

Characteristics and Challenges of Lesson Study and Lesson Analysis of Learning Group Formation (Gakushu Shudan Zukuri)

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Abstract: This paper aims to discuss characteristics and challenges of Learning Group Formation (LGF)(Gakushu Shudan Zukuri). The fact that there has been no good summary of LGF theory and research practice in English, this paper describes how the theoretical framework of the LGF has been founded, specifically with corresponding with practical problematic situations of teaching and schools. In the end, we will show the characteristics and challenges of lesson study and lesson analysis of LGF citing a specific example of lesson analysis to indicate how they have been approached from four perspectives.

Key words: *Jugyo Kenkyu*, Lesson Study, Learning Group Formation

1. The *Jugyo Kenkyu* of Learning Group Formation(LGF) towards developing democratic lessons

After the end of World War II, the Japanese educational system took a major turn towards democratic principles. This was based on the painful remorse of sending many of their students to war in accordance with militarism before and during the war and aimed to rebuild education through democracy. In the Report of the United States Education Mission to Japan, which set the tone for postwar educational reform in Japan, democracy was described as follows: 'Democracy is not a cult but a convenient means through which the emancipated energies of men may be allowed to display themselves in [the] utmost variety. Democracy is best conceived not as a remote goal, however radiant, but as the pervasive spirit of every present freedom' (Education Mission to Japan 1946, p.5). As stated here, democracy is not a noble educational idea, but a reality that must constantly and tirelessly renew itself.

Even though we understand the nature of such a democracy, it is extremely difficult to try to specify it in the context of educational practice. This is because education is an activity of presenting specific 'values' to children. Therefore, the seemingly natural demand to teach democracy is contradicted by the fact that although democracy is acquired through constant effort, it must be taught as a specific value.

The characteristics of the *Jugyo Kenkyu*¹ movement can be found in the fact that it tried to '*Aufheben*' the contradictions in education through a 'scientific movement'. In the postwar period, *Jugyo Kenkyu* was conducted at grassroots level in various parts of Japan and, in the 1960s, was organised and became a major 'movement'. Hitoshi Yoshimoto, one of the leaders of the *Jugyo Kenkyu* movement, quoted, '...a sentence I saw somewhere in Germany' at the end of his book *To Teach in the Classroom*:

'Science will not die, nor will movements, science exists only when a movement exists' (Yoshimoto 1979, p. 193). Education does not enlighten people about democracy as a self-righteous value. Rather, it is grounded in the idea that democracy is supported by 'science' on the one hand, and that it is because of scientific correctness that we can and must engage in a 'movement' to realise democratic education. In other words, it is a movement for democratic education.

What was the nature of 'science' in the *Jugyo Kenkyu* 'movement' that put democracy at the forefront? It can be divided into the following three categories: The first is the scientification, that is, the modernisation of educational content, mainly led by private educational research organisations in various subjects. In the postwar new education, *Seikatsu Tangen Gakushu* (Life-Unit Learning) which takes children's lives as the starting point of learning, was actively pursued, but there was persistent criticism that the emphasis on children's lives did not allow for basic learning of subjects. Against the backdrop of such criticism, for example, the association of mathematical instruction, led by Hiraku Toyama, was established with the aim of creating a new mathematics education to replace Life-Unit Learning. Instead of the traditional simplistic system of numbers in the prewar period, Toyama introduced a unique calculation system called the 'waterworks method', which grounded the system on the concept of quantity. The second is the scientification of *Jugyo Kenkyu*. The Polish pedagogue Okon's *The Teaching Process*, translated into Japanese in 1959, introduced the use of tape recorders in the classroom to create highly objective transcripts. In Japan, with the release of cartridge-type compact cassettes in the 1960s and the easy availability of tape recorders, it became common practice to bring a tape recorder into the classroom to transcribe the lesson. With the development of such equipment, it has become possible to accurately reproduce the teaching process. This made it possible to examine the teaching-learning process as an object of study. It also made it possible to see the study of the lesson itself as a science to discover the factors in the establishment and regularity of lessons. The five universities that led the *Jugyo Kenkyu* movement used different approaches to create democratic lessons under the banner of unifying science and the movement (Yoshida et al. 2018).

Among the five universities, Hiroshima University, the subject of this paper, is known for its active efforts in *Jugyo Kenkyu* which focuses on the group in the lesson. Since the details will be discussed, the position of Hiroshima University in the *Jugyo Kenkyu* 'movement' and its expansion are briefly explained.

First, Hiroshima University focused on the group formation process in the lessons. However, among the Japanese educational academicians who were strongly influenced by postwar Soviet pedagogy, the focus on the group itself was not unique. The characteristics of Hiroshima University were more precise as its focus on the group process of teaching was from the standpoint of German didactics. In relation to this didactical interest, Yoshimoto described the following: 'My interest in the theory of teaching is neither in the analysis of an hour-long lesson, nor in the "fact-finding investigation" on children in a certain class. Rather, I am interested in clarifying how a good practice of lesson can be developed [and] what is going on during that lesson. Through these inquiries, I shall continue to advance the children's upper limit, even [only] by one or two steps. Apart from this, I believe that there is no theory of teaching, nor should there be.' (Yoshimoto 1979, p. 192–193). Thus, instead of analytical research and the development of teaching materials, there was an increasing orientation towards the development of 'the guiding theories (*Lehre*)' for the practice of group formation. Here 'formation' becomes a crucial matter, namely, how to create and transform the quality of groups. Science and democracy were conceived as fundamental cores for the 'guiding' theories of group formation. In other words, the movement was convinced that democratic classroom teaching was scientifically oriented towards universal values of humanity and innovative because it was science, hence the proposed rules of teaching could be constantly criticised and reformed.

Hitoshi Yoshimoto, who proposed the guiding theory for the practice of group formation, developed his theory of 'learning group' through communication with practitioners who shared and

agreed with his theory. This development can be traced to three aspects. The first is that Yoshimoto himself, along with other practitioners who learned about group building from his writings, conducted *Jugyo Kenkyu*, published many books about their results and also edited several journals about the learning group. As a result, the practical process of group formation and the main points of group formation were shared nationwide, which led to wide distribution (Yoshimoto & Mori Elementary School 1966; Yoshimoto 1974–84). Second, the teachers who worked with Yoshimoto established independent research circles in various parts of Japan and developed their own classroom practices for group formation. The circles published records of their practices and the results of their research in books while interacting with each other and with Yoshimoto (Koga 1981). Finally, because Yoshimoto held a professorship in the Laboratory of Educational Methodology at Hiroshima University, many researchers were nurtured under him. In addition, those disciples taught the theory and practice of group formation in university training courses, which led to the development of teachers who learned about group formation (Toyoda 2001)².

2. Building a theory of Learning Group Formation(LGF) when facing a practical situation

2-1. From practical issues to theoretical demands

Hitoshi Yoshimoto, who led the way in creating lessons for learning groups, mentioned two issues in his writing in *Exploring the lesson* (1965) explaining the reason why he initiated *Jugyo Kenkyu*.

The first issue deals with the fundamental idea of his didactical/educational thoughts: a dualistic understanding of LGF, which organises relationships among children in the classroom, and *academic learning*, which seeks to develop cognition. The ground theory of Yoshimoto's didactics calls for the dialectic of cognitive and collective processes in which students recognise learning contents and methods together with other students. For Yoshimoto, who sees the lesson as both a cognitive and collective process, learning group formation and academic learning in the classroom must be grasped in a unified way, and 'the classroom must be organized into a group system for the activity of acquiring a systematic heritage of science and culture' (Yoshimoto 1965, p. 125).

The second is the task of establishing modern teaching methods. In this regard, he wrote as follows: 'The purpose of the lesson, in short, is to develop a "living" concept (concepts buried in daily lives) into a "scientific" concept in a transformative way. To enhance "intuitive" perceptions and "living" understandings to "scientific" concepts, it is necessary to have a *schema* or category of thoughts that can extract and recognize only the essential elements from the miscellaneous parts that are intuitively understood. This kind of special training is indeed a task unique to school education' (ibid., p. 127). For this reason, it is necessary to 'analyze the actual process of teaching and to grasp the path of development of children's thinking and the structure of their thinking as lawfully as possible' (ibid., p. 128).

For these reasons, Yoshimoto engaged in *Jugyo Kenkyu* in the learning group to achieve cognitive and collective processes simultaneously. Regarding these points, in particular the first, it must also be mentioned that the inquiry process of LGF in the classroom by Yoshimoto maintained enthusiastic concern about the actual insights on the reality of school education and the actual state of children, which resulted in another slogan of the unification of theory and practice. Yoshimoto stated 'it [unification of cognitive and collective process based on the guiding theories for learning group formation] is not just a theoretical requirement, but also a practical issue that is desperately needed in the current situation of school education surrounding children today. Under the intensifying examination system, friendly groups of children are disintegrating without a trace, and the cohorts in a classroom are severely discriminating against each other and experiencing truly hostile relationships' (Yoshimoto 1965, p. 128). Consequently, the theoretical demands for both the unified realisation of LGF

and academic learning and its scientific understanding meant for Yoshimoto a practical task of LGF 'to rebuild the classroom dominated by division and discrimination into a learning group filled with cooperation and unity' (ibid., p. 126). Yoshimoto's thought pattern of developing theoretical demands based on practical situations crystallised into his determination to stay 'between dictionary (theory) and tape recorder (practice)'.

2-2. Mori Elementary School as a prototype of classroom development for learning groups

In this section, we will examine practical issues in the case of the learning group-based *Jugyo Kenkyu* in its earlier period. One of the classic works on LGF is *Fostering an Attitude to Think in a group* (1966). This book was co-authored by Yoshimoto and Mori Elementary School in Hiroshima. In the foreword, it is written that 'to tell the truth, we have never had any firm theories or ideas, but have just practiced what we thought was right and then theorised about it. In that sense, what we have published so far is always a record of stumbling blocks in practice...' (Yoshimoto & Mori Elementary School 1966, p. 3). It is noteworthy that the theory of developing lessons for learning groups was not applied to the School practices, but rather this theory was created through the joint efforts of the researcher and the school.

The book describes a situation of 'learning alienation – children who do not think, do not work, and do not hold hands' at Mori Elementary School. As for the children, for instance, there are 'children who do not speak up', 'keep quiet even when there is unreasonableness or disadvantage in what the teacher says or does, and who do not complain [about] anything that they do not agree with or have questions about'; 'honour students' who 'try to make themselves better even if they have to put others down' (ibid., pp. 16-17). In this regard, Yoshimoto pointed out that, despite the rich environment, teachers and children do not participate in creating this environment on their own, which the authors perceived as 'equipment and environment that are not vitalised' (ibid., p. 27). As for parents, the book describes parents who tacitly approve of a feudalistic society and discrimination without realising the irrationality of traditions and customs (ibid., p. 30). In addition, 'teachers who do not like *Jugyo Kenkyu*' feel uncomfortable showing their classes to others and thus are also depicted as being in a situation of learning alienation (ibid., p. 32). Efforts to develop lessons for learning groups at Mori Elementary School have emerged as a response to such problematic situations not only of the children and teachers but also the community and parents.

In response to the 'learning alienation' situation, Mori Elementary School was engaged in developing a learning group-based lesson where children actively participate in lessons and mutually enhance each other. To achieve this, specific educational methods, such as the organisation of group thinking and the establishment of a learning discipline, were pursued. These were concretised by analysis of the learning group structure through *Jugyo Kenkyu*.

2-3. Theoretical framework for classroom development of learning groups

The theory of LGF has been constructed as a response to the challenges of practical situations. The learning group recognises a lesson as a 'unification of *Toya* (*Bildung*: intellectual development) and *Kuniku* (*Erziehung*: character education). It is said that in the lesson 'the process of children acquiring and internalising cultural assets must always be structured as a process of new discovery and inquiry with a certain amount of surprise and excitement. The lesson must be a path to the discovery of truth, filled with surprises and impressions, and at the same time a departure to new questions' (Yoshimoto 1974, p. 13). What was intended by 'the "unification" of *Bildung* and *Erziehung*' was to avoid the dualistic separation of these two qualities in lessons: this idea rejects the separation of the process of intellectual and moral development, so the first half of the lesson is viewed as a process of *Bildung* (e.g., teach something to understand the content), and the second half a process of *Erziehung* (promote self-reflection for moral and character development). In other words, 'there is no "purely non-characteristic" lesson without any educational effects' (ibid., p. 226), and the task of developing a lesson for a learning

group is how to achieve the unified process of *Bildung* and *Erziehung* effectively and uniformly. It must be noted that the *Erziehung* process strongly resonates with group learning because morality and character are strongly connected to the problem of the state of students' poor communication with others. Therefore, there could be a simplistic formulation to promote understanding of Yoshimoto's idea by stating that teachers should promote students to think about something (*Bildung* / intellectual) by promoting arguments with classmates (*Erziehung* / moral=group) and vice versa.

Based on this concept of unification of the *Bildung* and *Erziehung* processes, the Yoshimoto School enabled the structure of the lesson. A lesson is 'on the one hand a process of grasping the essence of a subject and its problems, and a process of systematic and purposeful realisation of the structure of teaching materials, and on the other hand is a process of qualitative development or growth of the learning group. It is the moment that the "learning group" arises when these two processes are closely connected'. (ibid, p. 239). Therefore, lesson development for learning groups attempts to analyse the structure of lessons based on three aspects: the cognitive process oriented to *Bildung*, the collective process oriented to *Erziehung*, and the organisation of lessons by the teacher to effectively achieve mutual penetration of these two. The cognitive process involves analysing the structure and establishing a view of teaching materials, and studying the stumbling blocks in children's cognition, which involves analysing the relationship of mutual support dedicated to a collaborative exploration of truth, and the organisation of the class is from the perspective of how a teacher and students organise group thinking.

Using cognitive and collective processes and organisation of lessons³ as the theoretical framework, lesson development and *Jugyo Kenkyu* on learning groups have been cultivated. As Fukazawa (2018) states, 'learning group formation' is 'not a common noun describing a "group" organised for "learning," but a proper noun describing educational practice oriented to addressing the task of "formation" of a "group" towards "learning" that ensures the individual dignity and learning rights of each child in the lesson' (p. 4). Therefore, 'learning groups formation' implies 'key directions for education' that keeps several important concepts such as 'participation of all students' and 'responsive relationships' (cf., ibid., p.6).

The rationale mentioned above indicates that this concept of 'formation' motivated (and was motivated by) the 'movement' of learning group-based *Jugyo Kenkyu*. The results can also be seen in the creation of keywords⁴ to look at the facts of classroom practice. Since the early efforts at Mori Elementary School, the theoretical framework for developing learning groups has accumulated depth and width in its scope of subject through in-school training and private circles.

3. Four Perspectives of Lesson Analysis by Learning Group Formation(LGF)

Many core ideas were developed through productive communication between the dictionary and tape recorder. Placed at the very core, the unification of *Bildung* and *Erziehung* functioned as a theoretical framework to integrate these concepts into systematic research perspectives. This section describes four key perspectives which Yoshimoto, his disciples, and teachers developed through *Jugyo Kenkyu*, which are accustomed to both descriptive and prescriptive use in *Jugyo Kenkyu* and lesson analysis.

To note these four basic perspectives, the structure of teaching and learning must be organised. Yoshimoto considered didactics to be two relatively autonomous processes of teaching and learning. A lesson is a phenomenon in which two actors – teacher and learner – interact with each other in the medium of materials to be taught and learned, which are connected to collective and cognitive processes. Perspectives reflect this didactic structure consisting of *Hatsumon* (question for inquiry)⁵ and *Kyouizaikenkyu* (study of subject matter) in the aspect of teaching, and *Gakushu Kiritsu* (learning discipline) and *Shudan Shiko* (group thinking) in the aspect of learning. These four perspectives reflect

the state of both cognitive and collective processes.

First, the teaching process is primarily characterised as '*Hatsumon*' which the teacher asks the students. 'The teacher's questioning is intended to stimulate children's thinking and to organise learning activities in which they confront the material autonomously' (Toyoda 1999, p. 183). As suggested by this definition, in the questioning, attention is simultaneously paid to students' initiatives for cognitive process ('stimulate children's thinking') and collective process ('organize learning activities in which they confront the material autonomously'). In other words, observers focusing on teachers' questioning may express their interest in whether or not the teacher's actions generate deep and interactive learning among the students. While the act of teaching includes mere explanation and lecture, the act of questioning has been established as the analytical perspective of an action that strongly influences the independent learning process in terms of its nature to mediate two actors.

The composition of such questions presupposes a deep understanding of the educational content to be questioned. 'This is called *Kyouzaikenkyu*, studies of subject matter' or '*Kyouzaikaishaku*, interpretation of subject matter' defined as 'the work that teachers do before and during [the] lesson to discover the values they want children to learn from the materials and to think about how to teach them' (Aramaki 1999, p. 155). The teacher's research on teaching materials includes not only the process of preparing for the lesson before the specific teaching action in the class but also the act of responding to the students' thoughts in direct contact with them (specifically, whether the teacher is able to evaluate the children's statements that approach essential thoughts and raise them for discussion in the class)⁶. Regarding the tradition of learning group-based lesson development in Hiroshima, it is said that the depth of understanding of teaching materials is crucial to properly understand and respond to children's opinions. A lesson learned through *Jugyo Kenkyu* in Hiroshima showed that children's mistakes and misunderstandings that are ignored or corrected actually possess a great potential to reverse the superficial correct answers and deepen the insights on the content, and even to flip over the academic ability hierarchy among students. Thus, the ability to evaluate and determine the value of errors and mistakes plays an important role in both developmental and analytical interest by *Jugyo Kenkyu*.

The other two analytical perspectives focus on the learning process: learning discipline and group thinking. these are not directly targeted towards an analysis of learning content. Both are concerned with the individual and collective processes of 'how' they learn. Since the focus of the learning process is on the students, as opposed to the teachers, it is necessary to consider both the individual 'cognitive process' and the 'collective process'. The mode of student's cognitive process is called 'learning discipline'. *Gakushukiritsu* refers to 'the active awareness and independent action of individual children to participate in a community of learning based on social motivation for learning' (Sumino 1999, p.137). We are not interested in the achievement of learning, such as memorising calculation formulas or being able to solve all the exercises, but rather in *how* children describe formulas in their notebooks, how they organise notebooks for what purpose and use (e.g. use as memo of thoughts using the left side column for wonderments, as a learning history organising important ideas in red pens, etc.), and how they behave in the classroom, etc. In addition to notebooks, we will also focus on how children create various learning strategies. Speech is one of the most common forms of learning to be analysed. We focus on whether the students are able to express their own thoughts in the form of reasoning and rejection etc. These speech acts are viewed as students' competence to locate themselves within the discussion of the entire classroom. There is another common aspect under disciplined speech form, that is, argumentation by showing evidence from textbooks, experiments, or vivid experience. Students operate a certain kind of mode or form, which comes to be the target of observation in understanding the democratic pursuit of science.

It is also an important aspect of the learning discipline to 'participate in a community of learning' to

express one's own opinion while rebutting or supplementing someone else's, such as 'in addition to Mr. XX's opinion' or 'the same as Mr. XX, but for different reasons'. This aspect of deepening self-awareness along with the opinions of others is already part of the analytical perspective of the second point, '*Shudanshiko*'. This perspective is almost identical to the 'collective process' that seeks to understand how children relate to the opinions of others in a cognitive process, and how they deepen their own learning in their relationships with others. It is said that 'the more rigorously the cognitive process demands inference and verification, the more democratised the group relationships become', that is, the more candid criticism and confrontation with others are required (Iwagaki 1999, p. 32). A typical analysis of the collective process is the transformation of the unit of the learning group. When a learning task is presented, each individual first writes his or her thoughts in their own notebook. This is then presented to a small group, *Han*, to compare their answers and arguments with those of others. The results of the group discussion are then shared with the whole class, and the class as a whole will deepen the discussion through conflict and consensus. Learning discipline and group thinking are often closely linked. The movement of learning from individual to group thinking and to whole group thinking is itself a learning discipline, and when discussing with others in group thinking, a form of speech (learning discipline) is required to relate the opinions and arguments of others by using 'connectives'.

These four perspectives also clearly indicate that teaching and learning processes, which are independent of each other, are always interrelated: students cannot establish learning disciplines and rules immediately after the new academic year starts in April, but teachers must be engaged in fostering the growth of learning discipline, by advising, for example, 'Mr. XX is taking very good notes, let us see!'; 'Look! Ms. YY shares notes with group members, how impressive!'; 'Wow, I am so impressed with your attitude Ms. ZZ, you turn towards someone when they speak!'; 'Everyone, help us. Mr. AA (or group X) has a lot of trouble with this task, what advice would you give him (them)?' As such, the teacher spends the whole year to form and tirelessly reform the learning discipline to adapt to the conditions of the students. In addition to the relations between the learning process and teaching, the teaching process is also linked to the learning process: studies on subject matter and questions do not only examine the academic system of the subject matter but are also determined by the degree of children's comprehension, the progress of the lesson, children's favourite things, and the classroom culture. If the influence of the learning process is not considered, the study of subject matter and the structure of questions will be greatly misguided⁷.

These four analytical perspectives are seen as occurring in a single lesson. Nevertheless, it is not necessary to always consider these four aspects in the analysis, although it is necessary to make choices and devise perspectives in line with the research problem. *Jugyo Kenkyu* explores teaching and learning from the four perspectives of materials: research, questioning, learning discipline, and group thinking. These four perspectives are heuristically reorganised in the local situation of every lesson.

We would like to show an example of applying these four perspectives to a lesson. We analysed a math lesson of fifth graders in a Japanese elementary school that was considering the formula for the area of a trapezoid. The analytical perspectives were transformed into the questions which follow. It is understood that the following case is highly contextual, which increases the difficulty of grasping the whole picture of the lesson. The following explanation may not suffice to grasp the entire context.

Research on teaching materials: Are various approaches and repertoires of how to find the area of a trapezoid prepared (diversity of children's thinking)? The importance of worksheets was pointed out in the post conference of *Jugyo Kenkyu*: it was expected that the use of paper with trapezoids on it, with grid lines, would help children to think when cutting and moving trapezoids.

Question structure: Are all the students able to tackle the mathematical task of finding the area by presenting the task 'Let's draw a single auxiliary line'? From this learning task, are they able to approach the essential element of mathematical operations, 'Where is the best place to draw the auxiliary

line?’ (In this class, it was assumed that mathematical operations should be ‘quick, easy, accurate’ and the best mathematical operations was pursued in relation to this requirement for drawing the auxiliary line.)

Learning discipline: Are they referring to known shapes such as triangles and parallelograms, and are they using auxiliary lines to create such shapes? Does the student use trial and error to realise the benefit of ‘quick, easy, and accurate’ operations? Do they compare and critically evaluate other people’s trapezoidal quadratures? Do they use the board and supplementary lines as clues to guide their inquiry?

Group thinking: The teams each comprised three people (as the instructor thought it would be difficult to organise learning in a group of six). Do they have their own ideas and interact with other members of the team, do they develop their own ideas by relying on the opinions of others (because if they do not understand, they may just imitate without understanding), and are they able to develop their ideas into a group view (if there is a good word, use it, if not, develop it).

4. Envisioning Democratic Lesson Study based on *Jugyo Kenkyu* of Learning Group Formation(LGF)

The characteristics of learning group lesson development in the Hiroshima University Educational Methodology Laboratory can be summarised as follows: First, learning group lesson development is positioned in the Japanese *Jugyo Kenkyu* movement as that which is oriented towards democratic group formation. In this paper, we examined the ways in which learning group lesson development has raised the issue of how lesson analysis and development should be conducted in order to democratically enhance the capability of children in the classroom. The unique approach of *Jugyo Kenkyu* by Yoshimoto School, contrasted with other trends and schools in the Japanese educational movement which lie in the unification of *Bildung* and *Erziehung* with a focus on cognitive and collective processes of learning.

Second, the *Jugyo Kenkyu* movement, a developmental framework for lessons, was operated on the basis of highly academic research on teaching. Through the research findings of East and West German pedagogical studies, the academic structures on didactic processes were embodied, enriching their meaning and expanding their scope via intensive communication and practice towards a branch of pedagogical research that scientifically describes the laws of teaching and learning. In this regard, three issues raised by Yoshimoto are worth mentioning: (1) to view ‘lesson as a social practice’, (2) to form ‘all’ children as ‘learning subjects’, and (3) to develop ‘knowledge acquisition’ into ‘ways of thinking and living’ (Yoshimoto 1970, p. 21-26). The theoretical framework has already been critically examined over time to enable the perspectives of LGF to respond to paradigm shifts in the educational field. This renovation and re-examination have still been maintained: Fukazawa conceptualised the ‘philosophy of learning group formation’ into seven ‘policies of teaching’: (1) ‘participation of all students’ as an educational philosophy, (2) establishment of lesson as ‘responsive relationships’, (3) study on subject matters based on ‘academic research’, (4) development of questioning in accordance with research on ‘stumbling blocks’, (5) group thinking in relation to the use of ‘conjunctions’, (6) learning discipline so that every student can speak up when ‘I can’t do it’ or ‘I don’t understand’, and (7) guiding evaluation (a method of teaching by praising someone’s behaviour to promote the replication of such behaviour by all students) as a ‘desire for achievement and sharing’ (Fukazawa 2018, p. 6). One may find traces of four core perspectives in these seven ‘policies of teaching’. As such, learning group-based *Jugyo Kenkyu* is intensively engaged in reformulating the theoretical frameworks to proceed with both the research and practice of lessons.

Third, while the continuous self-renovation vitalises the practice of *Jugyo Kenkyu*, the fundamental structure, or the thought pattern of Yoshimoto School still attributes a dialectic structure. The dialectical way of thinking, which connects ‘and’, such as *Bildung* ‘and’ *Erziehung*, cognitive

process 'and' collective process, and teaching process 'and' learning process, is conceived as the pedagogical way of thinking that forms the basis for the development of lessons for learning groups (cf. Fukazawa 2021). This notion will further reflect on the recognition of relationships 'between teachers and children, materials and teachers, children and materials, and knowledge and skills.

Finally, we would like to reposition the Hiroshima learning group based on the tradition and variation of the *Jugyo Kenkyu* movements. They can be divided into the following three types: (Table 1).

Table 1: Three Types of *Jugyo Kenkyu*

Research 'of/on' lesson	classroom research, research on teaching
Research 'for' lesson	development and improvement of lessons by lesson study
Research 'by' lesson study	Professional Development (PD) of teachers as lesson study, curriculum design (for example, Wake & Seleznyov (2020) shows lesson study as action research), Community development and Community-based lesson study (Yoshida, Sugita, Kumai & Fukuda (2021) describes multiple stakeholders in lesson study)

Jugyo means lesson and *Kenkyu* means research, but there are various approaches and beliefs in this field that could possibly be arranged by the collocation 'of/on', 'for', and 'by'. The first, research of/on lessons, merely deals with academic purpose that is dedicated to pursuing the law of phenomena in lessons. Utilising sociological or psychological methodologies, this type may provide a firm base for the development of research in the second and third types. Second, research on lessons aims to improve the lesson itself. This type could be understood as a lesson study recognised around the world. Third, research by lesson study also deals with some developmental research interest, but specifically, this type is oriented towards improving teacher professional development and curriculum through class research. Our future task is to make theoretical and practical contributions to all three types of *Jugyo Kenkyu* through the theoretical and practical development of lessons for learning groups.

Notes

- ¹ Since the Meiji era (1868-1912), there has been a tradition of "*Jugyo Kenkyu*," in which multiple people carefully study a single lesson case, and use the clarified facts of the lesson to improve teacher professionalism and children's learning. In relation to this background, there are some ways of describing "*Jugyo Kenkyu*", such as "*Jugyou Kenkyuu*", but in this paper, we will use the term "*Jugyo Kenkyu*".
- ² It is also true that after Yoshimoto passed away in 1996, the following evaluation of group formation of Hiroshima University was made: "As one of the trends since 1970, class development based on the 'learning group theory' with Hitoshi Yoshimoto as the leader cannot be overlooked, but it has now lost its theoretical leader" (Abiko 2009, p. 13). Although it is not a direct response to this issue, the Journal of LGF is published regularly by the Laboratory of Educational Methodology, Hiroshima University, as a work that shows the continuation of learning group research even today (Fukazawa & Yoshida 2016).
- ³ The reason for mentioning the organization of classes here is that, as mentioned earlier, Yoshimoto's task was to establish a modern teaching science by taking a scientific view of lessons.
- ⁴ Cf. Yoshimoto 1986.
- ⁵ The pedagogical function of the act of questioning has been developed in close connection with the theory of pointing, and the work of Giel, a pupil of Bollnow, with whom Hitoshi Yoshimoto studied, is well known to Yoshimoto, and has long been mentioned as a key word in pedagogy. Later, in German pedagogy, Prange, who is a descendant of Giel, mainly investigated the pedagogical meaning of *Zeigen*, and it has been widely referred to since then.
- ⁶ The importance of *Kyozaikenkyu* has also been raised by Yoshida in the context of Lesson Study (EVRI (ed.) 2021). Especially, lesson study in the context of Curriculum Research and Development, *Kyozaikenkyu* is discussed as more important perspective (Kim 2021, pp.9-28, esp. 15-16, 21-22).
- ⁷ In particular, there are three main types of *Hatsumon*: analogy, limitation, and shaking. But these questions are often considered separately from the learning task presented at the beginning of the class, and in this respect, *Hatsumon* is more interactive with the learning process.

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