

Current Research Issues of Japanese Visual Arts Education for Early childhood on Global Innovative Society

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Abstract—*The purpose of this paper is to answer the two research questions showing that the states of Japanese researches of visual arts education for early childhood based on Winner, et al.'s research. Research Question 1: Are there the researches focused on innovative skills of Japanese visual arts education for early childhood? Research Question 2: Are there the researches of true experimental (non-correlational) studies about casual effect of innovative skills in Japanese art education for early childhood? As the results, about question 1, the researches of Japanese visual arts education for early childhood was conducting the research focused on innovative skill, it could be said that these researches have biased during the artistic skills' three sub skills and the habits of mind's the five disposition. About question 2, as mentioned by Winner, et al., the researches of Japanese visual arts education for early childhood have also methodological weaknesses that need to be addressed in order to improve our knowledge of the development of innovative skills through arts education.*

Keywords—*current research issues of Japanese; visual arts education for early childhood; global innovative society*

I. THEORITICAL BACKGROUND

Note that Dewey acknowledges art as "refined and intensified forms of experience [1]." Thus far, in globally, the significance of the arts on and in education has been well documented. Barton (2014, Chapter 1, Section "Being literate in the arts[2]) noted that in visual arts through the use and exploration of color, line, form, and texture, children can express who they are and what they feel about the world around them through the creation of artworks. This unrestricted exploration helps them learn about innovative skills.

Today, innovation is a key engine of economic growth. Arts education is increasingly considered as a means to foster the innovative skills and attitudes for beyond and above artistic sensitivity and skills. Information and communication technologies (ICT) graduates can expect an employment rate that is 7

percentage point higher than those graduating from arts and humanities (OECD Indicators, 2017)[3]. The ICT graduates is person who has rich innovative skills. It is a critical issues developing children's innovative skills through art education in this century.

Winner, Goldstein & Vincent-Lancrin (2013) [4] proposed a question in "Art for Art's Sake?", "does arts education really have positive effects on innovative skills?", because while there are many correlation findings on researches of visual arts education showing that children who study the arts do better in school than those who do not, there are few true experimental studies (with random assignment to an arts intervention vs. some kind of non-arts intervention) testing whether studying the arts actually causes some innovative outcome to improve. According to the states of the researches of visual arts education, Winner, et al. have identified methodological weaknesses that need to be addressed in order to improve our knowledge of the development of innovative skills through arts education.

Winner, et al. defined the innovative skills as three sets of overlapping skills: technical skills (content and procedural knowledge); skills in thinking and creativity (questioning ideas, finding problems, understanding the limits of knowledge, making connections, imagining); and behavioral and social skills (persistence, self-confidence, collaboration, communication). Winner, et al. said that "we mean not only the skills developed in different arts forms (playing an instrument, composing a piece, dancing, choreographing, painting and drawing, acting, etc.) but also the habits of mind that are developed in the arts". That means innovative skills includes the artistic skills; the technical art skills, skills in artistic thinking and creativity, and behavioral and social skills in art activity, and the non-artistic skills; the habits of mind. Winner, et al. showed a key argument: "we make is that the main contribution of arts education to innovation societies lies in its development of broad and important habits of mind".

The habits of mind is known as the five disposition[5];

1. Inquisitive

– Wondering and questioning – beyond simply being curious about things, the questioning individual poses concrete questions about things. This enables him, and others, to think things through and develop new ideas.

– Exploring and investigating – questioning things alone does not lead to creativity. The creative individual acts out his curiosity through exploration, and the investigating individual follows up on her questions by actively going out, seeking, and finding out more.

– Challenging assumptions – a degree of appropriate skepticism is an important trait of the creative individual. This means not taking things at face value without critical examination.

2. Persistent

– Sticking with difficulty – persistence in the form of tenacity is an important habit of mind enabling an individual to get beyond familiar ideas and come up with new ones.

– Daring to be different – creativity demands a certain level of self-confidence as a prerequisite for sensible risk-taking as well as toleration of uncertainty.

– Tolerating uncertainty – being able to tolerate uncertainty is important if an individual is going to move ‘off of the starting blocks’ on a project or task where actions or even goals are not fully set out.

3. Imaginative

– Playing with possibilities – developing an idea involves manipulating it, trying it out, improving it.

– Making connections – this process of synthesizing brings together a new amalgam of disparate things.

– Using intuition – the use of intuition allows individuals to make new connections and arise at thoughts and ideas that would not necessarily materialize given analytical thinking alone.

4. Collaborative

– Sharing the product – this is about the creative output itself impacting beyond its creator.

– Giving and receiving feedback – this is the propensity to want to contribute to the ideas of others, and to hear how one’s own ideas might be improved.

– Cooperating appropriately – the creative individual co-operates appropriately with others. This means working collaboratively as needed, not necessarily all the time.

5. Disciplined

– Developing techniques – skills may be established or novel but the creative individual will practice in order to improve. This is about devoting time to a creative endeavor.

– Reflecting critically – once ideas have been generated, evaluation is important. We could call this ‘converging’. It requires decision-making skills.

– Crafting and improving – this relates to a sense of taking pride in one’s work. The individual pays attention

to detail, corrects errors, and makes sure the finished article works perfectly, as it should.

II. RESEARCH PURPOSE

The purpose of this paper is to answer the two research questions showing that the states of Japanese researches of visual arts education for early childhood based on Winner, et al.’s research. Research Question 1: Are there the researches focused on innovative skills of Japanese visual arts education for early childhood? Research Question 2: Are there the researches of true experimental (non-correlational) studies about casual effect of innovative skills in Japanese art education for early childhood? As mentioned above, innovative skills includes the artistic skills; the technical art skills, skills in artistic thinking and creativity, and behavioral and social skills in art activity, and the non-artistic skills; the habits of mind.

Winner, et al. did not conduct the research for the early childhood only. Therefore, this paper tries to answer these questions by examining the state of empirical knowledge of Japanese art educational researches for early childhood.

III. METHOD

Founded in 1979, the Japanese Society of Art Education has been promoting theoretical research of art education. In 1990 it became the 15th Japan Science Council Registered Research Organization, and now the organization are steadily developing as a cooperative organization of the Science Council of Japan. As of the end of May 2016, it is a conference organization with more than 600 regular members. “BIJYUTU KYOUIKU GAKU” is a journal of Japanese Society of Art Education. The journal was first published in 1982, and since then it has been published one annually.

It attempted to cover all empirical studies for early childhood since 2010-2017 in “BIJYUTU KYOUIKU GAKU”, because the revised Japanese national curriculum standard for kindergartens, “Course of study for kindergarten”¹ was published on 2008. That means that the all empirical studies for early childhood in “BIJYUTU KYOUIKU GAKU” published after 2010 was abided perfectly the revised national curriculum.

In the curriculum, the following areas are the aspects of child's development: Health (physical and mental health); Human relationships (the relationship between the child and other people); Environment (children's surroundings, and relationship to them); Language (the process of language acquisition); and Expression (feelings and expression). The aims and the contents are indicated in these areas. The area of Expression (feelings and expression) indicates that Japanese kindergarten teachers

develop children's Feelings (aesthetic sense) and their own styles of expression through visual arts.

IV. RESULTS AND DISCUSSION

The 28 articles were published as empirical studies for early childhood since 2010-2017 in "BIJYUTU KYOUIKU GAKU". As shown in the Table 1, there was a tendency that the number of articles targeting the early childhood tends to be small overall.

Table 1. The number of articles targeting the early childhood in "BIJYUTU KYOUIKU GAKU"

Year	Total articles	Total Articles (early childhood)
2010	35 (89.7%)	4 (10.3%)
2011	38 (92.7%)	3 (7.3%)
2012	34 (82.9%)	7 (17.1%)
2013	36 (90%)	4 (10%)
2014	39 (95.1%)	2 (4.9%)
2015	33 (91.7%)	3 (8.3%)
2016	34 (94.4%)	2 (5.6%)
2017	36 (92.3%)	3 (7.7%)

As mentioned above, the answers is shown about the two research question showing that the states of Japanese researches of visual arts education for early childhood based on Winner, et al.'s research. In this results, the innovative skills includes the artistic skills; the technical art skills, skills in artistic thinking and creativity, and behavioral and social skills in art activity, and the non-artistic skills; the habits of mind.

Research Question 1: Are there the researches of Japanese visual arts education for early childhood focused on innovative skills?

Table 2 shows the states the researches of Japanese visual arts education for early childhood focused on innovative skills. All 28 articles for early childhood focused on the artistic skills, they are the technical art skills, skills in artistic thinking and creativity, or behavioral and social skills in art activity. About 43% of articles for early childhood focused on the non-artistic skills, that is the habits of mind.

Table 3 shows the states the artistic skills' three sub skills, that is the technical art skills, the skills in artistic thinking and creativity, or behavioral and social skills in art activity, and the non-artistic skills, that is the habits of mind's the five disposition. In the researches of Japanese visual arts education for early childhood in "BIJYUTU KYOUIKU GAKU", there was a tendency that the number of articles targeting the technical art skills in the artistic skills. About the non-artistic skills, there was a

tendency that the number of articles targeting Imaginative and the Collaborative.

These results suggested that although the researches of Japanese visual arts education for early childhood was conducting the research focused on innovative skill, it could be said that these researches have biased during the artistic skills' three sub skills and the habits of mind's the five disposition.

Table 3. The states the artistic skills' three sub skills and the non-artistic skills, that is the habits of mind in "BIJYUTU KYOUIKU GAKU"

		Innovative skills						
		the artistic skills			the non-artistic skills (the habits of mind)			
the technical art skills	the skills in artistic thinking and creativity	the behavioral and social skills in art activity	Inquisitive	Persistent	Imaginative	Collaborative	Disciplined	
18(51.4%)	9(25.7%)	8(22.9%)	3(15%)	0(0%)	7(35%)	6(30%)	4(20%)	

Research Question 2: Are there the researches of true experimental (non-correlational) studies about casual effect of innovative skills in Japanese art education for early childhood?

Table 4 shows the states of the researches of true experimental (non-correlational) studies about casual effect of innovative skills in Japanese art education for early childhood. Few researches conducted true experimental (non-correlational) studies in "BIJYUTU KYOUIKU GAKU". This result suggested that as mentioned by Winner, et al., the researches of Japanese visual arts education for early childhood have also methodological weaknesses that need to be addressed in order to improve our knowledge of the development of innovative skills through arts education.

V. CONCLUSION

Art education must clearly communicate to society what to do to foster innovation skills, because innovation is a critical keyword in global society. Therefore, this paper suggested three agendas for the next decade: 1) methodological improvements on the researches of visual arts education to be addressed in order to improve our knowledge of the development of innovative skills through arts education., 2) creating a powerful advocacy based on evidence by true experimental studies to conduct the evidence-based art educational practice to children's innovative skills, and 3) building professional network to promote methodological improvements of the researches of visual arts education and to share the research evidences.

Table 2. The states the researches of Japanese visual arts education for early childhood focused on innovative skills in “BIJYUTU KYOUIKU GAKU”

article information				Innovative skills							
				the artistic skills			the non-artistic skills (the habits of mind)				
Year	No.	Author	Title	the technical art skills	the skills in artistic thinking and creativity	the behavioral and social skills in art activity	Inquisitive	Persistent	Imaginative	Collaborative	Disciplined
2010	1	I. Wakayama	Features of the Collaborative Drawing Process of Five-year-old Children : A Pilot Study of Intervention for Five-year-old Children's Collaborative and Imaginative Drawing Activity			collaborative and imaginative drawing process			✓	✓	
	2	Y. Makino	Research on Art Education at the Dawn of the Kindergarten System(1)	expression of infant's subjective self							
	3	M. Okayama, T. Takahashi	Ohara Museum of Art Painting Appreciation Program for Young Children through "Composing a Story from a Painting"	Art painting appreciation	thought, imagination, language and meta-cognitive ability		✓		✓		✓
	4	I. Ikeuchi	A Study on the Making Learning Visible Project: Collaboration by Reggio Emilia and Harvard Project Zero : Visualization of the Learning Process in Art by Documentation Learned from Infant Education			a sense of group identity				✓	
2011	5	I. Wakayama	A Case Study of Four-year-old and Five-year-old Children's "as if" Drawings : Developing Multiple Perspectives of Natural Objects		visual images	cooperative relationship			✓	✓	
	6	Y. Shimada	Preschool Children's Recognition of Diagram, Development in Drawing, and Differences According to Sex	expression in drawing							
	7	C. Ito, T. Takahashi	Developmental Characteristics Seen in the Building Block Play of an Infant	three-dimensional molding	plane dimension						
2012	8	I. Wakayama	Prospects of Young Children's "As If" Drawing Activity in 21st Century Learning		creativity in the 21st century, pattern recognition		✓		✓	✓	
	9	Y. Makino	A Study of Drawing Education in Kindergartens in the Late Meiji Era : An Investigation of Documents and Children's Pictures from the Archive of Aishu Kindergarten	drawings depicted objects	children's "own discretion						
	10	K. Choji	A Surveillance Study on Experience of Using Materials and Tools at Early Childhood Education and Care Centers. : Connecting ECEC to Elementary School Art Education	use materials and tools(for example scissors and glue)							
	11	H. TAKEI	Soil Environments to Encourage Art Play in Early Childhood	a mixture of sand and clay suitable for children's art							
	12	Y. Shimada	Supportive Relationships between Children and Adults and the Development of a Child's Own Personality : An Example Observing Children's Activities with Clay			child's ability to empathize with others, his/ her own personality				✓	
	13	M. Kuriyama	Picture Structure Process in Young Children in the Schematic Stage : Focusing on Visual Context and Narrativity		way of thinking from part of the picture to the overall image, constructing the	various small stories appear throughout a picture	✓		✓		✓
	14	C. Ito, T. Takahashi	The Diversity of Solid Form Expression through Actual Life : A Study of an Infant's Block Play	acquisition of solid composition ability, solid power of expression							

article information				Innovative skills							
				the artistic skills			the non-artistic skills (the habits of mind)				
Year	No.	Author	Title	the technical art skills	the skills in artistic thinking and creativity	the behavioral and social skills in art activity	Inquisitive	Persistent	Imaginative	Collaborative	Disciplined
2013	15	I. Wakayama	"As If" Creative Molding Activity in Kindergarten Children's Free-play		find correspondence between material and their knowledge				✓		
	16	Y. Makino	A Study of Kindergarten Wall Pictures of the Meiji Era : Focusing on Wall Pictures of Maizuru Kindergarten	appreciation of authentic handwritten wall pictures and paintings							
	17	Y. Shimada, Y. Ohgami	Images Associated by Children when Looking at Diagrams : A Study of Children Aged Four and Five		shape recognition				✓		
	18	M. Kuriyama	The Image of Motion in the Drawing Process of Children in the Schematic Stage : Focusing on Visual Context and Narrativity	"moving images" in children's drawing							✓
2014	19	Y. Seiyo, T. Takahashi	Accepting and Guiding Character Depictions in Children's Drawing Activities	character depictions in drawing activities							
	20	K. Kasahara	Analysis of Art Experience of Children through Sensibility Communication : The Meaning of Experience and Transformation in Art Workshops			sensitive communication				✓	
2015	21	A. Watabe	The Importance of Art Appreciation in Childhood : An Analysis of American Educational Materials on Art Appreciation	visual thinking strategies							
	22	K. Takahashi	Theoretical Explanation Based on Cross-Modal Correspondence for Cross-Style Expressions from Infancy	drawing pictures while listening to sounds							
	23	Y. Seiyo, T. Takahashi	Assessments made by care providers of character depictions in young children's drawing activities	character(are copied from another person's work) drawings							
2016	24	T. Murata	Formative Expressive Behavior in Children's Artistic Play Activities	creating various shape		sense of identity					✓
	25	M. Ohhashi	A Study of Preschool Teachers' Instruction for "Seikatsu-ga" : An Analysis of Their Strategy and Purpose	drawing of daily life	recalling images						
2017	26	M. Ohhashi	A Study of Involvement Between Preschool Teachers and Young Children After Drawing : Focusing on "Seikatsu-ga" ("lifestyle drawings")	drawing of daily life							
	27	K. Takahashi	Understanding of the Status Quo based on Quantitative Analyses on Practices of Cross-Style Representation between Fine Arts and Music by Childcare Workers	cross-style representation between fine arts and music							
	28	I. Wakayama, K. Takiguchi	A Longitudinal Case Study on Attitudes of Six-Year-Olds to Seven-Year-Olds toward Art Activities in Kindergarten and Art Classes in Primary School			attitude toward art activities					

Table 4. The states of the researches of true experimental (non-correlational) studies about casual effect of innovative skills in“BIJYUTU KYOUIKU GAKU”.

Year	No.	Author	Title	the true experimental (non-correlational) method	the other method
2010	1	I. Wakayama	Features of the Collaborative Drawing Process of Five-year-old Children : A Pilot Study of Intervention for Five-year-old Children's Collaborative and Imaginative Drawing Activity		✓
	2	Y. Makino	Research on Art Education at the Dawn of the Kindergarten System(1)		✓
	3	M. Okayama, T. Takahashi	Ohara Museum of Art Painting Appreciation Program for Young Children through "Composing a Story from a Painting"		✓
	4	I. Ikeuchi	A Study on the Making Learning Visible Project: Collaboration by Reggio Emilia and Harvard Project Zero : Visualization of the Learning Process in Art by Documentation Learned from Infant Education		✓
2011	5	I. Wakayama	A Case Study of Four-year-old and Five-year-old Children's "as if" Drawings : Developing Multiple Perspectives of Natural Objects		✓
	6	Y. Shimada	Preschool Children's Recognition of Diagram, Development in Drawing, and Differences According to Sex		✓
	7	C. Ito, T. Takahashi	Developmental Characteristics Seen in the Building Block Play of an Infant		✓
2012	8	I. Wakayama	Prospects of Young Children's "As If" Drawing Activity in 21st Century Learning		✓
	9	Y. Makino	A Study of Drawing Education in Kindergartens in the Late Meiji Era : An Investigation of Documents and Children's Pictures from the Archive of Aishu Kindergarten		✓
	10	K. Choji	A Surveillance Study on Experience of Using Materials and Tools at Early Childhood Education and Care Centers. : Connecting ECEC to Elementary School Art Education		✓
	11	H. TAKEI	Soil Environments to Encourage Art Play in Early Childhood		✓
2017	12	Y. Shimada	Supportive Relationships between Children and Adults and the Development of a Child's Own Personality : An Example Observing Children's Activities with Clay		✓
	13	M. Kuriyama	Picture Structure Process in Young Children in the Schematic Stage : Focusing on Visual Context and Narrativity		✓
	14	C. Ito, T. Takahashi	The Diversity of Solid Form Expression through Actual Life : A Study of an Infant's Block Play		✓
2013	15	I. Wakayama	"As If" Creative Molding Activity in Kindergarten Children's Free-play		✓
	16	Y. Makino	A Study of Kindergarten Wall Pictures of the Meiji Era : Focusing on Wall Pictures of Maizuru Kindergarten		✓
	17	Y. Shimada, Y. Ohgami	Images Associated by Children when Looking at Diagrams : A Study of Children Aged Four and Five		✓
	18	M. Kuriyama	The Image of Motion in the Drawing Process of Children in the Schematic Stage : Focusing on Visual Context and Narrativity	✓	
2014	19	Y. Seijo, T. Takahashi	Accepting and Guiding Character Depictions in Children's Drawing Activities		✓
	20	K. Kasahara	Analysis of Art Experience of Children through Sensibility Communication : The Meaning of Experience and Transformation in Art Workshops		✓
2015	21	A. Watabe	The Importance of Art Appreciation in Childhood : An Analysis of American Educational Materials on Art Appreciation		✓
	22	K. Takahashi	Theoretical Explanation Based on Cross-Modal Correspondence for Cross-Style Expressions from Infancy		✓
	23	Y. Seijo, T. Takahashi	Assessments made by care providers of character depictions in young children's drawing activities		✓
2016	24	T. Murata	Formative Expressive Behavior in Children's Artistic Play Activities		✓
	25	M. Ohhashi	A Study of Preschool Teachers' Instruction for "Sekatsu-ga" : An Analysis of Their Strategy and Purpose		✓
2017	26	M. Ohhashi	A Study of Involvement Between Preschool Teachers and Young Children After Drawing : Focusing on "Sekatsu-ga" ("lifestyle drawings")		✓
	27	K. Takahashi	Understanding of the Status Quo based on Quantitative Analyses on Practices of Cross-Style Representation between Fine Arts and Music by Childcare Workers		✓
	28	I. Wakayama, K. Takiguchi	A Longitudinal Case Study on Attitudes of Six-Year-Olds to Seven-Year-Olds toward Art Activities in Kindergarten and Art Classes in Primary School		✓

References

[¹] Ministry of Education, Culture, Sports, Science and Technology. "Course of study for kindergarten", 2008, Retrieved from http://www.mext.go.jp/component/english/_icsFiles/afieldfile/2011/04/07/1303755_002.pdf (September 17, 2017)