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Introducing Interdisciplinary Dialogue to the Required Subject for Graduate Students: Focusing on the Lesson Process and Evaluation

Introducing Interdisciplinary Dialogue to the Required Subject for Graduate Students:

Focusing on the Lesson Process and Evaluation

Taketoshi GOTO

（Associate Professor, Graduate School of Education, Tohoku University）

Yoshifumi KUDO

（Professor, Graduate School of Education, Tohoku University）

Abstract

Our graduate school of education has newly established the required subject for graduate students, referred to as "Edu-fair/fare Mind." In this subject, we designed a lesson that introduced dialogue among students in different research fields and asked them to think about a fair and inclusive society from diverse viewpoints. In this paper, we explain the basic ideas and viewpoints in designing this subject, outline the lesson process, and analyze lesson evaluations and self-evaluations of students. As the results of analysis, we found the following: (1) Positive evaluation was dominated by both evaluation on the lesson and self-evaluation; (2) Especially in the evaluation of the lesson, the diversity of the contents to be provided and group composition was highly appreciated; (3) There was a strong relationship between goal achievement degree and directionality to "research beyond the specialized field"; and (4) There was a strong relationship between goal achievement degree and the evaluation of "the purpose of the lesson," "being a compulsory subject," and "a discussion-centered lesson."

I. Introduction

Our graduate school of education has newly established the required subject for graduate students, referred to as "Edu-fair/fare Mind." "Edu-fair/fare" is a neologism created by combining the phrases "education for fairness" and "education for welfare." This reflects the philosophy of organizational integration demonstrated in 2018 between the Graduate School of Education and Graduate School of Informatics at Tohoku University. We hope to create a fair and inclusive society by developing this state of mind in students. To achieve this purpose, we designed lessons that introduced dialogue among students in different research fields and asked them to think

about a fair and inclusive society from diverse viewpoints.

"Edu-fair/fare Mind" is the first-quarter subject, consisting of eight lessons (one credit). It is the required subject of the two-year Master program (First Term Program) and the elective of the three-year Doctoral program (Second Term Program). The first two lessons are lectures on research ethics, and the other six are workshop-style lessons in which students are asked to talk about themes related to "Edu-fair/fare Mind." Themes are different in every lesson. Six teachers in our graduate school have selected themes based on their research field but related to fairness and welfare. Students are asked to read articles selected by teachers before each lesson and to write their thoughts and questions on worksheets as assignments.

As for the process of the lesson, it is divided into three parts. The first part is a lecture on the article by the teacher in charge of the lesson (about 30 minutes). The second is discussion time for students, who split up into small groups of 4–5 members. They share their thoughts and questions with group members and discuss the question presented by the teacher (about 30–40 minutes). The third part is a session for sharing the topics discussed in the small groups with all participants and the time for comments from the teacher (about 20–30 minutes). Lessons are led by the facilitator, who controls all the processes of each lesson.

In the first year this lesson was presented, one of the authors of this paper acted as facilitator. We therefore explain the basic ideas and viewpoints in designing this subject (Chapter 2) and outline the lesson process (Chapter 3). We then present the results of analysis of the lesson evaluations from students and their self-evaluations (Chapter 4).

With respect to the allocation of writing, Chapters 1–3 were written by Goto, and Chapter 4 and consideration were written by Kudo.

II. Basic Ideas and Viewpoints

Two basic ideas informed the design of the lesson process of the subject "Edu-fair/fare Mind." The first involved getting away from the "chalk talk" style. Normally, in lecture-style lessons, students rarely state their opinions or ask teachers questions. However, when talking to students directly after lessons, I often feel that they have good opinions and thoughts in terms of the content of lesson. Although they have good opinions, they don't speak up, probably because they think their opinions aren't relevant. As a facilitator of this lesson, can I make lessons more interactive, so that students express their opinions and thoughts? And through this interaction, can I help students learn the themes related to the subject in depth? With these questions in mind, I decided to get away from the "chalk talk" style and introduce dialogue among students into the lesson.

The second is to examine the theory and viewpoints that facilitators use in designing

workshops. In my other lessons, I have tried to make it easier for students to understand lessons by giving questions that anyone can easily answer (such as questioning their own experiences) and taking time to dialogue in small groups. For example, rather than explaining the conditions of good lessons directly, I sometimes ask students about the most impressive lesson they have attended, make them share the experiences in a small group, and then move on to the explanation. This lesson process method is effective when the main purpose is to have them understand the content we have prepared beforehand. However, how can I develop lessons that consist mainly of student dialogue, not the teacher's explanations? How can I create a lesson in which participants' experiences, emotions, and thoughts are shared openly and effectively as learning materials? Thinking of these questions, I decided to examine the viewpoints of program design as follows.

I mainly considered two viewpoints in designing this subject. The first viewpoint is related to the lesson structure. According to Hori and Karube (2010), one should consider the combination of "lecture," "workshop," and "reflection" appropriately according to the lesson purpose and participants' characteristics, to develop effective lessons. Specifically, there are three combinations (see Figure 1). The first is LWR style (Lecture → Workshop → Reflection), which is useful when the purpose of the lesson is for participants to gain knowledge and understand lesson themes. The second is WRL style (Workshop → Reflection → Lecture), which is effective for participants to understand difficult themes not closely related to everyday life. The third is RLW style (Reflection → Lecture → Workshop), which is effective when there are many participants with different experiences of lesson themes (Hori & Karube 2010, pp. 56–60).
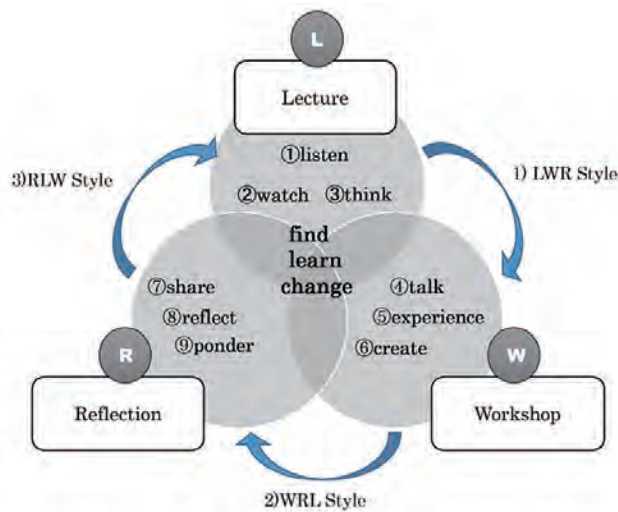

Figure 1. Combination of "Lecture," "Workshop," and "Reflection"
(Source: Hori and Karube 2010, p. 30. translated by author)

In the case of "Edu-fair/fare Mind," I organized the lesson process based on the LWR process. The lesson begins with the teacher's explanation for the articles chosen. This is the "Lecture" process. The next is the "Workshop" process, during which students are required to dialogue in small groups. During the process of "Reflection," some students are required to explain the results of their dialogue in front of all the participants, while the teacher provides comments at the end of the lesson. All students are required to write a report based on the dialogue after the lesson.

The second viewpoint involves the rationale for organizing groups during "Edu-fair/fare Mind" lessons. Nakano and Mitaji (2016) presented the checkpoints of group work as in Table 1. These checkpoints are reasonable because they show that just doing group work is not effective; it must be strongly related to the lesson purpose, group composition, and outcome. I organized group work in this lesson on this basis. Table 2 shows how the checkpoints reflected on this lesson.

Table 1. Checkpoints of group work
(Source: Nakano & Mitaji 2016, p.15, translated by author)

1) What is the position of group work in the whole lesson?
2) What is the purpose of the group work?
3) How do you set a theme for discussion to meet the purpose?
4) How many group sizes are in accordance with that purpose?
5) How do you decide group members?
6) How much time do you spend on group work?
7) Is the outcome clear when the group work is completed?

Table 2. How did the checkpoints reflect on this lesson?

Checkpoints (Hori & Mitaji 2016)	In this lesson
1) What is the position of group work in the whole lesson?	1) Share results of homework (students who haven't done homework cannot participate enough in the dialogue.)
2) What is the purpose of the group work?	2) Listen to various opinions, expand their knowledge, and collect materials for writing the report.
3) How do you set a theme for discussion to meet the purpose?	3) Ask teachers in charge of the lesson to present articles (assignments) related to a "fair and inclusive society" that prompt students' thinking.
4) How many group sizes are in accordance with that purpose?	4) Form groups of four to five members, which makes it easy to listen to each other.
5) How do you decide group members?	5) Group students from different research fields, and post them on the roster in advance.
6) How much time do you spend on group work?	6) About 40 minutes.
7) Is the outcome clear when the group work is completed?	7) A report is due after each lesson, which students can't produce if they don't join in dialogue.

III. Outline of the Lesson

As for the participants, there were 52 master's course students and some doctoral students (16 foreign students and nine doctoral students). They were divided into 12 groups, consisting of a diversity of students in terms of research field, grade (first-year students or doctoral), and their background (regular students or foreign). Research fields were considered based on the courses of our graduate school of education (see Table 3). Article titles presented by teachers are listed in Table 4.

Before the lesson, teachers had to select articles in their specialty field related to a "fair and inclusive society" and distribute articles in advance via the Internet. Students were required to read the articles in advance and fill in the necessary items on the "Worksheet for Dialogue" shown in Figure 2, including the three items titled "Impressions," "Empathy," and "Question." They were required to print out and bring this sheet to lessons.

Table 3. Courses of the Graduate School of Education, Tohoku University and number of students

Division	Research courses	Number of students*	
		M	D
Educational Science	Science of Lifelong Education	5	5
	Education Policy and Social Analysis	5	1
	Global Education	1	0
	Educational Informatics and Innovative Assessment	16	1
	Educational Psychology	3	0
	Clinical Psychology	13	2
	Total	43	9

*M: Master course students / D: Doctoral students

Table 4. Article titles presented by teachers

Teachers	Article titles (including materials)
A	"Cultural anthropologists get sick in the field."
B	"Is it a 'fair and impartial' test when the same test is executed at the same time?"
C	"Ethical issues in fieldwork."
D	"How did German schools build relationships with the state?"
E	1."International Classification of Functioning, Disability, and Health" 2. "Survey results of students who need special educational support with potential developmental disabilities, who are enrolled in regular classes"
F	"In cases of hikikomori, the psychosocial process from the stage of initial recontact with society to the decision to find a job."

Figure 2. Example of "Worksheet for Dialogue"

The lesson process was divided into three parts. The first part was the teachers' lecture on the articles. The allotted time was about 30 minutes.

The second part was a dialogue session controlled by a facilitator. The allotted time was 30–40 minutes. Based on the "Worksheet for Dialogue," students were required to present their "impression," "empathy," and "question," written on the sheet within their group. Afterward, they dialogued freely on the main theme of the lesson. The student secretary recorded the topics discussed in the group on the "Record Sheet." An example of the record sheet is shown in Figure 3.
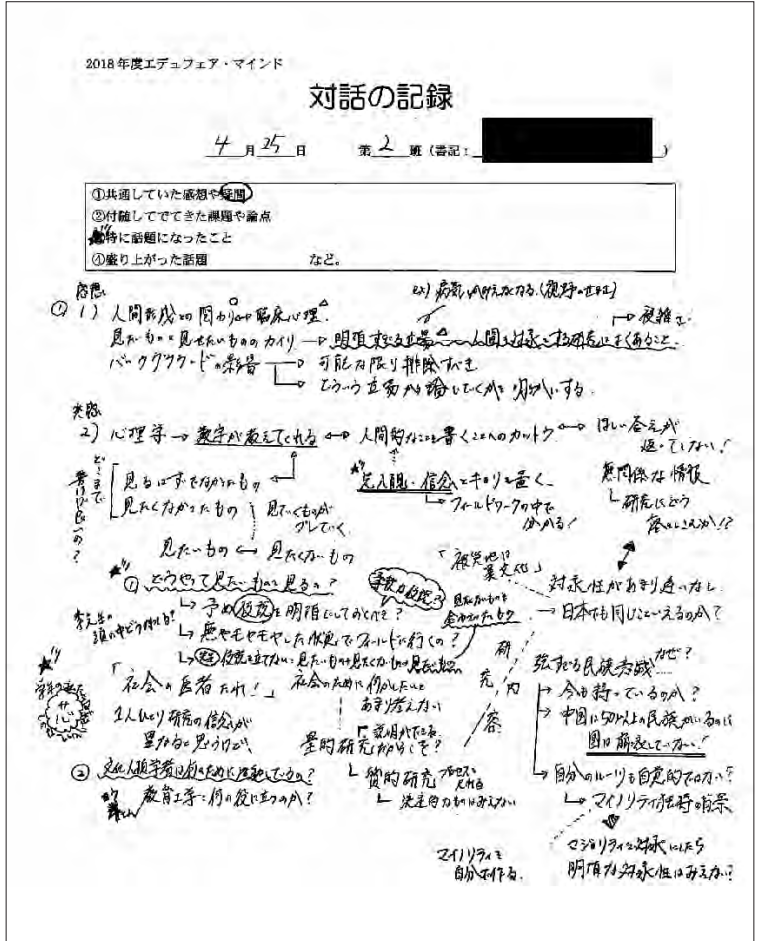
Figure 3. Example of "Record Sheet"

The third part was a session for all participants to share the topics and questions discussed in each group. Students presented the results of dialogue in front of participants, while teachers made impromptu comments. The allotted time was about 20 minutes. Before closing the lesson, the facilitator recommended to take a picture of the group record sheets, as the theme of the report was "What did you feel and think during the dialogue?" every week. Students were required to write and submit the report within two weeks via the Internet. We designed this assignment so that they could use the record of their dialogue as the material for writing the report, based on checkpoint No. 7 listed above.

IV. Analysis of the Lesson Evaluation from Students and their Self-Evaluation
Method

After all lectures were finished, all students were asked to cooperate in a questionnaire survey via the Internet. Survey items were composed of six questions concerning the evaluation of the lesson (Q1) and five questions on self-assessment (Q2). In Q1, students were asked to evaluate the appropriateness of the characteristics of the lesson. In Q2, they were asked to rate their achievement of the goals of the lesson. The question items are as shown in Table 5.

Table 5. Question items for evaluation by students

Q1: How do you rate the characteristics of this lesson shown below?
1: the purpose of this lesson, nurturing an "Edu-fair/fare Mind" (fostering a mind that contributes to the creation of a fair and inclusive society)
2: a compulsory subject for all research courses
3: lectures by faculty in various fields
4: discussion-centered lessons
5: the grouping of students from different courses
6: discussion in a mixed group of social workers and students studying abroad

Q2: To what extent were you able to achieve the goals of this lesson shown below?
1: understanding the necessity of an Edu-fair/fare Mind
2: hoping to continue with an Edu-fair/fare Mind in future research and educational activities
3: being able to acquire a wide range of perspectives through discussions with students from other disciplines / areas
4: developing the ability to communicate with others who do not have common knowledge through discussions with students from other fields / areas
5: hoping to conduct research beyond your field with students in other fields / areas

Results
1. Participants

A total of 46 students took part in the survey. Among them, 38 students, except for six who took part in this lesson via the Internet and two who were judged to have inappropriately answered, were the targets of the analysis.

2. Evaluation of the lessons

Table 6 shows the number of students and percentage for each grade value in each question of Q1. The percentage of respondents who answered "very appropriate" or "appropriate" was more than 80% on all question items except Q1-2. Focusing on the rating "very appropriate," the proportion was high in Q1-3, Q1-5, and Q1-6, indicating that a high evaluation was given to the content of the lesson and the diversity of the form.

3. Self-Evaluation

Table 7 shows the number of students and the percentage for each grade value in each question of Q2. The percentage who answered "very good" or "good" was more than 80% for all items except Q2-5. However, when paying attention to only "very good," the ratio remained at the 20–30% level.

4. Relationship between goal achievement and evaluation

Among the questions on self-evaluation, it was assumed that Q 2-1 and Q2-2 were most relevant to educational goals. Therefore, the group that answered "very good" to either or both of these questions was extracted as a "goal achievement group" (n = 12). Furthermore, the group that answered "good" to both these questions was extracted as "quasi-goal achievement group" (n = 22). Was there a difference in the answers to the other questions between these two groups? Figure 4 shows the relationship between goal achievement and self-evaluation. In Q2-5, the difference in responses by goal achievement degree was relatively large, and students in the goal achievement group tended to strongly think that they would like to conduct research beyond their specialized field. Figures 5 and 6 also showed the relationship between goal achievement and evaluation of the lesson. Q1-1, Q1-2, and Q1-4 showed relatively high relevance to the goal achievement level. In these items, a more positive evaluation was obtained in the goal achievement group.

Table 6. Number of students per rating for questions about evaluation of the lesson

Question items	Very appropriate	Appropriate	Not very appropriate	Not appropriate	No response
Q1-1 the purpose of this lesson	10(26.3)	26(68.4)	1(2.6)	0(0)	1(2.6)
Q1-2 a compulsory subject for all research courses	9(23.7)	21(55.3)	6(15.8)	1(2.6)	1(2.6)
Q1-3 lectures by faculty in various fields	20(52.6)	16(42.1)	0(0)	1(2.6)	1(2.6)
Q1-4 a discussion-centered lesson	15(39.5)	18(47.4)	3(7.9)	0(0)	2(5.3)
Q1-5 grouping of students from different courses	22(57.9)	14(36.8)	0(0)	0(0)	2(5.3)
Q1-6 a discussion in a mixed group	16(42.1)	17(44.7)	2(5.3)	1(2.6)	2(5.3)

Note. Numbers in parentheses are percent

Table 7. Number of students per rating for questions about self-assessment

| Question items	Very good	Good	Not so good	not good	No response
Q2-1 understanding the necessity of an "Edu-fair/fare Mind"	9(23.7)	27(71.1)	0(0)	1(2.6)	1(2.6)
Q2-2 motivation to maintain an "Edu-fair/fare Mind"	10(26.3)	24(63.2)	2(5.3)	1(2.6)	1(2.6)
Q2-3 acquiring a wide range of perspectives	15(39.5)	17(44.7)	5(13.2)	0(0)	1(2.6)
Q2-4 developing the ability to communicate with others	8(21.1)	26(68.4)	2(5.3)	1(2.6)	1(2.6)
Q2-5 hoping to conduct research beyond your field	8(21.1)	19(50.0)	10(26.3)	0(0)	1(2.6)

Note. Numbers in parentheses are percent
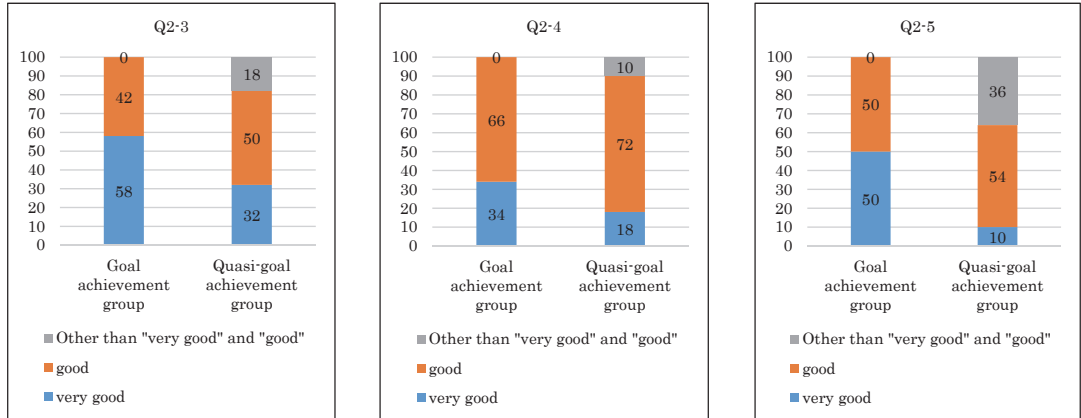
Figure 4. Relationship between goal achievement and self-assessment
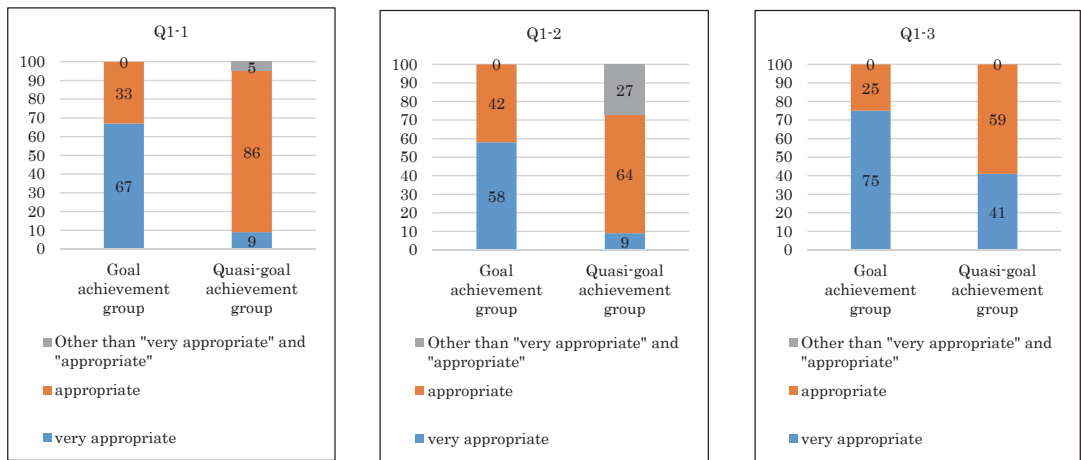

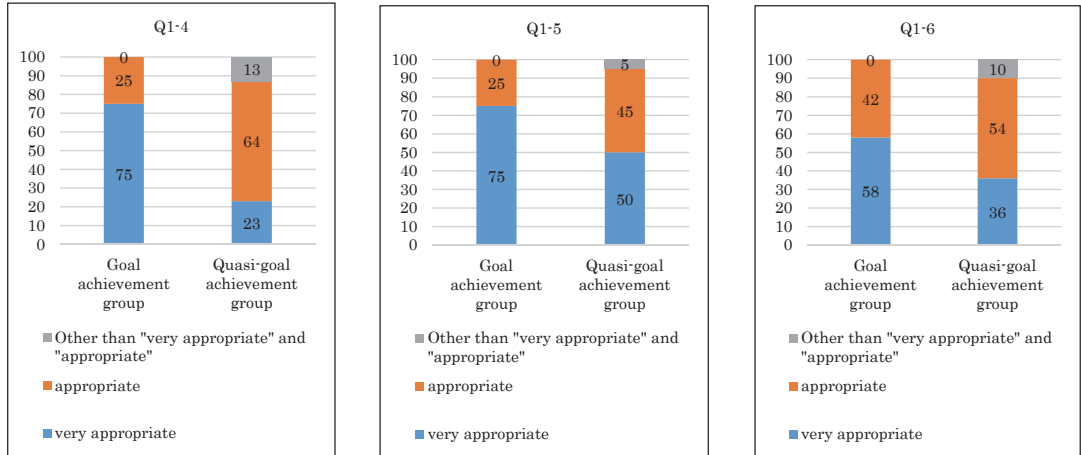Figure 5. Relationship between goal achievement and evaluation of the lesson (1)

Figure 6. Relationship between goal achievement and evaluation of the lesson (2)

Discussion

The results of the questionnaire survey are summarized as follows.

1. Positive evaluation was dominated by both evaluation of the lesson and self-evaluation.
2. Especially in the evaluation of the lesson, the contents provided and the diversity of group composition was highly appreciated.
3. There was a relatively strong relationship between goal achievement degree and directionality to "research beyond the specialized field." This result is particularly interesting, as this item has a relatively large number of responses stating "not so good" in the self-evaluation item.
4. There was a relatively strong relationship between goal achievement degree and the evaluation of "the purpose of the lesson," "being a compulsory subject," and "a discussion-centered lesson."

Among them, result 2 suggests that even graduate students emphasize the provision of knowledge different from their own specialty and the exchange of opinions between students of different specialties and backgrounds. It is necessary to further examine the significance of lessons beyond specialized fields in graduate school education. In addition, results 3 and 4 pointed out that students with relatively high goal achievement levels had strong directivity toward research beyond the specialized field and understood the purpose of this lesson more. Of course, we must be cautious about estimating the causal relationships behind these results. Students who were originally interested in going beyond boundaries of specialized fields might especially appreciate this lesson. However, it is possible that the students' view of the research expanded based on a good understanding of the significance of an "Edu-fair/fare mind" in this lesson. This is a matter to be further pursued from the perspective of the significance of cross-cutting lessons in graduate schools.

References

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