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**Abstract:** *This research article aims to investigate the impact of arts and crafts activities on the academic achievement of students at the secondary school level in Bannu district, Khyber Pakhtunkhwa, Pakistan. The nature of the study was descriptive. The population of the study consisted of all the secondary schools of the Bannu district. As a sample, 500 respondents were selected randomly. For the collection of data, the researcher used a self-made questionnaire with a points Likert scale. The academic achievement of the students was obtained from the 9th-grade students' detailed marks certificate from the concerned examination board. A t-test was used for descriptive statistics, while Pearson coefficient correlation was used for inferential statistics. The results of the study revealed that there is a positive correlation between students, academic achievement, and arts and crafts activities, but no relationship was found between the two groups who participated and those who did not participate in these activities.*

**Key Words:** Art, Craft, Student, Academic Achievements, Secondary Schools

## Introduction

The main purposes of arts education are to provide an avenue for the development of one's artistic ability in one or more mediums and to complement and enrich the overall arts education offered in comprehensive schools. Moreover, the system can offer a strong basis for the significant fusion of several creative fields. In general, art educators have found that the art programs offered in comprehensive schools do not provide enough time for students who wish to develop their creative and expressive abilities or require the arts to express themselves purposefully. There was a dramatic drop in the number of art lessons available at comprehensive schools in the nineties. To be clear, one of the goals of basic arts education is not to make up for comprehensive schools' deficiency in art education (Karppinen, 2008). The many educational benefits of engaging in the arts, including the growth of expressive and cognitive processes (Welch, 1995; Fiske, 1990; Deasy, 2002), do not negate the importance of the arts in young children's development. However, at the primary level, arts programs and their incorporation into the curricula are underrepresented and frequently discontinued (Curry, 1984).

The foundation of Basic Crafts Education, as a component of the Basic Arts Education system, differs from that of school crafts. Basic Crafts Education (craft art) places more of an emphasis on an artistic approach and creative thinking than school crafts, which I describe here as crafts that often focus on a person's technical abilities and a product. However, what benefits does the substance of craft in this new connection receive from a greater emphasis on art? It provides a more liberated approach to the craft process, if you will. Put differently, the process of creating craft art is founded on sensory awareness, creative experience, and introspection (Karppinen, 2008). Art educators acknowledge the importance of cultivating a sense of autonomy and critical self-evaluation in their students. They design the school art

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▪ **To Cite:** Ahmad, T., Shahzada, G., Ali, N., Khan, A. B. (2024). Participation in Arts and Crafts Activities Impact the Academic Achievement of Students at Secondary School Level. *Qlantia Journal of Social Sciences*, 5(4), 100-109.

<https://doi.org/10.55737/qjss.112197588>

curriculum to facilitate independent inquiry by incorporating ambitious projects, complex tasks, and diverse audiences. Viewing their subject as a way of both knowing and being, art teachers impart knowledge and skills through practical application. The pedagogical relationship between art teachers and students involves dialogue-based interactions and person-focused conversations, which are essential for diagnosing developmental areas, negotiating topics, and scaffolding technical growth. This perspective often serves as a foundational concept for art education researchers, guiding investigations into art practices and discussions on the role and objectives of art education. The paper explores student participation practices and methodological framings and proposes that art researchers adopt novel approaches prioritizing children and young people as co-researchers (Moloy & Thomson, [2023](#)).

Arts and crafts are derived from two words. Arts refer to objects created primarily for aesthetic appreciation by an artist. In other words, a craft is an object created by a craftsman and may be more effective. However, the terms arts and craft are used interchangeably as these distinctions overlap when used in a common and traditional intelligence (Becker, [1978](#)). Learning visual arts is associated with students' multiple motors and cognitive and perceptual functions. He also suggested that it is necessary to provide group or team training programs for technical and vocational education. Through this, the individuals may get income and those who are in schools may positively impact their skills and performance in the drawing or arts completion held in schools (Tyler & likova, [2012](#)). Those students who were fond of designing art materials already had an interest in creating those materials, which were taught in school by the teachers or learned from present homes. Besides, he also explained that those students who were experts in creating arts and crafts materials like crocks, pots and bricks were already found more interested in the school to make such materials (Howie et al., [2004](#)). Crafts are human-interacted material practices that improve human knowledge and power (Adamson, 2010). People have more and more participated in their activities, and several researchers have also placed emphasis on the importance of both craft ethos and skills. Taking part in arts, crafts, and other co-curricular activities creates enjoyment and makes the person healthy and creative mind. It creates a sense of experiential invention and provides a base for leisure. There is no need for higher education to do crafts, but it needs experience and passion. Further, he found out that most of the craftsmen are non-educated, but they create very fine and amazing materials in the craft profession. This means that there is no need for more education; experience and passion are necessary (Collier, [2011](#)).

There are several distinctions between craft and fine art, even though craft art is the application of fine arts. This division is, of course, historical, but it also results from the various cultural and societal goals that craft and art have. These goals may be observed in various social responsibility or service roles, which I attempt to explain in the next sections by drawing on the ideas of philosopher Hannah Arendt. While culture seems to inspire, it also has a responsibility to maintain different customs and artistic and crafty endeavors. There will be a new trend in education and learning that will satisfy modern demands. In addition to imparting knowledge, education aims to offer students the skills they need to overcome obstacles. It takes bravery to face obstacles, as well as a willingness to live in ambiguity and find novel, unexpected solutions to issues. Furthermore, craft education, which was once thought of as traditional and even classified as solitary work, now manifests itself in craft art and is perhaps best understood as "socially shared work" (Karpinen, [2008](#)). It helped organize their thoughts and emotions. He stated that most women are very interested in making such materials in factories, especially in textile and other factories. Further, he described that it is the best source of income for men and women who have experience and the skills of invention. Those persons who were very weak in studying other subjects like Biology, Physics, English and Mathematics, etc. performed a good job in preparing the materials such as pots, crocks, etc. he also stated that those institutions that emphasized practical work rather than theory, their students were found more they came to the practical field (Reynolds, [2000](#)). Arts and Crafts combine to together make social interaction among society members and directly affect psychosocial benefits angles. It has a great impact on the social, mental and physical benefits of a man or woman. Watching arts and crafts activities creates a positive situation for the welfare of the community and moulds their behaviours towards these activities. Taking part in arts and crafts decreases tension and anxiety, reduces unresolved emotions, provides a climate of pleasure and amazement, and also provides them with a source of income (Leckey, [2011](#); Abbot et al., [2013](#)).



Educators in the arts are well aware that their ideal student often differs from the pupils that academics in other fields see; to them, an art student has a distinct degree of independence and is capable of critical self-analysis. Consequently, art teachers design the school's art curriculum to support the growth of independent inquiry through increasingly challenging assignments, tasks, and texts that become more complex and challenging, works that are made for a variety of audiences, and the formation of a wide network of relationships with artists and their settings (Thomson & Hall, 2023). One of the most important aspects of education in Indonesia is the curriculum, which has undergone several revisions to raise educational standards (Setiahati & Linani, 2019). Students who struggle with visual recall and weak image skills frequently do badly in science and math classes. Generally speaking, women and minorities are more likely than white men to have a lack of proficiency in the ability. However, a lot of children who struggle with picturing still perform poorly on memory tests and in drawing and painting. This training also results in a significant increase in the student's ability to perform well in their mathematics and science classes and to succeed in standardized testing situations (Sorby, 2009). Human cognition is improved by the use of the hands (Toussaint & Meugnot, 2013).

### School Level Arts Activity

Gerber (1996) Compared to extracurricular activities outside of school, participation in extracurricular activities at the school level was more strongly correlated with academic success. One's identification with and commitment to objectives in a certain environment is influenced by context-specific activities. Furthermore, the researcher investigates students' involvement in various artistic disciplines (Marsh & Kleitman, 2002). Youth activity research frequently overlooks engagement, which is seen to be essential for a more comprehensive understanding of young people's extracurricular experiences rather than just gauging the quantity or existence of activity. Since people may attend an event in person without feeling a connection to it, this evaluation of participation in the arts is essential (Bohnert et al., 2010). Cognitive engagement is determined by self-efficacy; behavioural engagement is determined by perseverance; and affective engagement is determined by value, interest, and enjoyment. Notably, there has been a correlation found between these aspects of adolescent activity participation and academic results (Mahoney et al., 2005; Shernoff & Vandell, 2007)

### Artistic Education Significantly Impacts Students' Creativity

Teachers play a crucial role in this process by assigning projects that emphasize self-expression and encourage students to perceive the world through their unique lenses. This approach motivates students to create original artistic works rather than duplicating standardized examples. Allowing students to express their emotions and interpret experiences in a personalized manner is essential for fostering creativity. Consequently, artistic education provides a productive and enriching environment for the development of creativity, which is included in the present elementary school curriculum as a general learning objective (Prummel, 2006).

### The Impact of Engaging in Craftsmanship on Creativity

Various ways in which such engagements enhance the overall learning experience. These improvements encompass heightened attention to subtlety and nuance, the promotion of amazement, growth, and understanding, as well as the enrichment of deliberate and subjective encounters (Eisner, 2008). Craft engagement also contributes to the advancement of expanded diversity in knowledge, sensitivity, intuition, and the acknowledgement of imagination as a paramount human skill. In the educational realm, it is crucial to view creativity as a fundamental life attitude. The utilization of art as a method has proven to be an effective approach to fostering positive thinking and creativity among students. Notably, artists possess a unique ability to perceive reality from various perspectives (Prummel, 2006). Consequently, introducing creative challenges through practical teaching strategies provides students with opportunities to cultivate their creative responses, emphasizing the significance of arts and crafts. Consequently, this creates an essential and fruitful learning environment.

### Role of Teachers and Curriculum

Fostering creativity in school children relies significantly on the choice of materials and teaching methods.

However, numerous studies highlight a prevalent deficiency in the implementation of suitable teaching strategies for nurturing pupils' creativity among primary school teachers (Schacter et al., 2006). Teachers often lean towards more traditional approaches when addressing artistic achievement objectives, grounded in the belief that creativity is inherent in some students and not in others (Elias & Duquenne, 2002). Members of arts education groups have noted, however, that a tiny percentage of instructors have demonstrated an increase in creative output originality in elementary schools in recent years. However, there is a great deal of variety across schools and between instructors. According to survey data, instructors can, however infrequently, have a substantial impact on fostering artistic creativity. This shift in emphasis underscores a preference for skill development over nurturing a comprehensive spectrum of creative expression.

### **Handcrafts and Design in Classrooms**

Craft activities play a significant role in facilitating students' exploration, organization, invention, and control of various elements. As the father of educational craft, Pestalozzi emphasized the value of craft in general education and stressed the relevance of handwork in all learning. He thought that children are naturally creative and that the best ways for them to express themselves are via practical activities. In response to this perspective, several countries, including New Zealand, Canada, and England, have recently introduced curricula that focus predominantly on crafts. Design and Craft are considered innovative technological subjects within these educational frameworks and design principles promoting technological literacy and innovation. According to this curriculum, all students in grades 1 to 8, ages 6 to 13, must take design and craft classes, and they must come up with concepts and create their own artwork. Originally called "school industry", to set it apart from other artistic disciplines, this craft course permits the use of a variety, most of which are byproducts recycled by students. This approach not only contributes to the creation of new items but also aids in waste reduction. Some schools even go one step further and assign art professors to oversee whole projects that make use of recycled and eco-friendly materials to create amazing works of art; students in these programs use commonplace supplies such as water bottles, chip bags, old cardboard, plastic plates, forks, glasses, aluminium foil, twine, rope, toilet paper, paper towels, and more. Encouraged by their teachers and armed with imaginative freedom, Students use the greatest recyclable resources to create beautiful creations. These designs go beyond being mere works of art; they serve as expressions of the students' emotions, emotions and creativity, each piece narrating its tale.

### **Research Methodology**

#### **Research Design**

The purpose of the present study was to find out that students' participation in Arts and Crafts activities impacts the academic achievement of students at the secondary level in district Bannu, Khyber Pakhtunkhwa, Pakistan. In this study, the researcher employed a descriptive method using a survey research design. Avwokeni (2003) stated that survey design is a data-collecting technique in which the researcher collects the data from the respondents through a questionnaire or interview. To apply this design, the researchers focus on the population, select the sample within the same population, and then develop a questionnaire to collect the data.

#### **Participants of the Study**

The population of the study was all-male secondary school students in district Bannu. As per Kamal (1996), the concept of a statistical population encompasses the sum of the items or units that share the features in which the researcher interested. Target population means the subset of the whole population from which the researcher drawn the conclusion.

#### **Sample Size and Sampling Technique**

A total of 500 respondents were selected from the 20 secondary schools in the Bannu district as a sample. The sample was selected by using John Carry (1984) sample size formula. As a sampling technique, the researcher randomly selected 25 participants from each secondary school, as shown in the table below.

**Table 1**

Illustrating the process of selecting respondents.

Numbers of schools	Numbers of sampled school	Total respondents	Each school
50	20	500	25

John Curry's (1984) sample size determination rule of thumb is as follows in this study. John Curry stated that for sample sizes ranging from 10 to 100, a 100% sampling is recommended; in the case of sample sizes from 101 to 1000, a 10% sampling is suggested; for sample sizes within the range of 1001 to 5000, a 5% sampling is deemed appropriate, when dealing with sample sizes between 5001 and 10000, a 3% sampling is advised and for sample sizes exceeding 10000, a 1% sampling is recommended.

### Data Collection and Data Analysis

The academic achievement data of students was extracted from their most recent Detailed Marks Certificates (DMC) for the 9th class Board exams, released by the BISE Bannu.

The study employed mean and standard deviation as descriptive statistics to assess the participation of students in arts and crafts activities. Pearson coefficient correlation served as the inferential statistic to investigate the relationship between academic achievements and engagement in arts and crafts activities. Additionally, a t-test was utilized to discern any variations in academic achievement between students who engaged in arts and crafts activities and those who did not.

### Instrumentation

The researcher used self-made questionnaire to collect the data from the selected respondents. The development of the questionnaire drew upon a thorough review of existing literature and expert supervision. It was crafted to encompass various aspects of arts and crafts activities. Responses were evaluated using a Likert scale of five points as shown in the table below.

**Table 2**

Weight	Scale Options	Range
1	Never	1.00 to 1.50
2	Seldom	1.51 to 2.50
3	Sometimes	2.52 to 3.50
4	Often	3.51 to 4.50
5	Always	4.51 to 5.00

### Pilot Study

A pilot study is an important step in maintaining the quality of the study. The researcher tested and validated the research tool. To successfully accomplish this task, the researcher initially reviewed the questionnaire with the help of ten experts. Among these, six were educationists, two were linguistics, and two were psychologists. All the suggestions and feedback provided by the experts were incorporated accordingly.

The refinement of the research tool's ultimate version was guided by the insightful suggestions of the aforementioned experts; following their recommendations, the essential modifications were completed to the tool & the final draft was confirmed. As Burns and Grove (2001) explained that validity measures how precisely the data obtained from the research tool is accurate. Both external and internal validity evaluate the variables of the study.

The Cronbach alpha formula was utilized to find out the reliability of the tool after the researcher personally visited each of the fifty (50) respondents to verify the reliability of the research instrument. Items for which there was a total item correlation of .25 or less of the amount it fell. Twenty-four items were kept while eleven were dropped, and their Cronbach alpha value was .89. Reliability, as Polit and Hungler (1999) explain, refers to the consistency with which an instrument evaluates a characteristic. It shows the level of the research instrument to which it is distributed individually in the same condition to

show consistency and the same result. Contributing to increased dependability when causing minimal fluctuation in repeated measurements of a property. Moreover, the relationship between validity and dependability is acknowledged, with a non-valid instrument unlikely to be dependable (Polit & Hungler, 1999).

**Table 3**

Tabulated Cronbach alpha value

Serial number	Variable	Value
1	Arts and craft	.89

**Results**

**Table 4**

Arts & crafts activities mean score

Statement	Mean	SD
I love drawing things in nature	3.87	1.645
Being very good at painting	2.53	1.684
Collect stamps of different countries	2.12	1.507
Good at clay work	2.27	1.543
Participation in the design competition	2.60	1.689
Total	2.6778	1.6136

The above table No. 4 indicates the level of the mean score that I love drawing things of nature (M = 3.87, SD = 1.64). It means that average respondents showed a high level of interest in drawing things related to nature, and the lowest level mean score of collecting stamps from different countries (M = 2.12, SD = 1.50) revealed a moderate interest in collecting stamps from different countries. So, the total mean score for the students in arts and crafts activities is 2.67 with a standard deviation =.95. This suggests that students occasionally engage in arts and crafts activities. The mean score falls within the range of sometimes=2.51 to 3.50.

**Table 5**

Pearson correlation between arts and craft activities and students’ academic achievement

		Arts and craft	Academic achievement
Arts and craft	Pearson correlation	1	.011
	Sig(2-tailed)		.806
	Sample size (N)	500	500
Academic achievements	Pearson correlation	.011	1
	Sig ( 2 tailed)	.806	
	Size of sample (N)	500	500

Table No.5 indicates the pear son correlation between arts and crafts activities and academic achievement of the students  $r= 0.011$  and  $p$  value= 0.86 at a significant level of .05. This shows that there is no significant correlation b/w arts and crafts activities participation and student academic achievement.

**Table 6**

Mean comparison of academic achievement b/w students who partake in art and crafts activities & those who did not

	Variables	N	Mean	SD	F	p	t
Arts and craft	Participated	203	14.81	4.80	.406	.524	5.71
	Not participated	297	12.41	4.48			



The above table indicates that, at the 0.05 level of significance, the mean score of the students who participated in arts and crafts activities and those who did not are, respectively, 14.81, 12.41 and standard deviation (SD), 4.80, 4.48, with an F value of .406, P value of .524 and t value of .527. The p values are less than .05, indicating that there is no significant relationship between the two groups of students. This means that participation in arts and crafts activities has no significant relationship with the academic achievement of the students.

## Discussion

Results show that the student's participation in arts and crafts activities falls in the range of "sometimes", indicating that students exhibit varying levels of participation in love drawing things of nature, being very good at painting, collecting stamps of different countries, good at clay work and take part in a design competition at school. This finding is supported by Setiahati (2019), who found that using leaves as an average in art activities improved students' creativity and interest in learning. Gonçalves (2020) also stated the role of active facilitation and open-ended activities in improving the quality of relations during arts and crafts activities. Similarly, Rezaei (2011) established that the effectiveness of arts and crafts activities improves students' elaboration, flexibility, creativity, and flexibility in originality. Mishina (2016) stated that art and project activities could develop teenagers' graphic skills, independence, integrated knowledge, and communicative skills. The reason individuals may possess varied interests, and whereas some may enthusiastically engage in arts and crafts, others might participate less frequently due to distinct preferences or variability in students' engagement levels may be influenced by differences in access to art supplies, facilities, or opportunities to participate in artistic activities.

Current results indicate that the two variables have a significant and positive connection with one another. Previous studies stated that arts integration in schools leads to significant gains in English Language Arts proficiency Peppler (2014) and that infusing process drama into language arts curricula can improve student performance in both math and language arts (Inoa, 2014). Furthermore, arts participation is associated with increased school satisfaction and university expectations Geagea (2017), and at-risk youth who engage in the arts show more positive academic and social outcomes (Catterall, 2012). The effectiveness of arts and crafts in contributing to academic achievement can depend on the quality of instruction. If the activities are not well-designed or integrated into the educational curriculum, their impact may be limited.

The study reveals a significant difference in academic achievement between students who engage in arts and crafts activities and those who do not. According to Catterall (2012), it enhances academic and social outcomes among at-risk youth who participate in arts learning programs. Correspondingly, Shropshire (2007) identified higher academic achievement in students involved in music programs. A connection between arts and crafts activities and elevated academic achievement as well as socio-emotional well-being (Metsäpelto, 2012; Jindal-Snape, 2018). Young (2014) and Garcia (2010) both stated a positive relationship between arts participation and academic achievement, with Garcia specifically stating improved math skills and reading among students in programs joining fine arts. Martin (2013) and Vaughn (2000) also stated positive relations among arts taking part and favorable academic and non-academic outcomes. Arts and crafts activities have been found to have a positive impact on academic achievement, as they enhance cognitive abilities, critical thinking, and problem-solving skills. These activities often involve a combination of cognitive, motor, and socio-emotional skills, promoting holistic development. They cater to different learning styles and multiple intelligences, allowing students to express themselves in ways that traditional classroom activities may not. This diversity in learning experiences may contribute to improved academic outcomes. Arts and crafts activities also enhance student motivation and engagement with learning, leading to improved concentration and effort. They foster creativity and problem-solving skills, which are transferable to academic tasks, enabling students to approach challenges with innovative mindsets. Additionally, arts and crafts activities contribute to positive social interactions and emotional well-being, as students who feel a sense of accomplishment and belonging in extracurricular activities are more likely to approach academic tasks with a positive attitude.

## Conclusion

The study investigated the impact of arts and crafts activities on the academic achievement of secondary school students in Bannu District, Khyber Pakhtunkhwa, Pakistan. The research involved 500 randomly selected respondents from 20 secondary schools, and a self-developed questionnaire was used to gauge students' participation in arts and crafts activities. The results showed a positive correlation between students' academic achievement and their engagement in arts and crafts activities. However, no significant difference was observed between those who participated and those who did not. The study also discussed various aspects of arts and crafts activities, such as drawing, painting, stamp collection, clay work, and participation in design competitions. The results showed varying levels of interest among students in these activities, highlighting the potential benefits of arts and crafts in enhancing creativity, learning interest, and socio-emotional skills. The study also highlighted the importance of the quality of instruction in arts and crafts activities for their meaningful impact on academic achievement.

## Limitations

This study has several limitations, primarily in the following areas:

- (1) The sample selection was limited to males, potentially introducing gender bias. The exclusion of female students may restrict the study's applicability to the entire secondary school population. A more diverse and representative sample would enhance the study's external validity.
- (2) The study specifically targeted secondary school students. Extrapolating these findings to primary or higher education levels should be approached cautiously, as the impact of arts and crafts activities on academic achievement might differ across educational stages. The study's identified issues will be addressed in future research, ensuring necessary improvements are implemented.

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