

# E-Learning in Art Classes in Japan: Conditions, Issues, and Prospects

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*This study examines the conditions and issues of e-learning in Japanese junior high school art classes. The results of the study showed that e-learning can be used under conditions similar to those of face-to-face classes, when the materials and tools (1) are not used or (1) can be uniformly owned by all students, and when the qualities of the form of works and objects (2) are non-physical (digital) works and objects. E-learning cannot be implemented under conditions similar to those of face-to-face classes in the following cases: (1) are items that cannot be prepared by students (at home) in general, and (2) are works and objects whose sensations percept in actual are difficult to perceive from a monitor. On the other hand, it is expected that by solving technological issues, learning together with students in remote areas and deepening their learning about art and culture.*

*Keywords: Art Education, Cultural Exchange, Junior High Schools, Textbooks, Virtual Reality*

## Introduction

The 2020 pandemic had a major impact on education. In Japan, schools across the country were asked to close temporarily, and in April of the same year, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) recommended that information and communications technology (ICT) be actively used at home, stating that “maximum use of ICT at every opportunity” is “effective in ensuring children’s learning opportunities” (Takaya, 2020). Unlike universities and other institutions, where distance learning continues in some places today, schools have returned to face-to-face teaching. However, it is important to deepen our knowledge of e-learning to guarantee children’s learning even under unforeseen circumstances.

In a broad sense, e-learning is taken to mean “all modes of education using electronic devices,” but in Japan, the term is commonly employed in a narrower sense, as “education and training systems using the Internet” (Shinohara, 2014). In the present study, e-learning is used in this narrow sense, and the use of e-learning for teaching an art class as a practical skill subject is discussed in comparison with teaching a face-to-face class.

## Previous Studies

This section presents an overview of studies of e-learning-based art class practices. Nagatomo et al. (2021) examined the impact of remote collaborative learning in junior high school art classes, and found that collaborative classes taught by multiple schools create diversity in student learning. However, the study also identified issues such as the need to improve of the environment to facilitate the hearing of speech sounds and to develop lessons to enable natural speech production.

Akimoto and Tomita (2020) presented a practical handweaving class at a university using an online videoconferencing system and found that although all students were able to complete their piece of work, many felt isolated and anxious during the production process. The results also suggested that students found it difficult to copy the process because they had less spatial information than when viewing the process firsthand. These findings reaffirmed the importance of sharing the space in practical skills courses, and thus the issue is how to realize this in distance learning.

In another study, Kodama (2020) examined student works and worksheets in a formative expression course and found that students were able to develop unlimited images by combining objects they had at home in creative activities that did not use any materials for art such as pigments. However, the author pointed out that it is extremely difficult to fully compensate online for the physical experience of students showing each other their work and being inspired by it that accompanies the process of producing art.

These studies suggest there are cases in which no particular problems arise in teaching art classes through e-learning, cases in which challenges exist, and cases in which the unique benefits of e-learning can be achieved. In the current study, the implementation of e-learning art classes was examined at the junior high school level, which is the last stage of compulsory education in Japan.

## Purpose

The purpose of this study was to analyze the conditions and issues of e-learning in Japanese junior high school art classes through a comparison with face-to-face classes.

## Research Design and Methods

This study examined the Course of Study for junior high school art classes and junior high school art textbooks. The Courses of Study are legally binding standards for organizing curricula at each school, established by the MEXT based on the School Education Law and so on, to ensure that students receive a certain level of education regardless of where they receive their schooling in Japan.

Concerning Japanese art textbooks, the Japanese school system generally comprises elementary and junior high schools in the case of public schools maintained at public expense, and textbooks are distributed free of charge in the compulsory education curriculum in Japan. Textbooks are written, edited, and published by private publishers, but all textbooks must pass government certification. There are three publishers of junior high school art textbooks, and the following seven textbooks were surveyed: “Bijutsu 1” (Nihon Zokei Kyoiku Kenkyukai, 2021a) and “Bijutsu 2 & 3” (Nihon Zokei Kyoiku Kenkyukai, 2021b) of Kairyudo Shuppan Co., Ltd.; “Bijutsu 1,” (Murakami et al., 2021a) “Bijutsu 2 & 3 1,” (Murakami et al., 2021b) and “Bijutsu 2 & 3 2” (Murakami et al., 2021c) by Nihon Bunkyo Shuppan Co., Ltd.; and “Bijutsu 1” (Sakai et al., 2021a) and “Bijutsu 2 & 3” (Sakai et al., 2021b) by Mitsumura Tosho Shuppan Co., Ltd.. Currently, there are both paper and digital textbooks. Unlike the case of paper textbooks, which are distributed free of charge by the government under the system, the cost of digital textbooks is borne by each local board of education, etc.. Some of the textbooks have full-size illustrations and it is also possible to refer to digital materials by QR codes.

In Japan, the Global–Innovation–Gateway–for All (GIGA) school concept began in 2019, and it has been reported that as of March 2021, 96.1% of all local governments had already equipped each elementary or junior high school student with one educational device (MEXT, 2021). In light of this report, this study assumes that most of all students have access to personal computers or devices distributed to them at home, and that they can set up a network environment and use microphone/earphones so as not to have interference with e-learning. Support is necessary for students who are unable to organize such an environment and equipment for e-learning. In addition, because there is always some kind of interaction in an actual classroom, this study only considered real-time e-learning lessons and not on-demand lessons.

## Results and Discussion

### Survey Perspectives

Regarding the teaching of junior high school art classes through e-learning, two perspectives were used to analyze the conditions and issues: (1) materials and tools and (2) qualities of the form of the works and objects. Below are the subcategories extracted from each perspective as a result of the survey.

#### (1) Materials and tools

Based on the survey of the Course of Study and textbooks, three types of materials were extracted: 1-A “materials and tools not used or uniformly available to all students”; 1-B “materials not uniformly available to all students but considered possible for students to prepare”; and 1-C “materials not normally available to students (in their homes). Examples of 1-A are textbooks, kits or sets for learning activities. Examples of 1-B are scissors and a sign pen, and examples of 1-C are an electric thread saw and a potter’s wheel.

#### (2) Qualities of the form of the works and objects

Through the survey of the Course of Study and textbooks, three types of qualities of the form of the works and objects were extracted: 2-A “works and objects whose sensations percept in actual are relatively easy to perceive even from a monitor”; 2-B “works and objects whose sensations percept in actual are difficult to perceive from a monitor”; and 2-C “works and objects that are non-physical (digital).”

Examples of characteristics of the works and objects in 2-A are that they are flat and involve techniques and materials that students already know and can imagine, while examples of characteristics of the works and objects in 2-B are that they are three-dimensional and involve techniques and materials that students cannot imagine. Examples of 2-C include graphic design as a digital-native works. Web design is not a subject taught in art classes in junior high schools but rather in information science classes.

### Comparison with face-to-face classes

Based on the above results of categorization, the following is a discussion of e-learning practices in Japanese junior high school art classes from the perspective of comparison with face-to-face classes in terms of conditions and issues. First, e-learning can be considered to be implemented under conditions similar to those of face-to-face classes in the following cases: (1) “materials and tools” are 1-A “materials are not used or can be uniformly owned by all students” and (2) “the qualities of the form of works and objects” are 2-C “non-physical (digital) works and objects.” When “the qualities of the form of the work or object” are 2-A “works and objects whose sensations percept in actual are relatively easy to perceive even from a monitor,” it may be easier to conduct the class in a similar way as face-to-face classes, rather than when it is 2-B “works and objects whose sensations percept in actual are difficult to perceive from a monitor.” Specifically, this includes teaching appreciation of works or objects using textbooks, which are materials that all students own. However, as pointed out in a previous study, psychological issues can have an impact, such as students’ sense of isolation in e-learning. A sense of isolation can occur not only among students but also among teachers, but it has been pointed out that the use of virtual reality (VR) with avatars can reduce this feeling of isolation (Kotani, 2022).

Second, e-learning cannot be implemented under conditions similar to those of face-to-face classes in the following cases: (1) “materials and tools” are 1-C “items that cannot be prepared by students (at home) in general,” and (2) “the qualities of the form of works and objects” are 2-B “works and objects whose sensations percept in actual are difficult to perceive from a monitor.”

However, the use of e-learning will allow for the exchange of ideas and collaborative work with students from distant schools. As cited above, this type of class is also useful because the previous study has shown that collaborative teaching between schools in remote areas can create diversity in students’ learning (Akimoto & Tomita, 2020). Furthermore, if (2) “qualities of the form of works and objects” dealt with in the class are 2-C “non-physical (digital) works and objects,” there will be fewer problems in implementing e-learning under current technical conditions. The Course of Study for junior high school art classes includes the learning objective “to enable students to deepen their views and feelings about art and art culture” (MEXT, 2017). Since exchanges with students in remote areas allow for effective learning to achieve this goal, it is desirable to be able to learn about 2-A “works and objects whose sensations percept in actual are relatively easy to perceive even from a monitor” and 2-B “works and objects whose sensations percept in actual are difficult to perceive from a monitor” as well as 2-C “non-physical (digital) works and objects,” as technical issues are resolved.

Many art classes have a material, dynamic, and spatial nature. Although not directly a study of art classes, the characteristics that these art classes possess are discussed as a point of contention. Uno (2022) pointed out that online symposia and conference presentations have become popular, but poster sessions and receptions present more implementation challenges than do symposia and conference presentations. The factor of material, dynamic, and spatial natures are thought to be related to the factors that cause these issues. In order to solve issues related to e-learning art classes, it will be necessary to make technological advances in VR and augmented reality, as well as reduce technological and financial hurdles to using these platforms.

## Conclusion

This study examines the conditions and issues of e-learning in Japanese junior high school art classes through comparing e-learning with face-to-face classes. The results of the study showed that e-learning can be used under conditions similar to those of face-to-face classes, when the materials and tools are not used or materials and tools can be uniformly owned by all students, and when the qualities of the form of works and objects are non-physical (digital) works and objects. E-learning cannot be implemented under conditions similar to those of face-to-face classes in the following cases: materials and tools are items that cannot be prepared by students (at home) in general, and the qualities of the form of works and objects are works and objects whose sensations percept in actual are difficult to perceive from a monitor. On the other hand, it is expected that by solving technological issues, it will be possible to learn together with students in remote areas and deepen their learning to see and feel art and culture. In the future, it will be necessary to analyze and implement the kind of technology that is required for each type of art class in order to compare and discuss which system or platform to use when implementing art classes in e-learning.

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