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Distance Learning Problems in Art Education during the Era of Digital Transformation

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Abstract: The objective of this study was to identify the problems of distance learning in art education in the era of digital transformation from the point of view of art students. This was a cross-sectional survey study of all students enrolled in an art education department in Saudi Arabia. A questionnaire was prepared to assess the participants' agreement on 31 positive items, divided into six problem domains, including equipment and preparations; teachers; students; teaching process; student evaluation; and computer applications. A total of 87 students completed the questionnaire. More than half of the participants disagreed on most questionnaire positive items. The teaching process was the most prominent problem, followed by student evaluation and teacher domains. While the domain of computer application was the least prominent problem. The majority of students (79%) found distance learning lacked excitement, proper methods for the practical part, and accurate evaluation. There is a crucial need to plan a new teaching process and art-specific electronic learning environment for distance learning in art education by specialists in the field. In addition, it is also important to work on developing the computer skills for both teachers and students and using appropriate methods to evaluate students' performance accurately.

Keywords: Problems, Distance Learning, Art Education.

1 Introduction

Art education has gone through multiple and random changes in education systems, curricula, and teaching methods throughout history. These changes were influenced by the surrounding political and cultural events and the need of individuals and society.[1, 2] In addition, art education was affected by the rapid technological development and digital transformation witnessed in the current era.[3] Art education shifted from direct to distance education using electronic educational applications and platforms in some countries.[4] Distance education has a substantial role in educational continuity during the extraordinary outbreak of the novel coronavirus pandemic (COVID-19), which has led to the shutdown of schools and universities of almost all countries around the globe.[5]

Distance Learning is defined as a mass education system that gives individuals the right to access teaching or training materials via an electronic educational transmission medium that is available for the transmission of information.[6] Many years ago, several educational institutions have adapted distance learning for different fields of studies, particularly in higher education. These institutions have adequately prepared the needed equipment, strategies, and methods for distance learning. However, a sudden transition from traditional learning to distance learning (i.e. online learning) during COVID-19 has created substantial challenges for both instructors and students in all fields of study.[7]

Nevertheless, distance learning in art education remains relatively limited and less common than other fields of study. [5, 8] This is likely because of the nature of deep education accompanied by practical work and exercises. Furthermore, distance learning in art education depends on the extent of pertinent technological advancement and the availability of the requirements and tools (i.e. online education platforms) to ensure the success of the educational process integrally. [4] Therefore, successful implementation of distance learning in art may broadly vary between different regions and cultures. For example, transformation to distance learning in developing countries may be highly challenging and needs proper assessments of problems that hinder the success of the distance learning process.

Many different studies have explored the general problems of teaching art in Golf countries. For example, the study of Al-Aqeel (2021) aimed to study the obstacles of art education from teachers' point of view at the Ministry of Education in Kuwait.[9] Other studies also revealed the obstacles of art education in schools from the point of view of teachers,[10] educational monitors and teachers,[11] and art supervisors.[12] However, to the best of our knowledge, there is a lack of regional studies exploring the problems of

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distance learning in art education from students' perspectives.

It is imperative to study the problems of distance learning in art education in the era of digital transformation and developments in society. Therefore, the objective of this study was to identify the problems of distance learning in art higher education in the era of digital transformation concerning equipment and preparations, teachers, students, the teaching process, and computer applications based on students' perceptions.

The current study is organized as follows. The study design and materials were described in section 2. While section 3 contains the results of this study as well as the recommendations and conclusion.

2 Materials and Methods

2.1 Study Design and Sample

This study was a cross-sectional descriptive survey which was distributed to all female students in the Department of Art Education (bachelor, Master, and doctoral students), at the Faculty of Education, King Saud University, during the second semester (between February 2021 and June 2021). The total population was around 111 students who were selected using the convenient sample. The number of responded students was 87, with a response rate of 78.4%.

2.2 Research Tools

The researcher designed and used a new questionnaire for data collection to identify the problems of distance learning in art education. The questionnaire was formulated after reviewing relevant literature concerned either the challenges of distance learning or/and art education.(3, 5-8, 12-14)

The final questionnaire draft included 31 positively worded items written in Arabic, exploring six main problem domains, including preparations and preparations (7 items); the teachers (5 items); the students (5 items); the teaching process (7 items); student evaluation (4 items); and computer applications (3 items). Students were asked to rate each item to reflect their agreement to positively worded statements using a three-point Likert scale (disagree, neutral, disagree). The three scale categories were weighted as (disagree=1, neutral=, agree= 3).

2.3 Questionnaire Validity

1. Face validity (the arbitrators' sincerity): The questionnaire was presented to several examiners to provide their opinions about whether the items of each domain are clear, sensible, appropriate, and relevant to our sample, and then making the necessary adjustments to them.

2. Internal consistency: We investigated the internal consistency validity using Pearson's Correlation Coefficient. We found that all items and domains were strongly valid with p-values of <0.01. We also approved the internal consistency reliability using Cronbach's alpha. It was found that the Cronbach's alpha of the overall questionnaire is (0.916). And the Cronbach's alpha of the six domains ranged between 0.789 and 0.872 (Table 1).

Table 1: Cronbach's alpha for internal consistency reliability of the used questionnaire.

Domain ID	Problem domains	No. of items	Alpha
1	Equipment and preparation	7	0.817
2	The teachers	5	0.872
3	The students	5	0.804
4	Teaching process	7	0.829
5	Evaluation	4	0.794
6	Computer applications	3	0.789
	Overall questionnaire	31	0.916

All data were described using SPSS version 25 (Chicago, Illinois). Mean, and standard deviation (SD) were calculated for continuous data, whereas categorical data were reported as frequencies and percentages. The problem domains and questionnaire items were ranked according to their arithmetic mean. The lower arithmetic means, the more prominent is the problem.

3 Results and Discussion

A total of 87 students completed the questionnaire. Table 2 presents the domains of the problems of distance learning in art education ranked from the most prominent problem to the least prominent problem.

The problems related to the teaching process ranked first with an arithmetic mean of 1.53 (SD±0.62), followed by problems related to student evaluation with an arithmetic mean of 1.54 (SD±0.60), and in the third-place comes the problems related to the teacher with an arithmetic mean of 1.54 (SD±0.66), followed by the problems related to equipment and preparations with an arithmetic mean of 1.59 (SD±0.58). The problems related to the student ranked in fifth place with an arithmetic mean of 1.60 (SD±0.52). Finally, problems related to computer applications come as the least prominent problems with an arithmetic mean of 1.61 (SD±0.65). The overall arithmetic mean of the total items was 1.57 (SD±0.52), indicating a larger number of students disagreed with the positive statements of our questionnaire.

Table 2: presents the arithmetic mean of the domains and the overall mean.

Domain ID	Problem domains	Mean (SD)	Rank
4	Teaching process	1.53 (0.62)	1
5	Student evaluation	1.54 (0.60)	2
2	Teacher	1.54 (0.66)	3
1	Equipment and preparation	1.59 (0.58)	4
3	Student	1.60 (0.52)	5
6	Computer application	1.61 (0.65)	6
	Overall mean	1.57 (0.52)	

Table 3 presents the response of the study sample to the items of the first three most prominent domains (teaching process, student evaluation, and teachers), including frequency of agreement levels, means (SDs), and ranking of the items.

3.1 Problems of Distance Learning in art Education related to the Teaching Process:

The arithmetic means of the five items of this domain ranged between (1.29, 2.11). The most prominent items related to this domain had lower arithmetic means ranked from one to seven (table 3). The lowest arithmetic mean (i.e. the largest number of students disagree with) was the item that states (Distance learning in art education has a kind of excitement and suspense) with an arithmetic mean of 1.29 (SD±0.65), followed by the item stating (The practical part of art education is presented in a sequential and integrated manner in distance learning) with an arithmetic mean of 1.31 (SD±0.65). Item related to developing various experiences (Distance learning can develop many different experiences such as educational, cultural and social) ranked as the third prominent problem with an arithmetic mean of 1.43 (SD±0.73). While the sixth apparent problem [was] the item that states (Diversity of the digital teaching aids and tools used in distance learning [photos, videos, electronic links, etc.]) with an arithmetic mean of 1.57 (SD±0.79). Finally, the least prominent item was the quality of learning the theoretical part of art (The theoretical part of art education is presented in a sequential and integrated manner in distance learning) with an arithmetic mean of 2.11 (SD±0.89).

3.2 Problems of Distance Learning in art Education related to the Student Evaluation

The arithmetic means of the four items ranged between (1.26, 1.68). The item that had the lowest arithmetic mean (i.e. most major problem) was the item that (The methods of student assessment and grading used in distance learning are accurate) with an arithmetic mean of 1.26 (SD±0.56), followed by the item related to the diversity of methods of student assessment (There are diverse methods of student assessment used in distance learning [worksheet, test, presentation...etc.]) with an arithmetic mean of 1.61 (SD±0.85). The third prominent problem was the item that states (There is continuous and useful feedback on tasks and requirements in distance learning) with an arithmetic mean of 1.62 (SD±0.84). The fourth and least prominent problem was about the grading method (The method of grading is appropriate in distance learning) with an arithmetic mean of 1.68 (SD±0.86).

3.3 Problems of Distance Learning in art Education related to the Teachers.

The arithmetic means of the five items ranged between (1.39, 1.69). The most prominent problem was the that states (Teachers make efforts to teach art education remotely similar to the efforts teaching in the classroom) with an arithmetic mean of 1.39 (SD±0.75), followed by the stating (Teachers can communicate the concepts and skills of art education to students) with an arithmetic mean of 1.48 (SD±0.78). The third prominent problem is the requirement of financial incentives (Financial incentives are not required for teaching art education remotely) with an arithmetic mean of 1.48 (SD±0.73). The fourth prominent problem was the item that states (Teachers have the awareness in job responsibility teaching art education remotely) with an arithmetic mean of 1.68 (SD±0.80). Finally, the least prominent item was about the computer skills of teachers (Teachers have the necessary skills in computers and e-learning) with an arithmetic mean of 1.69 (SD±0.87).

Table 4 presents the participants' responses to the items of the three least prominent domains (equipment and preparation, students, and e-learning and computer skills), including frequency of agreement levels, means (SDs), and ranking of the items.

3.3 Problems of Distance Learning in art Education related to Equipment and Preparations:

The arithmetic means of the seven items ranged between (1.34, 1.87). The most prominent problem was the item that states (The abundance of libraries and digital references specialized in art education) with an arithmetic mean of 1.34 (SD±0.64), followed by the item that states (The availability of sufficient electronic devices to help study art education) with an arithmetic mean of 1.44 (SD±0.74). The sixth prominent problem was the item about the number of students in the virtual class (The appropriate number of students in the virtual class) with an arithmetic mean of 1.82 (SD±0.79). Finally, the least prominent item states (Easy of availability of the Internet) with an arithmetic mean of 1.87 (SD±0.87).

Table 3: Frequency of agreement level, arithmetic mean, and rank of items for the first three most prominent domains (teaching process, student evaluation, and teachers).

Questionnaire items by problem domains	Agreement levels				
	Agree n (%)	Neutral n (%)	Disagree n (%)	Mean (SD)	Rank
Teaching process					
Distance learning in art education has a kind of excitement and suspense.	7 (8.0)	11 (12.6)	69 (79.3)	1.29 (0.65)	1
The practical part of art education is presented in a sequential and integrated manner in distance learning.	9 (10.3)	9 (10.3)	69 (79.3)	1.31 (0.65)	2
Distance learning can develop many different experiences such as educational, cultural and social.	12 (13.8)	13 (14.9)	62 (71.3)	1.43 (0.73)	3
Multiple teaching methods are used in distance learning.	15 (17.2)	11 (12.6)	61 (70.1)	1.47 (0.78)	4
There is good cooperation between teachers and learners in distance learning.	19 (21.8)	7 (8.0)	61 (70.1)	1.52 (0.83)	5
Diversity of the digital teaching aids and tools used in distance learning (photos, videos, electronic links, etc.).	16 (18.4)	18 (20.7)	53 (60.9)	1.57 (0.79)	6
The theoretical part of art education is presented in a sequential and integrated manner in distance learning.	40 (46.0)	17 (19.5)	30 (34.5)	2.11 (0.89)	7
Student evaluation					
The methods of student assessment and grading used in distance learning are accurate.	5 (5.7)	13 (14.9)	69 (79.3)	1.26 (0.56)	1
There are diverse methods of student assessment used in distance learning (worksheet, test, presentation...etc)	21 (24.1)	11 (12.6)	55 (63.2)	1.61 (0.85)	2
There is continuous and useful feedback on tasks and requirements in distance learning.	20 (23)	14 (16.1)	53 (60.9)	1.62 (0.84)	3
The method of grading is appropriate in distance learning.	22 (25.3)	15 (17.2)	50 (57.5)	1.68 (0.86)	4
Teachers					
Teachers make more efforts to teach art education remotely, similar to the efforts teaching in the classroom.	14 (16.1)	6 (6.9)	67 (77.0)	1.39 (0.75)	1
Teachers can communicate the concepts and skills of art education to students	15 (17.2)	12 (13.8)	60 (69.0)	1.48 (0.78)	2
Financial incentives are not required for teaching art education remotely.	12 (13.8)	18 (20.7)	57 (65.5)	1.48 (0.73)	3
Teachers have the awareness in job responsibility teaching art education remotely	18 (20.7)	23 (26.4)	46 (52.9)	1.68 (0.80)	4
Teachers have the necessary skills in computers and e-learning	23 (26.4)	14 (16.1)	50 (57.5)	1.69 (0.87)	5

3.4 Problems of Distance Learning in art Education related to the Students:

The arithmetic means of the five items ranged between (1.33, 1.82). The most prominent item was about the skills attainment (Students can attain skills using materials and tools in distance learning), with an arithmetic mean of 1.33 (SD±0.64), followed by the item stating (It is easy to obtain the financial means to meet the distance learning requirements, such as the Internet) with an arithmetic mean of 1.55 (SD±0.79). The third prominent problem was attendance and participation (Students are serious in attendance and participation) with an arithmetic mean of 1.57 (SD±0.79). The fourth major problem was about communication in distance learning (Communicate and discuss easily with the teacher without shame) with an arithmetic mean of 1.74 (SD±0.90). Finally, the least prominent item was about the students' computer skills (Students have the necessary skills in computers and e-learning) with an arithmetic mean of 1.82 (SD±0.84).

3.5 Problems of Distance Learning in art Education related to Computer Application:

The arithmetic means of the three items ranged between (1.46, 1.86). The most prominent problem in this domain was about the use of application contents (There is flexibility to use the contents of the applications [presentation, uploading images, sharing files...etc.]) with an arithmetic mean of 1.46 (SD±0.76), followed by the item that states (The applications achieve the required goals art education at a remotely) with an arithmetic mean of 1.49 (SD±0.79). The third and least prominent problem was the item that states (The applications facilitate communication between the teachers and the students) with an arithmetic mean of 1.86 (SD±0.89).

The current study is a comprehensive quantitative evaluation of problems faced by art students during distance learning in a higher educational institute in Saudi Arabia. Many problems were identified, showing difficulties art students face and their disagreement on the effectiveness of many distance learning components. The most prominent problems are categorized into three main domains: teaching process, student evaluation, and teachers' performance.

Table 4: Frequency of agreement level, arithmetic mean, and rank of items of the three least prominent domains (equipment and preparation, students, and Computer applications).

Questionnaire items by problem	Agreement levels			Mean (SD)	Rank
	Agree n (%)	Neutral n (%)	Disagree n (%)		
Equipment and preparation					
The abundance of digital libraries and references specialized in art education	8 (9.2)	14 (16.1)	65 (74.7)	1.34 (0.64)	1
The availability of sufficient electronic devices to assist in the study of art education	13 (14.9)	12 (13.8)	62 (71.3)	1.44 (0.74)	2
Offering several educational training courses on the use of computer programs	14 (16.1)	15 (17.2)	58 (66.7)	1.49 (0.76)	3
Participation of teachers in planning the mechanism of teaching art education curricula	14 (16.1)	21 (24.1)	52 (59.8)	1.56 (0.76)	4
The possibility of holding virtual art exhibitions	20 (23.0)	13 (14.9)	54 (62.1)	1.61 (0.84)	5
Appropriate number of students in the virtual class	20 (23.0)	31 (35.6)	36 (41.4)	1.82 (0.79)	6
Easy of availability of the Internet	28 (32.2)	20 (23.0)	39 (44.8)	1.87 (0.87)	7
Students					
Students can attain skills using materials and tools in distance learning	8 (9.2)	13 (14.9)	66 (75.9)	1.33 (0.64)	1
It is easy to obtain the financial means to meet the distance learning requirements, such as the Internet	16 (18.4)	16 (18.4)	55 (63.2)	1.55 (0.79)	2
Students are serious in attendance and participation.	16 (18.4)	18 (20.7)	53 (60.9)	1.57 (0.79)	3
Communicate and discuss easily with the teacher without shame.	26 (29.9)	12 (13.8)	49 (56.3)	1.74 (0.90)	4
Students have the necessary skills in computers and e-learning.	24 (27.6)	23 (26.4)	40 (46.0)	1.82 (0.84)	5
Computer applications					
There is flexibility to use the contents of the applications (presentation, uploading images, sharing files...etc)	14 (16.1)	12 (13.8)	61 (70.1)	1.46 (0.76)	1
The applications achieve the required goals art education at a remotely.	16 (18.4)	11 (12.6)	60 (69.0)	1.49 (0.79)	2
The applications facilitate communication between the teachers and the students.	29 (33.3)	17 (19.5)	41 (47.1)	1.86 (0.89)	3

Our results are in line with several previous studies. For example, several studies reported a lack of excitement and negative attitudes and views by students towards distance learning concerning art and design education.[15, 16] Furthermore, the practical part of art education is one of the main problems reported by art students in previous studies.[15] Some have suggested creating and using art-specific platforms or virtual environments that enable practising art-specific skills, using different learning methods, and enhancing the communication between teachers and students.[4, 16] However, although art-specific platforms may improve the effectiveness of distance learning, the current study found a significant challenge in the availability of electronic resources and devices and the lack of appropriate skills needed to use these resources.

Compared to previous studies, the current study used quantitative design to assess multiple domains and, more importantly, identified a crucial problem concerning student evaluation. More than half of the students found student evaluation in distance learning is inaccurate and lack diverse evaluation methods and continuous feedback. Lacking appropriate evaluation methods could seriously deteriorate the output of art educational programs that may not achieve graduates' competencies.

Research on the challenges and the effectiveness of distance education in art is relatively limited. Further studies on the problems related to distance learning in art education in different settings and larger populations may be necessary to confirm the findings of this study and to identify additional problems. In addition, there is a need to study the effectiveness of any proposed training programs and models based on distance learning to enhance their academic achievement. However, the current study has several implications that require further efforts by art educational programs and personnel. These implications include:

1. Planning a new mechanism for distance learning in art education curricula by specialists in art education to keep pace with scientific progress.

2. Prepare an electronic learning environment suitable for the successful activation of practical aspects of art education.

3. The emphasis should be placed on the importance of diversifying the assessment methods used in the teaching process, which contributes to achieving the maximum possible benefit from distance learning in art education.

4. Hold training for the teaching staff in distance learning in art education in a regular and integrated manner by organizing developmental training courses to enhance their knowledge and skills.

5. Raising students' awareness about the nature of distance learning in art education in the digital transformation era increases their sense of responsibility, seriousness in learning, and attendance.

6. Developing the skills of using computer applications in distance learning in art education in a way that enhances the skills of teachers and learners towards the concepts of art education.

In conclusion, art students in Saudi Arabia have many problems in all domains of distance learning that may hinder the process and the output of art education. The most prominent problems concern practical training, student evaluation and teachers' performance. This study recommends a crucial need to plan a new teaching process and art-specific electronic learning environment for distance learning in art education by specialists in the field. In addition, it is also recommended to work on developing the computer skills for both teachers and students and using appropriate methods to evaluate students' performance accurately.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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