Japan: Conversion of the Philosophy and Aim of Basic Education

Tamotsu Tokunaga

Abstract In 1983, Japan has dramatically converted the philosophy from "complete education" to "lifelong learning." Hence, the aim of school education shifted to the formation of the "ability to self-educate" that supports lifelong learning. The new educational policy became firmly established within the law through subsequent amendments that have continued until today. Responsively, the educational ministry has decreased the content that was to be taught at schools as determined by curriculum standards and in the meanwhile shifted the focus onto students' "ability to self-educate" and onto practical use of basic knowledge, followed by a range of reforms of learning environments. The chapter addresses the background of the conversion, how policies were developed and what measures were taken, and the causes of the insufficiently visible outcomes. Finally, it discusses the future challenges and suggests potential solutions to tackle the challenges.

Keywords Ability to self-educate • Aim • Classroom instruction • Complete education • Curriculum standard • Instruction methods • Japan • Lifelong learning • Philosophy • Revision of course of study

This chapter addresses the main trends in educational reforms carried out at the policy level in Japan since the late 1980s, with a main focus on primary and secondary education, and discusses the main challenges that the current educational policy faces.

In 1983, the Ministry of Education of Japan has dramatically converted the philosophy and the aim of school education. Abandoned was the "philosophy of complete education," whereby everything needed generally as a member of the society was expected to be taught in schools. Instead, the "philosophy of lifelong learning," has been introduced, whereby people are expected to keep on learning whatever is needed as members of the society throughout life, and the aim of school

T. Tokunaga (✉)
University of Tsukuba, National Institute for Educational Policy Research, Tokyo, Japan
e-mail: tokunaga.tamotsu.fw@u.tsukuba.ac.jp

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education shifted to the formation of the "ability to self-educate" that supports lifelong learning. Since then, school education policies have been developed, and many measures concerned have been taken, including the shift of the basic stance towards instructions in classes "from teaching to learning."

The article will address the background of the conversion, how policies were developed and what measures were taken, and the causes of the insufficiently visible outcomes. It should be noted that this article is mainly based on my knowledge fostered while serving as top or middle senior officials in divisions and bureaus with the central roles in the Ministry of Education and taking into consideration relevant research outcomes of the National Institute for Educational Policy Research.

1 The Brief History of the Educational Administration Before the Conversion

In this section, I describe the brief history of the development of the educational administration for primary and secondary education before the conversion, mainly based on the facts described in the official histories[1] (Ministry of Education 1972, 1992) and with my interpretation (Tokunaga 2012a).

1.1 Expansion of the School System Under the Philosophy of "Complete Education"

Since the modern school system was established in 1872, it was considered that all knowledge and skills required as a member of a nation of modern industry should be acquired through school education, under the philosophy of "complete education." Therefore, when broader and higher level of knowledge and skills became necessary in response to further industrialization and sophistication of the society, school years became longer and textbooks thicker. The school system, school facilities, qualified teachers, and the curriculum were put in place accordingly. Compulsory education was extended from 4 to 6 years of primary school, then to 8 years of national school (kokumin gakkou) including 6 years of elementary and 2 years of higher level in 1941 and then 9 years including elementary school and junior high school in 1950. Following that, the advancement rate to high schools rose, and practically the course term was further extended by 3 years (Table 1).

At that time, educational policies had been focusing on providing adequate school facilities and qualified teachers. Concerning facilities, the *National Subsidy for Compulsory Education School Facilities Act* was enacted in 1958, which obligates the national government to subsidize expenses of elementary and junior high

[1] Japan's modern educational system: A history of the first hundred years (1972); Japan's modern educational system 2: A history of the first hundred twenty years (1992).

Table 1 Transition of high school attendance rate

1950	1955	1960	1965	1970
42.5 %	51.5 %	57.7 %	70.7 %	82.1 %

Source: School basic survey (Ministry of Education)

schools facilities to municipal governments. Concerning teachers, the *Act on National Treasury's Sharing of Compulsory Education Expenses by Municipalities* was enacted in 1918, which obligated the national government to share half the teachers' salary. In 1952, the existing *Act on National Treasury's Sharing of Compulsory Education Expenses* was enacted.

1.2 Qualitative Enhancement of School Education

Once the extension of school years and the quantitative expansion of schools reached a certain level, the focus of educational administration shifted to qualitative advancement of school education.

The Ministry of Education made the *National Curriculum Guideline* in 1947 and revised it in 1951. But the Ministry of Education did not have any effective control powers over schools and municipalities which were in charge of school management. In order to maintain the quality nationwide, the Ministry of Education introduced the national curriculum standard system in 1955 with the Course of Study which can legally bind the curriculum organization in all elementary, junior high, and high schools. Since then, the educational ministry has been revising the Course of Study approximately every 10 years, showing its basic policies at that time. The 1958 edition of national curriculum standard emphasized systematic teaching of the subject content.

With the enactment of the *Act on the Organization and Operation of Local Educational Administration* in 1956, the Ministry of Education introduced a new administrative system for exerting its control over local governments and public schools, where the ministry has the legal authority to guide and lead all the local boards of education. The act and another relevant law have shifted from municipalities to prefectures the personnel authority and the financial burden for half the salary expenses of teachers of schools established by municipalities, giving the prefectural boards of education the leading role over the municipal boards of education. In addition, *the Class-Size Standard Act on Compulsory Education*[2] was enacted in 1958 which fixed the number of students in a class and set the minimum number of teachers in a school according to the number of classes, followed by the enactment of the *High School Class-Size Act* in 1961 when the advancement rate to high school exceeded 60 %.

[2] *Act on Standards for Class Formation and Fixed Number of School Personnel of Public Compulsory Education Schools.*

In 1971, when the advancement rate exceeded 80 %, a new curriculum standard was adopted.[3] It advanced the educational content both qualitatively and quantitatively and increased the number of classroom hours. In response to these changes, with amendments of the *Class-Size Standard Act*, several-year plans were intermittently implemented to lower the upper limit of the number of pupils per class and to raise the lower limit of the number of teachers to be placed per school based on classroom numbers.

2 Background of the Conversion of the Philosophy and Aim of School Education

This section addresses the background that led to conversion of the philosophy and aim of primary and secondary education.

2.1 Problems in Schools and with Students

In spite of the efforts to develop conditions, school education under the new curriculum standard adopted in 1971 for elementary schools and in 1972 for junior high schools showed many problems such as "pupils and students left behind," the so-called *Shichi-Go-San* (753)[4], and high school dropouts arose. In the early 1980s, situation got worse and more serious. In addition to the left-behind and drop outs, problematic behaviors such as delinquency and violence in school increased, and competition in university entrance exams intensified. It was said that students had to study so hard as to sleep only 4 h a day in order to prepare themselves for the tough exam.

Very concerned about these situations, the Ministry of Education revised curriculum standards for elementary and junior high schools in 1977 and for high schools in 1978. Through these revisions, educational contents were intended to be limited to core issues, and 4 units of class hour per week were converted into nonclass activities which were called the "school leeway time." However, these symptomatic treatments were not enough, and their revision and implementation in 1980, 1981, and 1982 were too late to improve the situation.

Newspapers and TV news programs called the situation concerning school and students with many problems the "education devastation" and blamed the Ministry of Education for its lack of measures. This made school education a social concern, and its reform became a political challenge.

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[3] New editions of the Course of Study for elementary schools and junior high schools were legally noticed in 1968, and one for high school was noticed in 1970.

[4] A sarcastic expression using the name of a traditional event to celebrate the healthy growth of children, representing a situation where the proportion of pupils and students that manage to acquire what they learn at school, was merely 70 % in elementary school, 50 % in junior high school, and 30 % in high school.

2.2 Demand from Industry

In addition, from a very different point of view, there was a pervasive feeling among the industry that there is a need for a fundamental reform of school education for further economic growth. In 1968, Japan's GDP already ranked second in the world. The manufacturing industry maintained its competitiveness by refining the techniques brought in from Western countries and with the precise quality management and efficient production. Nevertheless, economic growth by catching up was seeing its limits, and it was widely acknowledged that hereafter, competitiveness based on independent technological development was needed. This led business groups to make proposals and statements to the government and the ruling party. They suggested to abandon cramming education, which was effective for catching up by utilizing existing knowledge, and now that Japan had already caught up, to shift to education that cultivates creativity necessary to succeed in the competition in technological development. Thus, business groups and industry people had been the strongest supporters for the educational policy shift since 1983 (Keidanren 1996). However, early in the twenty-first century, they turned their stance to blame the educational ministry for the decline of academic ability.

2.3 Political Situation

Nakasone Yasuhiro, the prime minister at the time, launching the Ad Hoc Commission for Administrative Reform under the direct supervision of the Cabinet, promoted strongly administration reform, deregulation, and decentralization. The commission, which was composed of experts from outside the government, achieved remarkable success such as the privatization of the Japan National Railways, which in fact ensured the public support to the prime minister and his way to run the policies and implement measures. Under the circumstances described above, the prime minister announced that he recognized the need to promote education reform in the same way as the administrative reform or outside the Ministry of Education. As a result, in 1984, the Extraordinary Council on Education was established under the General Administrative Agency of the Cabinet, indicating that a fundamental reform in school education should be carried out by the government as a whole.

Considering the situation at the time, senior officials worried that they may lose leadership unless they set out to proactively drastic policy change.

2.4 Recognition of the Rapidly Changing Society and "the Age of Uncertainty"

Although I mentioned three factors above, I think that the most influential but inconspicuous factor was the senior officials' recognition of the rapidly changing society

and "the age of uncertainty." They were expected to constantly review the curriculum standard and to provide the most appropriate one so that all knowledge and skills required as a member of a nation of modern industry would be taught in school. Although it could be carried out only if they knew what knowledge and skills would be required in the future, they were conscious that the society was changing rapidly and that opinions of the experts have not seemed to agree on what kind of society would be following the industrial society. "The Third Wave" (1980 Alvin Toffler) and "The Age of Uncertainty" (1978 John Kenneth Galbraith) were very popular in Japan. They thought it better to cultivate the ability to learn knowledge and skills required at that time than to teach what was uncertain to become useful or not in the future.

3 Development of Educational Policies Under the "Philosophy of Lifelong Learning"

Increasing the volume of content of school education responding to the development of industry and sophistication of the society was seeing its limits. In 1983, the Subcommittee on Educational Content of the Central Council for Education, which has the top policy deliberation council established in the Ministry of Education, submitted a groundbreaking report that changed the philosophy and aim of school education dynamically. As a basic philosophy of educational policy, the report proposed to adopt the "philosophy of lifelong learning" instead of the "philosophy of complete education." That is to say, instead of trying to teach everything needed as a member of the society in schools, we should continue learning throughout life. In addition, the report suggested the shift of the aim of school education from the acquisition of knowledge and skills to the formation of "self-educating ability," which is the foundation for learning throughout life. Furthermore, they requested to put more emphasis on the acquisition of ability to learn knowledge and skills by students themselves in classroom instructions, to increase problem-solving/problem-exploring type of learning, and to cultivate students' willingness to learn throughout their lives as well. Since then, the educational policies in Japan have been developed along these lines (Box 1).

Box 1: Excerpt from Council Progress Report of the Subcommittee on Educational Content (1983)

- Acquirement of abilities to learn is important, including how and what to learn.
- School education should put emphasis on students' solid learning of basic and fundamental knowledge and skills, as well as problem-solving and problem exploring learning methods.
- Students should form the will for lifelong self-education.

It should be noted that this report was written when educational reform had become a political issue and the ad hoc commission was scheduled to be set up led by the prime minister. In these situations together with the sense of distrust towards the educational department, it may be that the Ministry of Education refrained from making this a formal report of the Council with consideration for this situation.

3.1 Revision of the Course of Study Under the "Philosophy of Lifelong Learning"

The Ministry of Education revised the curriculum standard in 1989 and 1998 and implemented them in 1992 and 2002, respectively. For high schools, the curriculum standard was revised in 1999 and implemented in 2003.

In the 1989 revision, the volume of the educational contents was slightly decreased. In addition, the school guidance record, which is a nationally standardized form of recording student attendance and learning assessment, was revised, and included in the evaluation items were acquisition of learning methods, levels of ability to think logically, expressive power and judgment, as well as formation of learning motivation.

In the 1998 revision that followed, the volume of content of educational subjects was reduced by about 30 %, and the "Period for Integrated Study" (PIS) was introduced. This new form of class carries out problem-solving or problem-exploring type of learning, aiming to cultivate skills such as logical thinking ability and expressive power.

3.2 Measures to Support New Classroom Instruction

In order to carry out these new classroom instructions under the new aim, the national government has implemented various measures to support schools and teachers.

The Ministry of Education started the "Open Space" subsidy program in 1984. Through this program, the national government subsidized municipalities the expenses for renovating of school buildings in order to divert surplus areas caused by student decrease into versatile spaces. In 1985, the educational ministry started another subsidy program for municipalities, to promote the installment of PCs in primary and lower secondary schools. In this context, the Ministry of Education tied up with the Ministry of International Trade and Industry to establish the Center for Computer Educating for developing hardware and software suitable for school education in 1986 and set out on research and development of PC programs for school education in 1987.

The national government formulated a new plan for period from 1993 to 2000 for improving the allocation of teachers and revised the *Class-Size Standard Act* in

1991. Based on the "6th Teacher Allocation Improvement Plan," the Ministry of Education allocated around 15,000 additional teachers to promote small-group guidance within classes and team teaching. Following this, in the 7th Teacher Allocation Improvement Plan for period from 2001 to 2005 formulated in 1999, around 15,000 teachers were allocated for small-group guidance especially for classes of mathematics, Japanese, English, and science (Research Committee on School Staffing 2000).

After disseminating the "philosophy of lifelong learning" as well as the new policies and the new edition of the Course of Study under the philosophy, most of the senior officials of the educational ministry expected that the provision of the time and place for new classroom instructions or development of staff necessary for them or equipment of facilities and devices suitable for them could automatically generate new classroom instructions under the new philosophy and the new aim. However, that was serious misunderstanding.

3.3 Amendment of the School Education Act

The school education policy aiming for the cultivation of "self-educating ability" under the "philosophy of lifelong learning" was criticized temporarily that it caused declining academic ability. Nevertheless, in 2010, these aims and objectives of classroom instructions in schools were stipulated in legislation. The *School Education Act* was revised, and paragraph two of article 30 was added in relation to elementary schools, and this is applied mutatis mutandis to junior high schools and senior high schools.

Previously, they were defined through administrative orders of the Ministry of Education, Culture, Sports, Science, and Technology (MEXT)[5] such as ministerial ordinances and public notices. The provision of the *School Education Act* clarified the basic idea that school education should "form the foundation for lifelong learning." In addition, as more concrete objectives of classroom teaching (those are commonly referred as academic ability), "development of abilities such as thinking ability, judgment, and expressive power" and "nurturing of a mindset to learn proactively" were placed at the same level as "acquisition of basic knowledge and skills." This amendment of the *School Education Act* implied endorsement of the shift in educational policies that took place since 1983 by democratic procedures in the Diet (the Japanese Parliament), and thus, the shift became well established (Box 2).

[5] In 2001, the Ministry of Education was merged with the Agency of Science and Technology and became the Ministry of Education, Culture, Sports, Science, and Technology (MEXT).

Box 2: School Education Act

Schools, throughout all levels, must let students acquire basic knowledge and skills in order to establish the foundation of lifelong learning and to be mindful and make best efforts to develop abilities such as thinking ability, judgment, and expressive power that are necessary to solve problems by utilizing their knowledge and skills and to nurture a mindset to learn proactively.

Note. Article 30, Paragraph 2

3.4 Revision of the Course of Study in 2008

Right after amendment of the *School Education Act* in 2006, MEXT revised the curriculum standard in 2008 and implemented it in 2011 (for high schools, revised in 2009 and implemented in 2012). This revision increased the volume of instructions in each educational subject up to the level of the 1989 revision. Among the items to be considered when designing instruction plans for the educational subjects were cultivation of thinking ability, judgment, and expressive power, enhancement of language activities, emphasis on problem-solving type of learning, pupils' own choice of learning tasks, and provision of opportunities for students to think about their future. This made clear that the aim to cultivate the "ability to self-educate" under the "philosophy of lifelong learning" would be maintained, and its content was described more specifically.

4 What Has Made the School Education Reform More Reliable: Criticism

Around the year of 2000, there was an upsurge of criticism among university faculty members, industry and economic quarters, experts, and mass media against the shift in the basic philosophy and the aim of school education since 1983 as well as the development of educational policies based on this.

4.1 Criticism Against the Shift in the Philosophy and Aim of School Education

Most of the criticism said that the academic ability of pupils and students had declined due to the revision of the curriculum standards, usually based on the recognition that academic ability is the amount of crammed knowledge. Criticism from university faculty members came from the dissatisfaction that the decrease of

knowledge amount of the freshmen was increasing the burden of those responsible for liberal arts classes, and other criticisms echoed this. Nevertheless, students who entered universities at that time were those who had received primary and secondary education based on the curriculum standard implemented in 1980 or 1992, which is not so different from the curriculum standard implemented in 1961 in terms of the volume of instruction for each subject, based on which most of the faculty members at that time educated.

Critiques called the path of educational policies since 1983 "pressure-free (yutori) education." However, this naming was based on a misunderstanding. It was taken simply from the popular name of "class of school's discretion"—"class of leeway (yutori)"—which was adopted when the curriculum standard was revised in 1977 and implemented in 1980. Although criticism was largely based on an inadequate understanding of facts, situations, and backgrounds, the new curriculum standard, publicly notified in 1998 and foreseen to be implemented in 2002, with the reduced volume of instruction of the educational subjects by 30 %, did have inherent risks of lowering academic standards.

4.2 Conciliatory Response to Criticism

In order to respond to criticisms concerning the decline of academic ability, as part of the government's overall deregulation initiative, MEXT made a flexible interpretation of the curriculum "standard," accepting "advanced learning" that goes beyond the content defined in the standard. Subsequently, MEXT accepted to partially implement the new curriculum standard, which was publicly notified in 2008 and expected to restore the instruction volume up to the previous level, earlier than originally intended.

Many criticisms arose. Even though they were based on misunderstanding or lack of knowledge, MEXT had to respond to these criticisms through educational policies. I think that there were appropriate reasons: First, MEXT did not present the intent of the shift in educational philosophy and the aim of school education to the public and to the educational stakeholders in a form of a simple and easy administrative document, explaining the problems with the previous educational policies and the goal of the subsequent educational policies. Second, MEXT had not neglected the effort to confirm the effect of policies and measures under the "philosophy of lifelong learning" and verify what the conversion of the philosophy and the aim had brought to school education.

4.3 Shift of the Attitude to Respect the Verification

In 2004, Nakayama Nariaki, the educational minister, announced to introduce a nationwide assessment for academic abilities, and the Cabinet determined in 2005 to proceed the study for conducting a national academic survey. The statement

approved by the Cabinet then said that it "would carry studies forward as soon as possible in order to facilitate understanding and analysis of the academic status of students, and to develop and improve teaching methods based on the understanding and analysis." It has been publicly considered that the government decided to introduce a nationwide academic survey to respond to criticism concerning the decline of academic ability. Thus, the National Assessment of Academic Ability started in 2007. Prior to this, Japan joined the PISA by OECD in 2000.

5 Impact of Administrative Reform on School Education System

The development of new educational policies based on the "philosophy of lifelong learning" took place at the time when administrative reform and its important parts, deregulation and decentralization, were pushed forward powerfully. Hence, it has impacted upon the education reform substantially.

5.1 Deregulation and Decentralization of School Education System

As I mentioned earlier, the Ad Hoc Commission on Administrative Reform was established under the Cabinet in 1981, and subsequently several succeeding bodies had been established. The Extraordinary Council on Education (1984–1987), which can be called an educational version of the Ad Hoc Commission on Administrative Reform, submitted reports to the prime minister four times. Among them, the first report (1985) and the fourth report (1987) promoted the transformation of the education system from uniform to diversification and from rigid to flexible. The report from the Committee for the Promotion of Decentralization (1995–2001) to the Cabinet and the succeeding report from the Central Council for Education to the educational minister in 1998 introduced the drastic amendment of the *Act on the Organization and Operation of Local Educational Administration* in 1999. As a result, the Ministry of Education, which was scheduled to be merged with the Agency of Science and Technology based on the report of Committee for the Promotion of Reform of the Central Government (1998–2000), has lost considerable parts of the authority for exerting its strong control over local educational boards and public schools (Tokunaga 1999).

Thus, continuous deregulation/decentralization of school education system and educational administration in primary and secondary level was carried out, and the discretionary powers of local school boards and school principals were increased in a broad range of fields including school management, organization of school curriculum and its implementation, instruction of educational subjects and relevant evaluation, and allocation and employment of teachers.

5.2 What Deregulation and Decentralization Has Brought to Educational Administration

In general, deregulation and decentralization contributed greatly to the progress of school education policy. The progress made in school education policy due to deregulation and decentralization can be categorized as the following:

First, as a result, deregulation and decentralization established a system suitable for developing new educational policies dealing with new challenges, as the conventional standardized school management/instruction system or the regulative administrative method was facing limitations in tackling them.

Second, administrative departments whose authorities and assignments were reduced actively took up new administrative challenges and methods in search of their new leading roles that they would have never cared about otherwise. In effect, progress was made in new educational policies.

Third, in cases where there was difficulty in changing conventional orientations and mechanisms to tackle new administrative challenges due to delays in consensus building among stakeholders, educational administrative departments would work with deregulation/decentralization bodies to push forward the educational policy as part of the deregulation/decentralization agenda.

5.3 What Deregulation and Decentralization Has Brought to School Education

In order for the pupils and students to learn how to learn, to cultivate skills such as the logical thinking ability and expressive power, and to cultivate "self-educating ability" under the new philosophy, it should had been necessary to introduce various learning forms and instruction methods such as small-group instruction, group learning, problem-exploring activities using computers, discussions, and hands-on learning, in addition to the traditional classroom-style teaching using blackboards and textbooks (Research Committee on School Staffing 2000).

The flow of deregulation and decentralization was advantageous for introducing the various forms of learning and methods of instruction. Especially, relaxation of the requirement of teaching credential for teaching staff allowed business people and volunteers from the community to contribute to classes as special instructors. Due to the declining birthrate, the number of pupils and students had decreased in majority of elementary and junior high schools, which meant decrease in the number of classes and in effect smaller number of teachers allocated to the school. In order to make up for the decrease in the number of teachers and to introduce various learning forms and instruction methods, it was essential to utilize instructors other than the formal teachers with teaching certificates. The participation of business people with professional knowledge and skills as instructors made the various learning forms and instruction methods more effective as well.

6 From Teaching to Learning: Shift in the Basic Stance of Classroom Instructions and Development of Instruction Techniques

It is not an easy process to translate the policies into actions. The shift in the basic stance of classroom instructions and development of instruction techniques were impacted by various factors.

6.1 Confusion of Teachers over the "Period for Integrated Study"

The implementation of the "Period for Integrated Study (PIS)" that was introduced in the 1998 revision of the curriculum standard involved confusion and difficulty. Teachers were informed of the intent of its introduction through documents and training. However, they were puzzled as to what and how to teach in actual classes. All of a sudden, we started seeing pupils and students visiting fields frequently. There were not a few teachers that could think of nothing else but field visits as activities in PIS. In the light of this situation, the Ministry of Education accepted to use PIS for complementary learning of other educational subjects.

As I mentioned earlier, policy efforts and various measures to support new classroom instruction had been conducted prior to the introduction of PIS, and its implementation was not out of the blue. However, introduction of PIS had missed the critical components. Policymakers did not sufficiently understand that nurturing "self-educating ability" would need a shift in the basic stance towards classroom instruction—the shift from "teaching to learning." And they neglected to promote research and development, with sufficient fund and staff, for classroom instruction methods appropriate for the cultivation of skills such as logical thinking and expressive power and the ability to learn proactively. As a result, teachers did not receive necessary training in teacher-training courses in universities or in teachers' training.

6.2 Influence from International Community

However, influenced by the OECD DeSeCo project that was conducted at this time, and struck by the result of PISA, senior officials of the educational ministry were aware of the need of both the shift of the basic stance to classroom instruction and the development of classroom instruction methods.

Japan considered that the shift in educational philosophy and the aim of education in Japan went ahead of the selection and definition of key competencies by the OECD. However, the DeSeCo project had clearly mentioned the shift of

stance from teaching to learning in relation to the acquisition of key competencies OECD (2005). For example, its "executive summary" describes that "Despite the fact that competencies comprise more than just taught knowledge, the DeSeCo Project suggests that a competency can itself be learned within a favourable learning environment" (www.oecd.org/).

The Ministry of Education had thought that the shift of policy since 1983 was in the same line as the DeSeCo project and that the outcome would be reflected in the PISA results. However, in PISA 2003 and 2006, Japan ranked only middle level in literacy (NIER 2007). This was reported in the media as a proof that "academic ability" in the traditional sense had declined and the conversion of educational philosophy and aim of education was blamed for this.

In response to these, the Ministry of Education felt strongly the need to review educational policies, to formulate theories that would support the conversion of the philosophy and the aim of school education and the shift of the basic stance of classroom instruction, and to research and develop the classroom instruction methods and learning style suitable to cultivate skills such as logical thinking ability, expressive power, and ability to learn proactively, and it has set out on them immediately.

6.3 Research and Development by NIER

More concretely, the National Institute for Educational Policy Research (NIER) started theoretical research, case studies of initiatives abroad, as well as practical research and development using the Schools for Research and Development System. This is a system where practical research and development is conducted with the approval of MEXT within a designated school. It allows exceptions to the organization of subjects and the content of instructions defined in the curriculum standard and to teach without teaching qualifications. Researchers from NIER participate in these initiatives. The special creation of "Periods for Learning Skills" from 2007 to 2010 in Niigata elementary and junior high school attached to Niigata University (Niigata Junior High school 2010) and creation of the subject "Language" in Hiroshima High School (integrated junior high and senior high school) are examples (Hiroshima Prefectural Junior High 2010).

Furthermore, many of the initiatives in designated project schools such as Super Science High School Project (SSH) (since 2005) and Super English Language High School Project (SELHi) (2002–2009) were based on the shift "from teaching to learning" and contributed to the research development of an appropriate instruction method. Some results of these research projects have been already reflected in the policies or measures. The 2008 revision of the curriculum standard introduced language activities in all educational subjects that was based on the outcomes, although some of the research projects have not yet finalized (Fig. 1).

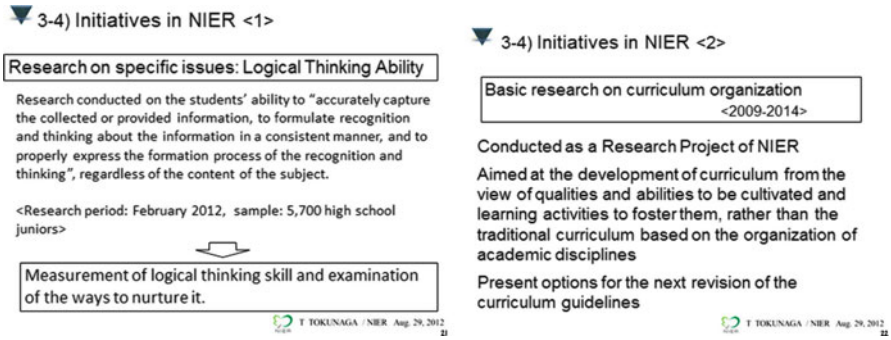

Fig. 1 Initiatives by NIER (Source: Tokunaga 2012b)

7 Results of the Conversion of Educational Philosophy and the Aim of School Education

Although the shift of the philosophy and the aim of school education now provide the foundation which is essential for new educational challenges, such as the cultivation of global talents, enhancement of employability, and development of the twenty-first century skills, it has not necessarily achieved socially acknowledged outcomes.

7.1 Formation of the Foundation for Development of New Educational Policy

The combination of the conversion and the development of policies have formed the foundation of school education which is necessary to respond to the new educational policy challenges, such as the cultivation of global human resources and enhancement of employability. Rich and various technical results of trial and errors since 1983 such as the shift of the aim of school education, the development of curriculum, learning forms, instruction methods, team teaching, and so on must be effective and beneficial for the new educational policy challenges. It could be said that this formation of the foundation in itself is the most important outcome of the shift in educational policy and the aim of school education.

7.1.1 Enhancement of Employability Through Schooling

It has been pointed out that the reason for the increase of instable youth employment or young people not in education, employment, or training—the NEET or

freeter (part-time jobber)—was the increase of temporary employment not only due to the deregulation of the employment system but also due to the lack of employability as seen in the high proportion of high school and university graduates resigning early (Ministry of Health, Labour & Welfare 2009, pp. 17–26). This led to the introduction of career-oriented education in universities since around 2000. Following the global financial crisis in 2008 and the severe employment situation for university graduates, there have been stronger expectations towards the enhancement of career education, the recovery of reality in the instructions, and the introduction/advancement of cooperation between schools and industry in all school levels.

7.1.2 Nurturing of Global Human Resources in Response to the Globalization

As globalization of economic activities and related social systems advanced, stimulated by the adoption of the UNESCO/OECD Guidelines concerning higher education in 2003 and by the selection and definition of key competencies by the OECD, ensuring the international validity of school systems and the educational content became a major challenge for the educational ministry since the early 2000s. Furthermore, since the late 2000s, in response to the expansion of overseas activities by enterprises, qualities and skills for taking up business activities globally became widely expected for those engaged in business (Tokunaga and Momii 2011, pp. 101–138). Thus, the nurturing of global human resources through school education has become a major policy issue for the national government.

It has been realized that human qualities and abilities which are believed to be required in a globalized society would surely match the direction of the shift of educational philosophy and the aim of school education (Tokunaga and Momii 2011, pp. 139–158), with the advancement of globalization and clarification of the image of human resources needed in a globalized society through the media. Today, there is an endorsement from the society that school education aims for the development of twenty-first-century skills such as ability to communicate and expressive power instead of simply cramming knowledge as it used to do.

7.2 Insufficiently Visible Outcomes

On the other hand, it seems that the conversion of educational philosophy and aim of education in primary and secondary level and the development of educational policies based on it have not necessarily achieved socially acknowledged outcomes, especially concrete ones.

7.2.1 Situation of Behaviors and Academic Abilities of Students

The comparison of official survey results[6] in 1988 and 2011 shows that the situation concerning problematic behaviors of pupils and students that triggered the shift of direction has not improved compared to the 1980s. The proportion of pupils and students who cannot follow the classes—the phenomenon that was named "*Shichi-Go-San* (753)"—seems to have decreased (NIER, MEXT 2006). However, this could be an effect of the decrease of the volume of instructions of educational subjects. Rather, as a result of the end of cramming education and the reforms of entrance examinations of high schools and universities, the middle-level students stopped preparing for tough entrance exams. According to the fourth Basic Learning Survey conducted by the Benesse Educational Research and Development Center in 2006, the average studying time at home was 87 min for second-year junior high school students and 70 min for second-year high school students, which was considerably shorter than those in 1990. That led to an outstanding gap between top-level students and middle- or lower-level students in results of various surveys on academic achievement.

7.2.2 Decline of Confidence in Public Schools

Furthermore, the cut back of the content of instruction of educational subjects by the curriculum standard raised the aspiration of top-level students to attend private junior high schools. According to the official statistics,[7] the proportion of students in private junior high schools has doubled in about 20 years from 3.5 % in 1988 to 7.2 % in 2008. Especially in elementary schools of the urban districts of Tokyo, in general, about one fourth to one third of the graduates continue on to private junior high schools. Many of these junior high schools and affiliated high schools that did not have a track record of good advancement rates adopted the conventional cramming education, and as a result, the shift in the policy did not extend to many of the top-level students. However, after recognizing needs for global talents with twenty-first-century skills responding to the progress of globalization, not a few top-ranked private junior high schools and affiliated high schools are likely to change their direction and educational style, including certified by the International Baccalaureate Organization. Consequently, they seem to be joining the educational policy line from 1983.

7.2.3 Proliferation of First-Year Training in Universities

Since the late 2000s, there has been an increase in universities providing training of skills necessary for university education for freshmen. Training includes remedial

[6] Research report on issues such as student guidance on problem behavior of students by the Ministry of Education/Ministry of Education, Culture, Sports, Science, and Technology.

[7] School Basic Survey by the Ministry of Education, Culture, Sports, Science, and Technology.

classes of high school math and science, or training of basic reading and writing in Japanese and English, and taking notes efficiently and effectively. Today, about 90 % of universities provide such training (Higher Education Bureau, MEXT 2011). The need for such training has increased partly because the entrance examinations to universities have become easier due to the decline in the number of 18-year-olds, which led to the rise in the advancement rate to universities, accepting students that not always have the competence and ability needed for university education.

Nonetheless, it seems that the cut of the volume of the content of instruction of educational subjects by the 1998 revision of the curriculum standard also had some influence. Although the shift of philosophy and aim of primary and secondary education was intended to develop necessary skills for university education, it has not been successful in this regard[8] (NIER, MEXT 2010).

8 Future Challenges

It seems that the direction taken through the shift of educational philosophy and the aim of school education at primary and secondary level since 1983 as well as the related educational policies adopted continuously were not a wrong one. Today, the challenge is to develop new instruction methods that realize the shift in the philosophy and aim of school education. Especially, important issues are the acquisition of skills such as self-expression skills and thinking ability, as well as development of forms of learning appropriate for this.

8.1 Further Development of Classroom Instruction Methods Based on Research Findings of Learning Science

Classroom instruction methods have been developed in a practical manner in schools. However, this style of research and development needs trial and errors and is difficult to generalize. Currently, research in learning science, incorporating research findings from robotics, is making rapid progress, with several universities playing a central role and NIER participating in it. In the future, it seems necessary and effective to further develop and refine classroom instruction methods based on research findings of learning science.

[8] The National Assessment of Academic Ability and Learning Activities (elementary school, junior high school) consists of questions A, which test one's basic knowledge, and questions B, which test one's capacity to utilize basic knowledge. The percentage of questions A answered correctly is always higher than that of questions B throughout the 4 surveys conducted from 2007 to 2010.

8.2 Development of Curriculum Standards According to Skills

Conventional curriculum standards allocated knowledge to be taught in classes to each subject and grade according to academic disciplines. Currently, NIER is working on a possible new style of a curriculum standard, where knowledge is combined with twenty-first-century skills such as logical thinking and communication ability and thus forms a unit to be allocated in it.

8.3 Further Progress in Research in Learning Science and Development of Classroom Instruction Plans Composed of Diverse Learning Forms

Classroom instruction in schools will increasingly need to be backed up scientifically. Therefore, in the policy field, the promotion of research in learning science is considered.

Based on existing research findings from learning science (Miyake 2012, pp. 292–294), learning forms that intentionally create a constructive interplay are being introduced. This is effective for the intellectual development of pupils and students. Individual instructions for the formation of proactive learning minds and acquisition of self-educating skills, as well as problem-exploring activities both individually and collectively, are also being introduced. Furthermore, various platforms for learning outside schools are provided by social education institutions and NPOs.

From now on, I believe it is necessary to intentionally create various forms of learning including those outside schools and at home, class lectures using blackboard and textbooks, as well as individual consultation and complementary individual instructions by teachers outside of classes. These should be combined with knowledge and skills that can be learned effectively through the forms and classroom instruction plans that allocate appropriate number of hours for each of the various forms of learning to be developed. The author calls this "the three-dimensional matrix of knowledge, skills, and forms of learning" and is suggesting the development of a sophisticated theoretical framework and a concrete model of classroom instruction plan.

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