up. Creativity Research Journal, 22(4), pp361-368. doi:
10.1080/10400419.2010.523393.

Safarieh, M. (2020). Evaluation of relationship creativity with academic achievement in qualitative-descriptive evaluation.

Journal of Social Science and Humanities Research, 8(3), 43-49. doi: https://doi.org/10.24200/jsshr.vol8iss03pp43-49.

Samejo, A. K., Lashari, A. A., & Mahar, S. S. (2023). A Study of Developing a Prototype of Sindhi Primer of Early Childhood Education Level in Sindh. Global Social Sciences Review, VIII, 225-237.

Strenberg, R. J. (2012). The assessment of creativity: an investment-based approach. Creativity Research Journal, 24(1), 3-12. doi:10.1080/10400419.2012.652925

Toivanem, T., Halkilahti, L., & Ruismaki, H. (2013). Creative pedagogy: Supporting creativity through drama. The European Journal of Social and Behavioural Sciences. doi: http://dx.doi.org/10.15405/ejsbs.96

Trevedi, K., & Bhargava, R. (2010). Relation of creativity and educational achievement in adolescence. J Psychology, 1(2): 85-89.

Tsai, K. C. (2013). Examining gender differences in creativity. The International Journal of Social Sciences, 13(1), 115-122.