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<https://doi.org/10.15017/4736685>

出版情報 : 言語文化論究. 47, pp.65-76, 2021-10-31. 九州大学大学院言語文化研究院
バージョン :
権利関係 :

Multigrade teaching before the modern school systems in Japan:

A case of Kangien in the 19th century

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1. Introduction

Sustainable Development Goals (SDGs) were set in 2015 and one of them addresses the quality education for all. In order to achieve it, one of the most significant remaining issues is to provide the quality education especially for the most disadvantaged groups including the poor, rural communities, ethnic minorities, and girls.

In remote areas where these groups are living, primary schools are often organised as multigrade schools. Multigrade schools, in which teachers are responsible for two or more grades simultaneously during one lesson period, are often in remote areas, because there is no other way for children to gain access to other schools (Berry, 2001). Despite its significance, multigrade teaching has been often neglected and treated as the second-best choice (Suzuki, 2004). Multigrade teaching is often overlooked in the research agenda, teacher training, curriculum, assessment, scholarships, teachers' guides and information networks (Little, 2001).

This is partly because a monograde system is currently dominant in the modern schooling systems all over the world. Monograde teaching dominates the basis of school and class organisation, as well as curriculum structures in many education systems (Little, 1995, 2001). Educational administrators believe that multigrade teaching is a 'temporary aberration' (Berry, 2001). Thus very little attention is given to multigrade schools (Wright, 2000). The apathy towards multigrade teaching is partly caused by the inferior status of multigrade teaching in comparison with monograde teaching (Berry, 2001). That is because monograde teaching is generally regarded as ideal and superior in academic and professional hierarchies (Little, 1995, 2001).

Current dominating monograde teaching, however, is not the old tradition. Many schools contained only one class until the end of the 19th century, and it was only the 20th century when the students were divided into several grades (Brunswic and Valerien, 2004). Thus this paper tries to describe one of the education systems in the 19th century before grade systems were widespread, in order to clarify that monograde teaching is not the superior tradition but rather a new innovation introduced just a bit more than one hundred years ago to solve the problem at that time.

2. History of graded classes

Today's dominating monograde teaching, however, is not the old tradition. The notion of the 'class,' as teaching and learning as a whole group of learners, did not emerge until the 16th century in Europe (Little, 2006). Today's 'graded class' was developed slowly during five centuries from the 15th to the 20th (ibid.). Even after the notion of the 'class' emerged, many schools contained only one class until the end of the 19th century, and it was only the 20th century when the students were divided into several grades according to their age (Brunswic and Valerien, 2004).

Traditionally education was provided individually in Europe. In the late Roman era (BC 35-90), there were no 'school' buildings so that a teacher taught individually at home or in public spaces (Morgan, 2001). An individual teacher focused on an individual child, and each child studied by himself along the textbooks provided by the teacher, except some specific subjects like rhetoric (Little, 2006). Children studied on their own, and there was no concept of grouping the children as a class (Morgan, 2001).

Teaching and learning activities were still individualistic in the Medieval era (1300-1400) in Europe. A teacher taught a group of children of various ages together at home privately, but the children studied individually (Hamilton, 1989). A group of individual children with different ages studied at the same room but they studied same books regardless their age, and there was no link between the age of the children and the contents of the study (Little, 2006).

Renaissance movements brought significant shifts in education. The notion of a 'class' in the modern education system emerged, as a form of grouping by pupils' knowledge levels by the 16th century (Little, 2006). The progressive approaches, such as we follow today, were introduced in France in the fifteenth century, and children were divided into groups by their knowledge levels and a teacher addressed each group separately according to their levels (Aries, 1962).

The notion of 'curriculum' was also adopted by the 16th century (Little, 2006). The notion of the 'grade' was emerged with the introduction of school curriculum. Textbooks were organized by grade and newly invented printing technology expanded the grade-based books, and schools were organized grade-based in order to instruct the grade-based textbooks. Class promotion from the lower to the upper knowledge levels along the curriculum were developed through the late 16th century. Every class had an own teacher in France by the end of the same century. Each class was allocated in a separate room during the 17th century, as the number of pupils increased in France. Joannes Sturm and the city of Strasbourg established the grade-based school system, and it was eventually expanded to other European countries (ibid.). Yet the criteria for grouping were still by knowledge level not by age at that time (ibid.).

In the late 18th century, the industrialisation was promoted in England. People moved from rural to urban areas and children started to work at factories among adults. Then the concept of 'childhood' was raised in the 19th century (Little, 2006). It insisted that children should be separated from adults and should be given the education instead of working at factories. The childhood became the privilege to get education. They were put at school to be separated from adults. This brought the idea of age division. Then the class, curriculum and age started to be connected (ibid.). In short, 'graded class by age' emerged in the 19th century.

The first school based by aged grading was established in Prussia, around the current northern

Germany, in the 19th century (Little, 2006). France introduced universal primary education in 1881, and traditional one teacher schools became graded schools eventually (Brunswic and Valerien, 2004). This school system was soon expanded to other European countries as well as European colonial countries such as Sri Lanka and Mexico. This system was also imported to Massachusetts, the USA by Horace Mann after 1842 (Little, 2006).

Until the end of the 19th century, many primary schools had only one class, but most schools replaced it to the new graded system in the world (Brunswic and Valerien, 2004). Through the 20th century, the theory of child development, child psychology, and learning theory supported this graded system by age and it was immediately expanded worldwide (Little, 2006). This system continues to our days in the 21st century.

3. The background of grade systems in Japan

In Japan, a grade school system was also introduced after Meiji revolution occurred in the late 19th century. The country had closed the international border for more than two hundred years and developed our own social systems during that period, but it opened to the world in 1854. Since then, the western culture came into Japan. Especially after Meiji revolution in 1868, the country introduced lots of western social systems including education. The new government invited number of western trainers and sent Japanese officers to abroad to learn the social systems in Europe and the USA.

Based on the European model of education systems, the modern education system was developed in Japan. Ministry of Education (MOE) was established in 1871 and prepared for the new education system. They prepared for the new system through three steps: studying about the western models, researching for the condition of the existing domestic education and piloting experimental schools (MEXT, 2019). Among these activities, the government emphasized studying on the western models (ibid.). By the time the MOE was established, several books introducing the new models were published by Yukichi Fukuzawa (1866), Masao Uchida (1869) and Jinzaburo Obata (1870).

Education Order, which is still the basis of education in Japan today, was established in 1872. It unified traditional two layers of schooling, for elites and the poorer, and promised to provide mass education for all of children. This act regulated that any children who became six years old must go to school (NIEPR, 2012). Primary education was divided into two sections: lower four grades (6 to 9 years) and upper grades (10 to 13 years) (ibid.). This is the beginning of the grading school systems in Japan.

At the end of the previous year, the working group to develop the Education Order was formed. The group consisted of twelve Japanese members (MEXT, 2019) Among them, ten were European specialists including three France, two Germany, one Holland, and one England specialists. The chairman was a French law specialist. From this structure, we can predict that the new system was influenced by Europe, especially France and Germany. As grading schooling born in northern Germany was so trendy in Europe at that time, this system was imported to Japan without any doubt.

Although the majority of the members were European specialists, two specialists were Japan/China specialists including Cho Sansyu. In order to accommodate imported European systems in the exiting domestic educational condition and the traditional society, I assume that the two Japan/China specialists

took a very important role. In fact, Cho Sansyu, one of the Japan specialists, had drafted the Education Order. He was expected to link this imported unfamiliar western innovation and the traditional Japanese recipient children.

Cho Sansyu was born in 1833 and had contributed for the new government since 1871 and served as the fourth important officer at Ministry of Education. He graduated from a private traditional school named Kangien in Hita, Oita prefecture, and worked as a teacher in Oita prefecture before he worked for the Ministry of Education in Tokyo and drafted the Education Order in 1872 (ACA, 2015).

As he drafted the Education Order, the basis of education of Japan was very much influenced by him and his schooling experience in Kangien. Therefore, this article introduces the school systems of Kangien in order to search for the roots of teaching and learning activities in Japan before grade system was introduced.

4. Multigrade teaching at Kangien (1817-1897)

Before the modern education systems were introduced in Japan, there were several types of schools; Hanko (public grammar schools organized by the chief for his samurais), Sijyuku (private grammar schools mostly for children of the upper class), Kyogaku (private schools for lower classes often organized by local wealthy politicians or merchandises) and Terakoya (millions of small-scale primary schools to literate local children). It is said that Hanko was the original model of later secondary schools, and Kyogaku and Terakoya were the origin of public primary schools, while Sijyuku was of private schools (NIEPR, 2012).

Kangien was classified as Shijiku (private schools) but it had a more important role than just one model for private schools. As mentioned above, its policy and practice inspired the core concepts of Japan's new Order. Therefore, Kangien influenced the entire modern education policy of Japan. For this contribution, Tanso Hirose, the founder of Kangien, was honored from the government appreciating his contribution in 1915.

Tanso Hirose founded Kangien in 1817. It was the largest private school in the 19th century until it was replaced by expanded modern schools in 1897, having received over 5,000 students from all parts of Japan (ACA, 2015). He was a Confucian and had three main policies for the education: self-disciplined attitude, to the point and being practical (ISSED, 2007). He thought that obtaining knowledge was not native gifts, but we should study hard in order to enhance and enlighten ourselves. He also thought knowledge must be linked with practice in order pupils to apply it to their daily life. In order to realize his aims, Kangien consisted of following educational methods (ISSED, 2007).

1) Flexible entry policy (San-Dappo)

In the 19th century, social class divisions were strict and grammar schools were the privilege of the elites in Japan. However, Kangien opened its door to anyone who wants to study regardless his age, social class and previous academic level (ISSED, 2007).

Table1 is an example of the enrolment to demonstrate where pupils came from around 1866. Out of the total number of 4,154 pupils, the majority as 2,966 were from Kyshu island where Oita prefecture was located, including 1,859 from the Oita prefecture where Kangien was located. Thus the majority of the

pupils were rather locals. However, hometowns of pupils were spread out reaching up to the Northern Japan such as Tokyo and even Aomori which was the far north end of Honsyu, Japan’s main island. It is amazing that number of pupils came from urban cities such as Fukuoka, Kumamoto, Yamaguchi, Osaka, Tokyo and Kanazawa, because These cities had their own Hanko (public grammar schools) or famous Sijyuku (private schools). This indicates that those who were not allowed to enter the schools in their home came to Kangien for its generous entry policy as well as high quality of education.

Table 1 Enrollment by Regions around 1866 (pupils)

Regions	2966	Kyushu	448	Chugoku	343	Kansai	220	Chubu	107	Shikoku	70	Kanto
Prefectures	1859	Oita	225	Yamaguchi	180	Osaka	54	Kanazawa	55	Ehime	26	Saitama
	556	Fukuoka	132	Hiroshima	63	Hyogo	53	Gifu	27	Tokushima	11	Aomori
	472	Kumamoto	51	Shimane	44	Kyoto	38	Aichi	14	Kagawa	10	Nigata
	61	Miyazaki	33	Okayama	24	Shiga	37	Fukui	11	Kochi	7	Yamagata
	10	Iki/Tsushima	7	Tottori	16	Wakayama	22	Toyama			6	Kanagawa
	8	Kagoshima			5	Nara	11	Mie			5	Chiba
							9	Nagano			2	Tokyo
							7	Shizuoka			2	Ibaraki
											1	Yamanashi

Source: Kangien (2018)

Kangien did not limit only the origins of regions and social classes but also the age and ability. The entry age was not fixed, and the age of newcomers was varied. As consequence, pupils were never grouped by age. Teaching and learning activities are totally based on individual abilities.

2) Teaching and learning organization

The door was widely open to anyone who wanted to study, but very hard work was required for the pupils after entering the school. They were evaluated regularly.

Kangien had a ladder system to measure their learning levels from the first to the ninth. It had a monthly evaluation chart called Gettan-hyo. There were 19 achievement goals in the school curriculum. They had to pass the examinations at each level. Every month, the table reporting pupils’ names was put against the wall.

On the first day of every month, the revised chart, according to the results of the examinations of the previous month, was presented. Each pupil knew which level to attend that month. There were several classrooms, but pupils were not divided into grades. Pupils were seated in a large classroom having own individual desks. Individual tasks were instructed by grades according to the achievement levels, but not by age. Each pupil studied along his own task and tried to be upgraded to the upper levels.

For example, 47 new pupils were in the starter’s class in a particular month of 1866 (Table2). When they terminated the level one, they were able to be honored to be upgraded to the

Table 2 A monthly evaluating chart (Gettan-hyo)

Levels (upper and lower)	The number of pupils (1866)
9	0
8	4
7	9
6	13
5	14
4	22
3	26
2	26
1	29
Entry	47

Source: Kangien (2018)

level two. Now they were allowed to study the materials of the second level.

Here I wrote only the numbers, but in the real Gettan-hyo, forty-seven individual names were written in the bottom of the chart as beginners, and 29 names were on the section of the first level. This way, each pupil could find own name and knew what he should study that month. Gettan-hyo was not for a class organization but rather an indicator for the study contents.

3) Curriculum

As the national curriculum in Japan at that time was based on Neo Confucianism developed in China, the main studies were Confucianism at Kangien, too. Main materials were the Four Books and Five Classics of Confucianism, which are the fundamental textbooks for Confucianism.

Curriculum at the school was structured along the nine levels of Gettan-hyo. Each level was divided into the upper and lower sub levels. Thus, there were 18 levels in total as Table 3 shows. Each level consisted of targeted particular materials and learning goals in order to climb up the ladder of learning (Kangien, 2018). These eighteen levels could be divided into six stages.

First, the beginner stage was from level one to the lower two. Main materials were the Four Books of Confucianism. They were the most basic textbooks of Confucianism. Some of them were edited by Neo Confucianists for the beginners. Pupils were required to just read and memorize them even without real understanding. It was written in Chinese so it was already difficult to read them.

Second, the basic stage was from level upper two to lower three. Main materials were the Five Classics of Confucianism including The Analects of Confucius and The book of Mencius. They were fundamental materials and the oldest books in China written before BC 500. At this stage, pupils were still required to just read and memorize them. By the end of this stage, the pupils gained the knowledge about all of the Four Books and the Five Classics of Confucianism which was the basis of Confucianism.

Third stage from level upper three to four was the lower intermediate stage. The pupils needed to understand the meaning and lecture the Four Books of Confucianism to others. They needed to deeply understand about the Four Books. Just reading them was not enough. In another word, they had to master them. They were also required to study the history. About a half of pupils left at this stage, as it was

Table 3 Curriculum

Pupils (1866)	Levels	upper levels	lower levels
0	9	50 texts and 100 poems	further advanced studies
4	8	further advanced studies	further advanced studies
9	7	five classics (lecture)	five classics and history (lecture)
13	6	advanced lectures	advanced lectures
14	5	five classics (lecture)	five classics (lecture), Chinese and Japanese history (memorization)
22	4	four textbooks (lecture)	four textbooks (lecture), selected history
26	3	four textbooks (lecture)	five classics (reading)
26	2	five classics (reading)	four textbooks (reading)
29	1	four textbooks (reading)	four textbooks (reading)
47	0		

Source: Kangien (2018)

getting difficult. For example, there were only 22 pupils registered at the fourth level, while 47 pupils entered in 1866 (Table3).

Fourth stage from level five to seven was the upper intermediate stage. The pupils needed to understand the meaning and lecture the Five Classics of Confucianism to others. In another word, they had to master them. Additionally, they were required to study the official history as well as other advanced materials. Most pupils left by this stage as their level was good enough to be teachers, after mastering all of the Four Books and the Five Classics of Confucianism. For example, there were only less than ten pupils registered at the seventh level in 1866 (Table3).

Fifth stage from level eight was the advanced stage. The pupils needed to study further deeper studies. In another word, they were to be specialists. Only very limited pupils stayed up to this stage. For example, only 4 pupils registered at the eighth level in 1866 (Table3). They also taught at the school as assistant teachers. They could be rather junior colleagues.

Final stage was the level nine as the superior stage. At this stage, the pupil needs to create 50 texts and 100 poems. They were no longer passive learners but active creators. In another word, this was like PhD. They were to be the Doctor of Philosophy. However, it must be very difficult and very rare, as Table3 shows zero pupil at the ninth level in 1866.

The main concerns of Kangien were Confucianism and moral studies, but the school also covered the following subjects through three approaches: Japanese, Chinese and European (Table 4). The school focused on the competence and addressed the future of the pupils after the graduations. Therefore, the contents tried to offer practical skills. Besides the liberal arts such as poetry and classics, practical skills such as astronomy and medicine were also taught. It is interesting that Japanese administration system was also included. It was very convenient and realistic to get a job in the government structure.

Table 4 List of Subjects

Principle subjects	Practical subjects	Approaches
Chinese classics	Japanese administration	Japanese studies
Poetry	Medicine	Chinese studies
History	Military science	European studies
Literature	Astronomy	
Confucianism	Geography	
Calligraphy	Mathematics	

Source: Kangien (2018)

4) Teaching and learning methods

Teaching and learning methods are indicated as followings (Kangien): Reading and memorization, Group reading, Listening to the lectures, Group discussions, Reading together, Questions and answers, Poetry meetings, Literature meetings, Calligraphy meetings, Chinese reading, Repetition and reviewing, and Chinese and Japanese translation.

- Reading and memorization

This is an individual work to read and memorize the materials. Major duties especially at lower levels

were simply reading and memorizing the basic materials. This is the fundamental part of the whole study.

- Group reading

This is a group work. Pupils read the materials together to encourage each other.

- Listening to the lectures

Every morning, lectures were offered by teachers or senior students. Pupils attended and observed the lectures.

- Group discussions

The discussions were one of the most important factors in Confucianism. Philosophical discussions among pupils and teachers developed their mind and thoughts.

- Reading together

Reading aloud by many pupils in chorus was effective for solely mind.

- Questions and answers

Questions and answers sessions were included during self-study and before the examinations to clarify pupils' confusions and uncertainties.

- Poetry, Literature and Calligraphy meetings

- Repetition and reviewing

Repetitions and reviewing were the key for learning at school. Pupils were to repeat reading and review the materials by themselves as well as within groups.

- Chinese reading and Japanese translation

All textbooks were written in Chinese. Therefore, pupils had to read them in Chinese and understand them in their proper language.

- Time Table

It is difficult to motivate alone so the timetable was set to encourage pupils to keep motivated. Pupils were following the following daily timetable everyday (Table5). They woke up at 5:00 and clean the school and started studying with groups to kick start for the day before breakfast. After breakfast at 7:00, the whole morning was spent for the main study with fresh brains. They were to attend the lectures, and then read and memorized materials by themselves. At the end of the morning before the lunch at 12:00, they reviewed with groups with questions and answers to wrap up the morning sessions. Self-study and group work were mixed in turn to keep the pupils motivated.

Lunch time was from 12:00 for one hour. It is interesting that meals were always accompanied by a stroll. Curriculum did not really include physical exercises, but a daily stroll was encouraged after meals.

It was probably to help digesting food as well as refreshing their brains.

In the afternoon, the whole afternoon was spent for the examinations. After restarting with groups and clarifying confusions through questions and answers before the examinations, pupils took examinations to be evaluated their knowledge.

The examinations continued until supper at 19:00. Pupils continued to study until 22:00 when they were to finally go to bed.

Table 5 Timetable

Time	Study	Break
5:00		Getting up and cleaning
6:00	Group reading	
7:00		Breakfast
8:00	Lectures	
9:00	Self-reading and questions/answers	
10:00	Lectures	
11:00	Group reviewing, calligraphy meeting	
12:00		Lunch and a stroll
13:00	Group reading and questions/answers	
14:00	Examinations	
15:00	Examinations	
16:00	Examinations	
17:00	Examinations	
18:00		Supper and a stroll
19:00	Evening study	
20:00	Evening study	
21:00	Evening study	
22:00		Going to bed

Source: Kangien (2018)

5) Evaluation

Along the Gettan-hyo, pupils were evaluated with three evaluation methods to be promoted to the next level: Kagyo, Shigyō and Shōgen (ISSED, 2007).

- Taking courses and self-evaluation (Kagyo)

Every morning and evening, pupils had to study and learn what they were required with the teaching and learning methods mentioned above, and then got ready to be examined.

- Examinations (Shigyō)

Every afternoon, they had an occasion to take examinations. When an individual pupil was ready, he needed to read, write or explain about the course books in front of teachers. They repeated the same process until they were approved by their teachers to verify if the required task was achieved.

- Oral interview (Shogen)

This oral interview was introduced later period of Kangien. First years, there were only the examinations to evaluate if the pupil got learned the material contents. However, Tanso recognized that even if one mastered the text, it did not always mean that he got the philosophy and fundamental concepts of Confucianism. Studying at desk did not always mean that one had the moral and generosity. Thus, the oral interview by Tanso was introduced to observe the attitude and behavior of a pupil in person.

After passing both of the course examination and the oral interview, a pupil was able to be promoted to the next level. His name would be written in the next level section of Gettan-hyo of the following month.

6) Self-governance (Syokumu buntan)

Tanso thought the study must link with the real life so that he let pupils organize daily chores by themselves. He wanted pupils to be autonomous and to prepare the pupils for their life in the real society out of the school. Every pupil had a practical role to manage the school. The pupils' self-governing council was organized with 18 roles including the president, heads of dormitory, accountants and handymen (Table 6).

Table 6 Pupil's roles (Shokumu buntan hyo)

President	Librarian	Secretary
Vice president	Responsible for cleaning	Meal server
Accountant	Responsible for newcomers	Day duty
Physician	Responsible for guests	Night duty
Dormitory manager		
Vice dormitory manager	Part-time private secretary	
Operation manager	Full-time private secretary	
Supervisor		

Source: Kangien (2018)

He also believed that each person had his own strength and weakness. He said that everyone did not have to take the same role, but each pupil should contribute the society with his particular ability with different levels and paces. He appointed pupils according to each one's strength. For example, if a pupil was not good at poetry but good at counting, he appointed him as an accountant. In this way, this pupil had a work experience of accounting and would get a job as an accountant after his graduation. It was like an internal internship. Tanso did not equally rotate pupils for different roles by turn, because he believed that each one had different talents. He always treated his pupils as individuals not as a group.

7) Respecting individuality

Tanso never forced his belief and style to his pupils (ISSED, 2007). He respected individual personalities and interests. Pupils could start their study at any age and leave the school anytime they wanted. Some rested nearly a decade and others left after a few years. Whenever pupils thought that it was enough, they could move forward. Therefore, the entrance ceremony was held for those who came to the school at the same time, but there was no collective graduation ceremony. Pupils could come in and leave out the school

anytime.

When they came to the school, Tanso encouraged them to help each other as the same year starters (not a same age). Thus, learning process was corroborative but the achievement was rather individualistic. There was no specific fixed goal. Each pupil determined his own goal and left the school when he satisfied.

5. Conclusion

Today, monograde classes tend to be believed as the tradition and an absolute way in the education systems in the world, but it has a shorter history than we believe. It developed along several education theories and obtained the concrete status through the 20th century. It dominates the world because it is economical and efficient. However, it emerged only at the 19th century.

We are living in the 21st century now and we do not know if the innovation created in the 19th century still fits for us today. Since the Roman era until the 19th century, education was offered based on the individual capacity or knowledge levels rather than age. Its focus had been on individual progress rather than collective goals.

This paper demonstrates that it was also the same in Japan. We had multigrade classes traditionally, even at the institution which became the basis of the current education system of Japan.

Multigrade teaching is often criticized that it requires heavier load of teachers and lower achievements of pupils, although number of studies has been revealing that it is not true. When there are lots of difference among the pupils even in a same grade, why people believe in the same process and goals within the pupils of same age?

This paper introduced the practice of Kangien whose system is a part of the basis of current Japanese education system today. It was a private institution, but its door was open to anyone, regardless the age. There was no age division in the school systems. The process of teaching and learning activities was children centered, while collective activities and collaboration were encouraged to motivate individuals. The school encouraged learner's own learning pace and respected their autonomy. Learners were very individualistic, and they had initiatives for their learning.

As Kangien is the systems of the 19th century, I do not mean to go back to the same systems now. What this paper hopes to argue is that current monograde teaching is not our tradition. We should know our traditional systems before the modern education system were introduced. We should not believe that the current grade system is the absolute only option. I hope this knowledge modifies our fixed notion of graded schooling by age and inspires us to create new innovations without prejudices.

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