

## **The Effect of Learning through Collaborative Artistic Projects Using Digital Platforms on Improving Teamwork Skills among Students in the Department of Fine Arts**

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**Abstract:** The importance of using digital technologies in education has been steadily increasing, and learning through collaborative artistic projects is considered an effective method that contributes to developing artistic and academic skills. This research employs digital platforms within a creative educational environment to enhance teamwork skills among students. The study focuses on understanding how this method impacts the development of collaboration among students and improves their problem-solving and teamwork skills. The research explores the effect of learning through collaborative artistic projects using digital platforms on developing teamwork skills among students in the Fine Arts Department at the College of Basic Education, Al-Mustansiriya University. The sample consisted of 60 students selected randomly. The study follows an experimental approach, where a practical experiment was conducted on students in the Fine Arts Department using digital platforms to complete collaborative artistic projects. The students were divided into small groups and used digital tools to develop and implement their joint art projects. Data were collected through surveys, observations, and performance assessments before and after the project implementation to measure the improvement in teamwork skills. The study's findings include:

1. Results showed that digital platforms enhanced students' communication and interaction while working on artistic projects.
2. It was found that collaborative projects via digital platforms helped students improve their skills in cooperation, joint planning, and collective decision-making.

**Keywords:** Collaborative Artistic Project-Based Learning, Digital Platforms, Teamwork Skills.

### **Chapter One: General Framework of the Research**

#### **Introduction:**

Modern educational technology plays a crucial role in transforming traditional teaching methods. Digital platforms have become one of the most prominent tools that provide flexible learning environments and support student collaborative teamwork. Project-based collaborative learning in the arts is a practical approach that contributes to developing artistic and academic skills, enhancing students' ability to express their creative ideas and complete projects that require teamwork and collaboration.

Developing collaborative skills is one of the primary goals of modern education, especially in fields like art education, which requires interaction among individuals to achieve common artistic objectives. Therefore, using digital platforms to implement collaborative art projects is one strategy supporting this goal. These platforms enable students to work together while benefiting from digital tools that enhance communication, idea exchange, and efficient work organization.

This research aims to study the impact of project-based collaborative learning using digital platforms on developing teamwork skills among art education students at the College of Basic Education, Al-Mustansiriya University. The research seeks to understand how these digital platforms enhance cooperation among students, motivate them to solve problems collectively, and make participatory decisions, thereby improving their academic and artistic performance. It also aims to measure the effectiveness of this approach in developing communication, interaction, and joint planning skills, which are considered essential elements of successful teamwork.

The experimental method will be used in this study to examine the impact of digital platforms on teamwork. A group of students will participate in collaborative art projects using these platforms.

### **The problem of the Research:**

Teamwork skills are essential skills that students must acquire in light of modern educational trends that focus on collaboration and interaction among individuals in learning environments. However, many students in art education fields face challenges in developing these skills, as they struggle with coordination among group members, making collective decisions, and organizing group work effectively.

On the other hand, using digital platforms in education has become a modern method that allows students to participate actively in collaborative projects. These platforms provide a flexible and impactful environment for developing communication, joint planning, and problem-solving skills, which are fundamental to teamwork. Despite the increasing use of technology in education, there is still a lack of studies that explain how project-based collaborative learning using digital platforms can enhance teamwork skills among art education students.

The problem of this research lies in the central question: "What is the impact of project-based collaborative learning using digital platforms on improving teamwork skills among art education students?" The research explores how these platforms enhance student cooperation, improve their ability to work collaboratively, and ultimately improve their academic and artistic performance.

### **Importance of the Research:**

The importance of this research lies in several academic and educational aspects that contribute to the development of the educational process, particularly in art education. The significance of the study can be summarized in the following points:

#### **1. Enhancing Teamwork Skills:**

Teamwork is an essential skill needed by students in their academic and professional lives. This research will highlight how to improve these skills using digital platforms, which will equip students to collaborate effectively with others. This skill is vital in various fields, including art, education, and future professional careers.

#### **2. Supporting Art Education:**

Art education focuses on developing students' creative and organizational thinking skills but also requires collaboration to achieve common artistic goals. This research contributes to finding innovative ways to use technology to improve these skills in art education students, thus enhancing the quality of art education.

#### **3. Using Digital Platforms in Education:**

With the significant expansion of technology in education, this research sheds light on the benefits of digital platforms in enhancing the collaborative learning experience. This study will provide a deeper understanding of how students can benefit from these platforms to organize and coordinate collaborative art projects, further promoting the use of modern technologies in educational fields.

#### **4. Achieving Consistency Between Theory and Practice:**

This research focuses on applying concepts of teamwork and problem-solving in a practical digital educational environment, enhancing students' interaction with theory in art education. It also strengthens the connection between theoretical activities and practical applications, which helps achieve the goals of collaborative education.

## **5. Contribution to Educational Literature:**

The findings of this research will enrich the educational literature in art education, particularly regarding the use of digital platforms in collaborative learning. It will also provide a scientific framework to understand how digital collaborative art projects impact the development of communication and interaction skills among students.

## **6. Achieving Sustainable Development of Skills:**

This research aims to develop students' teamwork skills sustainably, thus enhancing their ability to adapt to future challenges in education and work.

### **Research Goal:**

The current research aims to determine the impact of project-based collaborative learning using digital platforms on improving teamwork skills among art education students.

### **Research Hypothesis:**

There are no statistically significant differences between the experimental group of students who learned through project-based collaborative art projects using digital platforms and the control group of students who learned using the traditional method in the post-application of teamwork skills.

### **Research Scope:**

The research is limited to a randomly selected sample of art education students at the College of Basic Education, Al-Mustansiriya University, for the academic year 2024-2025.

### **Research Terms:**

#### **1. Project-Based Collaborative Learning in the Arts:**

This refers to an educational approach in which students are assigned collaborative art projects that require cooperation and group interaction. This type of learning involves working together to achieve specific artistic goals through active participation among group members, thus enhancing skills in collaboration, joint planning, and problem-solving in a collective learning environment.

#### **2. Digital Platforms:**

Electronic educational environments rely on digital technology to provide interactive tools and resources that facilitate distance learning or classroom learning. Digital platforms include applications such as Learning Management Systems (LMS), social media tools, and digital collaboration programs that allow students to collaborate on projects, exchange ideas, and engage in joint activities online.

#### **3. Teamwork Skills:**

Refers to an individual's abilities to work effectively with others in a group setting to achieve a common goal. These skills include good communication, active listening, collaboration, negotiation, decision-making, collective problem-solving, and task organization and distribution among group members. Teamwork skills are essential in academic and professional life.

## **Chapter Two: Theoretical Framework and Previous Studies**

### **Theoretical Framework:**

This chapter reviews the theoretical framework regarding the impact of using digital platforms in developing teamwork skills among students, focusing on project-based collaborative learning. Through interaction in digital environments, students can develop essential skills such as communication,

problem-solving, and collaboration, which are crucial in art education. The chapter also examines previous studies on this topic.

## **1. Project-Based Collaborative Learning**

Project-based collaborative learning is an educational approach where students interact to carry out group projects. In art education, this type of learning requires coordination and organization among group members, as well as providing creative solutions to common artistic problems.

### **a) Definition of Project-Based Learning:**

Project-based learning (PBL) is an educational approach that allows students to work on solving problems or achieving goals through long-term projects. These projects involve interaction with others, research and exploration, and the practical application of knowledge. This approach aligns with the goals of art education, which requires critical, creative, and innovative thinking.

### **b) Importance of Collaborative Project-Based Learning:**

Collaborative project-based learning focuses on group cooperation to achieve goals, which enhances students' skills in joint planning, collective decision-making, and problem-solving. Studies have shown that collaborative learning helps improve students' understanding of academic content and increases their motivation.

## **2. Digital Platforms in Education**

Digital platforms are practical tools that contribute to the development of modern learning environments. In this context, digital platforms facilitate communication among students and the exchange of ideas and provide tools that support the implementation of collaborative projects.

### **a) Definition of Digital Platforms:**

Digital platforms are educational environments based on technology that provide interactive resources, collaboration tools, and communication between students and instructors. These platforms include e-learning systems such as "Moodle," "Google Classroom," and other educational systems that offer an integrated learning environment.

### **b) Role of Digital Platforms in Supporting Collaborative Learning:**

Digital platforms facilitate student collaboration by providing tools for messaging, interactive forums, and effective project participation. They also allow students to interact with academic content and participate in knowledge construction.

## **3. Teamwork Skills**

Teamwork skills are fundamental skills students require in various academic and professional settings. In art education, these skills are vital to success in artistic projects that demand cooperation and group organization.

### **a) Definition of Teamwork Skills:**

Teamwork skills include interacting effectively with others, communicating clearly, listening to diverse ideas, and reaching collective solutions. In an artistic context, these skills also involve coordinating among group members and distributing tasks evenly.

### **b) Importance of Teamwork Skills in Art Education:**

Group art projects are prime examples of the importance of teamwork skills in art education. Students need the ability to cooperate and coordinate to produce joint artwork, enhancing their creative and organizational skills.

## **Previous Studies:**

### **1. Study "The Impact of E-Learning on Improving Teamwork Skills Among Students of the College of Education"**

**Researcher:** Aisha Mohammed Ateeq (2017)

**University:** United Arab Emirates University

#### **Study Summary:**

This study aimed to analyze the impact of e-learning on improving teamwork skills among students in the College of Education. The experimental approach was used with a sample of 60 students, where an online educational program was implemented to enhance group collaboration through digital platforms such as "Moodle" and "Blackboard." The results showed that students who participated in collaborative activities via digital platforms demonstrated significant improvement in collaboration, joint planning, and collective problem-solving skills.

#### **Results of the Study:**

- Improved interaction and collaboration among students using digital platforms.
- Enhanced skills in collective decision-making and organizing group projects.

### **2. Study "The Impact of Using the Internet in Art Education and Improving Teamwork Skills Among Students"**

**Researcher:** Mariam Abdullah Abdulaziz (2018)

**University:** Cairo University, Egypt

#### **Study Summary:**

This study explored the role of the Internet in improving teamwork skills among students in art education. The study used digital platforms to enable students to engage in collaborative art projects online. The sample consisted of 40 students from the Art Education Department at Cairo University. Questionnaires and interviews were used to measure teamwork skills before and after the experiment.

#### **Results of the Study:**

- The internet helped students communicate better and work more effectively in groups.
- Collaborative online activities enhanced creativity and teamwork skills.
- Students became more capable of collaborating and making joint decisions more efficiently.

### **3. Study "The Impact of Using Modern Educational Technologies in Developing Collaboration Skills among Students in Art Education"**

**Researcher:** Emad Ahmed Youssef (2019)

**University:** King Saud University, Saudi Arabia

#### **Study Summary:**

This study evaluated the impact of modern educational technologies, including digital platforms and interactive applications, on students' collaboration skills in art education. The experimental method was used with 50 students from the College of Education. The research relied on collaborative activities conducted through digital platforms such as "Google Classroom" and "Zoom."

#### **Results of the Study:**

- The results showed improvement in students' teamwork skills after using digital platforms.
- Collaborative art activities helped enhance group interaction and develop creative collaboration skills.

#### 4. Study "The Impact of Using E-Learning Platforms in Developing Communication and Group Interaction Skills Among Art Education Students"

**Researcher:** Fatima Mohammed Ali (2020)

**University:** University of Bahrain

##### **Study Summary:**

This study examined the impact of e-learning platforms on developing communication and group interaction skills among art education students. The study employed interactive digital tools such as "Google Meet" and "Padlet" to conduct collaborative activities among students. A questionnaire was used to measure group interaction and effective communication among group members before and after using digital platforms.

##### **Results of the Study:**

- Digital platforms significantly contributed to improving communication and interaction skills among students.
- Increased effectiveness in teamwork and achieving common goals in art projects.

### **Chapter Three: Research Procedures**

#### **First: Research Methodology**

Given the nature and objectives of the current study, the researcher adopted an experimental research methodology. This methodology is highly accurate compared to other descriptive or historical methods. In experimental research, the role of the researcher goes beyond merely describing phenomena or recording past events. It involves intervening and manipulating specific variables under controlled conditions to achieve a particular outcome or event and identify its causes (Dweidar, 2010: 20).

#### **Second: Experimental Design**

The researcher used a partially controlled experimental design with two groups: experimental and control groups. This design was chosen to meet the research objectives and requirements. Figure (1) illustrates this design.

<b>Group</b>	<b>Pre-Test</b>	<b>Independent Variable</b>	<b>Dependent Variable</b>	<b>Post-Test</b>
Experimental	Teamwork Skills	Impact of project-based collaborative learning	Digital platforms	Teamwork Skills
Control	-	-	-	-
<b>Figure (1): Research Design</b>				

#### **Third: Research Population and Sample**

##### **a) Research Population:**

The research population refers to the individuals or groups that constitute the focus of the study and from whom the results can be generalized. The research population for this study consists of students from the Department of Art Education, College of Basic Education, Al-Mustansiriya University, for the academic year (2024-2025).

##### **b) Research Sample:**

Based on the method chosen by the researcher, a random sampling method was used to select two sections (A and B) from the Art Education Department at the College of Basic Education. Section B was chosen as the control group, comprising 30 students, and they were taught using traditional methods with no intervention. Section A was selected as the experimental group, which also had 30

students, and their teamwork skills were studied using project-based collaborative learning through digital platforms.

#### **Fourth: Equivalence Procedures**

Equivalence between the experimental and control groups was performed across several variables that could affect the experiment. After analyzing the equivalence data, it was found that the differences were statistically insignificant, indicating that the groups were equivalent.

#### **Fifth: Control of Extraneous Variables**

The researcher controlled all extraneous factors, such as parental education and students' age, to ensure that any differences in teamwork performance were solely attributed to the independent variable under study. This procedure guarantees that any changes in student performance were due to the studied independent factors, not other external variables (Raouf, 2001: 158-159).

##### **1. Sample Selection:**

Selecting a representative sample is crucial for the validity of the research. If the sample is well-representative of the original population, the research process will be more manageable, and the results will be more generalizable. A representative sample should reflect the diversity and characteristics of the population from which it was drawn, ensuring that the results can be confidently generalized (Abbas et al., 2009: 218).

##### **2. Maturation Effects:**

The potential impact of changes that occur over time on the research results was considered. If the experiment duration is consistent between the two groups, any time-related changes should be equally distributed, thus reducing their effect on the results. Therefore, the study is reliable even if time-related changes occur, provided the duration of the experiment is short enough to minimize such effects.

##### **3. Experimental Attrition:**

To avoid the adverse effects of random attrition on the study's outcomes, the researcher ensured minimal absences from both groups. This balance prevented any significant impact on the study results due to attrition.

#### **Sixth: Measurement Tool**

Using a standardized measurement tool is essential for controlling variables in research. The researcher created a critical thinking assessment tool to ensure consistency in the measurement process across both groups. This ensures that the assessment method is consistent, minimizing differences between groups in evaluating teamwork skills.

#### **Impact of Experimental Procedures:**

To mitigate any adverse effects from experimental procedures on the dependent variable, the researcher implemented several instructional strategies:

##### **1. Course Material:**

The same course material was used for both groups throughout the experiment. The course followed the official curriculum for art education as set by the Ministry of Higher Education and Scientific Research for the academic year (2024-2025).

##### **2. Teaching Methods:**

The researcher personally taught both the experimental and control groups to avoid discrepancies in teaching quality that could affect the results. This ensures that the outcomes of the study are accurate and objective by preventing any bias that could arise from different instructors.

##### **3. Duration of the Experiment:**

The experiment duration was the same for both groups, starting on Thursday, November 12, 2024, and ending on Monday, January 9, 2025. The equal duration of the experiment for both groups aims to maintain balanced conditions and ensure the objectivity of the results.

#### **4. Teaching Resources:**

The researcher used standardized educational resources for teaching teamwork skills to both groups, such as whiteboards, coloured pens, pictures, drawings, and shapes, according to the requirements of blended learning.

#### **Seventh: Statistical Methods**

The researcher used the following statistical tools to analyze the data and results, relying on the SPSS software for data processing:

##### **1. T-test for Independent Samples:**

This test was used to assess the statistical significance of differences between the two groups regarding their equivalence and the analysis of results.

##### **2. Pearson Correlation Coefficient:**

This was used to calculate the reliability coefficient of the test using split-half reliability.

##### **3. Spearman-Brown Formula:**

After calculating the Pearson correlation coefficient, this formula was applied to adjust the correlation coefficient between the test halves (odd and even items).

##### **4. Chi-Square Test ( $\chi^2$ ):**

This test was used to determine the significance of categorical data.

##### **5. Item Difficulty Formula:**

This formula was used to assess the difficulty level of the test items.

##### **6. Item Discrimination Index:**

This formula helped evaluate test items' ability to differentiate between higher and lower-performing students.

##### **7. Effectiveness of Distractors:**

This was used to assess the effectiveness of incorrect options in test items.

#### **Chapter Four: Presentation of Results and Interpretation**

This chapter presents the results of the study. It provides an interpretation of them to understand the impact of project-based collaborative learning using digital platforms on improving teamwork skills among Department of Art Education students. The results are presented as follows:

#### **First: Presentation of Results**

##### **1. Research Objective Results**

This research aimed to assess the impact of project-based collaborative learning using digital platforms on improving teamwork skills among students in the Department of Art Education.

To test the null hypothesis, which states that "there are no statistically significant differences between the experimental group, which learned through project-based collaborative learning using digital platforms, and the control group, which learned through traditional methods, in the post-test application of teamwork skills," the following steps were taken:

After applying the teamwork skills assessment to the students in both groups and correcting their answers, the mean, standard deviation, and variance for both groups were calculated. The t-test (T-test) for independent samples was then applied to find the computed t-value. The results revealed a

statistically significant difference in favour of the experimental group at the (0.05) level, with 60 degrees of freedom. The calculated t-value was (5.761), which is greater than the tabulated t-value of (2.000), as shown in **Table (1)**.

**Table (1): T-test for the Two Research Groups in Teamwork Skills**

Group	Sample Size	Mean	Variance	Standard Deviation	Degrees of Freedom	Calculated t-value	Tabulated t-value	Significance Level
Experimental	30	57.34	62.03	7.876	58	5.761	2.000	Statistically Significant
Control	30	39.89	27.24	5.220				

This result indicates that the experimental group, which was taught using project-based collaborative learning, outperformed the control group, which was taught using traditional methods. Therefore, the null hypothesis is rejected.

### Second: Interpretation of Results

After statistically analyzing the data, it became clear that the experimental group outperformed the control group regarding teamwork skills. This improvement can be attributed to several factors, including:

- Use of Innovative Educational Strategies:** The experimental group likely benefited from project-based collaborative learning, which enhances collaboration among individuals.
- Enhanced Communication Skills:** The group activities applied during the experiment may have helped students improve their communication skills, leading to more effective teamwork.
- Training in Group Problem-Solving:** The experimental group might have participated in activities that required cooperative problem-solving, fostering coordination among team members.
- Group Rewards and Motivation:** There may have been rewards or incentives given to groups that demonstrated exceptional teamwork, motivating the experimental group to improve their collaboration skills.
- Psychological Support and Social Cooperation:** The experimental group may have received strong psychological support and encouragement for group cohesion, improving interpersonal relationships and fostering a culture of cooperation.
- Diverse Experiences and Skills among Group Members:** Students in the experimental group had the opportunity to collaborate with peers with diverse skills, which helped improve their ability to distribute tasks effectively and work together.

### Chapter Five: Conclusions, Recommendations, and Suggestions

#### First: Conclusions

Based on the results obtained from this research, the following conclusions can be drawn:

- project-based collaborative learning through digital platforms significantly enhanced communication and collaboration skills among students. They could coordinate tasks and use digital tools to improve their teamwork outcomes.
- Project-based learning stimulated critical and creative thinking, allowing students to share and discuss ideas with their peers through digital platforms, improving their ideas' quality and innovation.
- By dividing tasks among team members through digital platforms, students could manage their time more effectively, which enhanced their ability to organize teamwork and achieve project goals within the set time frame.

4. The use of digital platforms created an interactive environment where students could exchange knowledge and experiences, helping them build professional social relationships and strengthening their sense of teamwork.
5. The study revealed differences in students' ability to use technology effectively, with some students being less capable of engaging with digital platforms, which impacted how much they benefited from collaborative online learning.

### **Second: Recommendations**

Based on the findings of the study, the researcher recommends the following:

1. **Provide Training for Students:** Organize training sessions to help students effectively improve their skills in using digital platforms and tools, enhancing their interaction during project-based collaborative learning.
2. **Organize More Group Activities Using Digital Platforms:** More group-based activities that utilize digital platforms should be organized to provide students with additional practical experiences in collaboration and coordination.
3. **Focus on Collaborative Work:** Students should be encouraged to engage in teamwork activities that emphasize developing creative and collaborative skills and strategically integrating learning technologies into the process.
4. **Enhance Individual Interactions:** Continuous monitoring and assessment of student performance during collaborative projects using digital platforms should be carried out to ensure fair task distribution and monitor the development of teamwork skills.

### **Third: Suggestions**

For future research, the researcher proposes the following studies:

1. **Inter-departmental Workshops:** Organize workshops between different departments within the college to exchange technical and artistic expertise, improving collaboration among students and expanding their knowledge base.
2. **Use of Emerging Technologies:** Emerging technologies like augmented reality or interactive apps could be explored to stimulate students' creativity and encourage collaborative art projects using digital platforms in innovative ways.
3. **Creation of Digital Learning Communities:** Establish digital learning communities specifically for Art Education students to exchange knowledge and work on collaborative projects online, further enhancing teamwork skills.
4. **Teacher Guidance During Group Projects:** Instructors must guide students throughout the stages of collaborative projects, providing constructive feedback that will help improve teamwork results and effectively develop students' skills.
5. **Encourage Innovative Presentation of Ideas:** Students should be encouraged to use digital platforms to present their ideas innovatively, participating in art challenges and collaborative projects that require cooperation and idea exchange among different teams.

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