



**RESEARCH PAPER**

**Relationship of Creativity and Academic Performance of Students  
at Undergraduate Level**

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**ABSTRACT**

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Relationship between creativity and academic performance has intensively engaged attention of researchers over the past few decades. Roots of creativity are grounded in knowledge, originality and wisdom. The underlying gap between creativity and its academic performance led to formulate this study. The objectives of this paper were two-fold explaining the correlation between creativity and academic performance as well as domains of creativity and academic performance of undergraduate students. Concurrently six null hypotheses were tested. The researcher designated schematic framework, using models, particularly Amusement Park Theoretical framework (APT). In correlational study, using Yamane formula and stratified sampling technique, 331 undergraduate students studying in three major courses from six universities were sampled. Standardized scale developed by Kaufman (2012) was administered. Academic performance of Board's past (HSSC) exam formed baseline. Pearson coefficient correlation applying SPSS 20 yielded no correlation between creativity and academic performance. All the six null hypotheses were accepted. Conclusion indicated that prevailing system of hurriedly completion of courses; textual content delivery and memory-based examination constitute pitfalls of indigent education system.

**Introduction**

Man is the crown creation of Allah. He taught him what he did not know. He urged him to pray for seeking knowledge.

رَبِّ زِدْنِي عِلْمًا

“O my Lord! Advance me in knowledge” (al Quran 20:114).

Islam places a high premium on knowledge and learning. Knowledge (Ilm) occupies a significant position in Islam. It is evidenced by more than eight hundred references in al-Quran. The above verse in the tongue of man seeking advancement in knowledge. It covers both quantity and quality. This is followed by another injunction.

يَرْفَعُ اللَّهُ الَّذِينَ آمَنُوا مِنْكُمْ وَالَّذِينَ أُوتُوا الْعِلْمَ دَرَجَاتٍ

“God will exalt those of you who believe and those who have knowledge to high degrees” (58:11)

This is distinctly related to quality.

فَلْيَكْتُبْ كَمَا عَلَّمَهُ اللَّهُ

“As God has taught him, so let him, write” (2: 282)

A sample of these verses provides a strong stimulus for Islamic community to strive for knowledge and learning. On this rationale, man is assigned high honour and given the title of “The crown of creations”.

The Quran represents the Constitution, ethics, transactions, and moral of Islam. The Sunnah forms the application of all these elements. This is testified in Al Quran(3: 164) ...referring to instruction and wisdom.

لَقَدْ مَنَّ اللَّهُ عَلَى الْمُؤْمِنِينَ إِذْ بَعَثَ فِيهِمْ رَسُولًا مِنْ أَنْفُسِهِمْ يَتْلُوا عَلَيْهِمْ آيَاتِهِ وَيُزَكِّيهِمْ وَيُعَلِّمُهُمُ الْكِتَابَ وَالْحِكْمَةَ وَإِنْ كَانُوا مِنْ قَبْلُ لَفِي ضَلَالٍ مُبِينٍ

“Surely Allah conferred a great favour on the believers when He raised from among them a Messenger to recite to them His signs, and to purify them, and to teach them the Book and Wisdom. For before that they were in manifest error” (3:164).

The Holy prophet of Islam Muhammad (SAW) has emphasized the importance of seeking knowledge in many ways, Time, place, gender and source. Here, source refers to wisdom, which is the lost property of the believer, he should take it even if he finds it in the mouth of a mushrik.

### Knowledge and Wisdom

Knowledge generates wisdom. Imam Ghazali a mystic philosopher of tenth century, has put knowledge in four gradations: original, secondary, prefatory and appendix. In Islamic context originality refers to reality, and secondary to jurisprudence. Prefatory leads to deep, thorough, and crystal understanding associated with philosophy and psychology in terms of rationality and intelligibility. The last one is sum total of the three types of learning. These four grades of knowledge form the objective development of personality. These form characteristics of knowledge, generating wisdom. The relationship of reason, intelligence, and

knowledge, refers to a saying of our Holy Prophet (SAW) that a right kind of knowledge is the fruit of wisdom, common sense and right kind of reasoning. Knowledge is to wisdom what fruit is to the tree; what rays are to sun; and what sight is to the eyes.

Taking the construct further, Imam Ghazali referred to saying of Holy Prophet (SAW) that wisdom is the weapon of the believer and every nation has got some mission to serve....to realise self and serve God. Thus, wisdom is invigilator of the worshipers, superintendent of the seekers of truth, providence of the careful and the guidance of the blissful.

Elaborating the concept of wisdom Imam Ghazali categorized wisdom in four-fold domains (i) singularly distinguishing a person from the rest of the lower creatures of the universe; (ii) common sense by virtues, distinguishing good and bad using discretionary powers; (iii) experiments and experiences of life making man practical, logical and conscious; with sobering process of time, dynamism and creativity; (iv) wisdom means the quality of foresightedness, providence and achieving or realizing an object. Once, many people asked several allied questions to our Holy Prophet (SAW) who was a virtuous man. To all the questions his reply was brief and brisk "only the wise". And wise man is he who is kind, generous, eloquent, upholding truth, industrious, steadfast in seeking and imparting the truth.

Studies in Islamic literature further reveal that all Prophets of God possessed wisdom. But Muhammad (SAW) possessed a practical wisdom; the distinct characteristic says an English writer Adair (2013).

The above contents are summed up in following Figure.



Figure 1: Ladder of creativity

### Western Perspective of Creativity

Creativity in western literature refers to an intended invention, new and original behavior that yields an appropriate and productive result. It is hard and sustained work to resolve the problem. It uses mental capabilities, healthy social behavior, emotional stability and scholastic accomplishment. Creativity is an important component of educational process. During fifties researchers defined the aspects of creativity related to analytical thought processing, educational and talented growth, and development of students. (Guilford,1950; Torrence,1962; Renzulli,1994). In educational psychology creativity relates to the constructivism, which puts

emphasis on the creation of knowledge rather than transfer of knowledge. The theory holds that knowledge is constructed, scholars use creativity in assimilating writing, giving new ideas from the already existing content material and produces new but high-quality product, Plucker et al. (2004). Divergent thinking style is considered as contributor in creativity Guilford and Torrence in 1960s and 1970s focused on divergent thinking, which is mostly used in today's classrooms. Divergent thinking produces multiple responses from single idea. Knowledge of the creativity has increased during past few decades. But, strategies to promote creativity have remained low paced.

Two types of connotation are emphasized. These are implicit and explicit definitions. Implicit constitutes common attributes of creativity such as fluency, flexibility, originality and elaboration. Explicit attributes of creativity are uniqueness and usefulness. Creativity can be defined as it is the interaction among aptitude, process and surroundings by which an individual or group produces a perceptible product that is both novel and useful (Plucker et al., 2004).

### **Education and Creativity**

Promoting creativity in education is for many reasons due to changing world scenario to solve problem and coping with an uncertain future (Parkhurs,1999). One of the important elements to incorporate creativity in education is related to economy because the role played by creativity in economic growth and development is important (Burnard,2006). Further its role is paramount to attain higher employment rate, economic achievement and to become competent worldwide (Shaheen, 2010). The bedrock of developing creativity is curriculum. It is the foundation of providing rich sources of graded curriculum vision, thinking contents, thought provoking instructional material, powerful delivery modes, criterion- referenced assessment. Creativity is the circulating blood of each part of curriculum body. In this design, teacher's teaching styles make or mar the creativity. With a piece of chalk and board, the teacher can move the minds of learners. The premise is that learning is caused and creativity generated. Piaget (1970) found creativity in learners' learn ability and independency. National Research Council (1996) focused on mapping learning and providing rich environment, choosing ways to increase creativity. Florence et al. (2015) focused on economic factors and intelligence; Zare et al. (2016) encouraged e learning in the age of technology in a global learning system. In the world of universities, it lies in equipping with the technological based learning and teaching strategies.

### **Academic Performance**

Learning is the process through which desirable changes in the sample of behavior are observed. These changes are measured through different processes in which academic performance is one of them. In performance assessment students demonstrate their knowledge and skills in a non-written fashion (Ormrod, 2004); whereas in academic performance, the process measures the extent to which students have acquired certain information or knowledge and skills as a result of specific instruction (Arya et al.,2016). This implies curriculum based instructional program of

an institution. Here, students' previous academic results were taken into account as an outcome of instructional process.

### **Relationship of Creativity and Academic Performance**

In terms of creativity and academic performance, Mishra and Garg (2015) performed a study about creativity and academic performance. The participants were taken from higher education institutions. Results revealed that there was non-significant correlation between the academic performance and creativity of the students. Relating to comparison it was found that creativity level of Management students was high than the Engineering and Biotechnology.

In a similar study, Schmidt et al. (2012) explored the creativity in entrepreneurship classroom. Results showed that creativity traits and academic performance of students at higher education level were non-significant. Dowling and Pretz (2012) carried out a study. The variables of study were creativity and personality as a predictor of academic achievement. Result of the study showed non-significant relationship between creativity and academic achievement. Furthermore, no correlation was found between personality trait, need for the knowledge and academic achievement.

In one study Karimi (2000) at the school level explored the correlation between creativity and academic achievement. Results indicated the relationship between the variables. In addition, Ai's (1999) investigation indicated an inverse relationship between creativity and academic achievement. This shows that creativity is rarely correlated with academic performance. Results were inconsistent with the study performed in an Iranian context; Mahmodi (1998) examined the correlation among features of personality, creativity and academic achievement. Results of the study showed that significant relationship existed between creativity and academic achievement. In similar cultural context and similar set of variables, Behroozi's (1997) study revealed that there was no correlation among creativity, academic achievements and features of personality. Naderi et al. (2009) found in their study that creativity was not a significant predictor of academic achievement at undergraduate level. Arya et al (2017) investigated the relationship between creativity and academic achievement. The study was performed in Uttarakhand at school level, consisting of three hundred sampled school going children. Results of the survey showed that there was no correlation between creativity and academic achievement. In another study Noori (2002) observed the relationship between creativity and academic achievement. She adopted quantitative approach and survey data collected using Abedi's questionnaire of creativity measurement. Academic achievement was measured through CGPA scores. The results showed no correlation between the creativity and academic achievement, but significant difference was found in the academic achievement of girls and boys.

In Nigerian context, Yakasai et al. (2010) examined the influence of creativity and emotional intelligence on academic achievement. The sampled size of the study

was 235 students. The relationship between creativity and academic achievement seemed non-significant.

Pishghadam et al. (2011) conducted a study on the topic of learner's creativity in foreign language achievement. Purpose of this study was to investigate the correlation of creativity with achievement in a foreign language. To measure creativity Arjomand creativity scale was used and to measure language performance CGPA scores were taken. Results of Pearson correlation indicated a significant correlation among the creativity of learners and achievement in a foreign language. Wangs (2011) performed a comparative study between student teachers in United States and student teachers in Taiwan regarding relationship of creativity and academic performance. Results showed that positive correlation existed between creativity and academic performance of students of both nations. Results were inconsistent with another study Powers and Kaufman (2004) who investigated the correlation between creativity and Graduate Record Exam test scores. A significant correlation was observed.

In country context, two studies, one advocacy case and initiatives of one national educational policy are briefly sampled here. Shaheen (2010) performed her work on the barriers of creativity. Classroom-based observations were done, using Torrance test of creativity on 154 sampled pupils of primary class. Curriculum and textbooks were used as instructional material. The results indicated that rote memory hindered expressions of original ideas and textual material prevailed affecting knowledge-based creativity.

Siddiqui's (2008) work on creativity in higher education is eminent. She found no elements of creativity policies in curriculum, teaching practices, eventually in examination system. Teachers seemed unaware of promoting creativity, and this generates need for such supporting services. Khawaja (2019) focused on advocacy cause of creativity through rigid education system as a killer of creativity. The framework of the National education policy (2018) of Pakistan has envisaged some initiatives. The policies of education need vision, ownership of succeeding governance and commitment for implementation at grass root level.

### **Theoretical Background**

According to Kaufman (2012) scale of creativity five domains are found in all human beings in one or the other way. Kaufman and Baer (2005) added that when people go to amusement park, they choose activities according to their interest. According to McKay et al. (2017) creativity scale (K-DOCS) can be interpreted on five specific domains, as reflected in the study framework, Figure 2:

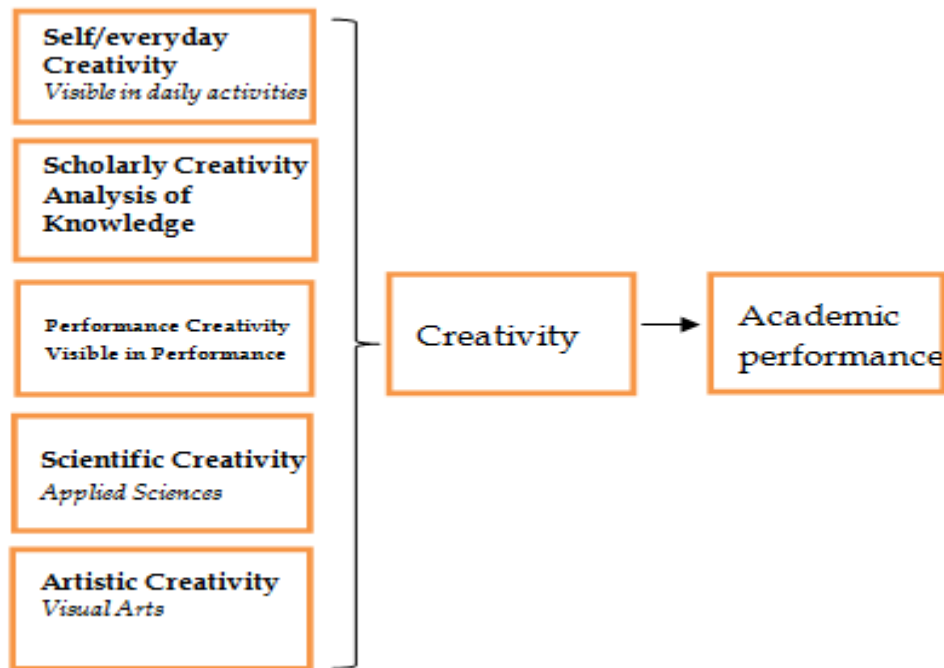


Figure: 2 Research Framework

The people who perceive themselves to have the above types of creativity and are also high scorer in any domains of creativity possesses ability to perform better in relevant activities.

### Objectives of the study

Two-fold objectives of the study are formulated:

1. Explore the correlation between creativity and academic performance.
2. Find out the correlation of domains of creativity and academic performance of students.

### Null Hypotheses of the Study

- Ho1.** There is no significant relationship between creativity and academic performance of students.
- Ho2a.** There is no significant relationship between the self/everyday creativity and the academic performance of students.
- Ho2b.** There is no significant relationship between scholarly creativity and the academic performance of students.

**Ho2c.** There is no significant relationship between performance creativity and the academic performance of students.

**Ho2d.** There is no significant relationship between mechanical/scientific creativity and the academic performance of students.

**Ho2e.** There is no significant relationship between artistic creativity and the academic performance of students.

### **Material and Methods**

Correlational research design was used for the study to explore the relationship among various components of creativity and academic performance of undergraduates. Stratified sampling technique was used for drawing sample size applying Yamane (1967) formula. Participants of the study numbered 331 undergraduates from six universities, three from each public and private sector, located in Islamabad Capital Territory (ICT). These students formed target groups from three prime study program Computer sciences, Management sciences and Electrical Engineering at BS level. Data were collected through Kaufman domains of creativity scale and for the academic performance of students; previous class (HSSC) grades were used. Ethical code was followed in the process of data collection.

### **Results and Discussion**

The data were subjected to statistical treatment which included Pearson correlation. The results are given below.

Objective 1: Explore the correlation between creativity and academic performance

Ho1. There is no significant relationship between creativity and academic performance of students.

**Table 1**  
**Mean, Standard deviation and correlation coefficient between creativity and Academic performance of students(N=331)**

Variables	Mean	SD	r	p-value
Creativity	3.64	.482	.074	.177
Academic Performance	2.47	.802		

Table 1 shows that there is no correlation between creativity and academic performance of students. The value of correlation coefficient is .074 and p value is .177 which is greater than level of significance 0.01. Thus the null hypothesis is accepted.

Objective 2 Find out the correlation of domains of creativity and academic performance of students.



Ho2a. There is no significant relationship between the self/everyday creativity and the academic performance of students.

**Table 2**  
**Mean, Standard Deviation and Correlation Co-efficient between self/everyday Creativity and Academic performance of students (N=331)**

Variable	Mean	SD	r	p-value
academic Performance	2.47	.803		
self/everyday creativity	3.86	.570	.081	.143

Table 2 shows that there is non-significant correlation between self/everyday creativity and academic performance of students. The value of correlation coefficient is .081 and p value is .143 which is greater than 0.01. So, the null hypothesis is accepted.

Ho2b. There is no significant relationship between scholarly creativity and the academic performance of students.

**Table 3**  
**Mean, Standard Deviation and Correlation Co-efficient between scholarly Creativity and Academic performance of students (N=331)**

Variable	Mean	SD	r	p-value
academic performance	2.47	.803		
Scholarly creativity	3.47	.694	.022	.693

Table 3 shows that there is non-significant correlation between Scholarly creativity and academic performance of students. The value of correlation coefficient is .022 and p value is .693 which is greater than 0.01. So, the null hypothesis is accepted.

Ho2c. There is no significant relationship between performance creativity and the academic performance of students.

**Table 4**  
**Mean, Standard Deviation and Correlation Co-efficient between performance Creativity and Academic performance of students (N=331)**

Variable	Mean	SD	r	p-value
academic performance	2.47	.803		
Performance creativity	3.24	.791	.049	.374

Table 4 shows that there is non-significant correlation between performance creativity and academic performance of students. The value of correlation coefficient is .049 and p value is .374 which is greater than 0.01. So, the null hypothesis is accepted.

Ho2d. There is no significant relationship between Mechanical/scientific creativity and the academic performance of students.

**Table 5**  
**Mean, Standard Deviation and Correlation Co-efficient between Mechanical/scientific creativity and Academic performance of students (N=331)**

Variable	Mean	SD	r	p-value
academic performance	2.47	.803	.045	.410
Mechanical/scientific creativity	3.77	.777		

Table 5 shows that there is non-significant correlation between mech/Scientific creativity and academic performance of students. The value of correlation coefficient is .045 and p value is .410 which is greater than 0.01. So, the null hypothesis is accepted.

Ho2e. There is no significant relationship between artistic creativity and the academic performance of students.

**Table6**  
**Mean, Standard Deviation and Correlation Co-efficient between Artistic Creativity and Academic performance of students (N=331)**

Variable	Mean	SD	r	p-value
academic Performance	2.47	.803	.055	.315
artistic creativity	3.85	.802		

Table 6 shows that there is non-significant correlation between artistic creativity and academic performance of students. The value of correlation coefficient is .055 and p value is .315 which is greater than 0.01. So, the null hypothesis is accepted.

## Discussion

The first objective and hypothesis related to observe relationship between creativity and academic performance. The results showed that there was no correlation between creativity and academic performance. The results are consistent with the previous studies performed by Dowling and Pretz (2012). The variables of study were creativity and personality as a predictor of academic achievement. Ai's (1999) whose study showed an inverse relationship between creativity and academic achievement. The argument was that creativity seemed rarely correlated with academic performance.

Similar results were found by Arya et al. (2017) whose study showed no correlation between creativity and academic achievement. Also, these results collaborated with the study performed by Mishra and Garg (2015). The participants belonged to higher education institutions. Similar non-significant correlation was found between the academic performance and creativity. These results are inconsistent with the study conducted by Pishghadam et al. (2011) whose work

related to learner's creativity in foreign language achievement, using Arjomand creativity scale and CGPA scores. The results are however consistent with the work of Wangs (2011) who compared the extent of variables under study on student teachers. Finally inverse relationship was observed between the current study and that of (Powers & Kaufman, 2004) in relation to creativity of graduate record examination scores.

### **Conclusions**

Results of the study were analyzed using SPSS version 20. It was found that there is no correlation of creativity and academic performance of students at undergraduate level. Our classrooms are based on memorization of the study material. Students tend to memorize the contents and pass the exam. Due to shortage of time teacher attaches importance to completion of the coursework rather than touch the springs of creativity. Therefore, there is need to incorporate creativity into our education system to bridge the gaps.

### **Recommendations**

Creativity and academic performance are curriculum issues. It is here where instructional objectives are set, contents translated into textual and learning materials, teaching strategies generated and assessment standards judged. Conclusions drawn in this paper yield many missing links particularly the proficiency and professional accomplishment of the teacher. Through goal oriented working workshops, discrete training sessions (promoting divergent thinking, domain specific activities, innovative tasks and tough problems....) need to be organizationally organized for developing a creative system, leading to academic performance in thought, process and product.

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