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Integration of Theory and Practical Sessions to Improve Health and Physical Education Classes

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Abstract: In this study, two research subjects were set up by implementing a unit that combines physical education theory and physical activity. The first subject is the study of the qualities and abilities that can be cultivated by combining physical education theory and physique building exercises in physical education sessions. The second is to apply the concept of Content and Language Integrated Learning (CLIL) to physical education based on the first finding, and to study a learning strategy that integrates physical education theory and practical physical education.

(1) As a result of implementing physical education theory and physical exercises as a fusion unit, it is suggested that the ability to collaborate and think in multiple ways, as desired at schools, can be nurtured.

(2) By creating and sharing the rubrics of the dialogue, I was able to evaluate the quality of self-motivation to learn, an attitude very well appreciated at schools across Japan.

1. Introduction

While curriculum guidelines have been revised, there is also qualitative improvement in the learning process of children as more focus is given to what they learn and how they learn (Ministry of Education, Culture, Sports, Science and Technology, 2016). In physical education as a subject, the learning process was designed such that students learn while associating with various exercise lessons in a group and by “doing, seeing, supporting and knowing” so that they could enjoy while learning. It is hoped that such a lesson plan will enable students to realize the rich value and significance of integrating sports in one’s daily life.

In this regard, the schools attached to Hiroshima University, have been selected for a new research and development project called “Kagayaki” that is consistent for both elementary and middle schools. This project aims to develop the qualities and abilities that form the basis of the three dimensions - cross-sectional knowledge, resilience, and dynamism - required to adapt to a highly competitive and globally diverse society. The project also focuses on developing a curriculum for integrated education in elementary and middle schools. Moreover, it is a new pedagogy that includes comprehensive learning, moral science, special activities, and about a quarter of each subject. Therefore, while this research focuses on the development of a curriculum based on a comprehensive course, it is also required that the health and physical education department benefit from learning content, curriculum planning, and teaching methods.

In this study, we will utilize results from a previous a trial session conducted at the main education department, where physical education classes organized using CLIL (Content and Language Integrated Learning) for mat exercises in the previous year (Iwata *et al.*, 2018; Masaki, 2018). Here we examine a new learning strategy, PaTiPE-CLIL, that links physical education theory with the practical side of physical education. Sato and Tomozoe (2011) mention in their study that health and physical education classes are not only required to conduct heavy exercise and fitness activities for students but it is important that they understand the manner of exercise and sports, or the principles and laws as well as its social and cultural significance. In this regard, we would like to consider examining a learning strategy (PaTiPE-CLIL) that links physical education theory and practical aspects of physical education on revising the curriculum guidelines in Japan.

2. Purpose and Methods

2.1 Purpose of the research

In this study, the following two research subjects were set up by implementing a unit that combines physical education theory and physical activity.

(1) In a unit that combines "physical education theory" and "practical of physical education" in the physical education department, examine the "qualities and abilities" that can be cultivated from the viewpoint of "Kagayaki".

(2) Based on the findings in (1), apply the concept of CLIL to the physical education department, and examine a learning strategy that integrates "physical education theory" and "practical physical education"

2.2 Survey period and survey target

The survey period and subjects were as follows-

(1) November 2018 to December 2018

One class of 40 junior high school students attached to a university junior high school (male: 20, female: 20, total 40)

(2) From November to December 2019

One class of 38 junior high school students attached to a university junior high school (male: 19, female: 19, total 38)

The instructor was the Health and Physical Education Teacher Y (6th year) (hereinafter abbreviated as Teacher Y).

2.3 Survey contents and survey method

The first survey was a session (four hours) that combined physical education theory (sports as a culture) and physical training (guide runner), and the "qualities and abilities" that can be cultivated. We examined from the viewpoint of "Kagayaki"

The session plan was as follows:

Content Learning form

1 Understand what sports are in Japan and the world (Jigsaw method)

- 2 Philosophy and reality of the Olympics Lecture (Jigsaw method)
- 3 Try the three Paralympic Games - Practical skills (guide runner)
- 4 Thoughts on relationship with sports, a classroom study (group work)

With regard to the contents of the survey, we conducted a self-review sheet and a resilience survey. The second survey focused on the combination (nine hours in total) of the units physical education theory (safe way of doing sports) and physical building exercise (planning exercise to make use in real life) in physical education. The qualities and abilities that can be achieved were examined from the viewpoint of “brightness”

The unit plan was as follows:

First and second hour - physical strength check

Third and fourth hour - lessons to increase physical strength

Fifth and Sixth- Select a physical fitness improvement program and consider its configuration

Seventh-and Ninth hour - compare and study physical fitness programs

Regarding the contents of the survey, we conducted a self-review sheet and changed the rubric of the dialogue.

The survey method was as follows:

(1) Analysis of the self-reflection sheet

In the self-reflection sheet, we analyzed how the students responded to the question "What is sports?" This time, students made free choices (multiple choices allowed) using the Olympic and Paralympic philosophy in order to make it easier to see how sports perspectives changed.

(2) Resilience transformation

A resilience questionnaire survey (e.g., Konno et al., 2006; Kihara, 2007) was created and examined based on the qualities and abilities set by the school and previous research.

(3) Sharing and implementing rubrics for dialogue

(4) At the beginning of the unit, a rubric of dialogue was created with students and teachers (Table 1). Where they were made to self-evaluate during group activities while observing for changes.

Table 1 -Rubric of dialogue

Level 5	Everyone can have a variety of opinions and ideas and organize and communicate with each other while moderating. We can talk about the questions raised in the dialogue so that everyone can think better.
Level 4	Everyone has a feeling of being able to speak, respecting various opinions and ideas on issues, and being able to talk while comparing with their own ideas.
Level 3	Communicate what you want to convey, listen to what the other person wants to convey, and have a mutual understanding.
Level 2	There are many people who have a voice. I have my own ideas, but I am not confident in telling me, and not everyone is involved in the dialogue.
Level 1	He doesn't participate in the dialogue and has no thoughts.

3. Achievements and considerations

The results of the first survey showed - In the first hour, we learned how sports is perceived in the world by using a jigsaw method using materials related to overseas sports measures. Before this session, student A thought that the purpose of sports was to “prevent obesity” and the world would be a dark place without sports, described after learning how to view sports in the world, as shown in Fig1.

In addition, many students were able to see sports from a compound perspective. It was suggested that the cultural significance of sports could be deepened by learning with jigsaw methods using materials related to overseas sports measures.

Next, Table 2 shows the transition of the number of descriptions on the self-review sheet. In the latter half of the unit, this researcher was able to think in depth about the power of sports from various perspectives. This is thought to have had a positive effect on the ability to think in minute detail which is one of the qualities and abilities required by the school. In addition, CLIL has four Cs. CLIL consists of content, language, thinking, collaboration or culture. Considering the multiculturalities in CLIL, the following can be seen.

From Table 2, we observe there is a belief that sports can foster friendship. Attitude goals in the guidelines for health and physical education include cooperation with others and valuing individual differences. Physical education classes need to also foster behavior that values the importance of cooperation and appreciating others. This is the culture of physical education in Japan, which seems to reflect in this result. ‘The Significance of Athletic Club Activities’ (MEXT, 1996) states that club activities support human development. Many students have experienced positive friendships through club activities, and it is thought that sports and friendship is easily linked to each other. Furthermore, the recent development of the media suggests that we also connect sports with friendship in sports that look. Student sports such as the Olympic Games and other international competitions and Hakone Ekiden are examples of sports to watch. Among them, the friendship between Nao Kodaira of Japan and Korean player Lee Soha at the Pyeongchang Olympics has attracted worldwide attention indicating the positive effect of sports. As mentioned above, friendship plays a major role in Japanese sports culture. As described above, friendship plays a big role in the sporting culture of Japan. Also, after learning from the guide runners, many students felt the bond between guide runners and runners, and realized their positive influence.

Since practicing with their guide runners, attributes such as courage and inspiration emerged as core values for the students. These are cited as the core values of the Paralympic Games. It is presumed that in the first half of the unit, the values of sports were not consistent with students. However, it is speculated that post experiencing difficulty in extensive walking and running, there was greater awareness on the significance of sports and its impact on a healthy body and mind. With both the Tokyo Olympic Games and Paralympic Games of 2020 being held in Japan, opportunities

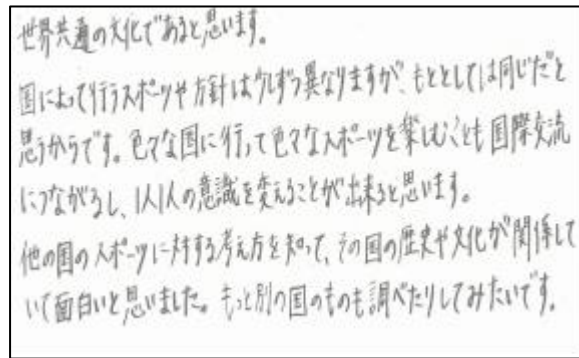


Figure 1 – Description of student A after learning

to learn in physical education theory is plenty.

Table 2 Categories of contents described in self-review sheet and number of descriptions

	First half of unit	Middle of the unit	Second half of unit
Excellence	5	1	2
Friendship	1 1	1 3	1 8
Respect and respect	1 1	5	1 3
Courage		4	7
Inspiration			5
Strong will	4	2	7
Fair	6	7	4
Other			Possibility, hope

Table 3 Description of self-reflection sheet after guide runner (excerpt)

Friendship	<ul style="list-style-type: none"> • I cannot do any competition alone. Even at the Paralympic Games, we are working hard together and think that we are all one. • I knew that I could run well with strong friendship and trust between players and guide runners • If you don't have the same feelings, you can't do it.
Fair	<ul style="list-style-type: none"> • It turns out that people who are blind cannot stand on the same starting line as people who can see. Sports can create friendship and strong will beyond obstacles. -I knew that if I couldn't see my eyes or lost my legs, I would be on the same starting line if I devised it. Working with guides also creates friendships and bonds. It has nothing to do with the country.
Respect • respect	<ul style="list-style-type: none"> • I thought it was easy to change the length of the string or call out, but it was very difficult and I couldn't see where I was running. A fact one should not forget. • In this lesson, cooperation others is necessary. Also, after running, many pairs thanked the guide runners, and the guides asked the runners what to do next. This researcher believes this is respect and enhancement of each other.
Courage	<ul style="list-style-type: none"> • The difficulty of running straight. Professional people thought it was amazing to run at that speed • Even those who are blind can participate in sports and excel at it by working hard. This researcher believed hard work could get one overcome the feeling of helpness that comes with being blind.

The results of the resilience survey are shown in Fig 2 .

The questions were :

- 1 Think about what went wrong when you failed.
- 2 Consider various ways to solve difficult problems.

- 3 There are times when we review our actions.
- 4 Try again without giving up if you fail.
- 5 I want to tell my feelings to others when I am having a hard time or worried.
- 6 When I am lonely or sad, I want people to hear my feelings.
- 7 When you are in doubt, you want to hear the opinions of others.
- 8 When I am happy and irresistible, I want to tell my feelings to others.
- 9 Think of anything good
- 10 Go in a direction where trouble can occur.
- 11 Do not worry if you think you are in trouble.
- 12 When you are in trouble, do not look down and think about your next move.

From the results in FIG. 2 , although there was a slight change for each item, no significant change was observed. It can be said that resilience cannot change in just one unit. However, Werner and Smith (1992, 2001) reported on resilience in childhood and adolescence as follows: Children with high resilience wrote that schools and communities had teachers, peers, and friends to be role models and as emotional support senders and consultants.

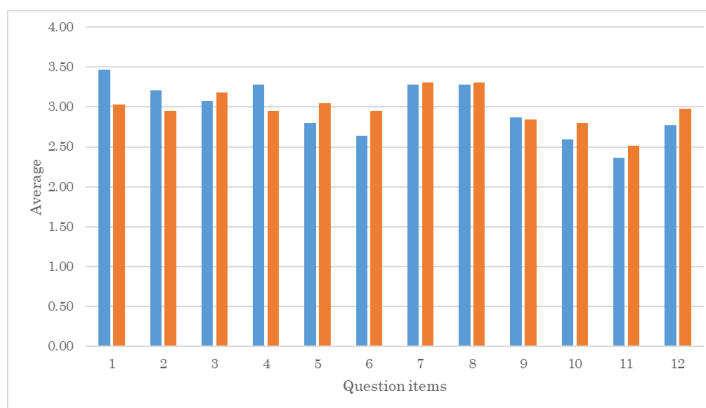


Fig. 2 Survey on resilience

In addition, Ishige (2010) emphasizes the importance of working hard at school through school and social activities, the value of open-minded consultation, and the effectiveness of imbibing positive learnings. He points out that it is necessary to set a model for yourself, and for adults to show it to children. In other words, there is an opportunity to increase resilience during school education, and thinking of ways to deal effectively with daily activities with the people around will lead to an increase in resilience.

The results of the second survey are as follows:

(4) A rubric for dialogue was created at the beginning of the unit (Table 4). Throughout the unit, more than 80% of the students were in stage 2 or higher. However, there were scenes in which the unit went down to the middle of the unit (Table 4). This researcher would like to consider this at the program and presentation stages.

Table 4 Changes in self-evaluation in rubrics of dialogue

	Stage 3	Stage 4	Stage 5
Program creation stage	42%	17%	25%
Announcement stage	68%	18%	0%
	46%	27%	9%

At the program creation stage, students were free to discuss their opinions to create an effective program and have a rich dialogue with their peers. Its appearance can be seen in the figures on stage 5. It is thought that trial and error is a factor that leads to a rich dialogue due to a variety of opinions (Figs. 3 and 4).

In addition, although some arrangements may not work well, they seemed to have deepened the students' thinking process. At the presentation stage, many of the groups stopped implementing the programs conceived by other groups, which seemed to have influenced the dialogue. How to increase physical strength greatly differs depending on gender, physical differences, physical strength, and other factors. Therefore, it is thought that focusing on that point and having time to talk led to a richer dialogue. Looking back at the dialogue stage, this researcher was able to see the students working on their own learning. In addition, teachers were able to see one particular quality and ability of the school as an objective index "the attitude to learn on their own." By creating a program with peers, this researcher was able to see first hand one of the defining qualities of the school, which is the "ability to collaborate."

An overview of resilience research in Europe and the United States suggests various methods for fostering resilience. It can be broadly classified into three types: "skill-oriented", "experience-oriented", and "environmental improvement" The skill-oriented type increases resilience by using various skills such as social skills and cognitive behavioral skills. The experience-oriented type is expected to have a longer-term effect than the skill-oriented type, and aims to foster resilience by learning through various experiences that are not simulated. As a lesson in health and physical education, deepening students' learning while giving them "real experience" will be a hint to foster resilience.

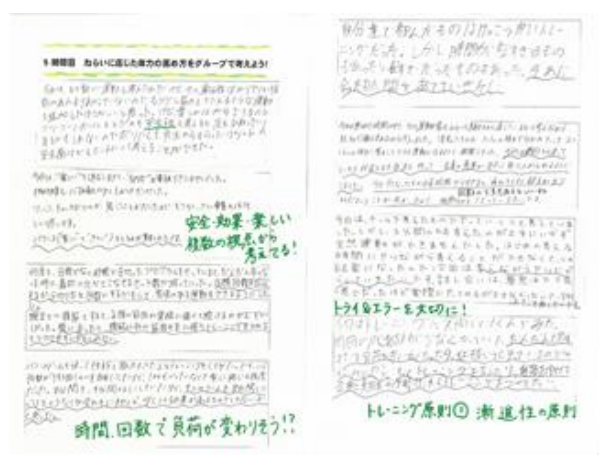
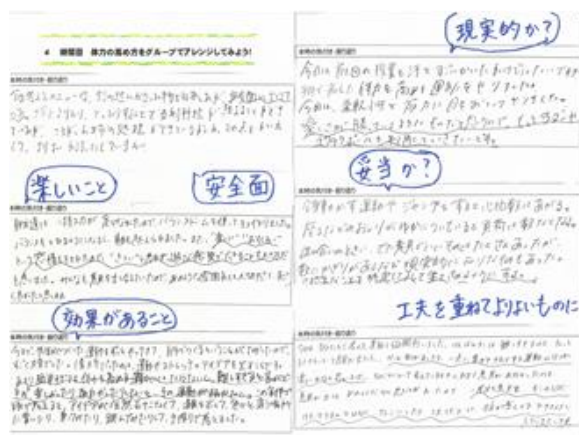


Figure 3 -Review of the program creation stage Figure 4 -Review of the program creation stage

4. Conclusion

This study revealed the following two points.

- (1) As a result of implementing “physical education theory” and “physical building movement” as a unit, it is possible to nurture the “ability to collaborate” and “the ability to think with multiple eyes” of “qualities and abilities” that can be acquired at school. It was suggested that this could be done.
- (2) By creating and sharing the rubric of the dialogue, this researcher was able to evaluate the

attitude of trying to learn by oneself as a quality and ability that can be acquired at school. However, it became clear that resilience did not change transiently. On the other hand, in the third grade of junior high school, the experience of arranging what one has chosen creates a rich dialogue and creates barriers to overcome. In other words, it is thought that overcoming the barrier in cooperation with friends may lead to increased resilience. This researcher would like to consider this point in future studies .

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