

CONDUCTING ONLINE LEARNING ON FINE ARTS SCIENCE COURSE DURING COVID-19 PANDEMIC

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Abstract

The COVID-19 pandemic forced most of the education institutions in the world to close learning to avoid the spread of the virus. Most of the student population in the world from kindergarten to university level, have stopped their education temporarily. A lot of children, youth, and adults are not attending schools due to the increased spread of COVID-19, but learning should be conducted to enhance student competency. The objective of this paper is to compare the learning method of fine arts science courses that is conducted during the COVID-19 pandemic with the traditional method. The interaction of students and lecturers is conducted through Zoom, and students do their assignment at home. Students' achievement can be seen after they have done the assignment and make an artwork. Online learning findings showed that students performed at least as well on the outcome tests as traditional learning.

Keywords: online learning, traditional learning, fine arts science, evaluation

I. INTRODUCTION

The Coronavirus disease known as COVID-19 is a new coronavirus infectious disease that broke out towards the end of the year 2019. Due to the COVID-19 pandemic, educational institutions around the world have closed their learning processes to curtail the spread of the virus. More learners, approximately 90% of the student population in the world from kindergarten to university level, have discontinued learning. In fact, all students are faced with similar problem in learning. Consequently, various governments in different parts of the world have closed all institutions of learning to protect students from COVID-19. (1)

However, students continue their education through online learning and via video calls with their teachers, especially in big cities such as Bei-

jing. The model is currently the best alternative as keeping schools open poses a safety risk for students. Many schools were not ready to apply home learning programs yet. The online classes implemented in China work differently from those in the US. This is due to a lack of preparation in this country.

As a student participating in the home-learning program, online school was confusing to adjust to as we had not been prepared through simulations or practices beforehand. Students reported the home-learning program to be even more stressful than regular classrooms. Some of the common reasons for this went along the lines of: "Normal classes may have been difficult, but having friends makes it so much more manageable and less stressful. Online classes take out the benefits of having friends to socialize without and being stuck but assignments." (2).

A. Learning:

Formal education or higher education in China is divided into four stages beginning with diplo-

ma, bachelor, master, and doctorate. While informal education has many varieties of education as trainings, workshops, seminars, and courses that can be taken in a short period time (3).

Learning is not something done to students, but rather something students themselves do. It is the direct result of how students interpret and respond to their experiences. Learning is “a process that leads to change, which occurs as a result of experience and increases the potential for improved performance and future learning” (4). The change in the learner may happen at the level of knowledge, attitude or behavior. Competency of learners can be achieved through learning process.

Competency can be defined in two kind of meanings, one refers to the outputs, or results of training, and the other refers to the inputs, or underlying attributes, required of a person to achieve his/her performance. The meanings of competency show that they depend on the purpose for which it is used (5). Approaching this is related to individual performance to the goals of the business. Several organizations use competencies as the integrated knowledge, skill, judgment, and attributes that people need to perform a job effectively. By having the competencies, organization team members can work and achieve their objectives more effectively (6) Everyone can enhance his/her competency by learning in class or online training..

Traditional Learning Styles:

Learning styles have changed significantly over the years. The traditional way that education was delivered was through recitation and memorization techniques, whereas the modern way of doing things involves interactive methods (7). The traditional learning method, also known as conventional education, is still widely used in schools. The old-fashioned way of teaching was all about recitation, for example students would sit in silence, while one student after another would take it in turns to recite the lesson, until each one had been called upon. The teacher would listen to each student’s recitation, and they were expected to study and memorize the assignments. At the end of the module a written test or oral examination would be conducted; this process was called an Assignment Study Recitation Test.

The way in which traditional methods were taught ensured that students were rewarded for

their efforts, used class periods efficiently and exercised clear rules to manage students’ behaviour. They were based on established customs that had been used successfully in schools over few years. The teachers communicated the knowledge and enforced standards of behaviour. (8)

1. Online Learning Styles:

E-learning is a new learning method in the form of a combination of network technology and multimedia combined with pedagogy and andragogy. E-learning is the basis and logical consequence of the development of information and communication technology. Learning, material delivery, discussion, and others are carried out through electronic media. With e-learning, students do not come to the classroom to meet the teacher directly in the learning process. E-learning can also shorten learning time, saving costs incurred by educational programs. E-learning which is developed based on the web is often called Internet Enabled Learning. (9). While online learning includes learning at all levels, both formal and non-formal, using Internet, intranet (LAN) or extranet (WAN) communications. Online learning has shortened learning time and made study costs more economical. Online learning facilitates interaction between students and material, students and teachers and fellow students, as can be found in Figure 1. Students can share information with each other and can access learning materials at any time and repeatedly, and can further strengthen their mastery of the subject matter. In online learning, the teacher attendance factor is reduced or even absent. This is because computers have taken over the role

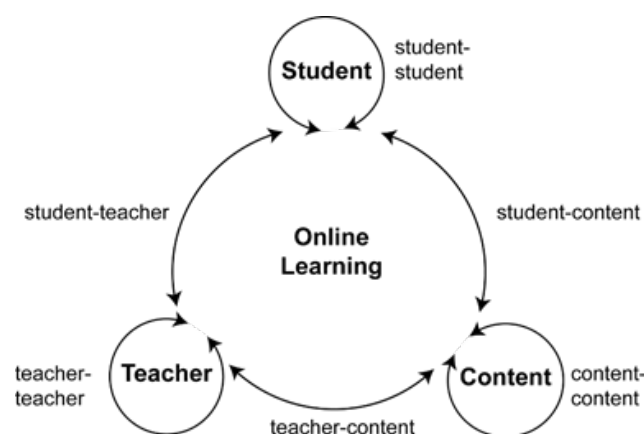


Figure 1 Interaction in online learning (10)

of teachers and electronic guides have been designed for the learning system. (10)

2. Online Learning of Fine arts science Course:

Fine Art Science

The presence of fine arts science has a significant influence on a design. The origin of the word Fine arts science itself is a combination of two words. Fine arts science is something that initially has no form/meaning, then it can be processed into a work of art by processing visual elements based on its principles and principles (11).

In addition, some interpret fine arts science as the result of imagination in 3D and 2D forms with beauty values. The procedures and elements of processing the work are packaged through a more organized and detailed hierarchy so that fine arts science can be made for two-dimensional and three-dimensional works of art.

Fine arts science is the foundation for Visual Design students. Therefore it is essential to understand it in detail. Maybe when students first learn fine arts science, students will think, "what is the essence of learning to make colors and lines like this?". The impact will only be felt when students enter the world of work, especially if students are still on the creative industry path.

Studying fine arts science can help students understand the layout mix of visual elements – such as points, plane lines, colors, and so on – and their function in producing work. Studying these elements can increase their sensitivity and sensitivity to design. Not only that but the principles of art will also be honed if students learn fine arts science, ranging from lighting (color gradations) and the use of shapes to creating works in 3D or tridimensional forms.

As a result, studying fine arts science can train creativity, provide innovation in arranging visual elements by applying design principles, and improve their artistic taste. Plus, later art students produce will have a high aesthetic value.

Fine arts science Course

Most of what students learn in art school will be about human visual perception and how to apply their skills to change human perception.

To this end students will learn 5 categories of things in art school:



Figure 2 This statue making requires extraordinary skill and talent? (<https://www.quora.com/What-and-how-is-taught-in-art-classes-in-China>)

- **Objective perception:** How human visual perception is shaped by our biology. Students will learn about colour theory, how people preceptive colour, shadow and light. Objective areas of composition such as positive and negative space, and attention.
- **Objective/Subjective cultural perception:** How people display uniform perceptual responses within a given culture. Some examples include Western agreement about primary colours, basic Western aesthetic. Hopefully students will learn about the components of Eastern aesthetic as well.
- **Subjective perception:** How students respond to form and colour and comparing that to how others react. A big component of this is composition and critique: creating their own works, understanding how others respond to those works, and how to express their observations about other peoples work.
- **2D and 3D composition:** Learning the tools to compose and create their own works. This includes anatomy, composition, drawing, painting, sculpture (in various mediums).

- **Culture and History:** Learning how people perception have changed over time and learning how cultural develops through science, politics, music, engineering, and the visual arts.

By the time student are done with the Bachelor degree student should have a very good understanding of how student, and others, perceptual system works and how, and why, people are influenced by what they see.

II. RESEARCH METHOD

The research design in this paper uses experimental research (12) that evaluate a learning model comparing with another one. the first model is online learning on Fine arts science course that is compared with traditional Fine arts science course. The experiment is conducted at the Visual Design program some university in China. The respondents are 37 students. The online learning is conducted during August to November 2020, while the traditional learning was conducted in last year semester 2019.

Location:

The object of the research are online learning on Fine arts science Course, and the research location is conducted some university. Respondents consist of students who are studying Visual Design Program at the first grade.

Data Analysis:

The data is analyzed using the analytical descriptive method and interpreted in a narrative way based on the research findings. Analyzing and data processing carry out with six stages including data gathering, preparing data for analysis, careful reading, developing the code, presenting the data and analyzing the data (13). The data is collected from interviews and questionnaires with details: (1) Questionnaires with open-ended questions are used to find useful information that supports the theory, the information is needed for model development, information on whether a student can conduct online learning, as well as assessing the quality of the artwork they made, (2) Interviews with open-ended questions are used, hence respondents can give information that is not limited from different perspective. Depth interviews are necessary to obtain data about

the online learning process of Fine arts science Course. All interview transcripts are stored in text documents; (3) Observations are conducted to obtain data about the learning process.

III. RESULTS AND DISCUSSION

A. Online Learning Process

The online learning process for a Fine Art Science course can be expected from an online Fine Art Science course:

1. Course Selection and Enrollment:
 - Start by researching and selecting a Fine Art Science course that aligns with students' interests and goals.
 - Enroll in the course through the institution's website or an online learning platform.
2. Accessing Course Materials:
 - Once enrolled, students will typically gain access to a virtual learning environment, which may include a course website or a learning management system (LMS).
 - Here, students can find course materials such as lectures, readings, videos, and assignments.
3. Online Lectures and Instruction:
 - Many online courses offer video lectures or live-streamed classes. Students will watch these lectures at their convenience or attend live sessions if they are scheduled.
 - Instructors may use webinars, video conferencing, or pre-recorded lectures to deliver content.
4. Reading and Research:
 - Students will be expected to read textbooks, articles, and other reference materials relevant to the course.
 - Online libraries and resources may be provided to support their research.
5. Assignments and Assessments:
 - Students will complete assignments, projects, and assessments to demonstrate their understanding of the material.
 - These can include essays, art projects, quizzes, and exams.
 - Submission of assignments is usually done through the course website or LMS.
6. Interaction and Communication:
 - Online courses often include discussion boards, forums, or chat rooms where stu-

dents can interact with their peers and instructors.

- Students can ask questions, participate in discussions, and seek clarification on course content.
7. Feedback and Grading:
- Instructors will provide feedback on their assignments and assessments.
 - Students can usually view their grades and track their progress through the online platform.
8. Independent Study:
- Online learning requires self-discipline and time management. Students will need to set aside dedicated study time and meet assignment deadlines.
9. Technical Requirements:
- Ensure have the necessary hardware and software to access and participate in the online course. This may include a computer, high-speed internet connection, and specific software tools for art-related tasks.
10. Support Services:
- Online students often have access to support services, including technical support, academic advising, and tutoring.
11. Final Assessment and Learning Outcome:
- Complete the course requirements, including the final exam or project.
 - Upon successful completion, students will receive an academic credit.

It's important to note that online learning can offer flexibility, allowing students to study at their own pace, but it also requires self-motivation and discipline. Staying organized, actively participating in discussions, and seeking help when needed are key to succeeding in an online Fine Art Science course. Additionally, the specific details and tools used for online learning may vary by institution, so be sure to familiarize them with the course's platform and requirements at the beginning of the course.

Table 1 shows the content of online learning of Fine Art Science course.

Table 1 Education program structure

No	Item	Source	Assignment
1	Objective perception	Text, video	
2	Objective/Subjective cultural perception	Text, video	
4	Subjective perception	Text, video	
5	2D and 3D composition	Text, video	
6	Culture and History:	Text, video	Final

Table 2 Questionnaires filled by students

No	Question	Answer (1 ... 5)
1	The learning content is easy to understand.	
2	The learning content is interesting.	
3	The internet connection in school is proper for online learning.	
4	The internet connection at home is proper for online learning.	
5	Accessing online learning using a computer is easy.	
6	Accessing online learning using a mobile device is easy.	
7	The new technology motivates us to learn.	
8	Teachers make innovation.	
9	Learning online needs more time compared to class learning.	
10	The tasks in online learning are more than in-class learning.	

After students have completed the questionnaires, the data collected provides valuable insights into their learning experiences, preferences, and feedback. This information is instrumental in shaping the course's ongoing improvement and tailoring instructional strategies to better meet students' needs. Faculty and administrators can analyze the responses to identify areas of strength and areas that may require adjustment. Additionally, students' feedback can lead to enhancements in course content, teaching methods, and overall learning outcomes, ensuring a more effective and engaging educational experience for future participants.

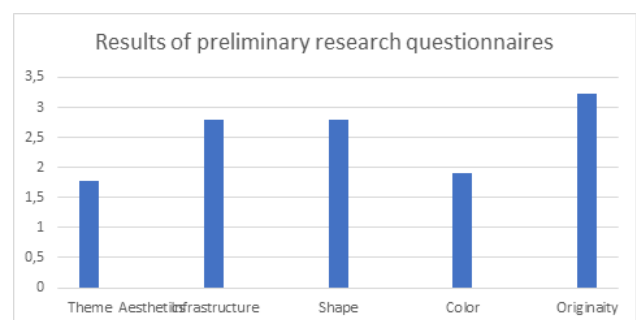


Figure 3 Results of questionnaires

Figure 3 provides a visual representation of the results obtained from the questionnaires, offering valuable insights into the challenges encountered during the learning process. The data depicted in Figure 3 highlights that the predominant issues faced by students in their online learning experience

riences are related to the abundance of tasks in online courses compared to traditional in-class settings. Additionally, it points to concerns related to infrastructure and media, suggesting that issues such as technical difficulties, access to necessary resources, and the quality of educational materials may have contributed to the perceived challenges. These findings underscore the importance of addressing these specific areas to enhance the overall online learning environment and ensure a more seamless and productive educational experience for students.

B. Assignment/Artwork

After the successful implementation of online learning for the Fine Art Science course, the teacher introduces a creative and engaging assignment focused on 3D modeling. Leveraging the digital capabilities of the online platform, students are tasked with creating intricate 3D models that intertwine the principles of fine art with the technical aspects of science. This assignment encourages students to explore the fusion of artistry and scientific precision in their work. They are expected to demonstrate not only their mastery of 3D modeling techniques but also their understanding of how scientific concepts can be expressed through artistic expression. This assignment not only serves as a culmination of their online learning experience but also fosters innovation, critical thinking, and the application of knowledge acquired throughout the course, ultimately enriching their appreciation for the intricate relationship between art and science in the digital age.

C. Learning Outcome

The learning outcomes achieved through the implementation of online learning, specifically focusing on the impact of the 3D model assignment. This table offers a comprehensive overview of the results obtained by students who participated in this innovative educational approach. It provides insights into the measurable improvements in their understanding of fine art science, technical proficiency in 3D modeling, and their ability to synthesize scientific concepts into artistic creations. The data in Table 2 serves as a valuable indicator of the effectiveness of online learning in enhancing students' learning outcomes,

particularly when integrated with creative and hands-on assignments like the 3D model project. It highlights the positive correlation between online learning and the development of critical skills at the intersection of art and science.

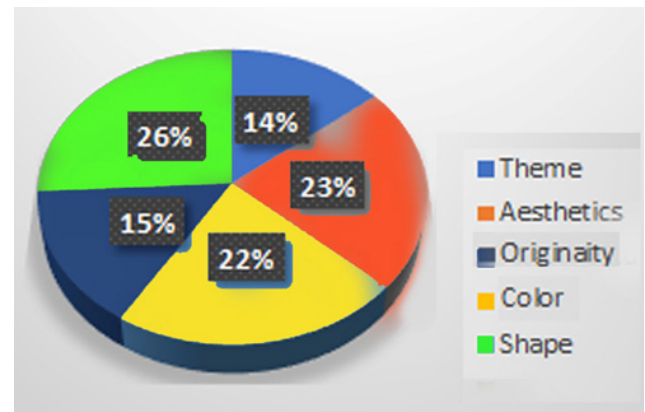


Figure 4 Chart of learning outcome using online learning

In Figure 4, the chart displaying learning outcomes using online learning reveals a breakdown of the key components contributing to students' success in the course. It showcases a diversified range of learning focuses, with 'Theme' accounting for 14%, 'Aesthetics' at 23%, 'Color' representing 22%, 'Originality' contributing 15%, and 'Shape' comprising 26% of the overall learning outcomes. This distribution highlights the effectiveness of online learning in cultivating a well-rounded skill set, encompassing not only the technical aspects of fine art science but also the creative and conceptual elements that contribute to a comprehensive understanding of the subject. The percentages provide a clear snapshot of where students excel, reflecting their achievements in various dimensions of the course, ultimately showcasing the balanced approach to learning fostered by the online platform.

IV. LIMITATION OF RESEARCH

Limitations in COVID-19 research have been multifaceted, stemming from the unprecedented scale and urgency of the pandemic. Conducting controlled experiments and longitudinal studies has been challenging due to the rapidly evolving nature of the virus and the need for real-time responses. Access to representative patient populations, data privacy concerns, and the varying quality of available data sources have also posed obstacles to robust research. Addition-

ally, resource constraints, including shortages of research personnel, laboratory facilities, and funding, have hampered the speed and depth of investigations. Moreover, the politicization of scientific findings and the spread of misinformation have further complicated efforts to generate reliable and unbiased research outcomes. These limitations underscore the need for a multidisciplinary, collaborative, and adaptable approach to COVID-19 research in order to navigate these challenges and provide actionable insights for public health and policy decision-making.

V. CONCLUSION

Research findings have consistently demonstrated that online learning can yield academic outcomes on par with, or even surpassing, those of traditional in-person learning. Students engaged in online education have been found to perform at least as well on outcome assessments, showcasing the efficacy of this flexible learning format. However, these studies have also highlighted the pressing need for continuous improvement in online learning systems, particularly in terms of enhancing infrastructure and media components. Strengthening the technological backbone and optimizing multimedia tools can help create a more engaging and effective virtual learning environment, further bridging the gap between online and traditional education methods, and ultimately, fostering a richer educational experience for students.

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