

# Study on Application of the International Baccalaureate in Art Education in Japan

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## Abstract

**This study was designed to determine whether applying the constructivist approach used by the International Baccalaureate programmes would make Japanese art education better by both improving the curriculum and successfully engaging the interest of ninth-grade students at a non-IB school. In 2017, the Course for Study of Japan was revised. In this revision, the curriculum was organized by clarifying the competencies. It turns out that this revision was made based on constructivist learning. The IB programmes were based on constructivist learning. In other words, it seems to be significant to study International Baccalaureate learning and apply its purpose to Japanese classes. In this research, I examined students' understanding of concepts used by IB to some art classes at a junior high school that is not an IB school in Japan. My intention was to demonstrate the merits of conceptual learning, as well as what it can bring to Japanese art education, by applying the learning of concepts of the MYP. Using a combination of lessons and post-project questionnaires, I worked with the students to explore and help them understand such concepts as aesthetics, culture, expression, and others within a global context in the manner of IB's**

**MYP programme.**

## **Keywords**

**International Baccalaureate. Middle Years Programme. Art education in Japan.**

## **Study on Application of the International Baccalaureate in Art Education in Japan**

In 2013, the National Institute for Educational Policy Research in Japan (NIEPR) conducted a survey to determine whether the most recent Course of Study education guidelines were being correctly carried out in the field and whether students considered each of the component subjects important and useful for their futures (NIEPR, 2013). The first Course of Study was introduced in 1948, and it has been revised nearly every ten years since. This is currently in its ninth version. One finding was that many junior high students considered art education to have no relevance to their future. According to NIEPR's survey, only 39.8% of junior high school students thought that art education would become useful for them in the future—nearly half (48.4%) were certain it would never be useful.

This study was designed to determine whether applying the constructivist approach used by the International Baccalaureate® (IB)<sup>1</sup> programmes would make Japanese art education better by both improving the curriculum and successfully engaging the interest of 140 ninth-grade students at a non-IB school, including those not intending to pursue art as a career. This includes clarification of competences and making the curriculum open to society.

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<sup>1</sup>International Baccalaureate is a registered trademark. The registration mark ® should be assumed as in force in all subsequent uses of 'International Baccalaureate' and/or 'IB'.

## Background

One reason for students' disaffection with art education in Japan seems to be that some teachers and students believe that the ultimate goal of art education is to produce technically advanced works (NIEPR, 2013). I believe that teaching art to Japanese students from a constructivist perspective like that favoured by IB schools would address student concerns and engage them more fully in the subject while remaining true to the Course of Study curriculum and objectives. To delve into this further, I examined several important components of the issue: (a) Japan's educational goals in general and its specific goals for junior high students in non-IB schools, particularly in the context of visual arts classes; (b) International Baccalaureate schools and principles; (c) approaches to art education; and (d) constructivism.

### Japan's Educational Goals

Education in Japan falls under the purview of what has been called since 2001 the Ministry of Education, Culture, Sports, Science and Technology, or MEXT. The Basic Act on Education was put into effect in March 1947.

**Changes in 2006.** In December 2006, Japan issued a completely revised Basic Act on Education to address changing circumstances (e.g., progress in science, technology, and advanced information technology; the aging society; the falling birth rate; globalization) and set out the following objectives:

Article 2. To realize the aforementioned aims, education is to be provided in such a way as to achieve the following objectives, while respecting academic freedom:

(1) having students acquire wide-ranging knowledge and culture, fostering the value of seeking the truth, and cultivating a rich sensibility and sense of morality as well as building the health of the body;

- (2) developing individuals' abilities, cultivating creativity, and fostering a spirit of autonomy and independence by respecting the value of the individual, as well as emphasising the relationship between one's career and one's everyday life and fostering the value of respect for hard work;
- (3) fostering the values of respect for justice, responsibility, equality between men and women, and mutual respect and cooperation, as well as the value of actively participating in building our society and contributing to its development, in the public spirit;
- (4) fostering the values of respecting life, caring about nature, and desiring to contribute to the preservation of the environment; and
- (5) fostering the value of respect for tradition and culture and love of the country and regions that have nurtured us, as well as the value of respect for other countries and the desire to contribute to world peace and the development of the international community. (MEXT, 2006, 'Objectives of Education')

While the revision was prompted by fears that the nation was losing its competitive edge in the increasingly globalized world, its specific objectives were not based on test scores but on educating people to become good citizens, good people, and good leaders.

**2017 revision of the Course of Study in Japan.** In 2017, the Course for Study of Japan was revised. As with the changes in the Basic Act of Education, the impetus saw a sharp decrease in the productive age population, progress, globalization, technological innovation, and other challenges. A report issued by the Central Council for Education Policy (CCEP) included this statement:

It is necessary to consider the world of 2030 when children will have become adults, and accordingly to change the method and contents of education so that they can

sufficiently respond to the society of that age. From learning from already decided answers, it was necessary to shift to other actions, such as solving problems by collaborating with other people. This trend is familiar with changes in education in various countries including Europe. This revision strengthened the transfer from contents-based to competency-based learning. This time, the course for study of Japan clearly showed what competencies are. (Central Council for Education Policy, 2016, pp. 28–31)

The report went on to specify three competencies that would be expected of all Japanese students:

1. What you understand and what you can do (Acquisition of ‘knowledge and skills’ that can actually be utilized)
2. How to use what you understand and what you can do (To foster ‘the ability to think, to make decisions, to express themselves and other abilities’ that can deal with unknown situations)
3. How to engage with society and the world, to live a better life (Recharging ‘acquisitive mind, humanity, etc.’ that tries to make use of learning to life and society) (Central Council for Education Policy, 2016, p. 31)

These three competences are about knowledge, skills, and emotions. These are common internationally, such as the conceptual framework in Center for Curriculum Redesign (CCR). CCR is an international organization and research center redesigning the standard of K - 12 (kindergarten to high school student) education in the 21st century. The CCEP’s report also said, ‘The knowledge learned in each subject is not superficial one, but knowledge which is connected to each other to understanding’ (CCEP, 2016, p. 28) and ‘It is to understand the main concepts necessary to deeply understand the essence of each subject’ (p. 29).

In this revision, the curriculum was organized by clarifying the competencies. Through this arrangement, the CCEP hoped that the curriculum would be understood by the community and society. In other words, the aim was that 'educational curriculum would be opened to society' (CCEP, 2016, p. 19). Essentially, they stated that to respond to a complex society, not only schools but also local communities, society, and families must educate children and that the point of teaching is not to provide fixed answers but for students to learn to think about various problems and explore ideas from various perspectives. In addition, they considered it important to learn through communicating and cross-disciplinary learning.

As will become obvious in the section describing International Baccalaureate and comparing this with the policy of these revisions, you will see that the revised course of study is very similar. It turns out that this revision was made based on constructivist learning. For example the CCEP said "Students learn skills that they need to continue to learn by themselves, draw their abilities themselves, trial and error themselves, collaborate with diverse others, and create new value"(p.10). In other words, it seems to be significant to study International Baccalaureate learning and apply its purpose to Japanese classes.

### **Visual Arts of Course of Study for Junior High Schools in Japan**

Art curriculum aims. The art curriculum aims are also made based on the above-mentioned reports. The following are the art curriculum aims:

Through activities in art expression and appreciation, we aim to cultivate the attributes and abilities related to art and art culture in daily life and society from artistic viewpoints and ways of thinking.

(1) To understand the artistic viewpoints of perceiving objects and phenomena and to devise expressive methods to be creative;

(2) To create a theme, generate and conceive a rich fund of ideas, to deepen one's ways to perceive on art and the artistic culture;

(3) To savour the joy of artistic creativity, to cultivate feelings that love art, to nurture a rich fund of aesthetic sensitivity, to develop an attitude to create a spiritually rich life, and to enrich the sentiments of students. (MEXT, 2017b, p. 9)

The preamble connects art education with life and society goals: (1) knowledge and skills to learn through art; (2) cultivating thinking skills, expressiveness, and judgment through art expression and appreciation; and (3) sensitivity and sentiment. Indeed, these are consistent with the abilities indicated in the CCR.

Figure 1 shows a graphic representation of the curriculum contents for art (MEXT, 2017b, pp.160–161), which are divided into two parts—expression and appreciation—and both are organized by competences.

**A. Expression.** This is divided into (1) the ability to think, reason, and express and (2) skills.

The ability to think is further divided into learning fine art and learning commercial art.

**B. Appreciation.** This divided into (1) artwork and art in daily life and (2) art culture.

Artwork is further divided into paintings and sculptures, designs and crafts; expression and appreciation are interrelated.

In common with both expression and appreciation is an understanding of the nature and effect of shapes and colours, as well as an understanding of images and style. This common matter was positioned as knowledge of art. Common matters are abilities that exist commonly in all learning of art and are shaping elements such as shape, colour, and image. In other words, knowledge here is not merely a technique or a work title; it is also knowledge acquired in practical learning. Inquiry learning is emphasised. The stated goal was to acquire conceptual knowledge, not superficial knowledge. This also follows the principles of social constructivism.

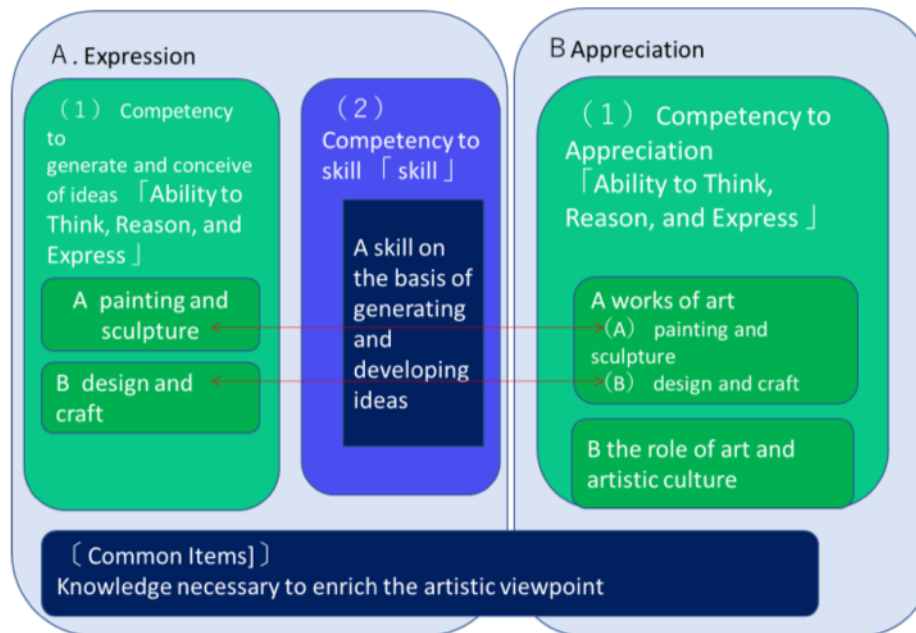


Figure 1: Graphic representation of the junior high art curriculum content

## Overview of International Baccalaureate

International Baccalaureate® (IB) is an internationally unified educational programme designed by and taught by teachers authorized by a non-profit educational foundation of the same name based in Geneva, Switzerland. IB offers four different education programmes designed that “focus on teaching students to think critically and independently, and how to inquire with care and logic...to succeed in a world where facts and fiction merge in the news, and where asking the right questions is a crucial skill...” (IB, 2019a). IB’s programmes are directed at students aged 3 to 19. The name is also used as a generic term for its graduates’ qualifications.

IB began in 1968 with a diploma programme created for students aged 16–19 as a university entrance qualification allowing students to apply more easily international universities. It created its Middle Years Programme (MYP) in 1994 for students 11–16 and its Primary Years Programme (PYP) in 1997 for students 3–12. It added a programme related to career education and vocational education (CP) was created in 2012. As of June 1, 2017, IB had implemented



its programmes into 4,846 schools in more than 150 countries and regions (MEXT, 2017a; IB, 2019a).

Middle Years Programme (MYP). This is the IB programme that correlates with junior high school students. As in all the IB programmes, the learner profile for MYP students comprises these traits: inquirers, open-minded, knowledgeable, caring, thinkers, risk-takers, communicators, balanced, principled, and reflective.

The organization's mission statement follows. Even at first glance, its parallels to MEXT's goals are unmistakable:

The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect. To this end, the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment. These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right. (IB, 2019b)

These basic ideas of IB are also indicated in the report issued by the Central Council for Education Policy in 2016. Consider these terms extracted from the report: 'constructive learning in which learners cooperate to construct meanings'; while learning, the students conduct 'inquiry', 'action', and 'reflection'. The IB programmes feature structured inquiry, drawing from established bodies of knowledge, and solving complex problems through critical thinking.

Figure 2 shows my graphic overview and structured representation of the MYP learning programme, which begins with a 'big idea' placed in context. MYP provides important concepts across the subjects as well as sets of related concepts for each subject to make it easier

for learners to gain a comprehensive understanding of key important concepts. Students learn the broad, universal meanings of conceptual ideas explained through contextual examples with global perspectives.

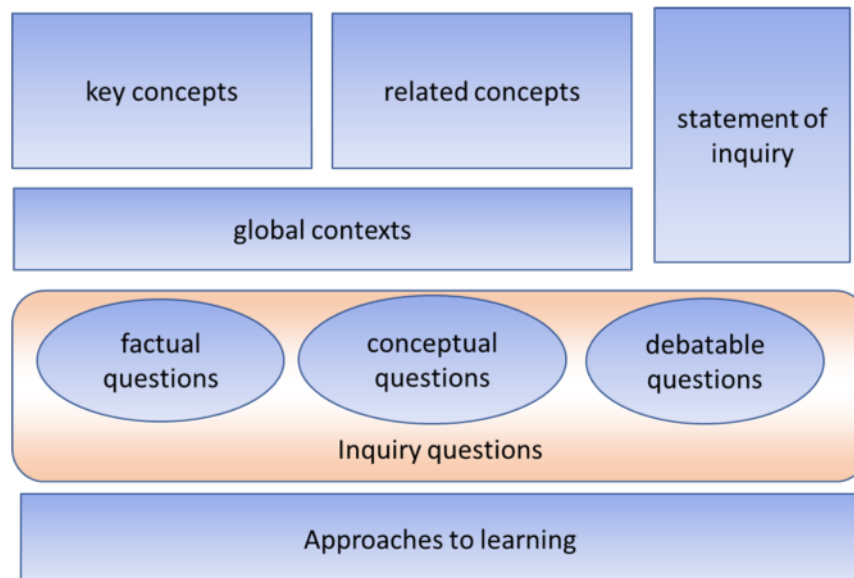


Figure 2: Graphic representation of the MYP learning programme

In MYP, six global contexts are set. The theme is how to connect the broad concepts with the relevant units. Teachers set factual questions, conceptual questions, and debatable questions to model and teach critical thinking and problem solving. By thinking about these inquiries, the students are able to learn to think objectively and learn subjectively. In the figure, Approaches to Learning (ATL) means ‘skills to learn how to learn’.

Table 1 shows how IB’s MYP teaches key and related concepts within the global contexts. MYP’s learning has respective international attitudes and global initiatives. IBMYP learns the set concept through global contexts. Key concepts are set beyond the subjects and related concepts are set for each subject. Four of the key concepts should also be handled in art education: aesthetics, change, communication, and identity (see the boxed items in Table 1).

Students learn from a global perspective by learning in global contexts. And by learning

Table 1: MYP Concepts and Global Contexts

<b>Key Concepts</b>			
Aesthetics	Change	Communication	Communities
Connections	Creativity	Culture	Development
Form	Global interactions	Identity	Logic
Perspective	Relationships	Time, place, and space	Systems
<b>Related Concepts in Visual Arts</b>			
Audience	Expression	Interpretation	Representation
Boundaries	Genre	Narrative	Style
Composition	Innovation	Presentation	Visual culture
<b>MYP Global Contexts</b>			
Identities and relationships	Orientation in time and space	Personal and cultural expression	Scientific and technical innovation
<b>Globalization and Sustainability</b>		<b>Fairness and Development</b>	

while thinking about inquiries, students can connect their learning to their lives. Students can learn from their own lives about why they are learning what they are learning.

### **Approaches to Art Education**

‘Bloom’s Taxonomy of Learning Domains’, created in 1956 under the guidance of educational psychologist Dr Benjamin, was intended to promote higher forms of thinking in education (Clark, 2004). Isphahani and Anwar (2016) reported that applying ‘Bloom’s Taxonomy’ is also effective for art education, which they described through the practical application of ceramics at the introduction stage of the subject.

Crawford (2017) also reports on practical lessons utilizing workbooks held in visual arts of IBDP (Diploma programme). In the art of IB MYP the following things can be seen. For example, not only simply painting pictures, but also students consider expressing and interpreting through the MYP Global Contexts of personal and cultural expression.

### **Constructivism**

Constructivist teaching is based on the belief that learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passively receiving information (Wikipedia, 2019) In studying art, it is very important for students to actively address issues. By subjective creation and research, students think things as their own problems. And students are interested in art and understand that art is related to their lives.

### **Methodology**

In this research, I examined students' understanding of concepts used by IB to some art classes at a junior high school that is not an IB school in Japan. My intention was to demonstrate the merits of conceptual learning, as well as what it can bring to Japanese art education, by applying the learning of concepts of the MYP.

The subject school was following the methods of the Japanese Course of Study. Even though it is not IB school, since 2015 it has been conducting research. Practical research for concept understanding took place from 2016 to 2017. For this study, I targeted 140 students in the ninth grade.

I first spoke with the students about IB concepts; then, after the conclusion of the classes and the resulting project, followed up with a questionnaire. I did this in 2016 and again in 2017. The content of the lessons was set by the teachers of the junior high school based on the annual plan. I explained to the teachers the idea of IB, the characteristics of learning, and the concepts

set by IB.

## Results and Discussion

### The 2016 Lesson and Project

After I explained to the teachers the idea of IB, the characteristics of learning, and the concepts set by IB, I addressed the students to discuss the content of the practice. This class/project period was from May to July 2016. The unit title was ‘Hospitality of Wa’ (wa means Japanese style, peace, or consensus) and involved creating package designs made of folding paper for Japanese confectioneries. The outline of the lesson is shown in Table 2.

In this case study, students were to create imitations of Japanese sweets from paper or clay, thinking about the characteristics of the sweets. The unit was about more than just pursuing beauty. The students had to think about the function of Japanese sweets such as seasonal feelings, how to entertain customers, and suitable packaging. In addition, the teacher in charge said that it was important to make the design conscious of how people (customers) actually used the sweets. That is, Japanese sweets are not just beautiful and delicious candy for the buyers’ to enjoy but are also used to express seasonal feelings, celebrate events (e.g., holidays, birthdays, anniversaries, etc.), and, when they are gifts, convey a message. In this way, they are a

Table 2: 2016 Application Items of IB MYP: Class Outline

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Statement of Inquiry:	Learn about the aesthetic sense and creativity of Japan that has it objective
Key concepts	Aesthetics, culture
Related concepts	Expression, composition
MYP global contexts	Personal and cultural expression

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cultural symbol. The idea was to make students think about cultural changes and diversity in contemporary society. The project was to last three months.

IB was applied to the lesson, and the course outline was shown to the students before the lesson started. As shown in Table 2, the statement of Inquiry, the concept, and the content of the lesson was as follows: Learn about the Japanese aesthetic sense and creativity that has made Japan a unique culture with a strong connection to nature and create a new expression through designing new packaging for your Japanese confectionaries. The purpose was to make students think about the originality and diversity of Japanese culture. Important concepts were aesthetics and culture, but both are very vague ideas to ninth graders. The related concepts were representation and composition, and the global context for contextualization was personal and cultural expression. Students think about expressions by themselves, by friends, and from a cultural view point. We started a lesson based on these.



Figure 3: Students' work: Children's Day

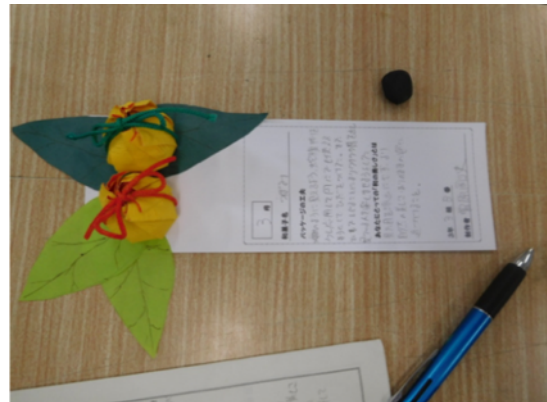


Figure 4: Students' work: the buds

Figures 3 and 4 show students' work. Figure 3 shows student's design of Japanese sweets for Children's Day, May 5. On this day, there is a custom to celebrate the growth of boys by raising a flag in the shape of a carp and a garden and a 'carp streamer'. The sweet are shaped according to these themes, and the package is like a ship made of bamboo leaves. On this day, there is a custom to eat Japanese sweets wrapped in some kind of oak leaves. The student may

have thought of the package with keeping this custom in mind. Figure 4 shows plant buds, and the student folded the paper like bellows to give a feeling of buds. ‘When it is opened by untying the string, it will give an exciting image of plants,’ she said. People will cherish the moment, enjoying opening the packages as much and what is inside. It is not only the beauty of the work but also thinking about the way it is actually used (eaten or given to someone to eat) that drove the design.

### **The 2016 Follow-Up Questionnaire**

Next, I created a questionnaire survey for the students to complete after the classes. There were four items in all: Question 1 covered the concepts of ‘expression’ and ‘composition’, asking the students whether they thought about what they intended to express and how to construct their expression beautifully; Question 2 covered the global context, asking whether they could express their idea by thinking about the context of Japanese traditional art and aesthetic sense with the creation of Japanese confectionery; Question 3 covered the concepts of “culture” and

Table 3: Questionnaire for Students After 2016 Classes

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1. When making Japanese sweets and packages, did you think about the composition and expression of the whole shape? (IB MYP related concepts)
  2. Have you been aware of ‘expressing yourself with consciousness of cultural expression’? (IB MYP global contexts)
  3. Were you able to deepen your understanding of ‘culture’ and ‘aesthetic’ more than ever by taking classes?
  4. Thinking about Inquiry questions (factual questions, conceptual questions, debatable questions), were you able to think more concretely about the content of the activity or about the fact that art studies cover a wide range of topics such as culture and international understanding?
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“aesthetic sense”; and Question 4 covered the questions shown in Table 3.

On the factual question about the characteristics of traditional Japanese culture, on the conceptual question, whether traditional art is still valuable, on the debatable question, I wanted them to think about whether the country’s traditional culture would be understandable to foreigners in the hope that the students would think about multicultural understanding, diversity, importance of culture, and effects.

Figure 5 summarizes the results of the questionnaire. For the first three yes/no questions, more than 70% of the students responded in the affirmative, indicating that most students had gained some awareness about the concepts and context. It seems that it was easy for the students in the ninth grade to become conscious of the concepts and the context because the theme was a traditional culture and its related design. For the fourth question, about 61% of the students answered in the affirmative. They were conscious of the ‘questions’ while learning. Since the Inquiry questions covered in the question were set up concretely beforehand, these may have been easy for them to understand. With respect to the terms ‘traditional beauty’, ‘art’, and

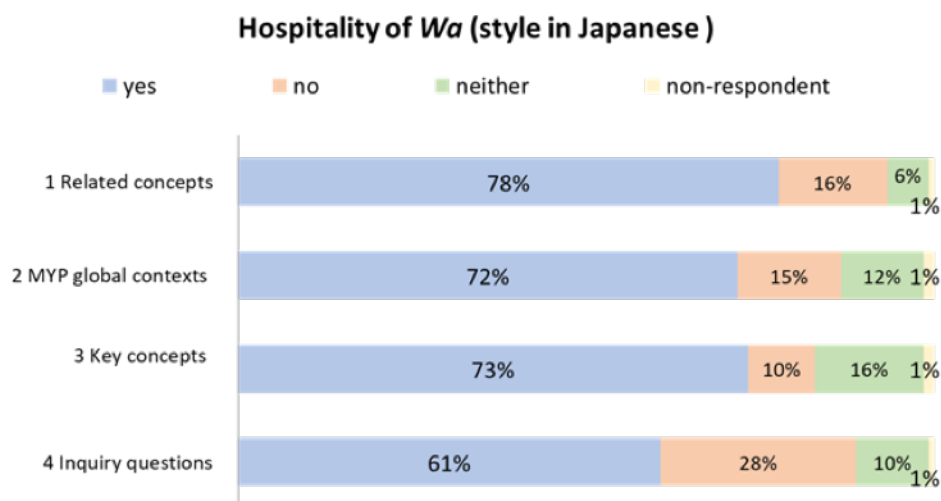


Figure 5: Results of the 2016 questionnaire



‘culture’, students had learned those not just in the class but words through other subjects and in their own daily lives. Because they knew the words, many students answered that yes, they had thought about them.

Table 4 is an analysis of free description from the selected answer items. From the content of the free description, the percentage of students who judged that they were thinking conceptually was as follows: concepts of expression and composition: 38 people (28%); concepts of culture and aesthetics: 17 people (13%); and question on cultural value diversity, etc.: 14 people (10%). I analysed the written words with an eye toward whether conceptual thinking was used. In other words, I judged from the words whether they conceptually grasped each concept rather than superficially capturing the content. The ‘yes’ results for the yes/no selective questions were high; the results of free descriptions were considerably lower.

Table 4: 2016 Questionnaire: Free Description Analysis

<u>Item</u>	<u>Number</u>	<u>Percentage</u>
1. Expressions, composition	38	28
2. Culture, aesthetic	17	13
3. Whether traditional art is still valuable, etc.	14	10

These results led me to the conclusion that it was necessary to confirm not only the simple selection formula investigation but also the students’ idea using free description. It turned out that making students think conceptually through learning art was not easy.

**The 2017 Lesson and Project**

Based on what I learned in 2016, I conducted similar research in 2017 at the same junior high school. In the 2016 part of the study, following the Unit Planner indicated by MYP, I created questionnaires on important concepts to determine whether the students had gained concep-

tually deep understanding. The result suggested that students were aware of the concept and thought they understood it, but I was not convinced that their understanding was not just superficial and was truly deep. So, in 2017, rather than asking them about concepts, I took a slightly different approach. The subjects were ninth-grade students in the same school and the study period was again three months.

The basic part of the research method was the same as in 2016. The theme was ‘Beauty lurking in everyday life—Make ceramics pursuing practical beauty’. Pottery is a traditional Japanese craft. The outline of the lesson indicated that they were to find beautiful tools used in our everyday life and to make pottery. To focus on the relationship between function, purpose, and beauty, I asked the students to think about the beauty, utility, and functional beauty of the tools.

The purpose of this lesson was not simply to make a work out of clay. I asked the students to think about the following points. What is ‘beauty’ in your daily life. Does beauty exist in tools? What is traditional beauty? What is the relationship between personal expression and cultural expression? It was important to make them think conceptually. The students thought about which tools are used every day, whether they can be said to be beautiful, and why they are designed as they are. It was an important activity to investigate and research currently existing and crafts.

### **The 2017 Follow-Up Questionnaire**

This time, I surveyed with an emphasis on how students thought about ‘Inquiry questions’ and tried to determine whether the students had gained a deep understanding, not just superficial familiarity with the IB-style concepts. The statement of inquiry was ‘A rich lifestyle is brought about by a better relationship between people and artefacts. The key concept was ‘aesthetics’, and a related concept was ‘expression’. The global context was ‘personal and cultural expres-

sion’.

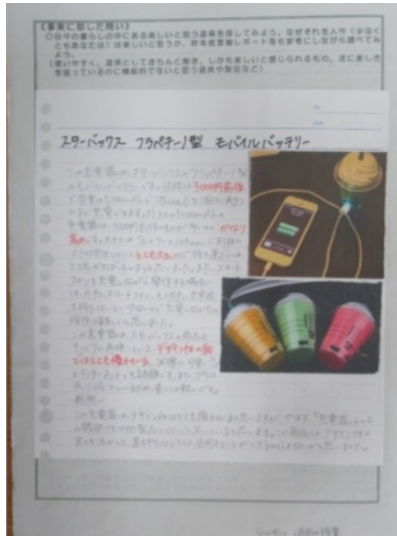


Figure 6: Students' worksheet



Figure 7: Students' work: pottery dish

Figure 6 shows one of the worksheets that students filled out. In actual classes, students had found tools that seem to be beautiful in advance. In this worksheet, the student had selected a Starbucks Frappuccino-type mobile battery. The student said here that the design was cute but that the price was high (about ¥3000 or US\$27), adding ‘As the size is large and it is not functional, it can be utilized as an ornament making full use of the goodness of design’. Figure 7 shows a student’s work instrument using clay. The teachers led the students to think about the beauty of the tools, the meaning of ‘functional beauty’ and the ‘beauty of everyday items’, and this comes through clearly with this piece of pottery.

The 2017 research focused on Inquiry questions (see Table 5). I thought these questions would make students think subjectively about tools and beauty.

Table 5: 2017 Inquiry Questions

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Factual	Let's find a tool that you think is beautiful in your daily life. Why do people think it is beautiful?
Conceptual	What is an object of beauty lurking in everyday life (beauty possessed by practical products, sophisticated beauty of tools)? What are so-called practical beauty and functional beauty? If you are a designer, where would you put an emphasis when designing tools?
Debatable	Is a functional thing beautiful? Are function and beauty different? For example, have you thought that a tool is beautiful?

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Table 6 shows the student questionnaire at the end of the 2017 project.

Table 6: Questionnaire for Students After 2017 Classes

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1. Did you think about the functional beauty of the tool based on the factual question?
2. Did you think about the so-called practical beauty, functional beauty, in this class because of the conceptual question?
3. Were you able to have your own idea about the relationship between function and beauty based on the debatable question?
4. Were you thinking about the relationship between the tool and living because of the statement of Inquiry?

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Figure 8 shows the results of this 2017 questionnaire.

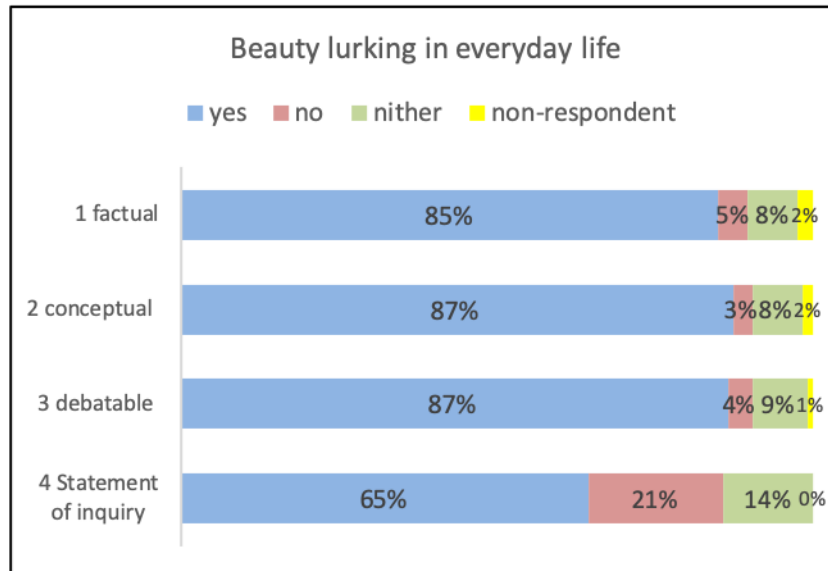


Figure 8: Results of the 2017 questionnaire.

As Figure 8 shows, more than 85% of the students answered that they thought about all the questions and formed their own ideas. With respect to the statement of Inquiry, 65% of the students responded that they could have their own ideas about the ‘relationship between tools and living’.

Below is a consideration about those results. As for the factual question (2), it is conceivable that the students could have investigated the tools in advance and used those results. As for the three questions, it seems that it was comparatively easy for the students to understand the functional beauty of the tool. However, the students seemed to think that ‘function and beauty are different’ (argumentative question) was pretty abstract given the content and the conceptual question. ‘What is beauty, functional beauty?’

I did a free description of the results as I had in the 2016 portion of the study. In 2017, I asked the factual question (Q1) to find out what the students understood about the tools in everyday life and whether they are beautiful—‘the functional beauty of the tools’. I asked the

conceptual question (Q2) to find out whether the students thought about ‘practical beauty’ or ‘functional beauty’. In the free description, I asked what students thought about the concept of beauty, such as beauty in practical products. I asked the students about the debatable questions (Q3) so they would think about the relationship between function and beauty. I asked if the students had their own idea about these relationships. Finally, I asked if the students had any idea about the ‘relationship between instruments and our lives’ from the indicated Inquiry theme (Q4). I thought that students would think about the connection between art and society and how important it is.

For the free descriptions for the 2017 survey, I set up free description fields for the conceptual question (Q2), the debatable question (Q3), and the statement of inquiry (Q4). For each question, I selected, categorized, and classified what could be judged as effective. Even if students answered in negative form such as ‘I did not think about...’, I considered this valid since they mentioned the term. In my analyses, I found the following. Out of the total of 127 students, 92 (72%) of the students had valid responses to the conceptual question (Q2), and I divided into those descriptions into five categories (e.g. relationship between practicality and beauty); 96 (76%) of the students had valid answers for the debatable question (Q3), and I divided into those descriptions into five categories (e.g. relationship between function and beauty); 41 (32%) of the students had valid answers for the statement of inquiry (Q4), and I divided into those descriptions into five categories (e.g. relationship between tools and living).

For Q4, there were some students who expressed their own ideas such as constitutional beauty, decoration, and cultural expression, such as ‘pattern has elements of various constitutional beauty’. As for Q2 and Q3, there were many answers to ‘Are function and beauty compatible?’ From this, I concluded that there were many students who thought not only superficially about the material but had also grasped the deeper conceptual meaning, in accordance with teacher’s intentional question.

In other words, most of the students had reached the stage of thinking and judging the meanings and forming their own thoughts.

For the selective yes/no answers, I found that many of the students thought deeply about each question. Additionally, as shown by the response to the free description, more than 70% answered with their own ideas. This suggests that through the initial lesson and the project itself, they came to think deeply about conceptual meanings while also learning about art, and that the students learned that they could delve deeper into topics by discussing questions, which is a key component of IB's constructivist method. Thinking more deeply about art and led to better conceptual understanding, and by my setting up Inquiry and other questions and tying these to their activities. I reached the conclusion that learning while setting opportunities for thinking in parallel is effective.

## **Conclusion**

This research applied IB's constructivist learning method to Japanese art education in a Japanese junior high school. I investigated that whether conceptual understanding in art learning is possible. Using a combination of lessons and post-project questionnaires, I worked with the students to explore and help them understand such concepts as aesthetics, culture, expression, and others within a global context in the manner of IB's MYP programme. In this application of IB methodology, I asked whether students could not just produce artwork but, through doing so, understand artistic concepts through production. In the first study component (2016), I taught them such words as 'beauty' and 'tradition', but it was difficult to make them understand them in anything but a superficial way. In the study component (2017), I set up an Inquiry question. This extra step helped students deepen their understanding of concepts through critical thinking—asking questions. This means that even in art education, Inquiry concept learning is possible. And through such this, students can learn not only about art but about larger concepts

and how this connects to their lives and, by extension, to their futures.

The revised Japanese Course of Study is similar to IB's teaching methodology of constructivist learning aimed at conceptual understanding. The New Course of Study, which aims to go beyond superficial understanding to deep reflection and critical is close to the purpose of IB. Instead of simply asking students to gain knowledge and skills, through the constructivist approach they can learn how to learn and how to teach themselves through questioning. Teaching students to think from perspectives of multiculturalism, diversity, and a sustainable society is more important than ever, including in art education. Learning about art from the global perspective applied through constructivist thought can help Japan's students explore the world more deeply through conceptual learning and achieve the goals set for by MEXT.

## Acknowledgments

I would like to thank Editage ([www.editage.jp](http://www.editage.jp)) for English language editing.

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