

Pedagogical Content Knowledge for the Multiple Handicapped: A Case Study of an Art Project

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ABSTRACT

In this presentation, a project in teacher education through the art activities in the undergraduate level is focused.

The main theme is art activities by university students and the multiple and severe handicapped students. This project has two significances in the preparation of special education teachers. The one is the chance of the field work. Even the students majoring in special education have insufficient opportunities for a field research into the place for the multiple handicapped students, because of low accessibilities including the limitation being attributed from the medical care. The other is about the professional learning. In Japanese system, the certification for special education teachers is based on the one of the regular schools. The students learn about the subject knowledge with the non-disabled students in mind, so they have a few chances to learn and inquire the pedagogical content knowledge for the severe handicapped students.

In this research, the qualitative and narrative analysis has been attempted. Main topics are the university students' awareness and recognition to the communication styles—including non-verbal ones—of the multiple handicapped and students' change of view to the multiple handicapped students' learning and activities through the art activities.

Keywords: Pedagogical Content Knowledge (PCK), the Arts,
the Severely/Multiple Handicaps, Pre-service Teacher Education

1. Introduction

1.1 Pedagogical Content Knowledge: The Agenda

In the study of pedagogical content knowledge (PCK), we face some difficult dimensions. The first is there are many concepts regarding the definition of PCK. Since Lee Schulman (1986) introduced the concept of PCK, there are so many concepts as researchers take interested in it and attempt to make it clear. The second is that it is not so clear the outline of PCK and how to utilize this concept in the context of

students' learning.

The National Council for Accreditation of Teacher Education (2002) in the United States partly gives a definition of PCK.

[PCK is the] interaction of the subject matter and effective teaching strategies to help students learn the subject matter. It requires a thorough understanding of the content to teach it in multiple ways, drawing on the cultural backgrounds and prior knowledge and experiences of students (NCATE, 2002). NCATE has an influence on general teacher education in the United States. This definition is also informative for exploring the character of PCK, even though it is about the area of special needs education. PCK has been said to have a critical role for teacher education (Davis and Simmt, 2006), so the research on the definition and character of PCK should be promoted.

In this presentation, the case survey around the notion and character of PCK in the special settings was inquired. But this presentation aims not at the united notions about PCK, but at the submission of the situated character of PCK, and moreover the PCK in which this paper describes is the one in Arts subject in the specialized and hospitalized settings.

The presented case is an ongoing art activity project by university students and the multiple and severe handicapped students. This project has a meaning of the field work and the opportunities of professional learning about teaching in a specific subject. In this research, the field work survey has been attempted. The university students' awareness and recognition to the learning and communication styles—including non-verbal ones—with the multiple handicapped and university students' view to the multiple handicapped students' learning and activities through the art activities are focused.

1.2 Japanese Context of Special Education around PCK

As having been viewed in the previous section, it is difficult to define the PCK, the case analysis and application for the PCK into the field of special educational settings is to be requested.

Manner (2002) suggests the arts provide natural and functional learning opportunities beyond simply learning an academic subject. Manner's focus is not on the field of special needs education, but this indication is the case into the area of special education. The course of study of the special education school in Japan, the curriculum contents of the subject of the "arts and crafts" (the primary level) and the "arts" (the secondary level) are regulated, as are shown in Table 1.

The list is all of the described contents in the course of study of arts in National curriculum in Japan. The reason of this fewness of description is that the curriculum highly contents depends on students' situation, including the types and severity of

disabilities and illness, the accumulation in their daily living, around their environment, then it is necessary to think of their individuality in special educational settings. Teachers should make their teaching methods and the materials to teach for their students individualized arrangements. As the common contents cannot be available for many students, teacher may arrange for their students with PCK and this is why the concepts of PCK are to be critical even in the special educational settings.

Moreover, in Japanese system, the certification for special education teachers is based on the license for the regular schools. A certification of special education teachers requested the elementary or secondary school teachers' certification as a so-called "basic license". The standard of the preparation of special education teachers, the learning of each subject is based on the preparation for the regular school teachers. For example, university students majoring special needs education have a course of Arts for the elementary, but there is no course of the "Arts for the disabled". So, they can take a few opportunities to learn and think about the school subject for the learners with special needs. The students learn about the subject knowledge with the non-disabled students in mind, so they have a few chances to learn and inquire the pedagogical content knowledge for the severe handicapped students.

Table 1

Contents List of Arts Subject for the Special School in Japan
 "Arts and Crafts" (the primary)

The 1 st Level
1. To have interest to drawing, making, decorating, and so on. 2. To play with formative arts by the familiar materials like clod, tree, and paper.
The 2 nd Level
1. To draw, model, and decorate that they see and feel. 2. To become familiar with and use the materials and tools like clay, crayon, scissors, and paste.
The 3 rd Level
1. Thoughtfully drawing and making, and decorating and using what students saw, felt, and imagined. 2. Using the materials and tools for their purpose thoughtfully. 3. Showing their own works to each other with friends, and notice of the appeal of the shape, color, and a way of expression of the plastic works and so on.

"Arts" (the secondary: all levels)

1. Planning (to work), drawing pictures, making works, and decorating them based on

their experience and imagination.

2. Understanding and using a various type of materials and tools.
3. Being familiar with the beauty of the nature and the plastic works.

2. PCK in Arts

2.1 A Character of Arts for All Learners: Literature Review

Gregoire & Lupinetti(2005) suggests that the art are to be great equalizer in education, regardless of abilities or disabilities. Because the arts are largely non-verbal and focus on creativity, students can participate in various ways. Gregoire and Lupinetti also insist, “Fortunately, the arts can reach all types of students”. Consequently, success in school for many students can be supported and facilitated through an arts programs being infused throughout the curriculum. This may span the students with multiple handicap and disabilities. The curriculum would be infused for the multiple handicapped students and the students in the pre-service teacher training.

Cornett (2003) advocated in support of integrating the arts, have particular relevance to diverse classrooms. One of the relevance is that the arts are fundamental to all cultures and time periods and therefore provide a natural view into social contribution of other cultures. The arts are the primary forms of communication, because they are based in imagination and cognition. And the arts may be focus on alternative forms of assessment and evaluation (Gregoire, et al. 2005).

The arts includes partly nonverbal activities, it is suitable for students with considerable limitations in language. But what Gregoire and colleagues suggest would not necessarily be the best place to start discussion. An experience of the making the visual arts by communicating with/without simple verbal language would provide the basis for developing the language.

2.2 PCK in the Arts for the Multiple Handicapped

Through developmental approaches content for severely handicapped learners have the advantage of tradition and a wealth of excellent examples to adapt, some educators question their appropriateness and efficacy (Ferguson, 1987). Available data suggest that severely handicapped students do not acquire skills in the normal developmental sequence, often because of the complicating factor of sensory, medical, and motor difficulties. And Ferguson also stresses that developmental approaches focus on determining content — “what to teach” — with little concurrent emphasis on instructional techniques and strategies , the “how to teach”.

3. “Touching, Holding, and Feeling” Project

3.1 Outline of the Project

The extra-curricular program of “Touching, Holding, and Feeling” Project was

developed to support learning about arts at a special school for the severely disabled and the volunteering students at Tokyo Gakugei University (TGU). This project contains a formative activity workshop in the school, an exhibition in the art hall in TGU with a trial lesson by teachers in this school and a workshop by arts students in TGU.

In terms of the participants, the group is now consisted of 24 students of TGU, 8 students of a special school under the collaboration of 3 teachers, and one school has been proposed to join us from the exhibition in TGU. Students in TGU were preparing the materials for the workshop with some research beforehand in the school. Support importantly came from Yota Hanazawa, an associate professor in Western-style paintings in TGU, and from teachers in this special school.

The project is originally designed and organized around the networking a university and the schools neighborhood with arts activities. The department of fine arts of TGU set this project in collaboration of a local special school.

The school with which we collaborated is for the students with the severely physical impairments and with the needs of the constant medical observation, so this small school is attached to the National institute of medical science, and our workshop has been partly held in the daily caring room in the hospital or in a bedroom in a ward once in a while. The project has six year history by the department of fine arts of TGU as itself, but this is 1st year that our laboratory in department of special needs education joins this project under the request of laboratory in Western-style paintings. Taking this opportunity of our joining, the components of university students' learning as the extra-curriculum for pre-service teacher training had been implemented. The mission of this project is to design the network between a university and the local school and to train under/over graduate students by endowing them with a specific background (arts or special needs education) in the contents of fine arts, as well as understanding of the particular needs of diverse learners (especially severely multi-handicapped teens in this project) with respect to teaching. The aim of this project is to immerse university students in the restricted situation of the impaired students to provide direct experiences with knowledge and skill development.

3.2 Process of the Workshop

In the workshop in the hospitalized class, one student with multiple impairment and two or three university students make a working group, then shaping and sharing the younger student's idea to be concrete. Special attention has been given to the role of students in both schools in making works. Because of the unbalanced number of the participants (3 students in TGU per a junior in average, and teachers and nurse would join for their health condition), we are paying attention how to promote the younger students' independence and activeness.

The project suggests the collaborating and practically inquiring that exists between the disciplines, as well as the application of concepts to new—even university students in the department of special needs education may not approach severely impaired students as usual—situations. The university students work together in the project to deepen their content knowledge and skills, which include the effective use of discourse in the interdisciplinary collaborative groups.

This project is committed not only to provide special school students the experience in Arts, but to provide the university students an experience to produce on the decoration with the disabled students and the special education teachers.

At the beginning of this project, we recommended for the students of arts to investigate to the possibilities and issues of art activities for the disabled, and suggested for the students of special needs education to inquire the deepen the knowledge and teaching contents of the subject (in this case, arts). Later the project expands on the collaborative activities through gathering and selecting materials, choosing the topic (in this year, the topic is “sky (with the clouds)”), and inquiring how to call to the disabled students (in Japanese “Koekake”), and so on. Furthermore, the project helps university students integrate pedagogy and content in the various phases of activities in this project workshop.

3.3 Reflection on the Workshop

After a series of activities (this is not necessarily the completion of their work, because of the limit depending on the learners’ medical and health condition), they show their works to each other, and university students explain the concept (e.g. fantasy, dream land, or the story they like) and appeal points of this work instead of the unspeakable young (e.g. pink-based tone in the pretty image).

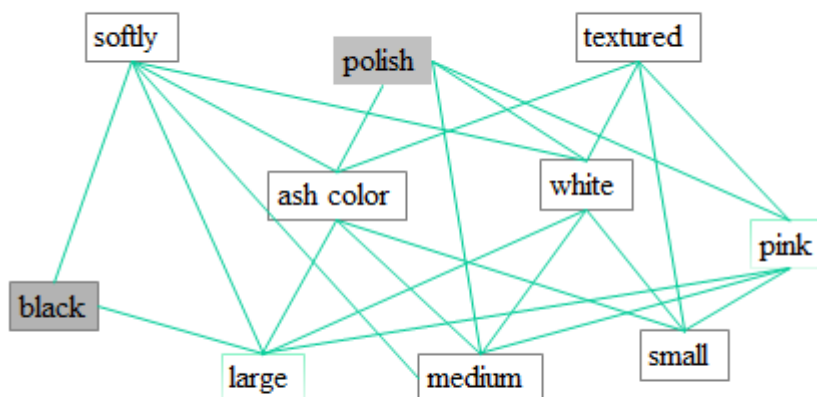


Figure2
Simplified model of the selection of materials (for clouds) by the young students.

Figure 2 shows what types of materials for the clouds by the younger students. The process of making and decorating the background of sky, the clouds represented the younger students' own feeling.

Imray and Hinchcliffe (2014) suggest the key elements of the individual arts may be pattern and texture, colour, line and tone, shape, form and space. Materials are made by cotton, felt, white paper, plastic tape, Japanese paper, and so on. In the workshop, university students have been supportive to the younger. Not only the artistic aspects, they had to pay attention of the younger's line of sight, position of body, a slight sign of emotion and so on, because the younger are confined to the bed. As is like other art activities, our project stresses the color, shape, and space as a result because of the limit of each junior students' abilities and functioning to write and draw. But it is not enough for the disabled students' participation. In order that the multiple handicapped students may participate in the art activities, cognitive and kinesthetic elements like touching should be implemented, then our preparation of materials have been made us achieve to better outcome.

We have some reflection meeting and university students had some comments after the workshop. The reflection has been based on the free-form discussion and students had comments about their notice in the process of workshop. Table 2 shows the part of the list of what they said after the workshop in July, 2015.

Table 2 is a part of sorting of what university students said. We can find the variety of the comments and we also can notice that they include both of the artistic phase and the

teaching phase. It is, of course, difficult to divide into two phase, but it is helpful to inquire the character of PCK in Arts for the disabled.

Overviewing this table, PCK is consisted by the knowledge about the arts subject and the knowledge of teaching or understanding the disabled children. Students' disabilities and illness have a possibility to restrict the learning potential, the preparation of educational materials is preferable to arrange for being easy to use. In special educational settings, individualized teaching is so stressed, it may be possible to prepare the materials for the individual use unless their learning were not isolated in the classroom context and the human relations with friends and teachers.

Thorough what is reflected in this day's workshop, kinesthetic perspectives and the attention to non-verbal communication has also been well noticed. Disabilities and handicaps may cause of the limit of reflection in their language, so teachers' knowledge around the context learning with the understanding of disabilities and restrictiveness of learning is highly requested in the classrooms.

4. Conclusion and Discussion

Arts are essentially said to be concerned with making and sharing meanings and stimulate a process of personal growth. Arguably they give form and expression to an

Table 2

Reflection of the arts workshop from University students

Phase	Aspects	What University students said (examples).
Artistic phase	Enjoying the materials	<ul style="list-style-type: none"> • What is favor of them? • The meaning of the art experience as itself • Touching the rare materials which they have few opportunities to have
	Artistic aspects	<ul style="list-style-type: none"> • About the selection of materials (cloths, colors, and so on) • About the selection of an adhesive bond (easier to use, texture of bond, and so on)
	Teaching and making process	<ul style="list-style-type: none"> • U students have learn from the disabled students though their reaction, favor, and so on. • A process of visualization from the concept of the sky and clouds
	the work	<ul style="list-style-type: none"> • How to make the disabled students have an image or make sense of the work as a whole(each group had made a divided part of the work)? • About the students' personal favor of colors (we can research in advance, but is it good for us?)
Teaching phase	Kinesthetic aspects	<ul style="list-style-type: none"> • The process of the multiple disabled students' body tonus (After reducing their tonus, the art activities would be more effective.) • Motion (even if it were little) is creative possibilities to new sense of touching. • Noticing to the line of sight as an effective approach for smooth contact
	Non-verbal communication	<ul style="list-style-type: none"> • How to recognize that our communication has been established, and what condition can we set up? • Importance of the communication in teaching practice • Importance for U students to observe the younger's eyes (including the line of sight) • Communication style through making and designing the works
	Collaborating among U students	<ul style="list-style-type: none"> • (Many arts students said to have learned about) how to open up to the disabled students and understand their will (mainly, y/n) • (Many SNE students said to have learned about) how to develop the image of work, under the limited materials and condition • Difference of the viewpoint and the way to talk (even in the same scene) e.g. Just competed!(Arts)/ Well done!(SNE) Did good! (Arts)/ Beautiful in your color. (SNE) • Further expectation for the future collaboration in learning

inner drive to externalize images; perhaps we all have some inner need to communicate, to find forms of expression and to symbolize or encapsulate our experiences; ways in

which we may all find a sense of personal validation. In school we need to ensure that they are achievable by ensuring that children of all abilities develop confidence and appropriate skills. The capacity for all arts forms to motivate, to encourage self esteem, to stimulate the imagination, curiosity, and encourage children generally to investigate, are major outcomes of any learning experience for a child with severe learning difficulties (Carpenter & Hills, 2002).

From the different viewpoint, Imray and Hinchcliffe (2014) argue that a creative curriculum is necessary for those with profoundly and moderately learning difficulties (PMLD) and it is also to be advocated that they are directly involved within it. It is said that not so easy to assess whether those with PMLD will benefit in the same way, simply because the cognitive functioning levels of those with profound learning difficulties may preclude a number of the elements of learning that we might aim for with those with severe learning difficulties. The arts are, however, process based, and careful observation of the small and subtle changes in those with PMLD will indicate learning taking place over time. At the very least, the arts offer real opportunities for joint ventures, an inclusive curriculum and addressing of the issues raised in the Quality of Life debate (Lyons and Cassebohm, 2010).

One of the major problem around the special education is treatment compatible with the increasing the severity, duplicability, and diversity of the disabilities and health condition of students. In order for university students to become thoughtful teachers being capable of meeting their students' needs, they must see the possibilities of application of the materials that they are learning. Learning experiences may offer the opportunity for university students to investigate and explore the contents.

The case indicated in this presentation is ongoing project, further analysis and inquiry is requested including some theoretical framework. In this presentation, the character of PCK of arts subject is showed as the complex assembly of the subject content knowledge and the knowledge of teaching reminder, but to specify the feature of specialized curriculum contents would be informative in teacher education both for the special school teachers and the teachers meeting to the inclusive education.

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