はしがき

本書は、中央教育審議会による「幼稚園、小学校、中学校、高等学校及び特別支援学校の学習指導要領等の改善について（答申）」を英訳したものである。

中教審は学習指導要領の実施状況を不断に検証しており、平成 19 年から審議を開始した第 4 期中教審では、教育基本法の改正を踏まえて、教育制度の改正について答申をまとめた。その後、関連法案の改正の後、小・中・高等学校の教育課程の枠組み、道徳教育や体験活動の充実といった教科等を横断した事項や各教科内容についての具体的な改善について、100 回以上の審議を繰り返した。その審議のまとめについて、関係団体や広く国民からの意見を求めた結果、1000 以上の意見が寄せられた。そして、それらの意見を踏まえた審議を再度行い、幼稚園から高等学校までの各段階および特別支援学校の学習指導要領等に関する改善の必要性を答申するものとなった。

わが国の教育については世界から注目を浴び続けているにも関わらず、その情報は日本語でのみ提供されていることが多い。国立教育政策研究所では、わが国の、特に最新の教育に関する情報の発信も行っており、本書は国際協力の一環として翻訳して出版するものである。本書により、日本語を解さない方でも、わが国の教育情報にアクセスが可能となる一助となれば幸いである。

なお、翻訳はモリス・ジェンキンズ氏が行い、当研究所国際研究・協力部丸山英樹研究員がチェックを行った。

国立教育政策研究所国際研究・協力部長
渡辺　良

< Introductory Note >

This is an English translation of “Youchien, Shougakkou, Chugakkou, Koutougakkou oyobi Tokubetsushien gakkou no Gakushuu Shidou Youryou tou no Kaizen ni tsuite (Toushin) [the Improvements to the Courses of Study for Elementary, Lower Secondary and Upper Secondary Schools]”. Much of the information about the Japanese education is limitedly accessible because of the Japanese language. It would be our pleasure if this translation could assists those who are interested in the education in Japan. The digital version of this translation is available at NIER’s web site.

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【 Contents 】

Foreword: Developments to date

○ In May 2003, the Minister of the Ministry of Education, Sports, Culture, Science and Technology (hereafter MEXT) made a comprehensive request to the Central Council for Education "to take forward measures for the revision of elementary and secondary education". In response, the Council began to work on a revision of the official Courses of Study, and in October of the same year, issued a report entitled "Concerning Policies to Enrich, Strengthen and Improve the Current Curriculum and Guidance in respect of Elementary and Secondary Education". Two months later, in December, MEXT issued a partial revision of the Courses of Study.

Investigations during the Third Term of the Central Council for Education

○ In February 2005, the Minister of MEXT issued a formal request[1], requiring the Central Council of Education to undertake during its Third Term (period: from February 2005 to January 2007,) with a view to enriching and strengthening the education of children who are to live their lives in the 21st century, a complete revision of the criteria for the national curriculum and at the same time, examine ways of putting more firmly in place measures to raise the quality of teachers and enhance their abilities.

○ A number of meetings were held during the Third Term of the Central Council for Education, on the basis of the perspective of responding to the contents of the request from MEXT; specifically, the Subcommittee on the Curriculum, comprised within the Subdivision on Elementary and Secondary Education , met on 39 occasions, with the first held on April 27, 2005, while the Subdivision on Elementary and Secondary Education met on 11 occasions, and specialist sub-committees, composed of specialists of various subjects, met on 89 occasions.

During the period of deliberation, the Central Council for Education issued a report entitled "Redesigning Compulsory Education for a New Era" on October 26, 2005. Using this report as a basis, the Central Council for Education compiled, and issued on February 13, 2006, a "Report on the Progress of Deliberations"[2] (hereafter, Progress Report), bringing together the main points of deliberations up to that time.

○ In March of the same year, following the issuance of the "Progress Report", the Central Council received a report from the Specialist Subcommittee on Foreign Languages concerning Deliberations on the Teaching of English Language in Elementary Schools.

Furthermore, in April of that year, with a view to examining in more specific and concrete detail the directions for improvement indicated in the said "Progress Report", separate subcommittees were established to look at the situation in elementary, lower secondary and upper secondary schools, and each subcommittee deliberated on improvements in schools within its respective area of jurisdiction. At the same time, specialist subcommittees examined the deliberations in respect of each separate subject area. On the basis of these deliberations, further examinations were made in depth within the Subcommittee on the Curriculum from a comprehensive standpoint covering the whole of the curriculum.

As the term of office of the Third Term of the Central Council for Education was due to come to an end at the end of January 2007, a report that brought together the deliberations up to that time was issued on 26 January 2007 with the title, "The Status of Deliberations of the Curriculum Committee in the Third Term".

○ The deliberations referred to here were carried out on the basis of the Revised Fundamental Law of Education[3] enacted in December 2006, and the deliberations of the National Diet concerning that law.

Furthermore, hearings[4] of eminent intellectuals were implemented, and at the same time as constituting reference points for their deliberations, various kinds of investigations were taken forward on the basis of all kinds of data designed to provide information on the current state of children's academic ability, including "Investigations into the state of awareness concerning compulsory education", implemented by MEXT in March and April, 2005, the opinions of teachers and parents or guardians, collected in the course of school meetings[5] the results of opinions[6] solicited with regard to the "Progress Report" of February, 2006, international investigations into academic ability, and the results of investigations into the current state of curriculum implementation.

Investigations during the Fourth Term of the Central Council for Education

○ The Fourth Term of the Central Council for Education began in February 2007, and on February 6, the Council received a request from the Minister of MEXT requiring them to investigate in a concentrated way urgently required improvements to the education system on the basis of the revisions to the Fundamental Law of Education. On March 10, the Council issued a report entitled, "Concerning Urgently Required Reforms of the Education System following Revision of the Fundamental Law of Education".

In June 2007, 3 laws were enacted in the National Diet: the "Law revising Part of the School Education Law", the "Law revising Part of the Local Education Administration

Law", and the "Law revising Part of the Educational Personnel Certification Law and of the Special Measures Law concerning Educational Public Servants". With particular reference to the revision of part of the School Education Law, the educational objectives at each level of education were redefined and the goals of compulsory education were set out afresh.

○ Within the framework of meetings held during the Fourth Term of the Central Council for Education, the Subcommittee on the Curriculum took over the work done during the Third Term. On the basis of the revised Fundamental Law of Education and of the revised School Education Law, as well as of the deliberations in the National Diet, the Subcommittee met on 36 occasions (including round-table conferences) to discuss specific improvements to the curriculum framework at elementary, lower secondary and upper secondary level, the strengthening of cross-curricular areas such as moral education, experiential activities and so on, and the contents of the various subjects. The elementary, lower secondary and upper secondary school subcommittees meet on 5 occasions, and the specialist subject subcommittees on 36 occasions. The net result of all these meetings is that during the Third Term and the Fourth Term of the Central Council for Education, the Subcommittee on the Curriculum, which was concerned with revisions to the Courses of Study, met on a total of 60 occasions, while the elementary, lower secondary and upper secondary school subcommittees met on a total of 5 occasions, and the specialist subcommittees met 125 times in all. With these deliberations and meetings as a basis, during the Third and Fourth Terms, with a view to making a re-evaluation of the Courses of Study as a whole, the Central Council for Education assembled 5 times in all and the Subdivision on Elementary and Secondary Education assembled 9 times in all.

○ During the period in question, on November 7, 2007, the Subcommittee on the Curriculum issued a public announcement with the title "A Summary of deliberations to date within the Subcommittee on the Curriculum". With this "summary of deliberations" as the theme, hearings[7] of interested organizations were implemented, and opinions were solicited widely from the public at large, resulting in a total of 1140 submissions[8] The result of further deliberations regarding the views and opinions expressed was the conclusion that it was necessary for revisions, as described below, to be made to the Courses of Study for kindergartens, elementary, lower secondary and upper secondary schools, and specially supported schools, and these revisions are the subject of this report.

○ Turning to the role of the Central Council for Education, it has to ensure that the new Courses of Study confirm the system of instruction, and that educational conditions, for

example, the enriching and strengthening of textbooks, are put in place, while at the same time closely observing to ensure that revisions are reliably and smoothly implemented. It is also very important that constant reevaluations of the Courses of Study take place on the basis of investigation and analysis of the reality of curriculum design and implementation, and of research and practice concerned with the composition of subjects, and that suggested improvements continue to be closely examined. Against this background, it may be seen as entirely appropriate that the Subdivision on the Curriculum was made a standing committee within the Central Council for Education and that its deliberations continued.

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[1] On this occasion, the Minister asked for a wide range of issues to be investigated. Firstly, from the perspective of the process of instruction, the issues comprised ① improvement and strengthening of educational content aimed at enhancing the "human factor"; ② improvement of the framework comprised of the Courses of Study, aiming at thorough acquisition of the learning content; ③ realization of instruction that heightened the desire to learn and deepened understanding. A further issue was concerned with ④ taking forward education that utilized the special characteristics of schools and local communities.

[2] In terms of setting out the basic thinking of improvements to the Courses of Study, the "Report on the Progress of Deliberations" referred to the continuing importance of the present Courses of Study, comprising development of "zest for living" in such ways as ensuring a thorough grasp of fundamental knowledge and skills, and encouragement of the ability to engage in learning and thinking on one's own initiative. The report went on to indicate the need for consideration of specific, concrete ways of realizing these points.

With specific reference to the 2 educational paradigms, on the one hand, the so-called "learning acquisition" paradigm, comprising the need to ensure thorough acquisition of fundamental knowledge and skills, and on the other hand, the so-called "discovery-oriented" paradigm, comprising cultivation of the ability to learn and think for oneself, the report emphasized that these should not be seen as being in conflict or as requiring a choice between one and the other. Both paradigms should be used in a comprehensive pattern of education, and as means of achieving this end, it is necessary, the report said, to put stress on forms of learning such as language and experience, and on forming a basis for daily living.

The report went on to say that it is necessary to strengthen education in Japanese language and in science and mathematics, and in the context of examining the number of class hours needed for such strengthening, it is also necessary to reexamine the total number of class hours in the curriculum. The 5-day school week should be continued, and at the same time, as part of the direction of encouraging contact between schools on the one hand and families and local communities on the other, consideration should be given, the report suggested, to measures whereby use could be made ot Saturdays and the long school vacation.

In addition, from the standpoint of constructing a system to safeguard the quality of school education, it is necessary, the report said, to take forward examination of the following points on the basis of confirmation of the PDCA (Plan-Do-Check-Action) cycle: clarification of the objectives to be attained in the Courses of Study; strengthening of information provision and basic infrastructure; emphasis on input from the classroom (chalk face) in connection with designing and implementing the curriculum; appropriate evaluation of educational results by such means as implementation of the National Ability Test; and improvement of educational activities on the basis of such evaluations.

[3] The Revised Fundamental Law of Education specifies a number of new concepts as educational objectives, comprising a rich and fruitful fund of emotions and morality, respect for traditions and culture, and contributing to a peaceful international society (Article 2). At the same time, a number of new provisions bearing on the direction of the revisions to the Courses of Study are also incorporated in the revised law, such as the concept of lifelong learning (Article 3), the objectives of compulsory

education (Article 5), home education (Article 10), infant education (Article 11), mutual cooperation linking schools, families, and local community residents (Article 13), educational administration (Article 16) and basic educational planning (Article 17).

[4] ・on the results of an awareness survey concerned with compulsory education ... Takehiko Kariya (Professor, Graduate School of Education, Faculty of Education, University of Tokyo)
- on food education ... Yukio Hattori (President and Principal of Hattori Nutrition College)
- on career education ... Yuji Genta (Associate Professor, College of Arts and Sciences, University of Tokyo)
- on financial and economics education ... Nobuko Takahashi (journalist specializing in the economics of everyday life)
- Japan Federation of Primary School Principals Association (President: Chiaki Terasaki; Director of Investigation and Research Department: Yoshikazu Ikeda)
- National Association of Lower Secondary School Principals (Hidemi Takahashi, Director, General Affairs Department; Akio Taniai, Director, Department of Student Guidance)
- National Association of Upper Secondary School Principals (President, Mitsuhiko Koda

[5] With a view to taking forward thoroughgoing educational reform which would meet the expectations of the Japanese people, a delegation of officials, comprising the Minister of MEXT, the Vice-Minister of MEXT, the Parliamentary Minister of MEXT, and others, visited elementary schools, lower secondary schools and specially supported schools in the form of a network covering all 47 prefectures of Japan, saw how issues were actually being tackled in schools and classrooms, and listened directly to the opinions of educational personnel, children and parents. Visits to a total of 380 schools were implemented between January and July 2006

[6] As a result of soliciting opinions on the "Report on the Progress of Deliberations", a total of 405 opinions were received, for example: "In cultivating the "ability to think", the first priority is the acquisition of knowledge and skills".

The following opinions were also received: "No methodology is shown as a means of realizing the "aim of cultivating the ability to learn and think for oneself" in the current Courses of Study" and "Mixing with a wide variety of children within the framework of compulsory education is indispensable for growth."

[7] In the period November 27 to November 29, 2007, meetings were held with the representatives of the 42 organizations listed below, and their opinions were received and noted.

Japan Federation of Primary School Principals Association, National Association of Lower Secondary School Principals, National Association of Upper Secondary School Principals, All Japan Association of Principals of Specially Supported Schools, All Japan Federation of Retired Principals, Japan Vice Principals Association of Public Schools, All Japan Association of Principals of Public Girls' Elementary and Lower Secondary Schools, All Japan Association of Principals of National and Public Kindergartens, All Japan Federation of Private Kindergartens, All Japan Society for Research into Infant Education, Association of Prefectural Board of Education Superintendents, Association of Prefectural Board of Education Chairpersons, All Japan Association of City Board of Education Superintendents, All Japan Federation of Municipal Boards of Education, Federation of Core City Board of Education Superintendents, Japan Federation of Private Elementary Schools, Japan Federation of Private Lower Secondary and Upper Secondary Schools, Japan Teachers and Staff Union, All Japan Teachers and Staff Union, National Teachers Federation of Japan, Japan Senior High School Teachers and Staff Union, Organization for Children's Wellness through School Lunch, National Association of Organizations of Educational Administrative Personnel, All Japan Corresponding Federation of Teachers in Charge of Health Education, All Japan Research Association of Clerical Personnel in Public Elementary and Lower Secondary Schools, All Japan Association of Clerical Personnel in Public Lower Secondary and Upper Secondary Schools, Nippon Junior High School Physical Culture Association, All Japan High School Athletic Federation, Japan School Physical Education Research Federation, All Japan Senior High School Cultural Federation, Japanese Association of Religious Organizations (JAORO), Japan Association of Universities of Education, The Japan

Association of National Universities, The Japan Association of Public Universities, Japan Association of Private Junior Colleges, Japan PTA National Association, All Japan Federation of Upper Secondary PTA, National Council of Youth Organizations in Japan, Junior Chamber International Japan, Japan Association of Corporate Executives, National Federation of Small Business Associations, Japanese Trade Union Confederation, The Japan Chamber of Commerce and Industry.

[8] Opinions were solicited for a period of 1 month, from November 6 to December 7, 2007, and during this period, 1140 opinions were submitted.

1. Educational Objectives and Previous Revisions to the Courses of Study

○ In Article 1 of the Fundamental Law of Education, the objectives of education are described as follows: “Education shall aim at the full development of the personality, striving for the rearing of the people, sound in mind and body, who shall be imbued with the qualities required as formative agents of a peaceful and democratic state and society”. In more specific and concrete terms, the objectives are the full development of every individual personality and the nurturing of formative agents of the state and society. No matter how the times change, these objectives do not change, but remain unchanging and immutable.

○ As the criteria underlying the curriculum as it is drawn up in each individual school, the Courses of Study are broadly revised once every 10 years on the basis of changes in children and society with the aim of realizing the objectives stated above.

Courses of Study were issued on a trial basis in 1947, and were formally published by the Ministry of Education, Science and Culture in 1958. The 1958 revisions reflected a pragmatic, hands-on approach[1], and offered a complete renewal of the trends and currents of the "new education" strategy, which had a tendency to be too heavily biased toward unit-based learning[2]; emphasis was put on a systematic approach in each subject, with a strengthening of basic abilities set as the goal. The next set of revisions, in 1968, had as their foundation a remarkable rise in people's standard of living, cultural development and the advance of the social circumstances in which people lived, with the aims consisting of a further upgrading of the educational content. This was the period when the quantitative increase in educational content and in the number of teaching hours in the timetable approached its peak.

In contrast, in the revisions of 1977, made in the context of references to an existing bias favoring the transmission of knowledge in school education, emphasis was put on strengthening knowledge in its true meaning, in such ways as making a careful selection of educational content so as to ensure a thorough acquisition by children of the basic, fundamental elements of each school subject, and on aiming to achieve harmony between the cognitive, moral and physical aspects of human existence.

○ From 1984 to 1987, the National Council for Educational Reform was established within the Cabinet Office, and on the basis of a realization that education was the driving force of the development of Japanese society, policy proposals were made with the aim of taking reforms still further forward. The proposals incorporated 3 perspectives: "the principle of respect for individuality", "transition to a lifelong learning system", and "responding and adapting to change".

The revisions of 1989 to the Courses of Study were based on the reports issued by the National Council for Educational Reform, and laid weight on nurturing in children the ability to think, to make judgments and to express themselves, and on imbuing them with a

desire to learn for themselves and a self-motivated pattern of learning.

○ The Courses of Study currently in force were revised in 1998-99. They confirmed the final transition to a five-day school week, to be implemented for elementary and lower secondary schools from fiscal 2002, and for upper secondary schools from fiscal 2003. They further developed the directions shown in the revisions of 1989, and defined the primary quality needed by children who would have to bear the burdens of the coming age of severe change and turbulence as "zest for living". In order that this "zest for living" could be nurtured and developed, the quantity of educational content was reduced and timetabled teaching hours shortened, a "period for integrated study" was newly introduced, and the number of courses classified as elective courses in lower secondary school was increased.

Furthermore, as pointed out above, a partial revision of the Courses of Study was carried out in 2003. Through this revision, it was made clear that the material contained in the Courses of study, the "basic standard" that defined the Courses of Study, was material that should be learned by all children, and that depending on the actual abilities of children, schools could teach material that was additional to that contained in the official Courses of Study.

○ In ways such as those outlined here, the revisions made over the course of time in the Courses of Study issued in Japan for each educational level, namely kindergartens, elementary schools, lower secondary schools and upper secondary schools, have set out the following as their aims, on the basis of changes in society and the actual situation of children at any given time, and in the context of succeeding generations: 1) to complete the development of the personality of each individual child, and 2) to nurture and develop young people as the formative agents of the state and society

It is against the above background that the thinking underlying the latest revisions to the Courses of Study has attempted to grasp the current social changes and the nature of children today, and to consider how our schools, teachers and children can be enabled to develop to an ever greater extent the great power that they possess, and to realize the universal objectives of education.

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[1] In place of a dogmatic approach to education, whereby content was crammed into children's heads through reliance on such measures as memorization of existing knowledge and concepts, this educational approach is one that puts emphasis on children's own perceptions and intuition, and endeavors to promote children's development through experience.

[2] A method of learning and teaching that constructs educational content in terms of single units. In particular, this method means the adoption of experiential units that see the content in terms of a summary ot experiences that attempt to solve the problems that occur in everyday life, and the methods has been criticized in that it creates difficulties in trying to carry out systematic learning from the standpoint of trying to conduct the teaching of fundamental science and academic matters in a systematic way that is matched to children's development

2. The Underlying Ideas of the Current Courses of Study

The necessity of the ideas underlying the current Courses of Study

○ The Courses of Study currently in force took as their foundation the report made by the Central Council for Education in July 1996 with the title, "Concerning a Model for Japanese Education in the Perspective of the 21st Century". Specifically, the basic concept underlying the report is that of "zest for living", including the strengths needed, the report suggests, by children who will have to cope with living in society at a time of social turbulence. They have to be given a firm grasp of the basic essentials of knowledge and to be enabled, irrespective of the way in which society might change, to identify problems for themselves, to learn on their own initiative, to think independently, and to make autonomous judgments. While making these judgments for themselves and learning how to act and to acquire the ability and the qualities required to become even better at problem solving, they must also learn how to cooperate with others and acquire a rich sense of humanity imbued with emotions and a caring heart, and at the same time acquire a healthy body and live their lives bravely. All this is comprised in the notion, "zest for living", which is indispensable to polishing their own character and to living a rich and fruitful life.

○ After the report was presented, further deliberations on the points contained in it followed, and from the latter part of the 1990s up to the present time, it is reasonable to conclude that increasing importance came to be attached to the question of how to cultivate "zest for living" in the context of structural change in a society at a time when the idea of a "knowledge-based society" achieved a marked degree of prominence.

"Zest for living" in an age characterized as a "knowledge-based society"

○ More specifically, as pointed out in the report, "A Vision for the Future of Higher Education", issued by the Central Council for Education in 2005, it is said that 21st century society will be centered on what is termed a "knowledge-based society", in which new knowledge, information and technology will increase in importance by leaps and bounds as the basis of activities in many areas of society, such as policy, economics and culture.

As characteristics of a knowledge-based society, the following can be cited: ①Knowledge will have no national borders and will be increasingly globalized; ②Knowledge is constantly advancing, and within the framework of a competitive environment, technological innovation is being ceaselessly generated; ③ In many cases, the paradigms that have hitherto structured the

development of knowledge are being transformed, and along with this, increasing importance will be attached to judgments made on the basis of a broad spectrum of knowledge and flexible thinking; and ④Participation will be encouraged regardless of sex or age.

○ Taking up the concepts of a knowledge-based society and globalization as referred to above, international competition centered on the idea of knowledge itself and human resources is accelerating, and the need for coexistence with other cultures and civilizations as well as for international cooperation is increasing.

From the perspective of "competition", a change is taking place from a society focused on prior regulation to one focused on post-operational checks, and system-based innovation is being taken forward in such ways as deregulation and reform of the legal and regulatory system. This kind of change can be found in every type of socio-economic activity, and takes such forms as financial liberalization and increasing flexibility in terms of labor laws and systems. In this kind of society, in order to accomplish a set role while engaging in friendly rivalry with others and at the same time continuing to take responsibility for oneself, it is necessary to learn fundamental knowledge and skills, to be able to identify areas in which the acquired knowledge and skills can be applied, and to be equipped with the thinking ability required in problem solving, as well as powers of judgment and self-expression. Furthermore, it is necessary for everyone constantly to refresh themselves, so that their knowledge and skills do not become outdated. The requirement now is for learning to be carried out through the whole of one's life, and school education constitutes an important basis for this.

On the other hand, at the same time as the above, "coexistence and cooperation" are also required. In an environment in which information and people (=human resources) circulate within a given national society and are closely linked together in a complicated pattern of mutual inter-relationships, if the goal of sustainable development[1] is to be reached, in the world as a whole and in Japanese society, then positive efforts, within a context of cooperation, are required from everyone in response to such themes as environmental problems or the advent of a society characterized by an aging population and a declining birthrate. In this kind of society, a requirement is imposed on everyone to display in positive terms an "open and receptive self", living in harmony with other people and society, with the natural world and the environment, while conducting a constant dialogue with oneself.

Moreover, in order to be able to coexist, within a framework of globalization, with people whose lives are based on cultural and historical traditions that are different from one's own, it is very important that everyone deepens their understanding of, and acquires an attitude of respect for, the traditions and culture of their own native country or region.

○ Of course, precisely because of the advent of an age of globalization and a knowledge-based society, it is all the more important for everyone to participate of their own volition in local society and to seek solutions to its problems as a member of that local society, and to nurture an attitude of eagerly wanting to contribute to that society's development.

○ As outlined above, every individual lives within an interconnected network that takes the form of a society or other people, and every individual within that network has individually different hobbies and interests. Furthermore, in a society characterized by severe change and turbulence, there will be a not inconsiderable number of issues that it is difficult to confront, and in a society increasingly characterized by longevity, in which more and more people can look forward to long lives, it is very important, while living in an atmosphere of friendly rivalry with others, to conduct a dialogue with oneself while reading books and engaging in other activities, and to deepen one's knowledge of oneself.

○ As has been explained up to this point, in the context of a structural change in society, adult members of that society are required to have the ability to respond to that change on their own initiative. Taking that requirement as a basic precondition, if we try to identify in a word the strength that is required of children, who will bear the burdens of the next generation, then we can say that it is no other than the concept of "zest for living" , advocated in the report (1966) of the Central Council for Education.

○ This kind of awareness or realization is commonly shared on an international scale. For a period of 4 years, from 1997 to 2003, under the auspices of the OECD, specialists in cognitive science and evaluation from many countries, with the cooperation of educationalists, began an international comparative investigation to determine and define as "key competencies"[2] the abilities that were required by children who would bear the responsibilities and burdens of the coming age, characterized as a knowledge-based society. Taking cognizance of this international movement, the persons responsible for education in every country were made even more strongly aware than in the past of the commonalities of the school curriculum on an international scale. In this context, it is fair to say that although the value of "zest for living" was recognized, precedence was given to clarifying what children needed in society and then to thinking in terms of "key competencies" within a framework of thinking about improvements to the ideal pattern of education.

Furthermore, the same kind of thinking is evident in respect of the concept of “human resources”[3] as found in the Report of the Human Strategy Research Committee”, issued by the Human Strategy Research Committee located within the Japanese Cabinet.

Revised Fundamental Law of Education and "zest for living"

○ In December 2006, the objectives of education were redefined, after a period of 60 years, by revisions to the Fundamental Law of Education. Article 2[4] (4) of the said revised law is taken as the basis, with a call for the development of harmony between the intellect, morality and the body (Clause1), followed by specific definitions of the aims of education from the perspective of points set out in the form of individual autonomy (Clause 2), the relationship with others and society (Clause 3), the relationship with nature and the environment (Clause 4), and a call to live as Japanese in an international society on the basis of the traditions and culture of Japan (Clause 5).

○ In addition, by means of a partial revision to the School Education Law promulgated in June 2007, the objectives of compulsory education were set out in specific terms, on the basis of the revisions to the Fundamental Law of Education, as follows. It was stipulated that in elementary, lower secondary and upper secondary schools, "in order that learning extending over a whole lifetime can be cultivated as a basis, fundamental knowledge and skills shall be acquired, and at the same time, the ability to think, to make judgments and to engage in self-expression shall be cultivated as well as such other abilities as are necessary to solve problems pertaining to the application of said knowledge and skills, and an attitude of wanting to engage in learning of one's own volition shall also be nurtured with special emphasis on the need for preparedness" (Article 30, Clause 2; Article 49, Clause 62).

○ The following points set out clearly the important elements of academic ability, as customarily debated in connection with the definition stipulated here.

① Learning and acquisition of fundamental knowledge and skills.

② The abilities of thinking, judgment and self-expression needed to solve issues concerned with the application of such knowledge and skills.

③ Eagerness to engage in learning.

○ As shown here, the fundamental idea of education, as clearly shown by the revision of the Fundamental Law of Education and partial revision of the School Education Law, is none other than cultivation of "zest for living", which is emphasized in the current Courses of Study.

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[1] In 2004, the General Assembly of the United Nations, on the basis of a recognition that education played an extremely important role in promoting sustainable development, passed a unanimous resolution declaring the 10 years beginning in 2005 the "United Nations Decade of Education for Sustainable Development" (ESD: Education for Sustainable Development). The concept of "sustainable development"

is the same concept as that put forward in the report of the "World Commission on Environment and Development" of 1987, and while fulfilling the demands of future generations, it also denotes development that will satisfy the demands of the present generation, aiming to take forward under the umbrella of harmony, conservation of the environment, economic development and social development.

[2] "Key competencies" have been defined as the conceptual framework of the PISA begun by OECD in 2000. The PISA "do not only measure knowledge and skills, but utilize many different kinds of psychological and social resources but assess the ability to respond to complicated issues in specified domains. Specifically, assessments are made in 3 categories: ①the ability to use social and cultural, as well as skill-based tools, in an interactive way; ②the ability to form human relationships in many different kinds of social groups; and ③the ability to act autonomously.

[3] The report of the Human Ability Strategy Research Committee, chaired by Professor Shin'ichi Ichikawa of the University of Tokyo defines "human ability" as "comprehensive ability required by each individual wishing to live an autonomous life to the full at the same time as conducting the operations that constitute society". The report goes on to state that "human ability" can be enhanced by a balance that enhances in a comprehensive way ①factors related to cognitive ability; ②factors related to social and interpersonal ability; and ③factors related to self-control. It is also pointed out that human ability, if activities designed to grasp it are made the objective, can be classified into "working life aspects", "civic life aspects" and "cultural aspects".

[4] The Fundamental Law of Education
(Objectives of Education)
Article 2. For education to realize its objectives, respect should be given to freedom of scholarship, and the business of education should be carried out in such a way that the objectives listed below are achieved.

1) to instill in those in receipt of education a wide range of knowledge and general culture, to develop an attitude of searching for truth, to cultivate a rich and fertile esthetic sensitivity and a sense of morality, and at the same time as doing these things, to foster a healthy body.
2) while paying respect to individual values, to extend associated abilities, to cultivate creativity, to nurture a spirit of independence and autonomy, and at the same time to emphasize the connection between work and everyday life, and develop an attitude of putting a high value on work.
3) to put weight on justice and responsibility, gender equality, and on love and respect for onself and others as well as on cooperation, and at the same time, to cultivate an attitude of wanting to participate in the formation of an autonomous society, based on a spirit of independence and autonomy, and to contribute to its development.
4) to respect life, to place a high value on nature, and to cultivate an attitude of wishing to contribute to the conservation of the environment.
5) to respect tradition and culture, to instill love of one's country and homeland, which nurtures such respect, and to cultivate an attitude of respect for other countries and an attitude of wishing to contribute to the development of a peaceful international society

3. The present State of Children and Current Issues

○ As explained above, what is required from children as they prepare to bear the burdens of the coming age, characterized as a "knowledge-based society" is "zest for living". It is possible to locate within this social framework the PISA investigation regularly implemented by the OECD and targeted at 15-year old children from many countries. Underlying this investigation is not only a need to identify key competencies, but also an awareness that these constitute the driving force in social development as a whole.

The Courses of Study currently in force have the objective of nurturing "zest for living" in school education.

○ Turning to the issue of the current state of children, in a public opinion poll in 2005, the age group which rated highest for experience of participating in volunteer activities as well as for positively expressing hopes of participating in the future was that of 15 to 19-year olds; the percentage was higher than that found in a similar poll carried out in 1993, a trend which is viewed as a positive sign.[1] In another area too, that of a survey entitled "Investigations into the state of awareness concerning compulsory education", 70% of parents with children attending elementary and/or lower secondary schools were satisfied with their children's schools.[2] We should not forget that in the background to this statistic we can identify the unceasing efforts of teachers in the schools throughout Japan.

○ On the other hand, the various issues listed below can also be identified from the results of a number of surveys as forming part of the current condition of children.

Children's academic ability and the current state of learning

○ The present state of children's academic ability has been grasped and analyzed on the basis of the results of surveys carried out by NIER[3]. In elementary and lower secondary schools, surveys were carried out in fiscal years 1993 to 1995, in fiscal 2001 and fiscal 2003. Taking the results of the survey implemented in fiscal 2003, the percentage of correct answers to problems, compared with the percentage of correct answers to the same problems from the survey 2 years earlier in 2001, showed an overall significant rise of about 43%, making it possible to acknowledge a set achievement in the learning of basic knowledge and skills. It is fair to say that this result reflects the efforts[4] that teachers in every schools made to ensure that children had a thorough grasp of basic knowledge and skills. On the other hand, a problem issue is that it is also possible to identify areas such as that of writing skills in Japanese (= native language), where there was a decline in the percentage of correct replies.

Turning to the position in upper secondary schools, a comparison of the results from a survey conducted in fiscal 2005 with the results of a 2002-2003 survey shows, for example, that while there was a rise in the percentage of correct replies for "listening" in English, there

was a decline in the results for Japanese classics.

○ On the other hand, in the results from international surveys of academic ability conducted in 2003 (the PISA[5] by OECD and the TIMSS[6] results from the International Association for the Evaluation of Educational Achievement (IEA)), it can be seen that overall, the results of academic ability for children from Japan showed a rise in international terms. Specifically,

- there is an issue with regard to reading and understanding and with regard to writing;
- in the area of pupils grouped by proficiency in terms of reading and understanding in the PISA, a comparison of the 2003 results with those of 2000 shows an overall pattern of expanded distribution, with a lowering of results for the middle group and a rise in the results for the lower group.

A tendency toward a decrease in the level of results can be discerned in the above.

We can also find in the results of the 2006 PISA[7] a slight decline in the achievement results of the lower group in terms of reading and understanding and in numerical literacy. At the same time as being able to identify the same kind of trends that could be seen in respect of the same problems in the 2003 survey, the numerical literacy results for a high-attainment group that was above the OECD average also showed a decrease in terms of the percentage of high grades, and the average grades attained also decreased. In addition, looking at the area of science literacy, while there was no change in a comparison of the results for the same problems a those of the 2003 survey, when it came to looking at the percentage of pupils who enjoyed or showed an interest in science, there was again clearly a problem issue to be addressed in terms of the generally low level[8].

○ On April 24, 2007, MEXT implemented a National Assessment of Academic Ability over the whole of Japan, targeting elementary school pupils in grade 6 and lower secondary school pupils in grade 3. The subjects tested were Japanese and Mathematics, and pupils were assessed both on their grasp of knowledge and skills and on their ability to apply what they knew[9]. A questionnaire on lifestyle and study habits was also implemented. The test results will be analyzed from many different angles; the most important factor in an analysis of the results can be found in the ability to bring about improvements in the education system.

What can be said about survey results to date is that in the same way as with the Curriculum Implementation Survey or the National Assessment of Academic Ability, in general terms, considerable numbers of children can be thought of as having acquired fundamental knowledge and skills, but problem issues can be identified in individual cases, such as for example in Mathematics in lower secondary schools, understanding the meaning of the transposition of a term in mathematical equations or understanding the relationship between the volume of a cylinder and a cone.

On the other hand, points such as the following can be identified as causing problems in the area of the application of knowledge and skills. For example, in Japanese:

・summarizing the main points of the facts in an explanatory passage, or extracting necessary points from a document and rewriting them in accordance with set conditions (elementary school).
・comparing information extracted from multiple documents, and writing in clear terms the points that have to be conveyed (lower secondary school).

Or in Mathematics:

・ extracting the information necessary to determine the area of a place indicated on a map, making a comparison, and giving an explanation of the reason for the answers (elementary school).
・ understanding the meaning of a hypothesis and a conclusion, and improving a proof so as to make it correct (lower secondary school)

Furthermore, there is a trend which shows that children who have acquired the ability to apply knowledge and skills have a thorough grounding in the said knowledge and skills, but on the other hand, a thorough grounding in knowledge and skills is not necessarily limited to those children who have the ability to apply them.

○ As shown above, there is general agreement that on the basis of the results of the various surveys, even though there are areas of individual difficulty in terms of the acquisition of fundamental knowledge and skills, in general, a set level of achievement has been reached. However, there are problems about questions concerned with reading and writing ability which aim to test the skills of thinking, making judgments and engaging in self-expression. These abilities are stressed in the current Courses of Study, but it has to be said that they constitute a major problem issue because they are the abilities that children will need when they go out into society.

○ A further point is that as a factor contributing to the expanded disperson of the distributed PISA results, one can cite the high rate of non-replies among Japanese students to the questions on reading and understanding and on writing in terms of international comparisons. This shows that there is an issue to be faced in terms of the widening individual disparities in terms of eagerness to learn, itself an important element of academic ability, and in terms of an attitude of wanting to get to grips with stubborn and intractable issues.

In this connection, it should be noted that an international comparison of the results of international surveys of academic ability such as the PISA, implemented for first grade upper secondary school students in 2003 and 2006, shows that Japanese students had comparatively low results for questions concerned with a liking for science and mathematics. Moreover, according to the TIMSS, targeted at elementary and lower secondary school pupils, Japan had the lowest results of any participating country in terms of the time spent on homework outside school, but on the other hand, it had the highest results in terms of time spent watching video

and TV, and came about midway on the scale for time spent helping in the house. And in a 2005 survey on curriculum implementation targeted at upper secondary school students, although the results showed a slight improvement, about 40% of respondents said that they either spent no time at all or very little time studying on school days outside timetabled school hours.

On the other hand, looking at more recent results, in the National Assessment of Academic Ability implemented for elementary and lower secondary school pupils in April 2007, in contrast to the Curriculum Implementation Survey implemented in 2003, there was a percentage increase, particularly among lower secondary pupils, in the numbers who said they liked studying Japanese and Mathematics. Improvements could also be identified among both elementary and lower secondary school pupils in terms of an increase in the daily time spent studying or reading. An issue that needs to be studied in the future is how this trend can be sustained and how it can be brought to fruition in terms of a firmer grounding or improvement in academic ability.

○ As mentioned above, the National Assessment of Academic Ability also asked pupils about their eagerness to study and about their study and lifestyle habits, and replies to these questions were correlated with the replies to the academic questions. The result of this analysis was that there was found to be a relatively high correlation between children who had a high percentage of correct replies and those who answered that they did homework set in school at home, talked about school matters with other members of their family, ate breakfast every morning, checked that they had all the books etc. that they needed before they left home, and obeyed the school rules. It is clear from this that there is a significant correlation between correct academic answers and confirmation of basic study and lifestyle habits.

A further point is that those children who said they liked reading and thought they would like to become the kind of person who understands the feelings of others also had a tendency to have a high percentage of correct replies.

The current condition of children's mind and body

○ The number of issues concerned with the current condition of the mind and body of children is not insignificant; they include a slackening of self-control and awareness of normative behavior as evidenced in such ways as the so-called problem first graders or the phenomenon of grade class breakdown, also insufficiently established daily living habits[10] and problem behavior[11], including bullying and suicide resulting from being bullied, and a decrease in physical strength and stamina.

On the other hand, the number of children who do exhibit self-control is small in terms of international comparisons[12]. The number of children who are apathetic about their future or show feelings of unease is increasing,[13] and at the same time, there is also an increase in the number of children who have worries about friendships with others[14]; these findings indicate

weakness or difficulty in forming human relationships.

○ The physical and mental development of children is affected by many different kinds of influences derived from changes in the social environment or lifestyles. Along with an overall decline in the physical criteria applied to children, as seen in the results for stamina or mobility, an expanded dispersion pattern in respect of children who view exercise positively and those who do not has also been noted.

○ As can be seen, against the background of changes in the environment by which children are surrounded, in the same way as in the case of eagerness to learn, one problem issue is the growing area of divergence between individual children in respect of living styles, self-confidence and physical stamina.

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[1] In an "Opinion Survey on Lifelong Education", conducted in May 2005 by the Cabinet Office, the figure of 55.3% for respondents aged 15-19 who said that they had participated in volunteer activity was greater than that of 44.2% for respondents aged 20 and over who gave the same reply. Furthermore, the figures for respondents who said that they would like to participate in volunteer activity were 72.7% and 59.6% respectively. In the same survey conducted in 1993, the figures for respondents aged 15-19 were 38.3% for those with participation experience, and 66.7% for those who said they would like to participate in the future.

[2] This figure is the total of 5.5% who replied "very satisfied" and 64.5% who replied "satisfied".On the other hand, in terms of replies on individual issues, the total of replies expressing positive affirmation and approval exceeded 60% ("I certainly think so" (positive affirmation) and "I think so" (approval)).

- "In the Period for Integrated Study, there was a big disparity in terms of the number of teachers and the eagerness they displayed. (Affirmation and Approval, 65.3%).
- The number of class hours in a year should be increased (*ibid*, 67%).
- Supplementary learning should be conducted after the end of classes, on Saturdays and in the summer holidays (*ibid*, 61.4%).
- English activities should be made compulsory in elementary schools (*ibid*, 66.8%).
- There should be instruction geared to future work and life patterns (*ibid*, 62.7%).
- Experiential and volunteer activities in the community should be organized (*ibid* 63.7%).
- Teaching should be in small groups or given by multiple teachers (*ibid*, 80.9%.

In addition to the above, opinions expressed in school meetings organized by MEXT included those who were concerned about reductions in teaching content and class teaching hours, a lowering of basic academic ability, excessive attendance at “juku” preparatory schools, and so on. On the other hand, there were also many people who said that children had stopped playing outside, that they did not experience any games appropriate to their stage of development, and that children were unable to communicate, all of these comments indicating a change in children; these were reinforced by comments that exchanges among children themselves, such as playing in groups, also movements to stimulate greetings and improve manners were effective.

Looking also at the results of a subsequent survey: "Survey on the Consciousness and Lifestyle of Pre-teens and Young Teens" (Cabinet Office survey of February 2007), 73.6% of the parents of elementary and lower secondary school children were satisfied with school education, while 25.6% were dissatisfied. In addition, in the same survey, 95.9% of elementary school children and 94.4% of lower secondary school children found school life "enjoyable".

[3] The surveys referred to were carried out by NIER and targeted at pupils in Grades 5 and 6 of

elementary school, and Grades 1 to 3 of lower secondary school, and students in Grade 3 of upper secondary school. Their objective was to acquire basic data to serve the cause of reform of instruction and of the Courses of Study as a result of grasping the situation over the country as a whole regarding the extent to which the educational content as shown in the Courses of Study for elementary, lower secondary and upper secondary schools had been acquired by the objects of the survey.

[4] In December 2000, MEXT received the "Report of the National Commission on Educational Reform - 17 Proposals for Changing Education". In January of the following year, 2001, MEXT drew up its "Education Reform Plan for the 21st Century", showing 7 priority strategies designed to raise the level of basic academic ability by means of teaching that could easily be understood. In January 2002, MEXT issued a document entitled "Exhortation toward Learning", the 2002 appeal for academic ability, with the aim of accelerating in each school positive attempts to tackle the consolidation of basic academic ability. Furthermore, in 2003, the Courses of Study were partially revised, and at the same time as clarification of the fundamental nature of the Courses of Study, an action plan to raise the level of academic ability from 2003 was implemented.

As a result of the issuing of these documents, the number of standard class teaching hours in a year in elementary and lower secondary schools was raised from 2005 in over 90% of all public sector schools, and at the same time, and a system of grading classes by the level of proficiency was implemented in more than 80% of elementary schools and more than 70% of lower secondary schools

[5] The abbreviation for the Programme for International Student Assessment, which can be redefined as a "survey on the attainment level of student learning" It is implemented by the OECD (Organisation for Economic Co-operation and Development". Targeting students in Grade 1 of upper secondary school, it evaluates the level to which students can utilize their knowledge and skills when confronting issues in a variety of aspects of actual everyday life. (In the 2003 survey, 41 countries and regions participated, and with "mathematical literacy" as the main domain, "reading ability", "scientific literacy" and "problem solving" were also investigated.

(survey headings)

- Reading literacy: the ability to understand, use and reflect on written texts, in order to achieve one's goals, to develop one's knowledge and potential, and to participate effectively society.
- Mathematical literacy: an individual's capacity to identify and understand the role that mathematics plays in the world, to make well-founded judgments and to use and engage with mathematics in ways that meet the needs of that individual's life, at present and in the future, including his or her private life, occupational life, and social life with friends, family and relatives, as a constructive, concerned and reflective citizen.
- Scientific literacy: the capacity to use scientific knowledge, to identify questions and to draw evidence-based conclusions in order to understand and help make decisions about the natural world and the changes made to it through human activity.
- Problem solving: an individual's capacity to respond to problems in cases where ①the problem is a real-life situation, ②the solution path is not immediately obvious, and ③the problem is not limited to a single literacy domain.

[6] The abbreviation for Trends in International Mathematics and Science Study. It is implemented by the International Association for the Evaluation of Educational Achievement (IEA), and targets pupils in Grade 4 in elementary school and Grade 2 in lower secondary school to evaluate the extent of their learning of knowledge and skills in the school curriculum. (Participating countries and regions: 25 at elementary school level, 46 at lower secondary school level. Survey domains: Arithmetic/Mathematics and Science (as of the 2003 survey)).

[7] In 2006, the number of participating countries and regions increased to 57, the central focus was on the domain of "scientific literacy", and the domains of "reading" and "mathematical literacy" were also assessed.

[8] With regard to "scientific literacy", which was the central domain in the 2006 survey, in contrast to the favorable results in the area of "using scientific evidence", there were clearly problems in relation to "recognizing scientific problems", where students had to make judgments about the possibility of carrying out scientific investigation of a problem, or to "explaining a phenomenon in scientific terms",

where students had to list factors, other than CO^2, which had the potential to exert an influence on the greenhouse effect.

[9] The questions in the National Assessment of Academic Ability can be divided into 2 kinds, ① questions mainly about "knowledge" (primarily content that would have an influence on learning in higher grades if it was not acquired, or content and skills that it was desirable to be able to utilize because it was indispensable in daily life) and ②questions mainly about "application" (primarily the ability to apply knowledge and skills in a variety of different contexts in everyday life, or the ability to draw up a plan in different problem-solving situations and then put it into practice and evaluate and improve it).

[10] With regard to daily living habits, the following results emerged from the "Consciousness Survey on Compulsory Education".

- The percentage of children going to bed after midnight on a weekday was 10% for Grade 6 in elementary school, 50% for Grade 2, lower secondary school, and 60% for Grade 3, lower secondary school.
- The number of children who eat breakfast every day decreases as they move to higher grades. For elementary school, Grade 4, the figure is about 90%, but for lower secondary school, Grade 1, it is 80%, and for Grade 3 it goes down to 70%.
- The percentage of children who watch TV, video or DVD every day for 3 hours or more is about 40% for elementary school pupils and about 50% for lower secondary school pupils.
- It should also be noted that in a "Survey on the Actual Food Habits of Children" (Japan Sports Promotion Center, 2005), results shows that children who almost never eat breakfast amounted to 4% for elementary school, Grade 5, rising to 5% for lower secondary school, Grade 2. Also, the total of children who go some days without breakfast was 13%.
- Results from a "Survey on School Health Statistics" showed the following.
- Children with a tendency to obesity (120% or more above the average weight for their height, classified by sex and age) are increasing in all grades. In 1982, the figure for children in Grade 6, elementary school, was 7.1%; this increased 1.5 times to 10.2% in 2005.
- On the other hand, children with a tendency to thinness (80% or less below the average weight for their height, classified by sex and age) are also increasing in all grades. In 1982, the figure for children in Grade 6, elementary school, was 1.4%; this increased to 3.5% in 2005

[11] With regard to the present numbers of children exhibiting problem behavior, figures for fiscal 2005 showed an increase in the number of pupils who failed to attend school regularly in the case of both elementary and lower secondary school. In particular, the percentage of such pupils from lower secondary schools reached 2.86%, the highest figure on record. In the case of commission of acts of violence, there was a total of 44,621 incidents involving elementary, lower secondary and upper secondary schools. In the case of years prior to 2004, there is a need to take account of a change in the survey methods, but the figures for 2005 showed an increase over the previous year at all levels of schooling.

[12] According to a survey conducted in March 2005 by the Japan Youth Research Institute entitled "Report on eagerness to learn and everyday living habits of high school students; an international comparison of Japan, the U.S.A. and China", Japan had the lowest total of positive responses concerned with self-evaluation of daily living, i.e. "I try to engage positively with things", "I like displaying leadership", "I am relatively well able to control my own desires" and "I like studying" among all 3 countries.

According to a separate survey, "Survey Report on the Consciousness and Daily Life of Early teens and Pre-teens", carried out by the Cabinet Office in February 2007), when the results are compared with those of the same survey carried out in September 1999, positive responses to "I have confidence in myself" decreased for elementary school pupils from 56.4% to 47.4%, and for lower secondary school pupils from 41.1% to 29.0%.

[13] According to the Cabinet Office survey of February 2007, " Survey Report on the Consciousness and Daily Life of Early teens and Pre-teens ", the number of lower secondary school pupils who responded

that they were worried or anxious about their studies or their future school career increased from 46.7% in the same survey carried out in September 1999 to 61.2%.

[14] According to the Cabinet Office survey of February 2007, " Survey Report on the Consciousness and Daily Life of Early teens and Pre-teens ", the number of lower secondary school pupils who responded that they were worried or anxious about making friends increased from 8.1% in the same survey carried out in September 1999 to 20.0%.

4. Background Factors and Causes of Current Problem Issues

○ When we looked above at the current state of Japanese children, we found that were a significant number of issues that needed to evaluated. On the other hand, there are also problem issues located within the various concepts covered by “zest for living”, including the ability to think, make judgments and engage in self-expression, eagerness to learn, study and lifestyle habits, confidence in oneself and interest in the future, and physical strength and stamina.

○ Children are nurtured not only by education within schools, but also by education in their families and communities, and they are subject to considerable influences from social changes and changing trends. Because these formative processes are mutually interactive, it is exceedingly difficult to elucidate factors of cause and effect, but we have made divisions and examined as background factors the family and the community, problems of society as a whole, and problems of school education as a whole. Problems related to school education are:

- specific means for realizing the ideas of the Courses of Study;
- putting in place conditions for securing interaction between teachers and pupils, and for implementing effective and efficient teaching.

(1) Society as a whole and change in families and communities

○ As stipulated in Article 10 of the Fundamental Law of Education, the primary responsibility for education rests with the family.

In particular, securing time for family interaction and implementing basic discipline, and at the same time, confirming basic living habits[1] such as ensuring sufficient time for sleep and improving eating habits, is the cornerstone of "zest for living". In both the Elementary and Lower Secondary Curriculum Implementation Survey and the National Assessment of Academic Ability, there was a tendency for children who had acquired sound basic lifestyle habits to have higher scores on the academic questions.

Moreover, interacting with adults and engaging in friendly rivalry with children of different ages through the medium of sports and games, and taking part in activities in natural surroundings are all things that until now, have been naturally secured in families and communities, but their importance must be stressed and not simply taken for granted.

○ However, at the same time as we move toward a more affluent age, against a background of social and lifestyle changes such as the growth of nuclear families and increasing urbanization, a decrease in the educative power of families and communities has become evident. The reality is that ensuring a firm grounding in lifestyle habits is insufficient, and the opportunities for nature-based activities or for interaction with children of other ages and with adults other than

parents or teachers are decreasing[2]. Moreover, as also shown in a Cabinet Office survey, parents themselves, when identifying problem areas concerned with bringing up children or education, specified in the first instance "insufficient education and discipline within families"[3].

○ As noted in Chapter 3 above, against the background of a growing disparity among individuals in terms of such things as eagerness to study or lifestyle habits, confidence in oneself and physical strength and stamina, it may be assumed that the ideal form of the environment surrounding children, primarily in the form of the family, exerts a considerable influence on their development.

○ Furthermore, the present environment is one in which we can see on the one hand a change in the employment environment in the form of an increase in persons in irregular employment, and on the other, the advent of the age in which, thanks to the decline in the 18-year old population, all those who wish are able to enter university. In this kind of environment, the kind of situation we are witnessing is one in which children feel great uncertainty about their future, fail to see any connection between their school studies and their own future, have less desire to learn, and do not have confirmed study habits. Awareness of the kind of changes noted here can also be found in surveys targeted at parents[4]. And this same situation is also one reason for the results identified in international surveys of academic ability that show children as having a relative lack of ability to apply knowledge and skills, an unwillingness to think persistently about an unknown problem or issue, and a low level of eagerness to engage in self-expression.

On a wider level, these characteristics in children are supported by a social trend[5] of wanting to enjoy the present rather than prepare for the future.

(2) Specific means of realizing the ideas of the Courses of Study

○ Next, when considering reasons why the specific means of realizing the basic ideas of the Courses of Study were not necessarily sufficient, it is reasonable to think of the issues contained in the 5 points listed below.

○ 1) On questions such as why "zest for living" is necessary for children from now on and what the precise meaning of this concept is, the efforts made by MEXT to ensure wide understanding and a thorough grasp of the concept were not necessarily sufficient, and there was not enough common understanding between MEXT on the one hand and schools, parents and society on the other.

With regard to the form of education, it is very easy to construct a bipolar opposition between "room to grow" (sometimes translated as "relaxed education") and "force-feeding". But in fact, for children who will grow into adults with responsibility for bearing the burdens

of an age of rapid change, it is necessary to overcome this bipolar opposition; what children need to do is acquire basic knowledge and skills as well as to acquire the various abilities, namely the ability to think, form judgments and express themselves, that are required to apply the knowledge and skills that they have learned, and to more forward with these skills and abilities working in a coordinated way like the wheels of a car. This kind of approach is very important in that it suits the coming "knowledge-based society", but at the present time it would be difficult to maintain that there is an adequate common level of understanding.

○ 2) Against the background of the issue presented in 1) above, if we look more closely at the teaching as implemented in schools, we can refer firstly to the questions posed in the report issued in 2003 by the Central Council for Education entitled "Present Policies for Improving Curricula and Instruction in Elementary and Secondary Education"[6], as to whether sufficient respect is paid by teachers to children's autonomy, and whether teachers did not show indecision about their teaching. In connection also with 1) above, one point, the importance of which goes without saying, can be defined as a major idea in respect of school education, expressed in the words, "to develop the ability to learn and think for oneself". What is expected of teachers in the course of everyday classroom activities is not that they will force content down the throats of pupils but that they will teach in a way that makes children think[7], while ensuring that children have a thorough grasp of basic knowledge and skills.

○ 3) In the Courses of Study currently in force, in order that the knowledge and skills acquired in each subject can be utilized in a comprehensive way, a Period for Integrated Study, in which emphasis was to be laid on hands-on, problem-solving types of activities, was newly created, but sufficient attention was not necessarily paid to formulating an appropriate division of roles as well as links between this newly created period and other school subjects in respect of the development of the ability to think, the ability to form judgments and the ability to express oneself, which are objectives of school education as a whole.

More specifically, the intention was that essentially, while learning the fundamental knowledge and skills associated with each school subject, children would carry out experiments and observations and write up the results in reports, and that after reading written documents, they would assemble and set down their own thinking in the light of their knowledge and experience. By these means, they would carry out learning activities involving the application of the knowledge and skills they had learned in the various school subjects. It was then envisaged that they would discuss their results and their activities in a cross-curricular framework in the Period for Integrated Study and would be helped to develop discovery-type activities[8]. The various learning activities described here are mutually inter-related and cannot by their nature be clearly divided and classified, but thinking, judgmental and expressive abilities are developed through learning activities which utilize acquired knowledge and skills and through the discovery-type activities which are based on the learning activities.

However, in a context in which subject hours are reduced, it is difficult to engage in

learning activities which utilize the acquired knowledge and skills and also difficult to evaluate the results[9]; the significance of these learning activities is not understood and it cannot be said that they are carried out to a sufficient degree. The result of this situation is that the links at different grades and levels of schooling between the knowledge and skills acquired in timetabled subjects and the problem-solving and exploratory-type activities carried on in the Period for Integrated Study have become very impoverished, and this is one reason why the education of Japanese children in thinking, judgmental and expressive abilities through the medium of all the educational activities in the school has not been sufficient.

○ 4) Linked to the topic picked up in 3) above, with a view to encouraging them to think, form judgments and engage in self-expression, children have to acquire fundamental knowledge and skills in each timetabled school subject. If at the same time as doing this they also have to compile reports on experiments and observations and carry out learning activities in the form of applying the knowledge and skills they have acquired, then the number of hours timetabled in elementary and lower secondary schools at the present time is simply not enough.

In the Courses of Study currently in force, the total number of class hours at each grade of elementary and lower secondary school has been reduced to 70 credit hours a year (equivalent to 2 classes a week) in line with the full-scale adoption of a 5-day school week. Furthermore, the result of the creation of the Period for Integrated Study and the emphasis on optional courses in lower secondary school is that the number of hours for almost all compulsory courses has been reduced.

However, as shown in 3) above, what is needed from now on is that accompanying the study of fundamental knowledge and skills in the various subjects, emphasis is put on ensuring that children acquire a firmly grounded ability in thinking skills, judgmental skills and expressive skills through strengthened learning activities involving utilization of the fundamental knowledge and skills acquired in their subject classes.

○ 5) Finally, if we look at the need to ensure that a rich and fertile heart and mind and a healthy body are cultivated through the medium of school education, then we have to say that the response to the lowering of the educational function of families and communities at a time of great social change has not been sufficient.

For the development of a rich and fertile heart and mind and a healthy body to be implemented, it is necessary to have a division of roles and good liaison between schools, families and communities. In particular, the role that has to be played by families is large, and no matter what form changes in society take, that role does not change in the slightest. However, in an overall atmosphere in which the educational function of families and communities has decreased in strength, in which there is insufficient confirmation of good lifestyle habits, and in which there are fewer opportunities for interaction between children and adults other than parents and teachers and fewer opportunities for experience in the natural world, it is necessary that as well as strengthening moral education and physical education,

chances to engage in hands-on activities in school education should be created, and new and strengthened links should be formed between families, schools and communities.

(3) Putting conditions in place to ensure that teachers have enough time in which to secure effective and efficient communication and interaction with children

○ The ideas underlying the official Courses of Study are things that have to be realized in the course of the everyday teaching that takes place in children's classrooms, and in this context, vitally important questions are how far teachers can communicate and interact with children, what kind of textbooks and teaching materials they use, and how effectively and efficiently they teach by utilizing ICT[10] and other educational aids in the classroom environment.

○ In particular, in the course of aiming to achieve the dual aims of achieving on the one hand a thorough grounding in fundamental knowledge and skills and on the other the development of the skills of thinking, forming judgments and engaging in self-expression, both of which aims are essential components of "zest for living", it is very important to assess in detail the degree of understanding achieved by each individual child.

It is also necessary to ensure that children who lack confidence in themselves and are hesitant and uncertain about their future and about forming human relationships, are enabled through the medium of class teaching and hands-on activities, or through individual guidance after classes have finished, to feel firm responses in communicating with others and with society at large, and conditions have to be put in place so that more time than hitherto is set aside for ensuring that these aims are realized.

○ There is considerable interest, including that in overseas countries, in the ways in which teachers in Japan make efforts to improve the quality of their teaching in ways such as "class teaching research", and in addition to this, pupil guidance and club activities are also carried out in the form of guidance to children outside timetabled class hours. According to the results of a survey into the actual working conditions of teachers carried out by MEXT, teachers in elementary and lower secondary schools worked on average about 34 hours overtime in a month, an increase in overtime hours compared to a survey of working conditions carried out in 1966.

○ However, it is clear from the results of analyzing the content of the duties carried out by teachers, as shown in the survey referred to above, that the reality is that apart from duties directly connected with the teaching and guidance of children, a great deal of time is consumed by school management and administrative duties such as school management meetings and discussions, clerical duties, the writing of reports and such like, and by responding to external matters in the form of administration and contact with outside organizations.[11] In order to achieve a rise in the quality of teaching that is coupled with the efforts of teachers exemplified

in such ways as "class teaching research", what is necessary as an absolute first priority is that sufficient time is secured for teachers to communicate with and interact with children.

○ With the above aims in mind, there is a need to establish educational conditions taking such forms as school facilities and administrative arrangements, including the allocation of teachers to posts and duties, facilities and equipment, textbooks and teaching materials, and the ICT environment, and to examine on a wide scale the form that should be taken by systems to support schools in communities as a whole, and educational finance and administration in terms of providing support for schools and teachers.

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[1] In the context of confirming living habits, it is possible to think of taking as points of reference the "4 key activities" carried out in firms and other bodies as contributions to improving safety consciousness, namely discarding unnecessary things, putting things in order, maintaining personal cleanliness, and maintaining clean and tidy surroundings.

[2] According to a "Situation Report on Nature Experience Activities by Young People in 2005" (targeted at Grades 4 and 6, elementary school, and Grade 2, lower secondary school) issued by the National Olympics Memorial Youth Center, comparing figures for 1998 and 2005, the number of respondents who said that they had never or almost never taken part in the following activities showed an increase: "caught butterflies, dragonflies or grasshoppers" (19%→35%), ""watched the sun rise or go down" (34%→43%), "gone camping" (38%→53%), etc.

[3] According to a Cabinet Office report of February 3005 entitled "Survey report on the Consciousness and Daily Life of Early teens and Pre-teens", parents of children in elementary or lower secondary school ranked highly on questions asking for multiple responses to problem points in areas such as child care, education and so on.: "Discipline and education in the home is inadequate" (59.9%); "Children can no longer live their lives safely in local communities" (58.3%); and "Children receive bad influences from the media such as TV and the internet" (50.0%)

[4] According to a Cabinet Office report of February 3005 entitled " Survey report on the Consciousness and Daily Life of Early teens and Pre-teens ", responses by parents of children in elementary or lower secondary school showed a large decrease compared to responses in September 2000 in respect of the following points: "Studying for entrance examinations is very hard" (55.9% to 22.1%); "Children's life is heavily biased toward study" (34.8% to 18.1%); and "Schools try and teach too much" (22% to 6.1%).

[5] Looking at the results over time of the "Opinion Poll Survey on People's Daily Lives" conducted by the Cabinet Office, in the survey held in 1986, the number of respondents who agreed with the statement, "I'm enjoying a rich and fruitful life every day" was higher than those who agreed that "I'm preparing for the future with savings and investments". But over the years, the gap between agreement to the two statements has widened, and in the survey of October 2006, 57.2% agreed with the statement, "I'm enjoying a rich and fruitful life every day", while only 29.3% agreed with the statement, I'm preparing for the future with savings and investments".

[6] In the Report, the following case studies were presented by schools concerning the current Courses of Study:

- Failure to secure necessary instruction time for class instruction in each subject.
- Implementation of the Period for Integrated Study without clarification of the qualities and abilities with which children are supposed to be equipped.
- Too much emphasis on children's subjectivity and individual interests, resulting in an inability of the part of teachers to implement necessary and appropriate instruction and insufficient improvement in educational effects.

In the above and similar comments, reference is made to cases in which instruction did not meet the

requirements of the Courses of Study. In December 2003, on the basis of the above, part of the Courses of Study was revised, focusing primarily on clarification of the standardizing role of the Courses of Study.

[7] When carrying out teaching which is designed to get children to think, it is important to establish a connection, by means of devising teaching tools and materials and grasping the level of children's understanding, between "teaching" and "enabling the thinking process"

[8] Discovery-type activities are important in that they stimulate children's intellectual curiosity, enhance their desire to learn, and enable children to understand knowledge and skills in an experiential way. They need to be promoted in a positive way in order to heighten children's ability to study and think for themselves. It can be anticipated that through such activities, connections will be established between the various areas of knowledge and skill that children acquire in subject teaching, and will interact together in a comprehensive way.

[9] Encouragement of the abilities involved in thinking, making judgments and engaging in self-expression by means of learning activities such as the application of knowledge and skills or discovery-based projects has until now been termed "invisible academic ability" because of the difficulty of measuring it. However, recently, both within the OECD PISA and by the inclusion of "application" problems in the National Academic Ability Survey conducted by MEXT, methods of measuring such ability have begun to be developed and disseminated.

[10] ICT is the abbreviation for Information and Communications Technology. It has the same meaning as IT (Information Technology). In terms of ICT in the field of education, it is possible to think of teaching by means of the application of electronic teaching materials or of information management utilizing computers.

[11] An analysis of the working timer of a teacher during one normal working day in July, September, October, November and December in 2005 shows that for example in July, a teacher spent 6 hrs. 27 mins. carrying out teaching involving direct contact with children, while 4 hrs. 29 mins. were needed to carry out other duties.

According to the "Results of a Survey on the Consciousness of Teachers and Parents" carried out at the same time, teachers reported that they did not feel particularly busy as a result of "teaching", but that they did feel busy as a result of desk work, including such things as "dealing with grades", "lesson preparation", "clerical work and preparation of reports", etc.

5. The Basic Thinking underlying Revisions to the Courses of Study

○ With the revisions to the Fundamental Law of Education and the issues affecting children to date as a basis, the basic thinking underlying the revisions to the Courses of Study is as follows. Implementation is carried out from the perspective of confirming a specific means of realizing the ideas inherent in the Courses of Study.

(1) Revisions to the Courses of Study on the basis of the Revised Fundamental Law of Education

○ As explained above, the Fundamental Law of Education was revised in December 2006 after a space of about 60 years, and a new concept was established in education. The perspective underlying this concept was that of educating Japanese who would be imbued with a rich and fruitful heart and emotions and who would set forth bravely to carve out a path for Japan in the 21st century. Following this revision, a part of the School Education Law was also revised in June 2007, as a result of which new objectives for compulsory education were set out in the spirit of the revisions already made to the Fundamental Law of Education, and at the same time, the goals and objectives for each level of schooling were also revised.

The official Courses of Study are determined by the Minister of MEXT in accordance with the goals and objectives for each level of education stipulated in the School Education Law (School Education Law, Article 33, Article 48, Article 52, etc.), and it is because of these stipulations that it is necessary for the revisions to the current Courses of Study to be fully grounded on the revisions codified in law.

○ Against the above background, in the first instance, specific improvements to the educational content in each subject were scrutinized on the basis of the stipulations in such parts of the law as Article 2 of the Fundamental Law of Education (the objectives of education) and Article 21 of the School Education Law (the objectives of compulsory education).

○ In concrete terms, among the aims already stipulated in the Fundamental Law of Education prior to revision were the following: education should strive to bring up people to esteem individual value, to love justice and have a sense of responsibility. Newly added in the revision as ideas that should be emphasized are the concepts of public-spiritedness, nurturing an attitude of respect for life and nature, respect for traditions and culture, and love of one's country and one's birthplace. At the same time, it is stipulated that education should nurture an attitude of wishing to contribute

to the development of peace and international society. From the perspective of the kind indicated here, the current revisions to the law, as will be evident from Section 7 below, show that emphasis is to be put on education concerned with traditions and culture, as well as on a strengthening and enrichment of moral education and experiential activities, and on environmental education. In addition to the need for more emphasis on moral education, there is also a need for improvement to the specific educational content of various subjects, namely social studies and science, music and art, and special activities.

○ Next, the revisions both to the Fundamental Law of Education and to part of the School Education Law emphasize harmony between "firmly grounded academic ability", a "rich and fertile heart and mind" and a "healthy body" as concepts that support "zest for living". In addition, they also show the following as important elements of academic ability: ① acquisition of fundamental knowledge and skills; ② the skills of thinking, making judgments and engaging in self-expression that are required to apply the acquired knowledge and skills and engage in topic-based problem-solving; and ③ eagerness to learn. The fundamental idea of education as exemplified here consists of none other than the concept of "zest for living", emphasized in the current Courses of Study.

○ It follows from the above that in the current revisions to the Courses of Study, the following points can be seen as responding to problem issues that affect children today, as well as resting on the foundation of the revised Courses of Study.

① The commonality of the concept "zest for living"
② Learning fundamental knowledge and skills
③ Developing the abilities to think, make judgments and engage in self-expression
④ Securing sufficient class hours to ensure a thorough grounding in academic ability
⑤ Confirming study habits and raising the level of eagerness to learn
⑥ Enriching and strengthening the development of a rich and fertile heart and mind and a healthy body

Among the above points, particular importance was attached to ② as the foundation, and to ③, ⑤ and ⑥.

(2) The shared nature of "zest for living"

○ In any organization, no matter what the composition of the members is, if there is not common agreement about the basic ideas and objectives, it will be impossible for these to be realized and achieved. As stated in 4. (2) 1 above, what is more important than anything else is firstly the basic

precondition that adults themselves, including teachers and parents, are expected to respond to change on a daily basis in an age centered on the concept of a "knowledge-based society". What has to happen now is for educators, parents and society at large to think about the need to cultivate "zest for living" in children and about its contents, and for the process of revising the current "Courses of Study" to take place on the basis of shared thinking and understanding.

○ In the course of making "zest for living" a shared goal among those concerned, the following 3 points should be given particular emphasis.

1) At the same time as responding on a trial-and-error basis to new and unknown issues in an age of severe change, children will have to bear the burdens of the difficult and complex age that is coming, and it will be necessary for them to exhibit "zest for living" as they live their independent lives in society. Schools in future will not have performed their duty simply by helping children to realize their hopes of going on to a higher level of education or entering employment.

2) The ability to live an independent life in present-day society, characterized as it is by severe change is very important. However, in order to develop the ability to think, to form judgments and to engage in self-expression, as required of Japanese children, it is necessary for them to thoroughly acquire fundamental knowledge and skills in every subject and at the same time, to carry out learning activities that apply the acquired knowledge and skills in such forms as experiments, observations and report-writing.

It follows from this that for specialist subject teachers in lower and upper secondary schools, the learning activities comprised in formulating reports, polishing them and setting out ideas should not be thought of as tasks appropriate only to Japanese language classes; teachers in every subject, while liaising with the Japanese language teacher as appropriate, should get children to carry out activities of this kind. Carrying out such activities will help to develop thinking as well as judgmental and expressive abilities in children across all areas of school education, and can be tied to a firm grasp of the required knowledge and skills in all subjects.

3) It is necessary to think about the children who do not have confidence in themselves, and who at the present time are uncertain and have misgivings about the future and about human relationships. With children of this kind in mind, efforts should be made to strengthen and enrich, in the first instance, Japanese language, which is the foundation of communication and of emotional and cognitive activities, and experiential activities. It is necessary, by acting in the ways outlined here, to enable children to have relationships with other people, society, nature, the environment and so on, and to have confidence in their own ability to live in this kind of context.[1]

○ What is most necessary is for educational administrators from MEXT, local boards of education and other such bodies, to emphasize to the maximum degree possible the shared nature of the

concept "zest for living" when they are involved in explaining to people concerned with education the regulations governing the Courses of Study or the fundamental purpose and content of revisions made to such Courses of Study..

It is also crucially important to seek understanding with regard to the broad direction and purpose of education not only by educators in a narrow sense, but by parents and people in general, and to adopt a positive attitude in terms of disseminating information.

(3) The background to fundamental knowledge and skills

○ As explained in the second part of 4. (2) above, the concept of "zest for living", expressed in such terms as "developing the ability to learn and think for oneself" puts stress on the learning of fundamental knowledge and skills and, on that basis, on fostering the skills of thinking, making judgments and expressing oneself.

○ With regard to the knowledge and skills pertaining to each separate subject within the Courses of Study, the aim is to make a very careful selection from among revisions previously carried out and to aim to enabling children to acquire a firm grounding in fundamental knowledge and skills and at the same time, develop the skills of thinking, making judgments and engaging in self-expression.

It is important to continue this kind of basic thinking and at the same time, in the context of current revisions, to keep in mind and think of as a foundation the deepening international applicability of the curriculum, centering on Mathematics and Science, as set out in the revision to the objectives of compulsory education in the Revised Fundamental Law of Education (Article 5, Clause 2) in the words: "nurturing the basis of living an independent life in society". With the concept expressed in these words as a foundation, there is a need to keep in mind the systematic implications, primarily:

① Accompanying social change and the development of science and technology, the knowledge and skills considered necessary to educate children from the perspective of living an independent life in society;

② The effective nature of the repetition (spiral incrementation) of knowledge and skills in terms of the transition between schools and between grades, all carried out on the basis of a firm grounding in required learning.

It is important to add items of content focused on the above points.

○ With the above points as a precondition, we considered the following 2 points in terms of specific policies aiming at a still deeper acquisition of fundamental knowledge and skills, focusing primarily on Mathematics and Science.

○ 1. Emphasis on teaching that is geared to the developmental age and to the grade of the children in question. Of course, there are differences between individual children, but in general terms, it may be considered effective to stress for children in the lower through middle grades of elementary school, hands-on understanding or thinking and understanding that involves specific and concrete applications, stressing the development of "reading, writing and calculating skills" taught by means of repeated learning. For children from the middle to upper grades of elementary school, it is effective to stress, in accordance with their stage of development, the acquisition of concepts and methods by means of practical and theoretical repetition and teaching that puts emphasis on the processes of thinking and understanding achieved by means of discussion, observation and experiment.

From perspectives of the kind outlined here, it is important, with particular regard to the fundamental knowledge and skills embodied in the concepts of "reading, writing and calculating", and focusing primarily on the lower and middle grades of elementary school, to ensure that children have a thorough grasp of the learning appropriate to their stage of development and that due consideration is given to the construction of this learning base.

It is important also to stress not just formal knowledge, but what can be termed "tacit knowledge"[2]. With this point in mind, it is important while maintaining liaison with children's families, that children have an experiential, "whole-body" understanding of the required basic knowledge and skills, to be acquired through such means as hands-on activities and reading aloud, memorization and recital, and repetitive learning.

○ 2. At the stage of compulsory education, one way that can be thought of as a means of achieving a still deeper grasp of the required basic knowledge and skills is to show "examples of "priority teaching points". Specifically, it would be possible for MEXT to show "key teaching items" among the content items listed in the Courses of Study. The items could be selected as being important from the standpoint of independent living in society or as being items over which children stumble easily, and each school would be required to strengthen its teaching in such ways as prioritized instruction or repetitive study.

○ With regard to items of basic knowledge and skills that can be shown through the presentation of "key teaching items", the following points are relevant:

- Desirable knowledge and skill items that can be applied at all times and are indispensable in in actual daily life as foundations for living autonomously in society[3]
- Desirable knowledge and skill items[4] that can be taught as common foundations that build on attempts to deepen and raise to a more advanced level various specialist areas of learning

relevant to compulsory education and to later educational stages.

Analogous items to the above can be thought of, and there is a need to carry out a more detailed examination in specific detail.

(4) The development of the ability to think, to form judgments, and to engage in self-expression

○ As pointed out in 3. above, the result of different kinds of investigations into children's academic ability shows that there are issues concerned with thinking, forming judgments and engaging in self-expression to be found in the application of knowledge and skills in every subject. In the current round of revisions to the Courses of Study, with a view to developing in the children in every school the ability to think, to form judgments and to engage in self-expression, we think firstly that there is a need, in the teaching of every subject, at the same time as getting children to learn the required basic knowledge and skills, to emphasize the strengthening of the ability to apply the knowledge and skills they have learned; this will take such forms as carrying out experiments and observations, and writing reports and essays. It is precisely by letting children get to grips with tasks of this kind in each subject that it will become possible to strengthen children's commitment to problem-solving and discovery-type activities, spanning a range of different subjects and taking a cross-curricular approach, in the Period for Integrated Study. These activities can then in turn be linked to ensuring a firmer grasp of knowledge and skills in each separate subject. By following the procedures outlined here, the process of discovery or enquiry, involving the integration of basic learning and application into the Period of Integrated Study, does not mean simply moving forward in one direction; more specifically, interlinked abilities are taken forward by mutual interaction as when, for example, the application of knowledge and skills or the act of enquiry or discovery also accelerates the acquisition of basic knowledge and skills.

○ The process of identifying key learning activities proceeded by examining the content of each subject[5] and taking as a framework[6] for reference the evaluations used in the PISA exercises in: ability to read and understand, mathematical literacy and scientific literacy, and then, as a result of examining the results derived from the expertise of language specialists, listing up these key activities from the point of view of developing the ability to think, to form judgments and to engage in self-expression. Going through this process in respect of every subject is indispensable to the development of thinking, judgment-forming, and expressive abilities.

① Expressing something perceived and experienced through your senses.

(Example).

- Express something that you have experienced by using your senses in the course of everyday life or a hands-on learning activity through the medium of words, song, pictures or bodily gestures.

② Understanding and accurately transmitting a fact or phenomenon.

(Example)

- Record and report the result of looking at a plant or an animal or a public facility in your community.

③ Understanding, explaining and applying a concept, rule or intention.

(Example)

- Grasp changes in the value of the concepts of supply and demand, and give examples of the utilization of these concepts in the context of manufacturing or consumption.
- Give examples of how to utilize the concepts in terms of your knowledge of everyday life factors (clothing, food, housing) and in terms of regulating your everyday life.

④ Analyzing, evaluating and setting out information.

(Example)

- In relation to a topic from your studies or your daily life, apply the skills that you have learned with a view to comparing, analyzing and establishing connections within the topic, and arrange the elements of the topic in order.
- After reading a statement or document, compare the contents with your own knowledge and experience, put your own thoughts in order, and set these out in accordance with the prescribed conditions (about 1000 characters on one sheet of A4 paper).
- Assemble all kinds of information from graphs, diagrams and so on, about a natural or social phenomenon, and use the information you have gathered to express the nature of the phenomenon in an easily understandable way.
- Investigate the history or culture or society of your own country and another country or countries, and set out an analysis of the results of your thinking.

⑤ Drawing up, putting into practice, evaluating and improving a plan or design in connection with a given topic.

(Example)

- In the context of a science experiment, set up a hypothesis, carry out the experiment, observe and set out the results, think about what you have done, and express ways of making improvements.
- In the context of making something or expressing something as an art form, engage in creative activity, and then evaluate and devise ways of improving the result.

⑥ Sharing your thoughts with others and developing your own thoughts or the thoughts of the group.

(Example)

- In the context of considering a method of validating a forecast or a hypothesis, discuss the proposed method with others and in the course of doing this, deepen your thinking.
- In the context of a problem regarding a future forecast, deepen your thinking by using a Q & A or a debate-type format, and enable the children to develop their experience until they reach a higher level of problem solving.

○ What forms the basis of the learning activities outlined here is "language", defining the term in a very broad sense to include mathematical equations, and at the core of that is Japanese language. However, a statement made in this way does not in itself mean that all the activities listed here fall to be carried out within the framework of the school subject, Japanese. As will have become clear from the specific learning activities detailed in the examples above, tasks such as writing reports on observations and experiments in Science, or writing, polishing, presenting and debating social science reports for Social Studies, should be incorporated into all timetabled subjects. As a result, children's language abilities can be effectively enhanced, and their abilities in thinking, forming judgments and expressing themselves can be developed.

With these points in mind, we think that as part of the contents of each subject in the Courses of Study, the points that need to be incorporated into learning activities in such terms as making records, summaries, explanations and statements, should be clearly specified.

○ In this connection, it is an understanding of basic concepts found in each subject area such as life and energy, democracy and the rule of law, that make it possible to arrange systematically individual items of knowledge concerned with such concepts. The understanding referred to here is also very important for the abilities of thinking, forming judgments and engaging in self-expression, and it has to be located within the educational contents as something to be given due emphasis.

○ Turning to the development of language ability, which constitutes the foundation of the abilities of thinking, forming judgments and engaging in self-expression, it is very important that the teaching is appropriate for the developmental stage of the child concerned. The stage of development of a child rises from kindergarten through elementary, lower secondary and upper secondary school, and in line with this rise, there are also changes in what a child can do and cope with, embracing the concrete and the abstract, perception and opinion, fundamentals and application, learning acquisition, utilization and enquiry, and awareness and practice.

With such changes in mind, it is important that in Japanese in the lower and middle grades of elementary school, children acquire a thorough grounding in basic language ability through such means as reading aloud, reading and writing Kanji and reciting Japanese committed to memory, and

that with these activities as a foundation, they then go on to experience the beauty and rhythm of language through recitation of the Japanese classics. It is also important that through elementary, lower secondary and upper secondary school, language activities appropriate to the developmental stage of the children concerned are carried on in such forms as making records, and producing summaries, explanations and statements not only in Japanese classes but in every subject area.[7]

○ Furthermore, as shown in "priority teaching points" in (3) above, as well as showing examples concerned with acquiring the basics of knowledge and skill, it is also necessary to show examples concerned with the abilities of thinking, making judgments and engaging in self-expression, since it is reasonable to assume that these abilities cannot be shown in concrete terms in the same way as the fundamentals of knowledge and skills, and in the same way as with the fundamentals, to ensure that a thorough mastery of these abilities is taken in hand in every school.

(5) Ensuring that sufficient classroom time is made available for academic ability to be thoroughly confirmed

○ As explained in 4. (2) 4) above, various changes were made in the current Courses of Study from the perspective of developing in children the ability to learn and think for themselves. A new time slot was created in the form of the Period for Integrated Study, and in lower secondary school, the number of elective classes was increased and the number of required classes was decreased.

However, the number of obligatory class hours in elementary school and lower secondary school is currently not sufficient both to ensure that children acquire the fundamentals of knowledge and skill in their class subjects with a view to developing their ability to think, form judgments and engage in self-expression, and at the same time, to have them carry out learning activities involving application of the knowledge and skills that they have acquired in such ways as carrying out experiments and observations and writing reports and statements.

○ With this point in mind, it is necessary to secure specified obligatory class hours in order to strengthen learning activities that involve the application of acquired knowledge and skills as well as ensuring that children do acquire a mastery of fundamental knowledge and skills. On the question of securing class hours, as a precondition for carrying out these learning activities in each subject, it is necessary to reexamine the ideal pattern of the Period for Integrated Study and the number of elective classes in lower secondary school from the perspective of ensuring a smooth link between each class subject and the Period for Integrated Study, which has the intended purpose of enabling children to study their subjects in a cross-curricular way and engage in problem-solving, discovery-type learning activities. It is also necessary to increase the number of class hours in a year

on the basis of the actual condition of schools.

(6) Confirming study habits and raising the level of eagerness to study

○ As explained in 3. above, one problem issue that was identified in the PISA results is the very wide variation from person to person in terms of eagerness to study, which is an important component of academic ability, or in terms of an attitude of willingness to engage with tricky problems.

It should also be pointed out that while there was no evidence of bipolar distribution in terms of the proportion of correct answers given by children in national ability and curriculum implementation tests, it is the case that with particular reference to Mathematics for lower secondary school students, there were variations from the average level of correct percentages in the case of some prefectures and some schools.

In the background to the issues of eagerness to learn or study habits, mention should also be made of uncertainty about the future as a result of changes in the employment environment or social conditions, and of many different kinds of family environments, and issues related to these factors cannot be solved by school education alone. However, while bearing in mind that in schools, one factor in the difficulty encountered in raising the level of eagerness to learn is children's lack of self-confidence, as referred to in (7) below, responses to children in this condition should be based on the following four perspectives.

1. The importance of the lower and middle grades of elementary school in particular in terms of confirming study habits including study in the home.

2. The need, while treating the "prioritized teaching items" as reference points, and while using external human resources as necessary in responding to individual needs in such ways as grouping by ability or small-group or supplementary teaching, to ensure that children have a firm grounding in fundamental knowledge and skills with particular attention put on areas of content where children are likely to stumble or experience difficulty. With these points in mind, as already pointed out, in addition to ensuring a firm acquisition of fundamental knowledge and skills, it is appropriate to add to the content items points concerned with the effectiveness of repetitive learning (spiral incrementation) on such occasions as transition between schools or between grades.

3. The need, through the application of knowledge and skills in such forms as observations and experiments or the writing of reports or statements, or through career education[8] aimed at developing a work-oriented perspective, to get children to have dreams about their own future and to appreciate the significance of learning. It is also important to devise ways of setting specific objectives in such forms as tackling vocational qualifications or various kinds of tests in language,

use of kanji, history and so on.

4. The need to make efforts to support schools which are identified through the evaluations of the National Academic Ability Survey or the curriculum implementation survey by the bodies responsible for establishing schools as experiencing major problems in terms of eagerness to study or study habits.

○ Schools and establishers of schools are required to draw up improvement plans on the basis of the above four points, and make efforts to help through specific individual support those children who are encountering difficulties including eagerness to learn and the contents of the Courses of Study. It is also important that at national level, central government devises policy measures, prefecture by prefecture, to tackle the issues referred to here in respect of problems encountered by children with the Courses of Study.

(7) Strengthening guidance aimed at developing a rich and fruitful heart and mind and a healthy body

○ As pointed out in 4. (2) 5) above, in a context in which the level of educative capacity in the home and the community has fallen, the responses to the need to develop a rich and fertile heart and mind and a healthy body in children have been insufficient. Three important points in this connection are listed below.

1. Targeting children who lack self-confidence and feel uneasy about their future and about human interaction, there is a need to give them self-confidence, taking their present position as a starting point, and enable them to live in an environment that includes other people, society, nature and the environment.

With this objective in mind, linguistic ability, centered on the Japanese language, is important. In particular, it should be noted that the native language is the foundation of communication and of feelings and emotions. Without the vocabulary and expressions needed to convey one's own thoughts and feelings and those of others, or to respond to the verbal approaches of others, then communication with others becomes impossible, and this is one reason for a child to be easily, as it were, cut out of any relationship with others. There is a need for strengthened guidance focused on this problem.

A further point is the very great importance of direct contact with other people[9], society at large, nature and the environment in such forms as exchanges with adults other than parents or teachers and with children of different ages, group accommodation in a natural environment, work experience activities, volunteer activities, or other forms of hands-on activities. In terms of the

implementation of hands-on activities, families and local communities have a big role to play, since schools cannot provide everything that is required. In this connection, in an environment in which, as already mentioned, the level of the educative function of families and communities has dropped, there is a need to use hands-on activities as a trigger to try and strengthen this function. It needs to be remembered at this point that the significance of hands-on activities does not end with the end of the activities themselves. It is necessary to stress that after a hands-on activity has taken place, the participant in the activity should conduct an internal dialogue and express in the form of written words what he or she has experienced. This sharing of experiences with others should be linked to a broad perception of the activity as something shared with others.

Instilling self-confidence in oneself definitely does not mean being over-confident or blithely tolerating any action carried out by oneself. It is important not to stray too far from reality, or to think of oneself as a "closed individual" needing no further improvement; on the contrary, what is important is to be an "open individual", having the self-confidence to live in a relationship with other people, society, nature and the environment, while continuing to deepen one's own self-confidence through a repeated internal dialogue. It is the actual feeling and the sense of achievement that comes from living in harmony with others, with society, with nature and with the environment that is the origin of self-confidence.

2. Linking to what has been said in 1. above, strengthening and improving moral education is also important.

It is important, at the same time as confirming that children have a thorough grounding in basic lifestyle habits, firmly to instill in them, through teaching and experiences appropriate to their stage of development, the minimum awareness of social norms required by every human being in order to carry on a social existence. In the course of doing this, it is appropriate to cultivate moral qualities such as human dignity, respect for the life of oneself and others, an ethical viewpoint, and so on, and then, on this foundation, to get children to understand the significance of law and rules in a democratic society and the need for strict observance of these, and to educate them as human beings who are able to make independent judgments and behave in an appropriate manner.

From these perspectives, there is a need to strengthen and improve moral education.

3. Strengthening education designed to improve the level of children's strenth and stamina and develop a healthy mind and body.

Physical strength and stamina is the cornerstone of human activity, has a very marked connection with the strengthening of mental and emotional qualities such as enthusiasm and vitality as well as being linked to the maintenance of good health, and is an important component of "zest for living". A decline in children's physical strength and stamina is linked to a future decline in the

physical strength and stamina of the Japanese people as a whole, and may lead to a loss of the strength needed to support culture and social vitality as a whole.

With the harmonious development of children's heart, mind and body in mind, it is necessary, as well as developing physical strength through movement and exercise, to help children to form healthy living habits such as desirable food habits.

With this in mind, it is important that children move their bodies from early childhood, develop through their lives the habit of a healthy relationship with sport, and cultivate enthusiasm and ability in this area. And with a view to maintaining a healthy mind and body, it is necessary to acquire correct knowledge concerning physical and mental growth and development, and to strengthen good eating habits as well as developing practical judgment skills and the ability to make selections. Furthermore, from the perspective of widespread ideas concerning children's safety and security, there is also a need to strengthen education in these aspects.

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[1] In the Curriculum Committee of MEXT, the following items of content were set out as examples of important factors in the context of cultivating "zest for living" from the kind of perspectives outlined here.

- Confidence in oneself. Examples: self-understanding (self-respect, self-affirmation)・self-responsibility (autonomy, self-control), health promotion, decision-making, future planning.
- Relationship between oneself and others. Examples: spirit of cooperation, sense of responsibility; esthetic sensitivity, expression, formation of human relationships.
- Relationship between oneself and nature. Examples: respect for life, understanding of nature and the environment.
- Relationship between the individual and society. Examples: responsibility, rights, work; understanding of society and culture; use of language and information; application of knowledge and skills; identification and solving of problems.

[2] Within the concept of knowledge, "formal knowledge" denotes objective, rational knowledge that can be clearly expressed in such forms as words, sentences, diagrams and so on. In contrast to this, "tacit knowledge" or "unspoken knowledge" denotes wisdom based on intuition, experience, and so on.

[3] For example, "understanding the meaning of integers, decimals and fractions, and being able to use the four rules of mathematics", or "being aware of the basic forms of human beings and animals", and so on, can be cited.

[4] One could cite as examples, "understanding the Pythagorean theorem" or "understanding that matter is composed of particles" and so on.

[5] In the current Course of Study for Science in elementary schools, the scientific ways of looking at things and ways of thinking that are to be cultivated in each grade are clearly specified as follows: Grade 3: comparisons; Grade 4: linking two or more things together; Grade 5: conditional control; and Grade 6: multi-faceted enquiries.

[6] In the PISA, the thinking process is divided up and measured in each of the three main domains as follows:

- Reading literacy: "retrieving information", "developing an interpretation", and "reflecting on and evaluating the content and form of a text".
- Scientific literacy: "Describing, explaining and predicting scientific phenomena", "Understanding scientific investigation", and "Interpreting scientific evidence and conclusions".
- Mathematical literacy: "The reproduction cluster"; "The connections cluster"; and "The reflection cluster".

[7] For example, in Science, it is possible to think of language activities suited to the stage of development of the children concerned, as in the following examples.

- In the middle grades of elementary school, in the context of making observations of plants, clarifying perspectives on the basis of an overview and an awareness of problem issues, and recording and expressing points of similarity and of difference.
- In the higher grades of elementary school, in the context of the dissolution of substances, explaining the phenomena observed with a focus on conditions and regularity.
- At the stage of transition from lower to upper secondary school, considering the results of observations or experiments, with additional data depending on the circumstances, understanding scientific concepts, evaluating from the perspectives of proof, ability to be reproduced, objectivity and so on, writing up the results and examining these.

[8] In the "Report of the Comprehensive Survey and Research Cooperators Conference on the Promotion of Career Education", issued on January 28, 2004, career education is defined as "education which supports the career development of each individual pupil, and cultivates in him or her the eagerness, the aptitude and the ability required to put together an appropriate career model"; this is summarized briefly as "education which cultivates in every pupil a vision of the world of work". In addition to this, the report entitled "On the Improvement of Articulation between Primary and Secondary Education and Higher Education", issued in December 1999 by the Central Council for Education, speaks of "education which at the same time as equipping pupils with knowledge and skills concerned with a vision of occupations and work, also cultivates abilities and attitudes that will enable them to understand their own individuality and choose a career path on their own initiative".

[9] In the "Progress Report on Deliberations", issued in February 2006 by the Education Committee of MEXT, it is stated that "Experience is the basic source of education of the mind and of the body. It is important to look again at food, which is the basis of daily life for a child, and beginning with food education designed to give the child knowledge of its significance, to enable the child to have contact with nature and society, and to provide opportunities for the child to develop a real feeling for the awesome nature of living and working. It has also been pointed out that it is important to build good habits for study and daily living, to cultivate energy, vitality and stamina, and to nurture intellectual curiosity, as well as giving children repeated experiences of becoming acquainted with the skills and ways of living of people who are active in the front line of society, and at the same time coping with the challenge of developing their own career paths.

6. The Basic Curriculum Framework

○ There is a need, taking as a basis the fundamental thinking outlined above regarding revisions to the official Courses of Study, to improve the basic framework for the curriculum for elementary, lower secondary and upper secondary schools in the ways shown below.

At kindergarten level too, there is a need to revise the content after the basic curriculum framework has been agreed. It is also required of specially supported schools and of 6-year secondary schools, which aim to provide a 6-year planned and consecutive curriculum bridging lower secondary and upper secondary education, that they follow the education, matching the age period in question, that is given in kindergartens, elementary schools, lower secondary schools and upper secondary schools, and that they base any changes in their own curriculum on the fundamental curriculum framework applicable to these schools.

(1) The curriculum framework in elementary and lower secondary schools

① The present state of teaching hours in elementary and lower secondary schools and an international comparison

The number of teaching hours in a year and the number of credit hours

○ At the present time, broadly speaking, teaching is carried on in elementary and lower secondary schools in Japan for a total of 200 days (40 weeks) in a year[1]. The figure of 200 teaching days in a year is based on the global concept of a 5-day teaching week and is also the standard figure found in international comparisons.

Hence, teaching is developed in elementary and lower secondary schools in Japan to cover a period of 200 days (equivalent to 40 school weeks), but it should be noted that the standard figure for teaching hours[2] prescribed in the Implementation Regulations of the School Education Law does not determine all the hours necessary for educational activities in elementary and lower secondary schools.

Specifically, there is a presumption that school education activities are divided into "school education activities within the curriculum", which target all the children in a given school, and "extra-curricular school education activities", in which children participate on a voluntary basis. A further classification is made into the following categories:

(i) class subjects, moral education, the period for integrated study and special activities (grade-based activities only); and

(ii) special activities other than grade-based activities (club activities (elementary school); children's meeting, pupil council activities; entrance ceremony, graduation ceremony; school excursions; organized trips with group accommodation; sports day; culture festival; volunteer activities, etc).

In addition to the above, the following can also be included under (ii).

(iii) extra-curricular school education activities (supplementary classes or swimming classes during the long school vacation, with participation on a voluntary basis; club activities in lower secondary school).

○ Within the above, only the teaching hours for educational activities listed under (i) are prescribed as standard teaching hours to be followed in common by elementary and lower secondary schools, while activities listed under (ii) and (iii) are left to the discretion of schools and their establishing bodies.

○ As set out in 4. (2), 5) above, schools, families and communities need to liaise in order to achieve the goal of developing in pupils a rich and fruitful heart and mind and a healthy body. In particular, a large role falls to be played by families in promoting a solid grounding in lifestyle habits and the implementation of daily exercise.

However, against a background in which the educative function of families and schools has declined, schools are being asked to integrate together the activities listed from (i) to (iii), and to get to grips with efficiently implementing the development of a rich and fruitful heart and mind and a healthy body as a whole-school activity.

For example, the following activities contribute to the development of a strong and healthy body: (i) the development of basic physical ability in the class subjects Physical Education (Health and Physical Education in lower secondary school) and Home Economics (Technology/Home Economics in lower secondary school) as well as efforts to form healthy lifestyle habits such as recommendable dietary habits, (ii) Sports Days and excursions, and (iii) sport-based club activities. These various school education activities are all interlinked, with the result that in their homes and local communities, children become familiar with physical activity and acquire abilities and attitudes that will last them throughout their lives. These basic points apply in the same way to the development of a rich and fruitful heart and mind.

○ In terms of the current School Education Law Implementation Regulations and the Courses of Study, there is a basic assumption is that school education activities listed in (i) above will be carried out for 35 weeks a year (34 weeks for Grade 1 in elementary school[3]), and class teaching hours are calculated on this basis. For example, the number of teaching hours for Grade 6 in elementary school is calculated at 945 unit hours on the basis of 27 time slots per week for 35 weeks or more.

○ Since all the school education activities listed under (i) above are included in the total number of teaching hours in a year, as set out in the School Education Law implementation regulations, the number of teaching weeks in a year may be thought of as something to be reevaluated when an examination is made of what the overall standard total of teaching hours should be. However, taking into account the educational effect of the school education activities such as volunteer activities or group accommodation activities, listed under (ii) above

and not clearly specified within the yearly total of teaching hours, there is clearly a need to secure sufficient discretionary time for schools to implement these activities. With this point in mind, it is not appropriate to increase the annual number of teaching weeks (35 weeks or more) specified in the Courses of Study in respect of the school education activities listed under (i) above.

○ With regard also to the length of time of a credit hour, the length is set out as follows in the School Education Law Implementation Regulations; "According to the "standard teaching hours table" [not reproduced here], the length of one credit hour is set at 45 minutes (50 minutes in lower secondary schools". On this basis, the Courses of Study make the following specification: "The length of a credit hour in each subject is to be determined in the light of consideration being taken of the stage of development of each individual child as well as the special circumstances of the subject and the educational activities while at the same time securing the total of annual teaching hours". Against the background of this situation, a teaching hour is calculated at 45 mins. (50 mins.), but in each school, while keeping the overall total of teaching hours in a year intact, there is provision for a flexible time arrangement to be adopted, making use of the creativity and ingenuity of the school, in ways such as changing the time of ending a credit hour. In the light of such provisions, it is appropriate to continue the present arrangements.

The present state of teaching hours in elementary and lower secondary schools

○ According to MEXT[4], in about 90% of public-sector elementary and lower secondary schools, the number of hours spent teaching the subjects listed in (i) above exceeds the standard specification. Within this total, the number of schools in which the number of hours taught exceeds 35 credit hours a year (equivalent to 1 unit a week) is 63.1% in public-sector elementary schools (Grade 5) and 53.9% in lower secondary schools (Grade 2). in the same way, the number of schools in which the number of hours taught exceeds 70 credit hours a year (equivalent to 2 units a week) is 16.1% and 10.4% in elementary and lower secondary schools respectively.

○ In a large number of such cases, the fact that the number of hours taught exceeds the standard total does not result from adding hours on to each week or curtailing the long school holidays so as to secure the number of teaching hours. It is rather the case that steps taken to ensure that the number of teaching hours did not fall below the standard number of hours in a year as a result of unexpected occurrences, for example, natural disasters or an epidemic of some sickness, resulted in an outcome whereby within an overall framework of 200 days (equivalent to 40 weeks), 36 weeks or more were spent on the educational activity of subject teaching as in (i) above, resulting in an excess of teaching hours over the yearly standard.

○ Against the above background, the implementation pattern adopted in many schools is that the curriculum as a whole is structured so as to fit within 200 days in a year (equivalent to 40 weeks), and while securing time for educational activities such as trips with group accommodation, etc, as listed under (ii) above, the time allocated to subject teaching activities as listed in (i) above is in excess of the standard number of teaching hours. Furthermore, the current practice is that club activities, etc, of the kind listed under (iii) above are held after the close of classes or at the weekend on Saturday or Sunday.

International comparison of teaching hours

○ As explained in 2. above, within the context of trying to increase, to a greater extent than hitherto, international awareness of common features of the school curriculum, an international comparison has been made of teaching hours. In the PISA survey sponsored by OECD and in other sources, children from Finland have comparatively few teaching hours on an international scale, but attain high levels of competence in reading and understanding. It is a reasonable assumption that there are very many interconnected factors that influence academic ability, but it is necessary to point out that among these, the cause-and-effect relationship between teaching hours and levels of academic ability is not necessarily clear. Furthermore, attention should be drawn to the following research results that emerged from the international survey on teaching hours commissioned by MEXT in 2002.

- A very significant characteristic of Japanese school education is that schools offer not just the subject teaching as listed in (i) above, but also offer as special activities, as listed in (ii) above, a variety of hands-on activities designed to promote the harmonious development of cognitive, moral and physical abilities, so it is very difficult to make an international comparison based on subject teaching alone.
- There are also many points in the data from other countries in respect of which it is difficult to make a simple comparison with Japanese data[5].

○ With regard to the current revisions to the Courses of Study, it has been decided to increase the number of special obligatory teaching hours in elementary and lower secondary school with a view to strengthening the thorough acquisition of fundamental knowledge and skills and at the same time, implementing learning activities that require children to apply their acquired knowledge and skills in ways such as observation and experiments, and the compiling and writing of reports and essays. With these aims in mind, we have set limits to an increase in the content items of the subjects to be taught, in terms of the effective knowledge and skills that need to be taught and, dare we say it, gone over again, from the perspective of social change, technological development and social autonomy, and have secured time for learning activities concerned with securing a thorough grounding in, and applying acquired knowledge and skills. It follows from this that what is important is why class hours have been increased and what

kind of education will be carried out in terms of an application of the increased time allocation.

In order to be able to implement the above aims, adopting as our perspective the need to strengthen the learning activities concerned with applying the knowledge and skills inherent in the required subjects, we carried out an investigation to obtain reference data, based on a systematic appraisal of the subjects mentioned here, into what kind of education is given in the school curriculum of various overseas countries[6].

② The number of teaching hours in elementary school

○ On the question of the number of teaching hours in elementary school, the basic thinking underlying revisions to the Courses of Study is set out in Chapter 5 above, while the main improvement headings in terms of educational content by level of school or by subject are set out in Chapter 7 below. With these points as a foundation, the items that need to be improved are as follows. (The number of teaching hours based on the results of the points examined below is set out in a separate chart).

Teaching hours by subject

○ At elementary school level, at the same time as aiming to ensure a thorough acquisition of fundamental knowledge and skills in line with each child's stage of development, there is a need, from the point of view of strengthening learning activities that involve the application of acquired knowledge and skills in such forms as observations, experiments and report writing, to increase the number of teaching hours in Reading, Writing and Literature, Social Studies, Arithmetic and Science.

Moreover, against the background of a decline in the physical strength and stamina of children, the number of hours in Physical Education needs to be increased in terms of emphasizing the pleasure to be derived from exercise and the concept of exercise as a basic characteristic.

○ Furthermore, as set out in ① above, it has been determined that subject-based educational activities will take up 35 weeks or more in the course of a year. With this point in mind, on the question of determining the number of annual teaching hours in each subject, it is desirable, from the perspective of fashioning the rhythm of children's studies and daily lives, and from that of the convenience of curriculum design, to stick as far as possible to the standard of 35 weeks, on the basis of the premise that it is more effective and efficient to study a curriculum consisting of a set timetable with a set number of credit hours. The same can also be said about lower secondary school.

○ Turning to specific improvements in educational content, as shown by subject in Chapter 8 below, particularly in the lower grades, there is an increase in Japanese language and

Mathematics with a view to developing the foundation of academic ability and in Physical Education, which is the basis of developing a healthy body. Specifically, in Grade 1, Japanese language (= Reading, Writing and Literature) is set at 306 class hours (equivalent to 9 classes a week), Mathematics at 136 class hours (equivalent to 4 classes a week), and Physical Education at 102 class hours (equivalent to 3 classes a week). In Grade 2, Japanese language is set at 315 class hours (9 classes a week), Mathematics at 175 class hours (5 classes a week) and Physical Education at 105 class hours (3 classes a week).

In the middle grades of elementary school, in addition to Japanese language, Mathematics and Physical Education, there are also increases in the time allocation for Science and Social Studies in order to facilitate the carrying out of observations and experiments. Specifically, in Grade 3, Japanese language is set at 245 class hours a year (equivalent to 7 classes a week), Mathematics at 175 class hours (5 classes a week), Science at 90 class hours (equivalent to 2.6 classes a week) and Physical Education at 105 class hours a year (equivalent to 3 classes a week). In Grade 4, Japanese language is set at 245 class hours a year (equivalent to 7 classes a week), Social Studies at 90 class hours a year (equivalent to 2.6 classes a week), Arithmetic at 175 class hours a year (equivalent to 5 classes a week), Science at 105 class hours a year (equivalent to 3 classes a week) and Physical Education at 105 class hours a year (equivalent to 3 classes a week).

In the upper grades of elementary school, along with ensuring a thorough acquisition of knowledge and skills in Social Studies, Arithmetic and Science, emphasis is also put on further strengthening learning activities aimed at the application of the acquired knowledge and skills. In Grade 5, Social Studies is set at 100 class hours a year (equivalent to 2.9 classes a week), Arithmetic at 175 class hours a year (equivalent to 5 classes a week), and Science at 105 class hours a year (equivalent to 3 classes a week). In Grade 6, Social Studies are set at 105 class hours a year (equivalent to 3 classes a week) Arithmetic at 175 class hours a year (equivalent to 5 classes a week), and Science at 105 class hours a year (equivalent to 3 classes a week).

The result of the above revisions is to add an extra 350 units (class hours)[7] in all subjects totaled together over the 6 years of elementary school.

○ In the ways outlined here, the increases in teaching hours in timetabled subjects have the objective of strengthening learning activities designed to apply the knowledge and skills that children have acquired, taking such forms as repeat learning to ensure firm acquisition of those areas of content over which children easily stumble, observations and experiments, and compiling reports and essays. As pointed out in Chapter 5 (6) above, it is important at elementary school level, to provide guidance aimed at confirming study and lifestyle habits, particularly in the lower and middle grades, and at the same time, to ensure that the learning activities make children really feel the joy of understanding and an eagerness to learn, and by heightening this eagerness, to reduce any feelings about the inappropriateness of schooling and encourage them to be more independent and autonomous.

○ On the basis of the above thinking, the revisions to the current Courses of Study increase the number of teaching hours in Japanese language, Social Studies, Arithmetic and Science as well as in Physical Education, while on the other hand, in Life Environment Studies, Music, Art and Handicraft, and Homemaking, the number of teaching hours remains unchanged, but the subject content will be enriched and strengthened. It goes without saying that it is important, at the same time as nurturing in children a rich fund of emotions, to aim at ensuring that they are thoroughly equipped with the knowledge and skills that will be needed in family life in the future, so it follows from this that every school is required to implement education that has been enriched and strengthened to an even greater degree than in the past. The same points apply to lower secondary school.

Foreign language activities at elementary school level

○ As explained in Chapter 7 (6) below, it is necessary to cultivate a positive attitude toward communication through the medium of activities such as international understanding and communication, that are appropriate to elementary level schooling. At the same time as cultivating this kind of attitude, foreign language activities have the objective of encouraging an awareness of words and building an extensive spectrum of abilities concerned with language as well as a foundation for international awareness. At the present time, efforts to get to grips with these issues are carried out on a rather scattered, piecemeal basis, but from the perspective of ensuring equality of opportunity in education as well as of ensuring a smooth transfer to lower secondary school, it is necessary for Japan as a nation to show that the content of instruction is shared by every school. In these circumstances, given that the objectives and content of the Period for Integrated Study are decided by individual schools and that there are consequently differences between schools in terms of the purpose and character of this time slot, it is felt to be appropriate to treat the Period for Integrated Study as a separate issue and secure a set number of unit hours (35 hours a year, equivalent to one class hour a week) for language activities in the upper grades of elementary school.

Period for Integrated Study

○ With regard more specifically to the Period for Integrated Study, since in the future as in the past, it will be important to get to grips with hands-on learning activities and problem-solving, discovery-type activities, in which timetabled subjects are looked at in a cross-curricular way, it is necessary to secure a fixed amount of time in the timetable for this. However, because the learning activities that were expected to occupy the Period for Integrated Study, namely application of acquired knowledge and skills, have found a place within the context of strengthening the content of subject classes, and because of the decision that foreign language activities should continue in the upper grades of elementary school, it is felt to be appropriate to reduce the time allocation for the Period for Integrated Study to 35 units a year (equivalent

to 1 class a week) and to set the time at 70 units a year (equivalent to 2 classes a week) for grades 3 through 6.

Total number of annual teaching classes

○ The standard number of teaching hours in a year at elementary school level is specified by the School Education Law Implementation Regulations, and on the basis of the stage of development reached by children in each grade, is set for Grade 1 at 782 units (equivalent to 23 class hours a week), for Grade 2 at 840 units (equivalent to 24 class hours a week), for Grade 3 at 910 units (equivalent to 26 class hours a week) and for Grades 4 through 6 at 945 units (equivalent to 27 class hours a week).

○ If all the above teaching hours for each subject are totaled, the annual total of teaching hours for all subjects in each grade amounts for Grade 1 to 850 units (equivalent to 25 class hours a week), for Grade 2 to 910 units (equivalent to 26 class hours a week), for Grade 3 to 45 units (equivalent to 27 class hours a week) and for Grades 4 through 6 to 980 units (equivalent to 28 class hours a week),

○ When the total annual teaching hours are increased as shown here, the present total of 27 classes a week for Grades 4 through 6 in elementary school will be increased by 1 class a week to a total of 28 classes a week for the 35-week school year. In this connection, it should be pointed out that it is expected that within the school week:

- in addition to timetabled subject lessons, children's meetings and club activities will be held under the rubric of Special Activities, and that schools will also tackle issues of supplementary tuition and pupil guidance given on an individual basis;
- as explained in Chapter 9 below, school organizational capacity will be enhanced, and in terms of an organizational response to the curriculum, time needs to be secured for exchanges of information and opinions between the school principal, deputy principal, supervisory teachers and other teachers.

With the above points in mind, it is considered appropriate that when adding class teaching in the course of revisions to the Courses of Study, the revised total should not exceed 28 class hours a week.

○ Moreover, on the question of increasing teaching hours so as to be able to ensure a firm acquisition of knowledge and skills in each subject and to implement learning activities aimed at applying the knowledge and skills acquired, it is necessary that these activities take the form of very detailed guidance tailored to the needs of every individual child and that arrangements are put in place to revise the teaching system in such ways as revising the number of teachers. on the basis of the implementation of working conditions set out in Chapter 4 (3) above.

○ In addition, the issue of how to secure the increase in teaching hours over the year is not shown in the special methods contained in the Courses of Study. Instead, it is appropriate to respond by using a variety of methods[8] based on the actual conditions of individual schools and children and acting in line with the discretion of each school and each establisher.

③ The number of teaching hours in lower secondary school

○ Turning to the number of teaching hours in lower secondary schools, various improvements need to be made as set out below (teaching hours based on the results of an examination of the points listed below are set out in Table 2).

A balance between required subjects and elective subjects

○ In the current Courses of Study for lower secondary schools, accompanying the establishment as a new time slot of the Period for Integrated Study, the number of elective subjects aimed at developing the ability of pupils to choose and extending their individuality was increased, and at the same time, the educational content and the number of teaching hours of required subjects was reduced.

○ However, when children's academic ability and learning conditions were observed after implementation of these revisions, it was found that as set out in Chapter 4 (2) above, the aims envisaged by the revisions in terms of a thorough grounding in the required subjects of Japanese Language, Social Studies, Mathematics and Science as well as Foreign Language, and the development of the ability to think, make judgments and engage in self-expression which were associated with the formation of the Period for Integrated Study, were not being sufficiently achieved.

Furthermore, when the effect of introducing the Period of Integrated Study was added to that of an increase in elective subjects, it was found that the curriculum structure became excessively complicated.

○ It should also be noted that at present, more than 60% of the total of elective class hours are allocated to Japanese Language, Social Studies, Mathematics, Science and Foreign Language[9], and it is necessary to understand that a large proportion of this time allocation is incorporated into supplementary study.

○ On the basis of this kind of perspective, it is deemed necessary to reduce the number of hours of elective subjects and increase the educational content and the number of hours of required subjects, thereby enhancing the overall consistency of the curriculum. Furthermore, it is appropriate for the establishment of elective teaching hours outside the framework of the

standard curriculum to be handled by individual schools.

Teaching hours in each individual subject

○ In Japanese Language, the basic assumption is that at elementary school level, pupils will become thoroughly familiar with the fundamental knowledge and skills pertaining to this subject. With this in mind and with the aim of ensuring a smooth transition between the teaching at elementary school and that at lower secondary school, there is a need to strengthen the teaching in Grades 1 and 2 in particular. It is already the case that emphasis is laid on Japanese Language by the allocation of 140 unit hours (equivalent to 4 classes a week) in Grade 1, and an allocation of 140 units (equivalent to 4 classes a week) representing an increase in teaching time, has also been put in place in Grade 2. At the same time, as set out in Chapter 5 (4) above, there is a need to develop competencies in Japanese by getting to grips with a wide range of language activities appropriate to the class subject concerned and while giving full consideration to the stage of development of pupils in each subject.

In Social Studies, there is a need to increase the allocation of teaching hours to 140 units a year (equivalent to 4 classes a week) in Grade 3 with a view to strengthening the learning of history focused on modern and contemporary history and strengthening the teaching of areas like law and religion.

In Mathematics, since there are many pupils who encounter a dead end or develop a dislike of the subject in Grade 1 of lower secondary school, the total number of teaching hours for Mathematics in this grade has been increased to 140 (equivalent to 4 classes a week) so as to allow sufficient time for teaching from the perspective of ensuring a smooth transition between elementary school and lower secondary school. In the same way, so as to ensure s smooth transition from lower secondary to upper secondary school, the number of units in Grade 3 of lower secondary school, the final year of compulsory education, has also been increased to 140 hours (equivalent to 4 classes a week).

In Science, in order that study can deepen as a pupil moves up through the grades of the school and so as to secure sufficient time for observations and experiments and to enable pupils to appreciate how interesting science is, it has been found necessary to increase the number of units to 140 (equivalent to 4 classes a week) in Grades 2 and 3 of lower secondary school.

With regard to the study of Foreign Language, at the same time as aiming to strengthen grammar teaching and the acquisition of necessary vocabulary items, the educational content of this subject through the 3 years of lower secondary school is to be enriched and strengthened so that after completing 3 years of study, pupils will be able to engage in simple communication in a foreign language, and with this aim in mind, it is necessary for the total number of units in each grade is to be increased to 140 a year (equivalent to 4 classes a week).

It has also been noted that children's physical strength and stamina is declining, and since lower secondary school is a period in children's lives when their bodies develop markedly, it is necessary to increase the number of units in Health and Physical Education to 105 units a year

(equivalent to 3 classes a week) for all 3 grades of lower secondary school.

○ Specific items of content improvement are shown in Chapter 8 below. At the same time as ensuring a thorough grasp of fundamental knowledge and skills, from the point of view of enriching and strengthening learning activities designed to apply the acquired knowledge and skills in such forms as experiments and observations, and report and essay writing, it is necessary, on the basis of the points outlined above, to make an increase of about 400 units in all over the space of the 3 years of lower secondary school. But when account is taken of the fact that units currently allocated to elective subjects are included in this number, the broad total of additional units is 230[10] over the space of 3 years.

○ In the same way as in elementary school, the main objective of the increase in lesson time is to give children and teachers time to go over again material that children find difficult to grasp so as to ensure that they have a firm grasp of the content, and to allow for strengthening application of the acquired knowledge and skills in the form of experiments and observations, and in report and essay writing. In particular, as explained in Chapter 5 (6), it is very important in lower secondary school to implement career education by way of developing children's outlook on the world of work, and to get to grips with various kinds of assessment of their language skills and knowledge of Japanese characters by ways of devising specific attainment goals. It is important that these learning activities, by means of strengthening the joy of understanding and the significance of learning in childr3n's minds, and enhancing their eagerness to learn, reduce any feelings they may have of dislike of school and encourage their independence.

Period for Integrated Study

○ With regard to the Period for Integrated Study, it is deemed appropriate, in the same way as in elementary school, to secure a continued allocation of teaching time for timetabled subjects. Particularly in lower secondary school, there are strong voices among the teaching staff demanding a strengthening of the teaching time for required subjects in order to ensure that the children get a thorough grasp of the required knowledge and skills.[11] Moreover, since learning activities designed to apply acquired knowledge and skills that have until now been expected to be covered in the Period for Integrated Study, will be covered in the strengthened learning activities in each individual compulsory subject, it is considered appropriate to reduce the time allocation to the Period for Integrated Study to 50 units (equivalent to 4 classes a week) for Grade 1, and to 70 units (equivalent to 2 classes a week) for Grades 2 and 3.

Furthermore, given the fact that in lower secondary school, the system is to have specialist teachers for different subjects, in the case of the Period for Integrated Teacher, in addition to the occasions when the class teacher (=homeroom teacher) takes charge, on those occasions when a specialist theme is being pursued in this time slot, it is fair to presume that in the future

as now, the specialist teacher concerned will take charge during this period.

○ In the current Course of Study for lower secondary schools, one of the specified aims is to develop the ability of pupils to make selections as well as to extend their individuality, and to cultivate their ability to study and think for themselves. The development of these functions will continue to be as important in the future as it has been in the past, but as set out in Chapter 10 (1) below, it is not only within the framework of school education that the learning activities that aim to cultivate these functions are located, and it is expected that liaison and cooperation with the educational power of local communities will have a high degree of educational effectiveness.

In this connection, one can think of organizations like local governments, firms, universities and other higher education institutions, NPOs and so on, offering opportunities to strengthen and develop subject-based teaching in the form of hands-on activities or activities concerned with the arts, culture and sports, all aiming to develop the ability of pupils to make choices and to enhance their individuality. There is a need to examine ways of constructing devices to realize this scenario in the future.

Annual number of teaching hours

○ Under the implementation regulations of the School Education Law, the number of annual teaching hours in lower secondary school from Grade 1 through Grade 3 is set at 980 units (equivalent to 28 classes a week). In the revision which is now underway, the result of totaling the extra hours explained above is that the annual number of units from Grade 1 through Grade 3 will be 1015 (equivalent to 29 classes a week).

○ It follows that the result of increasing the annual number of classes is that the number of weekly classes will rise by 1 from 28 to 29 classes over the 35 weeks of the school year. Specifically, in every lower secondary school, time has to be found during the week for supplementary tuition or guidance for individual pupils and for the exchange of information and the communication of opinions between the principal or deputy principal and teachers, so it is reasonable to assume that the actual number of classes a week will be limited to 29.

○ It is also necessary to increase the teaching hours so as to be able to implement learning activities in each subject aimed at ensuring a thorough grounding of knowledge and skills and analyzing the knowledge and skills acquired, and in this connection to revise the teaching system and make improvements to such matters as the set hours of working by educational staff.

○ Given the above, it can be assumed that various measures are being implemented in lower secondary schools, in the same way as in elementary schools, concerned with how, on the basis

of the actual situation of schools and pupils , to secure by the exercise of the discretion accorded to schools and their establishers, the annual increase in teaching hours[12].

○ It is also necessary to consider club activities, organized as autonomous actions by pupils, and on the basis of an understanding of their role and significance as an integral part of lower secondary school education, to formulate ways of linking these to the curriculum and recording them in the official Courses of Study.

(2) The curriculum and framework of upper secondary schools

① The common features and the diversity of upper secondary school education

○ With 97.7% of lower secondary school graduates going on to upper secondary school in 2006, upper secondary school can certainly be said to be a national system, even though it is not part of compulsory education. Against the background of this statistic, there is very considerable diversity among the students at upper secondary school, including those want to receive the education necessary as a foundation for going on to higher education, those who hope to acquire the specialist skills required for employment, and those who feel the need to get a more thorough grounding in the educational content that they have acquired during the period of compulsory education. So that upper secondary schools can respond to this wide diversity of interests and career aspirations among students, a credit system has been established as the basic precondition of upper secondary school education, and courses are divided into general courses, technical courses, and integrated courses[13], while the students attend either a full-time or a part-time course, or study through a correspondence course. It will be clear that the system allows a wide diversity of students to study by using many different methods.

The Courses of Study for upper secondary schools use "credits" as a calculation method, and prescribe a regulatory framework including the number of teaching hours in a year, the number of teaching hours a week on a full-time course, the number of credits required for graduation, and the standard number of credits given for each subject. However, unlike the high degree of consistency required in the curriculum for elementary and lower secondary school, the educational content that all upper secondary school students are required to study is kept to an absolute minimum of required subjects[14]

○ In the Courses of Study issued in 1999 and in the course of subsequent amendments, there has been a gradual move in the direction of responding to a diversification in terms of interests, abilities, aptitudes and career aspirations, as shown in the following ways:

- Along with a reduction in the overall number of credits required for graduation, there has been a reduction in the number of credits for required subjects and an increase in the number for elective subjects[15].

- The credit recognition system has moved forward in such ways as granting recognition for credits earned at other upper secondary schools or at specialized training colleges, as well as credits earned through volunteer activities, various kinds of certificate-awarding courses, university credits, and so on[16].

In ways such as these, the curriculum has aimed to provide increased flexibility.

○ Against the background of an upper secondary education system that emphasized its responsiveness to diversification in terms of trying to keep a balance between consistency and common features on the one hand and diversity on the other, there was a very high degree of interest in society generally when it was revealed in October 2006 that about 10% of upper secondary school students had failed to take required courses. Various reasons can be adduced for this failure, including insufficient understanding of the requirements of the Courses of Study, insufficient control and supervision of the curriculum by teachers and boards of education, and prioritization at the schools concerned of study needed for university entrance examinations. On the other hand, when one considers the fact that about 90% of upper secondary school students did take the required subjects on the basis of the regulations set out in the Courses of Study, it does not seem appropriate to create a direct link between the problem of the missed subjects and the desirable form of trequired subjects in upper secondary school.

○ Turning to the current revisions to upper secondary school education, the basis of the revisions can be found in the fundamental thinking underlying the revisions to the Courses of Study as outlined in Chapter 5 above, the main improvements to educational content at school level and in individual subjects, and in the reformulated objectives of upper secondary schools[17] and in the partial revision of the School Education Law. On the basis of this thinking and the revisions embodying it, and taking as a precondition the fact that the people are given a thorough grounding in fundamentals in the course of compulsory education, we looked at upper secondary schools and emphasized the following 3 points from the perspective of further developing acquired knowledge and skills and realizing the importance of establishing a link with the acquisition of skills and academic research.

1) In the same way as in elementary and lower secondary schools, application of acquired knowledge and skills must be stressed at the same time as acquisition of fundamental knowledge and skills in each subject.

2) Efforts must be made to stress the continuity between compulsory education and upper secondary education and to ensure a smooth transition into upper secondary schools.

3) Aiming at the development of a rich and fruitful heart and mind and a healthy body, efforts must be made to strengthen moral education and to strengthen guidance and teaching to cultivate a healthy body and mind.

○ It is also necessary for schools and establishing bodies to make sure that they grasp the actual

condition of upper secondary school students, and while looking ahead at the future pattern of the life and work of students, continue to teach the common features that are present in upper secondary education and at the same time examine ways of introducing a certain amount of flexibility into the teaching with the aim of making it possible to equip students firmly with the abilities necessary to live independent lives in society.

○ A further major issue in upper secondary school education is that of enhancing student eagerness to learn and securing their level of academic ability without regard to their future career paths, either in the form of employment or progression to higher education, and there is a need for further continuing study of what policies, not just limited to the Courses of Study, are necessary to realize these aims.

Note should also be taken of a need to make a medium-term and long-term examination of the form that upper secondary education should take in terms of the high level of general and specialized education given in different schools, taking as a basis the present diversified state of upper secondary education and including in one's field of vision the differences between on the one hand upper secondary schools and on the other hand, colleges of technology and specialized training colleges, which are also educational institutions that exist at post-compulsory education level, and those institutions that bridge the gap between lower and upper secondary education.

② The number of teaching weeks in a year and teaching hours in a week

○In upper secondary schools too, in the same way as shown for elementary and lower secondary schools in (1) ①, the various kinds of educational activities, all of which inter-relate with one another, can be broadly divided into the following categories: (i) curricular subjects, the Period for Integrated Study and Special Activities (all homeroom-based); (ii) Special Activities that are not homeroom-based (PE and sports festivals, volunteer activities, etc); and (iii) club activities in which students participate voluntarily.

With these points in mind, the teaching period for the curriculum for full-time students is set in the Course of Study at a "standard 35 weeks a year", and it is appropriate to maintain this standard so as to secure time for school educational activities listed in (ii) above. It is also necessary, in the same way as in lower secondary school, to include in the Course of Study details of club activities carried out spontaneously and independently by students as items concerned with the curriculum on the basis of their role and function to date as an integral part of school educational activities in upper secondary schools.

○ With regard next to the number of teaching hours, unlike elementary and lower secondary schools, standard teaching hours by subject and by grade are not shown in the Course of Study for upper secondary schools, but a "standard of 30 credit hours" is prescribed as a weekly standard for full-time students. As already explained, it is possible, in elementary and lower

secondary schools too, to exceed the standard number of teaching hours provided care is taken not to put an excessive burden on children. On this basis and with a view to securing the teaching time necessary to ensure thorough acquisition of fundamental knowledge and skills and to carry out learning activities designed to apply the acquired knowledge and skills, it is necessary to state clearly that while 30 credit hours is set as a standard, it is possible, through the exercise of ingenuity by individual upper secondary schools, to exceed this number.

○ At present, the number of credit hours that must be completed by a student prior to graduation is set at 74 or more in the School Education Law Implementation Regulations. Since in the case of many part-time or correspondence courses at upper secondary school level, the present situation is that the number of 74 credits is the number required to be completed by students prior to graduation, it is appropriate for the state to stipulate 74 credits or more as the number of credits that must be completed before a student is permitted to graduate.

③ The desirable form of compulsory subjects

The necessity of required subjects

○ As already explained, compulsory subjects listed in the Course of Study for upper secondary schools are a way for the government to answer the question "What is upper secondary school education?" from the point of view of learning content. The following points have emerged in discussions so far.

- Maintaining current thinking with regard to required subjects[18]
- Strengthening features that are common to all upper secondary school education
- Expanding the discretion of schools with regard to the designation of compulsory subjects or the number of credits allocated to them.

○ Turning to a different point, it was felt to be strange that there should be a debate on re-evaluating compulsory credits and university entrance examinations on the basis of the revelation that students in a number of upper secondary schools had failed to complete the required number of compulsory credits, so it was decided to examine what the education of an upper secondary school student should be in terms of the minimum required knowledge and skills.

○ As a result, it was decided that in upper secondary schools, as institutions which implemented "high-level general education" as well as "specialist education", it was necessary, as the standard form of education, to have all students learn the knowledge and skills required in common of full-time students, and that efforts should be made to extend the abilities of all students in terms of the application of the knowledge and skills acquired and to develop human beings who could live in harmony, and that consequently, it was appropriate to stipulate

required subjects

Required subjects

○ The current range of required comprises the minimum knowledge, skills and general culture which it is considered necessary for all upper secondary school students to learn, and it is therefore appropriate for the current subjects to be seen as a foundation. It follows from this that, on the basis of the need to establish required subjects in the form of securing the minimum necessary range of knowledge, skills and general culture in each subject and subject area, that there is also a need to establish a standard number of credits.

Required individual subjects

○ Looking at the form that should be taken by subject requirements, it is necessary to strike a balance between on the one hand, the purpose (common features) of required subjects, specifically, securing the space to encompass subjects that represent the minimum knowledge, skills and general culture deemed necessary for upper secondary school students, and on the other hand, expansion (diversity) of the discretion of schools necessary to enable them to display their creativity and ingenuity as well as of the range of choice of elective subjects available to students. Against this background, the following points can be considered as appropriate/

(i) Establishing as a basic principle the current number of credits for required subjects and not making an increase in these.

(ii) While keeping the above point in mind and taking as a foundation the curriculum for upper secondary schools as currently compiled, increasing the number of credit units in terms of increasing the set amount of discretion permitted to each school in the context of keeping a balance between on the one hand the need to enhance the common features of the curriculum in terms of individual subjects, and on the other hand, the need to expand the discretionary choice of students.

Direction of improvement in individual subjects

○ With regard to individual required subjects, on the basis of the thinking set out above, there is a need for improvement in individual subjects as specified below. The results of the deliberations below as well as a compilation of the individual subjects and broad fields of study based on the report in Chapter 8 below are set out in Appendix 3).

○ Focusing now on Japanese Language, Mathematics and Foreign Language, which can be seen as the foundation of learning and as the tools for enhancing what can be termed the ability to utilize language, using this term in a very broad sense, the present position is that certain

parts of required subjects are elective, but there is a need to establish common compulsory subjects on the basis of the achievements of the period of compulsory education.

However, when we look at the diversified state of entrants to upper secondary schools, it is clear that there is a need for clarification concerning whether or not it is possible to increase or decrease the number of credits and concerning prioritization of teaching items in the face of the disparities in quality and ability among upper secondary school students. At the same time, in response to the actual condition of students, it is also necessary to encourage efforts to devise ways on the basis of the curriculum, of getting all students to complete the more basic content of subjects before they complete the compulsory, more high-level, subjects that all students take in common.

Specific improvements are detailed in Chapter 8 below, but the following general points can be cited at this point.

- In the case of Japanese Language, the need to improve emphasis on cultivating the ability to think and express things in theoretical terms by utilizing language and the ability in students to see Japanese Language as part of their heritage and to develop further the linguistic culture of Japan.
- In the case of Mathematics, the need to improve emphasis on getting children to understand how Mathematics is utilized in a variety of ways in actual everyday life and society, and emphasis on developing in children the ability to think and express themselves in theoretical terms.
- In Foreign Language, the need to improve ways of developing in a comprehensive, integrated way, the four skills of "listening", "speaking", "reading" and "writing", and to improve content appropriate to this aim.

○ Turning to Geography and History, Civics and Science, these can be seen as learning activities which help students to get a deeper grasp of required knowledge and skills and which emphasize the utilization of the acquired knowledge and skills, and it is appropriate for them to continue as elective required subjects as at present.

In that context,

- With regard to Geography and History, 1 subject from those covering World History, and 1 subject each from Japanese History and Geography, 2 subjects in all, are required electives, and taking as a basis the fact that in elementary and lower secondary school, Japanese history as well as Japanese and world geography are being studied, there is a certain degree of rationality in the decision regarding required subjects in upper secondary schools at present, and the choice of electives seems realistic. However, with regard to the content of "World history", there is a need to look at this again from the perspective of emphasizing more deeply the connections with Japanese history.
- Furthermore, with regard to the proposal to establish a comprehensive subject including both geography and history, there is a need for further deliberation from

now on about the specific form that the educational content of this should take.

- With regard to Civics, at present, students have to choose between "Modern Society" on the one hand or "Ethics" and "Politics and Economics" on the other; in this situation, given the need to strengthen content concerned with the way of life and the way of acting as human beings, there is a need for additional strengthening of the ethical field.
- With regard to Science, students at present have to choose 2 subjects, and of these, 1 or more of the subjects to be completed must be either Basic Science or Comprehensive Science. However, in a context in which the idea still persists[19] that of the 4 fields, Physics, Chemistry, Biology and Earth Science, students have to choose 3 fields, it is appropriate, from the perspective of expanding the discretion of schools and enhancing the flexibility of required subjects in response to students' needs, to regard the requirement for Comprehensive Science as unnecessary when 3 or more fields are chosen as required subjects,.

Moreover, with regard to Comprehensive Science, improvement is necessary in consideration of the reality of increasing differentiation at an academic level and in terms of the specialist interests of teachers.

○ With regard to the general course subject, "Information Science", this is an area in which large discrepancies in knowledge and skill can be observed in students on entry to upper secondary school. With this fact in mind, there is a need to aim at improvement of the content, including a thorough re-examination of the teaching content at compulsory education level.

○ With regard to Health and Physical Education, Art and Home Economics, on the basis of results in these subjects to date, there is a need to aim at improvements in the content on the basis of the assumption that the existing framework of compulsory required subjects will be maintained.

○ With regard to Special Activities and to the Period for Integrated Study, there is a need to emphasize in a wide variety of areas activities which facilitate the accumulation of backing or support for acquired knowledge in such forms as problem-solving, discovery-type or experiential activities which enable a cross-sectional examination of timetabled subjects to be made.

In addition to this, with specific reference to the Period for Integrated Study, it is appropriate that there should be a flexible way of handling teaching time on the basis of strengthened learning activities concerned with the application of knowledge and skills in each subject and subject area. On the other hand, given that the Period for Integrated Study performs a major role in terms of developing the ability to think, to make judgments and to engage in self-expression, there is a need for improvement aimed at further strengthening discovery-type and problem-solving activities which involve a cross-sectional examination of subjects to be

carried out within the framework of the Period for Integrated Study.

Specialized courses and comprehensive courses

○ Efforts are being made to strengthen vocationally oriented courses in specialist subject areas, namely agriculture, manufacturing, business, marine products, home economics, nursing, welfare and information studies, with a view to training human resources for the purpose of further developing Japanese industry and the Japanese economy. In order that a set amount of specialist expertise can be secured, it is appropriate to continue the present arrangements for specialist subjects and to set the number of credits to be obtained in specialist subjects and subject areas at 25 or more.

○ Comprehensive courses: these have the characteristic of offering a broad range of selective courses from which students can make their own choice. Emphasis is put on learning which will enable students to deepen their perceptions of their own career in such forms as their future work. With this point in mind, it is appropriate to continue these courses and to have students complete "Industrial society and human beings"[20]

Part-time courses and correspondence courses

○ Part-time courses and correspondence courses: these are aimed at students whose desire to study is driven by a wide variety of motives, and their important significance lies in the fact that they offer flexible educational opportunities. As such it is appropriate for them to continue to be flexibly operated, while having as their basic structural framework the curriculum outlined above.

(3) Utilizing Saturday in the context of a 5-day school week

○ The state of discussions on how to utilize Saturday in the context of a 5-day school week representing a common curricular framework for elementary, lower secondary and upper secondary schools is given below.

○ The basic principle of a 5-day school week is that schools, families and communities should cooperate and work together, dividing their respective roles, so that children are brought up by society as a whole. On the basis of this principle and in line with the introduction of a 5-day working week for society in general, the 5-day school week was introduced in stages over a long period as a social system. Given that internationally too, almost all countries have adopted a 5-day school week, it is appropriate to maintain this system.

○ In this same context, a MEXT survey has shown that over 10% of elementary and lower

secondary schools cooperate with local communities and other bodies in utilizing Saturday to provide children who have a desire to participate with experiential learning activities in such forms as projects that include group accommodation, cultural projects, sporting activities and so on. There are also cases where Saturdays are utilized at lower secondary school level to provide learning opportunities comprising supplementary teaching or more advanced studies designed to raise the level of academic ability in schools at this level[21]

Furthermore, at upper secondary school level, around 50% of public-sector schools including schools offering general courses, specialized courses and integrated courses, offer learning opportunities linked to the acquisition of qualifications or to students' hopes to proceed to the next level of education, while around 10% of schools offer (nature-based or experiential learning activities).[22]

From another perspective, as set out in Chapter 10 (1) below, since 2007, a new project with the title "After school child-centered plan" has been set in motion. Under this plan, arrangements to provide facilities for study or experiential learning after classes have finished for the day and/or on Saturdays are being taken forward. According to a survey undertaken by the Cabinet Office, the number of children who participate in local festivals or attend talks in Children's Centers or Citizens' Halls or who take part in other activities in empty classrooms or other community facilities is increasing.

It is important that active involvement in projects of the kind outlined here within the framework of a 5-day school week is on the increase. It is also necessary in this context to construct a partnership or liaison system linking schools and local communities with a view to unifying or encouraging support for school education within local communities.

○ It should also be noted that experiential, hands-on activities, including identification of problems and topics by children, problem-solving activities, discovery-type activities and so on, are not all the responsibility of school education alone, and it is precisely through liaison and cooperation with the educational power inherent in communities that we can expect to see a high level of educational effectiveness being achieved.

Even at the present time, one can see examples, in the form of schools being opened to parents and to the community, of Saturdays being treated as "school days" and used for events such as Sports Days or Open School Days[23] In the same way, it is also possible to think of Saturdays being used for hands-on-type, discovery-type or problem-solving-type activities as an integral part of the work carried on in the Period for Integrated Study; specific examples are liaison with the local community or use of external human resources.

(4) A smooth transition between levels of schooling in line with the stage of development of children

○ In the partial revision of the School Education Law carried out in June 2007, the goals and objectives of each level of schooling are reformulated, and on the basis of these goals and

objectives, the roles of each level of school are set out as below.

- Kindergarten education develops basic lifestyle habits and attitudes in children, cultivates an awareness of rules and norms, thinking ability, rich and fruitful emotions and the seeds of self-expression, and plays a very important role in terms of laying the foundation for elementary and later stages of education.

- Compulsory education develops and extends children's innate abilities while cultivating the basis for independent living in society, and at the same time, carries out the exceedingly important role of fostering the basic qualities deemed necessary in formative agents of the state and society. It is with these points in mind that compulsory education is expected to guarantee that all children will be educated up to or above a set level.

- Upper secondary school education is expected to carry out the role of further developing and expanding the results of compulsory education, nurturing rich and fruitful human qualities and fostering the characteristics deemed necessary in formative agents of the state and society. At the present time, about 98% of those who complete lower secondary school education go on to upper secondary schools, and there is a very wide diversity among students in terms of their interests, abilities, aptitudes and future career aspirations, but as national educational institutions, upper secondary schools play a vitally important role in maintaining and raising the social, economic and cultural level of Japan in the future.

- Specially supported schools provide an education that is analogous to that given in mainstream kindergartens, elementary schools, lower secondary schools and upper secondary schools, and at the same time as performing this function, set themselves the goal of giving those students who are overcoming difficulties in studying or in daily life as the result of some kind of disability, the knowledge and skill necessary to live independently and autonomously. Specially supported education focuses primarily on specially supported schools, newly located in the school system since fiscal 2007, and there are calls for them to be given strengthened functions.

○ What is more important than anything else is that the various levels of schools, as set out here, thoroughly fulfill their respective roles, and in addition to this, in the context of curriculum reform, there is a need for them to be mindful of ensuring a smooth transition between the various stages of schooling from the perspective of devising ways to make the curriculum responsive to the appropriate stage of a child's development.[24]

○ With regard firstly to the transition between kindergarten and elementary school, there is a need to strengthen in early childhood education the content of kindergarten education that is

concerned with group behavior and is aimed at confirming children's awareness of normative rules, as well as children's experiences in the lower grades of elementary school that are concerned with laying a foundation for subject-based learning and daily life. It is very important that in the early years of elementary school, while they are accumulating experiences, children adapt to school life, confirm basic daily living habits, and carry out a smooth transition to subject-based learning. It is necessary that in the course of what is termed the Grade 1 program, attention is paid not only to getting children to memorize the content of the teaching, but also to daily life habits and to ensuring that there is sufficient contact with and cooperation with children's families.

○ As children enter the period of puberty and rise up through the school ranks into lower secondary school, where the learning content is at a higher level, many kinds of educational problems arise, compared to elementary school, including a lowering of the level of understanding of what is taught, an increase in problem behavior and so on. It is because of the occurrence of such phenomena that it is vitally important, in order for pupils to be able to enter lower secondary school in a satisfactory way, for efforts to be made to ensure a smooth transition between the different school levels. Within elementary school, as explained in Chapter 5 (6) above, it is necessary in the lower and middle grades, to emphasize thorough acquisition of the learning content, and in the upper grades, to examine how to strengthen the specialized education given by teachers by making use of external human resources. Teachers are also required, at the lower secondary school stage, to take up again, from the perspective of utilizing the knowledge and skills acquired in elementary school, the educational content that pupils have covered in their former school and use their ingenuity to deal with it again from a lower secondary school perspective at an appropriate point in the curriculum. Effective teaching should take a broad view of elementary and lower secondary school education, and should cover the 2 spheres of study and daily life, implementing deeper learning through an exchange of teachers.

○ A further point to be noted is that at present, by making use of the R & D school system, efforts are being made to find ways of making a smooth passage through the 9 years of elementary and lower secondary school combined[25]. Thinking of compulsory education, covering both elementary and junior high school education, as one consistent period of education, the Central Council for Education commented in a report[26] issued in 2005 as follows: "We will examine measures designed to improve the connections and the transition between the different stages of schools by such ways as making it possible for school establishers, on the basis of their decision, to establish a school spanning the entire compulsory education period of 9 years and introducing more flexibility into the division of the curriculum". It is necessary for deliberations to continue within the Central Council for Education.

○ Turning to the transition between lower secondary school and upper secondary school, what upper secondary schools have to do is ensure that students have a thorough mastery of the basics, consisting of the material that they have learned as citizens of Japan during compulsory education in lower secondary school, and at the same time, while adding supplementary knowledge as necessary, to lay emphasis on making a smooth transition to upper secondary school. With these points in mind, what needs to be done in terms of the Course of Study is, for example, to take account in Mathematics of making a connection between Mathematics in lower secondary school and Mathematics in upper secondary school, or in Foreign Language, aim at ensuring a smooth transition from lower secondary school teaching. There is a need for improvements in ways such as these of setting out basic subjects.

Given also that 40% of upper secondary school students spend no time or almost no time studying outside classes[27], there is a need to have students challenge in various kinds of certification tests their knowledge of language and kanji that they have continued from lower secondary school, and also, building on links with the work experience that they have had in lower secondary school, use ways such as career education to enhance their desire to learn.

Or from the standpoint of Moral Education, which students have studied through lower secondary school, there is a need to strengthen related issues in Civics or in the homeroom or in Special Activities.

○ It was from the point of view of ensuring a smooth transfer between lower and upper secondary school that a system began in fiscal 1999 which aimed to integrate lower and upper secondary education so as to realize a form of education that puts more emphasis on the individuality of pupils in the context of the increasing diversification of secondary education[28].With regard to a secondary education school that integrates lower secondary and upper secondary schools, on the basis of the fact that the goals and objectives in both parts of the integrated school are of the same nature, the respective Courses of Study apply in principle to both parts. From the point of view too that in the partial revision of the School Education Law, there is no change in this point, it can be thought of as appropriate for the kind of framework that now exists to be maintained in the future.

On the other hand, special measures which aim to utilize the positive features of integrated secondary education have been put in place, and an attempt was made to expand them in fiscal 2004. It is to be hoped that from now on too, we will see efforts being made to realize the essential message of these special measures, and that the two parts of the integrated school will get to grips with educational activities in the form of further special measures.

(5) The responsibility of individual schools and the significance of being "locality-based" in terms of the design and implementation of the curriculum

○ Until now, the Courses of Study have represented criteria which show the content that should be taught to all children with the aim of ensuring equality of educational opportunity

throughout the country and maintaining and raising the level of educational standards, and it is against this background that they broadly determine the objectives of each individual subject (the Courses of Study as embodying "criteria" or "standards"). In addition to this, it should be noted that in 2003, by means of a partial revision of the Courses of Study, a proviso was added to this sense of embodying "criteria and standard" making it clear that it was possible to teach material over and above the content shown in the Courses of Study, depending on the actual condition of schools and children.

This amendment meant that while every school followed the broad criteria set out in the Courses of Study, schools were also given discretionary responsibility and the possibility of developing characteristic educational activities which utilized their ingenuity and creativity to put together a curriculum which took sufficient consideration of the actual situation of local communities and schools, and was appropriate to the physical and mental stage of development of the children and their special characteristics.

Taking a fresh look at "regulations applying the brake"

○ In the context of the current revisions to the Courses of Study, it is necessary to look again at the annotations in the Courses of Study with a view to making it even clearer that it is possible to utilize ingenuity and creativity at the stage of implementing teaching in order to realize a curriculum that is characteristic of a particular school and locality.

Specifically, in the current Courses of Study, certain headings are marked with an annotation saying "not to be dealt with", the so-called "braking regulations". These indications do not mean that the items, which have advanced content, should not be taught, but only that it is not appropriate to teach them to all children in common. This point is insufficiently understood, and is difficult for people to understand, so there is a need for the wording to be amended.

Creation of a new system of research and development schools

○ On a different point, with regard to the view that unless special measures are devised, it is impossible to implement the teaching of subjects which are newly created and are not specified in the Courses of Study, the fact is that within set limits and provided that approved procedures are followed, there are measures which make it possible to follow a new curriculum not set down in the Courses of Study. Specifically, these take the form of a system of R & D schools or of projects establishing R & D schools in special structural reform areas (special R & D areas).

○ Looking first at the system of R & D schools[29], in order to obtain practical evidence that will contribute to the improvement of the Courses of Study, the Minister of MEXT has approved this system of permitting new curricula to be drawn up and implemented without being

included in the Courses of Study, and there is a need for the system to be strengthened so that it can contributed to the improvement of future Courses of Study.

○ On the other hand, "special R & D areas"[30]are a system that makes it possible to formulate and implement curricula that are not covered by the Courses of Study, utilizing the system of structural reform areas authorized by the Prime Minister. The system results in changing the significance of schools themselves in terms of designing and implementing the curriculum, and generates a heightening of interest in the curriculum among local governments and society generally. The system of special R & D areas was decided on in a Cabinet decision of April 2006, and the current procedure is that such areas must apply to the Cabinet office, so as to get approval from the Prime Minister, but there are demands that it should be made possible for MEXT to receive applications directly, and to examine and approve them.

○ With these points in mind, it is entirely a matter of course that schools which have responsibility for public-sector education will deliver that education in conformity with the School Education Law and the Courses of Study, which are based on this law. However, it is necessary to introduce a measure whereby, when a school or the establisher of a school conceives the idea that it would like to use its creativity and ingenuity, for example by creating a new subject, and makes an application on the basis that it has the means to realize this, then provided that the proposal satisfies the objectives for each level of schooling as stipulated in the School Education Law and a set level of conditions pertaining to the appropriateness of the proposal to the objectives and content of each subject as set down in the Courses of Study, the proposed special measure can receive the approval of the Minister of MEXT[31].

The significance of the responsibility of each school and the sense of being "locality-based"

○ Emphasis on the importance of being “locality-based” means that every individual school is called on to perform its duty, and it is indispensable to examine and validate the results shown by the exercise of creativity and ingenuity on the part of each school. Realizing this aim means that there is a requirement to utilize the results of the National Academic Ability Tests and Course of Study implementation surveys as well as evaluations of individual schools, to confirm the results and to aim at further improvements. A further effective measure is to utilize community schools (school management council system)[32], and to deepen proof and validation from the viewpoint of many different people including members of the local community, parents, and prominent intellectuals.

[1] There are differences between individual schools and boards of education, but in the main, out of the 365 days in a year, there are non-teaching days, made up of about 70 days for long holidays, 12 days for national holidays, as well as 83 days for Saturdays and Sundays, leaving a total of about 200 teaching days.

[2] With regard to the "standard number of teaching hours" prescribed in the School Education Law Implementation Regulations, it is entirely possible that as a result of natural disasters and the like, the actual number of teaching hours will be less than this number, but it cannot normally be assumed that at the beginning of the school year, when the number of teaching hours is being worked out, that the composition of the curriculum reflects a number less than the standard number of hours. On the other hand, it is possible that a limit will be set to a rise above the standard number of hours in order not to impose an excessive burden on children.

[3]A period of about a week after entry to elementary school is set aside for guidance concerned with how to adapt smoothly to school and class life. This being the case, children in Grade 1 will spend 34 weeks or more in a year on subject teaching, unlike the children in other grades.

[4] Actual results for 2005 from the Survey on Curriculum Preparation and Implementation in Public Elementary and Lower Secondary Schools (2006 edition), implemented by MEXT.

In addition, results from the same survey in respect of the implementation of educational activities such as organized trips with group accommodation of the kind referred to in category (ii) above show the time spent on these as follows: in Grade 5, elementary school, 27.4% of schools spent between 76 and 90 class unit hours in a year, while for 23.6% of schools, the number of class unit hours was between 91 and 105.

[5] An "International Comparative Survey on Instruction Hours in School", commissioned by MEXT in 2002, gives an international comparison of the number of teaching hours determined in the education system of each of the participating countries (in the case of Japan, the number of hours represents the total of the number of subject teaching hours within the standard number of hours stipulated by the School Education Law, and the number of hours allotted to Moral Education and the Period for Integrated Study). If we take from these results, for example, the total number of teaching hours in a year equivalent to the 6 grades of elementary school in Japan (from Grade 1 through Grade 6), the 5 top-ranked countries are: Italy (5780 hours), India (5760 hours), France (5094 hours), Canada (Quebec Province) (5076 hours), and the U.S. (Washington DC) (4968 hours). However,

- In the case of Italy, the regulations state that children in Grade 4 (equivalent to Grade 4 in elementary school in Japan) study for 395 minutes in a day (8.7 units assuming a class hour of 45 minutes) (in Grade 8 (equivalent to Grade 2 in lower secondary school in Japan), they study for 320 minutes) but it is pointed out that this data does not reflect the reality of Italian schools.
- In the case of India, it is pointed out in the same survey that according to the state in question, there are cases where a 2-part school is held on the same day, so that it is difficult to think that all children necessarily receive the stipulated number of teaching hours.
- In the case of Canada (Quebec Province), it is pointed out in the same survey that within what is shown as the standard number of teaching hours, break time, time for moving from one class to another, and meal times are included.
- In the case of the U.S. (Washington DC), in addition to the reality being different from the guidelines, in the case of subjects for which an upper limit and a lower limit of hours are specified, the calculations are based on the upper limits, and the number of hours for multiple elective subjects are also all included.

It is pointed out that in the light of the above, simple comparisons are difficult.

[6] According to a report on the deliberations of the Education Committee of MEXT, in the process of deliberations of the "Conference of Cooperating Persons in Developing Language Ability" (a group of intellectuals established by MEXT), education of language education in Germany and other countries was introduced and examined.

[7] This is equivalent to about 10% of the total (3481 class unit hours) of the number of teaching hours at present Japanese language, Social Studies, Mathematics and Science.

[8] For example, various methods which might be thought of include the following: increasing the number of teaching hours in each week, utilizing, as an integral part of subject teaching, a period of

about 10 minutes in the morning before the first class for reading activities or drills, utilizing a learning module taking the form of a variation on a class teaching hour, shortening the long vacation, and changing the composition of school terms.

A module denotes a "unit" of, for example, time, and a learning module denotes a pattern for tackling learning in the form of a unit lasting for 10 or 15 minutes. For example, ways of implementing this might be to have teaching units of 20 minutes in some subjects, or a unit of 60 minutes (45 minutes plus 15 minutes)

[9] In the "Survey on the State of Preparation and Implementation of the Curriculum in Public Elementary and Lower Secondary Schools", elective subjects in lower secondary school according for a total of 225 class teaching hours across all 3 grades, and of this total, 64%, representing 144 unit hours, was allocated to Japanese Language, Social Studies, Mathematics, Science and Foreign Languages.

[10] This is equivalent to about 10% of the total (2005 unit class hours), made up of the standard hours for required subjects, comprising at present Japanese language, Social Studies, Mathematics, Science and Foreign languages (1835 unit class horus) and the number of teaching hours allocated to these subjects from within the total of elective subjects (170 class unit hours)

[11] In the "Consciousness Survey on Compulsory Education" (implemented in March and April, 2005), the proposition was put forward with regard to the Period for Integrated Study that "the time given to subject teaching has been reduced, and the learning of fundamental content is neglected". In response to this statement, the percentage of those who were of the same opinion (total of those who were "very much of this opinion" and "rather of this opinion") was 65.6% among class teachers in elementary school, and 81.0% among homeroom teachers in lower secondary school.

[12] It should also be noted in this connection that subject teachers in lower secondary school felt that it was necessary to carry out specifically oriented examination of what points should be considered when implementing reading activities or drills for 10 minutes in the mornings as an integral part of subject teaching.

[13] At the present time, subject areas in general courses at upper secondary school level comprise the following 10 areas: Japanese Language, Geography and History, Civics, Mathematics, Science, Health and Physical Education, Arts, Foreign Language, Home Economics, and Information Study. In specialized courses, there are 13 subject areas, namely: Agriculture, Manufacturing, Business, Marine Products, Home Economics, Nursing, Information Study, Welfare, Science and Mathematics, Physical Education, Music, Art and English. The curricula are composed of the subjects associated with the respective subject area.

[14]At the present time, the subjects and subject areas that all upper secondary school students are required to study comprise 10 subjects yielding a minimum of 31 credits. In the area of specialized courses, students are additionally required to obtain 25 credits or more in specialized subjects and subject areas.

[15] According to the revision of the Courses of Study for upper secondary schools carried out in 1999, the requirement up to that time for credits for compulsory subjects and areas to amount to a minimum of 35 credits on general courses and 38 credits on specialized courses, was reduced to a requirement on both courses for 31 credits respectively.

[16] The scope for the recognition of credits for the results of learning outside one's school is gradually expanding, as shown by the following. in 1993, recognition for the results of study at other upper secondary schools or specialized training colleges, in 1998, recognition of credits for volunteer activities, the acquisition of various kinds of qualifications, and credits earned at a university, and in 2005, extension of the upper limit for recognition of such credits from 20 to 35 credits.

[17] The School Education Law
Article 50: Upper secondary schools have the objective of implementing general education and specialized education on the basis of the education provided in lower secondary schools and in accordance with the mental and physical development and the career aspirations of each pupil.

Article 51: In order to realize the objectives specified in the preceding Article, upper secondary education must be implemented in such a way as to achieve the following targets.

[18] Elective required subjects are a device whereby a student can select subjects from a required subject area, thereby making it possible to design a flexible curriculum that matches the actual diversity of students.

[19] This was conceived on the basis of the way of thinking that says that if, for example, within the current Courses of Study, a student elects to take Comprehensive Science A 'Physics and Chemistry) and Biology I, it is appropriate to think of that student as taking 3 or more required fields.

[20] In designing a curriculum of integrated courses, from the perspective of enabling students to select elective compulsory subjects from a wide range of subjects and subject areas covering both general education and specialized education, the curriculum aims to provide courses with a credit value of 25 credits or more combining "Industrial society and human beings" as well as specialized subjects and subject areas.

[21] According to a Survey on the Design and Implementation of the Curriculum for Public Elementary and Lower Secondary Schools (fiscal 2006), 13.6% of elementary schools and 10.4% of lower secondary schools utilize Saturdays for offering opportunities for experiential learning in such forms as organized trips with group accommodation involving nature experiences or for sporting or cultural activities.

In addition, 2.5% of elementary schools and 5.6% of lower secondary schools offer learning opportunities in such forms as study to raise the level of basic academic ability, or as supplementary or more advanced learning.

[22] According to the Survey on the Design and Implementation of the Curriculum for Public Upper Secondary Schools (fiscal 2006), 52.0% of schools offering general courses, 46.0% of schools offering specialized courses, and 58.3% of schools offering integrated courses utilize Saturdays to offer opportunities for learning linked to students' future career aspirations or to the acquisition of qualifications.

Moreover, 12.0% of schools offering general courses, 13.2% of schools offering specialized courses, and 12.4% of schools offering integrated courses utilize Saturdays to offer opportunities for experiential learning in the form of organized trips with group accommodation involving nature experiences, or of cultural or sporting activities.

[23] School Education Law. Implementation Regulations

Article 47: Non-working days for public sector schools are as listed below. However, with the exception of days listed in 3) below, the provisions do not apply when special conditions make non-compliance necessary.

1) Days specified in laws concerned with national holidays (Law No. 108 of 1948).
2) Saturday and Sunday.
3) Days specified by a board of education on the basis of the regulations in Article 29 of the School Education Law Implementation Order.

[24] With regard to stages of development in terms of cognitive aspects, as pointed out in 5.(3), there are wide differences between one individual and another, but the main characteristics that can generally be observed in the stages of growth of children can be listed up as follows.

- In the case of infants, one can cite as their primary characteristics the fact that they engage with the surrounding environment, including people and nature, with their whole body, that for them, activities and locations, experiences and emotions are closely linked together, and that one can discern at this stage the germ of learning from experiential activities.
- In the case of children in the early years of elementary school , while some of the characteristics of the infant period still remain, children's ability in language and perception is broadening, and they are becoming able, to a certain extent, to take an overview that is not limited by a particular time and place,. For example, in the case of a Mathematics lesson, children's development in terms of words and numbers had advanced to the extent that they are able to concentrate on

numerical problems, and it is possible them to some extent to use semi-concrete objects (like tiles) and think in an abstract way.

- In the middle and upper years of elementary school, children have left the years of infancy behind them, and it is possible for them, to a certain extent, to objectify and perceive objects. They become able to put distance between themselves and objects and analyze them, and are able to differentiate and pursue cognitive activities. Since they are also able to look at themselves from a distance, the relationship between themselves and objects takes on a new meaning.
- When they move into lower secondary school, they enter the age of puberty, and become aware that there is an inner world of independent persons other than their parents or their immediate friends. They also become aware of an inner world in the case of their friends, and the relationship with their friends gives a new meaning to the concept of self. Furthermore, even though at this age they are still immature, their mental and physical abilities become close to those of adults, and within the context of a connections with society and the adult world, they experience a broadening recognition that adults also have their own worlds and become aware of taking responsibility in society.
- When children enter upper secondary school, they start to escape from the confusion of the age of puberty, and to develop an outlook on adult society. They encounter the issue of how they themselves will live in adult society. They stand at an important turning of the ways, when their future life bifurcates into the world of work and that of further study, and there are those who are excessively concerned with further study and pursued by the need to prepare for this, so that they give up thinking seriously about their future, and fall into a pattern of simply pursuing the pleasures that are immediately in front of their eyes. It is to be hoped that in this period of life, when the physical strength of students is expanding, students can, for example, participate in experiential, hands-on activities, thus broadening their viewpoint, and maintain an awareness of living a responsible life in society

[25] The question of how to achieve a smooth transition between elementary and lower secondary schools is currently being tackled in the 162 R & D schools (as of 2007) and the 70 local governments (as of 2007) that have been declared special R & D areas. Examples of the research being tried out in these schools comprise a continuous 9-year curriculum and continuous teaching methods that span the elementary and lower secondary years, or the introduction of separate subject teachers in place of class teachers in the later years of elementary school.

[26] Report by the Central Council for Education, "Redesigning Compulsory Education for a New Era", October 26, 2005.

[27] According to the "Survey of the State of Curriculum Implementation in Upper Secondary Schools" (implemented in fiscal 2005), 39.3% of upper secondary school students spend no time or almost no time studying outside the time spend in school classes.

[28] The number of schools in which a continuous form of education is offered spanning the periods of lower and upper secondary schools in such forms as the secondary school, in which a planned and continuous curriculum and learning environment is implemented for a period of 6 years, joining together the hitherto disparate lower secondary schools and upper secondary schools, is increasing year by year. As of April 2007, there were 32 secondary schools as well as 257 linked schools, of which 147 schools comprised lower and upper secondary schools established by the same establisher, offering continuous lower and upper secondary education, and 78 schools comprising lower and upper secondary schools also implementing continuous lower and upper secondary education but established by different establishers.

[29] The system of R & D schools derives from a report issued in 1971 by the Central Council for Education entitled "Basic Policies for the Comprehensive Strengthening of School Education in the Future" (June 1971). Under this system, the Minister of MEXT can authorize a school which makes an application on the basis of research themes specified by MEXT, to design and implement a curriculum other than that specified in the current Courses of Study. This device for obtaining through practical research actual data for contributing to the improvement of future Courses of Study, started in 1976. Up

to the present time, data obtained under this program has been utilized for improvement to the Courses of Study in such ways as the creation of the subject area, "Life Environment Studies" and the "Period for Integrated Study".

[30] The system of special R & D areas is one part of the system of structural reform areas. Under the system, which started operating in 2003, a local government body can make an application on the basis of the ideas of the Constitution and the Fundamental Law of Education as well as of the objectives specified in the School Education Law, to be permitted to design and implement a curriculum other than that specified in the Courses of Study. After obtaining the approval of the Minister of MEXT, the application is passed to the Cabinet Office for the Prime Minister's approval.. As of November 2007, applications from 105 local governments had been approved, and about 80% of these were for the implementation of English language teaching at elementary school level. Two other examples are an application designed to ensure a smooth transition between elementary school and lower secondary school (Ex. "Special district for continuous elementary and lower secondary education" in Setagaya Ward, Tokyo), and an application for special measures in the teaching of Japanese language (Ex. "Special district for Japanese language education" in Setagaya Ward, Tokyo).

Furthermore, the "Basic Guidelines for Structural Reform Areas", Annex 1, (Cabinet decision of April 2005), stipulated that "with regard to special measures, while the progress situation with concerning reevaluation of the overall curriculum criteria will continue to be observed, plans should be made to implement the system reform of 2007 from the beginning of fiscal 2008, and to develop it over the country as a whole". In that connection, the intervention of the Minister of MEXT to approve or disapprove the special measures in terms of the extension over the whole country, should be kept to the necessary minimum from the viewpoint of complying with the provisions of the Constitution, the Fundamental Law of Education, the School Education Law and the Courses of Study.

[31] Furthermore, in the current reform of the Courses of Study, there is a reduction in the time allocated to the Period for Integrated Study, the specific instructional content for which has been left to the discretion of each individual school. Special measures of the kind referred to here are called for from the point of view of enhancing the common features of subjects rather than increasing the individual time allocated to Japanese Language, Social Studies, Arithmetic / Mathematics, Science, Foreign Language, and Health and Physical Education.

[32] Community schools (school management council system) are a device whereby parents and community residents, who have authority and responsibility, take part in the management of a school, and make a reality of a school which becomes one with the community and is open to and supported by the community. Community schools were systematized by a reform (September 2004) of the "Law concerning the organization and management of local educational administration". Since the systematization, the number has gradually increased each year, and as of July 1, 2007, a total of 213 community schools have been opened all over Japan.

7. Main Improvement Headings in Educational Content

○ On the basis of the improved basic thinking and the basic curriculum structure as outlined above, we think there is a need to carry out improvements to the content of each subject and subject area. but before discussing specific proposed improvements to each subject and subject area, the following points will act as general headings:

① Important items that need to be strengthened on the basis of the fundamental thinking about improvements to the Courses of Study, as shown in Chapter 5, are listed.

② Items that need to be improved in terms of a cross-sectional look at subjects from the perspective of responding to social change are set out as points for investigation.

○With regard to ①, we have examined the following 6 points.

1) Strengthening language activities in each subject. As explained in Chapter 5 (4), there is a need to strengthen language ability by carrying out in each subject learning activities that utilize acquired knowledge and skills in such forms as report and essay writing with a view to nurturing children's ability to think, form judgments and engage in self-expression. As pointed out in Chapter 5 (7), language ability is a requirement for children to be able to interact with other people and with society.

2) Strengthening Science and Mathematics education as the foundation of scientific skills. Knowledge is a constantly advancing phenomenon, and in a "knowledge-based society", new knowledge is constantly being generated as a result of competition and technological innovation. As pointed out in Chapter 5 (3), the international applicability of Mathematics and Science education in particular is an issue that is now the subject of questioning.

3) Strengthening education concerned with tradition and culture. As pointed out in Chapter 2, in the context of globalization, in order to be able to coexist with people whose lives are based on historical and cultural traditions different from one's own, it is important to deepen understanding of one's own country and of the traditions and cultures of countries and regions different from one's own and to acquire an attitude of respect toward these.

4) Strengthening Moral Education. While accepting as a precondition that the family plays a large role in cultivating a sense of morality, in terms of school education, it is necessary to strengthen moral education in line with the basic thinking shown in Chapter 5 (7) in such ways as confirming lifestyle habits and a minimum awareness of rules as well as an understanding of the significance of law and rules in a democracy, through teaching and activities appropriate to the stage of development of the child concerned.

5) Strengthening physical activity. As with other fields, a school cannot provide everything concerned with physical activity and exercise, but schools are required to provide a stimulus in

the form of direct experience in a context of interaction with other people, society, nature and the surrounding environment. There is a need to strengthen physical activity on the basis of the contents of Chapter 5 (7).

6) Foreign language activity in elementary school. Knowledge is not limited by national boundaries, and in a "knowledge-based society" marked by the continuing advance of globalization, there is a demand to strengthen foreign language education in the context of school education, hence the necessity of introducing foreign language activities at elementary school level.

○ With regard to ②, in the context of a changing society and the changing environment that surrounds children, we examined as items that need improvement in terms of a cross-sectional analysis of existing subjects, the level of correct understanding of the following 7 points from the point of view of issues that have freshly emerged or are rapidly changing: information education, environmental education, making things, career education, dietary education, safety education, and physical and mental growth and development.

What is common to all 7 points is that although there are differences in the fields and the target areas, in all cases, children are called on to become aware of their own responsibilities, and on this basis, to have a positive attitude to acquiring information, to make judgments on their own initiative about analyzing the knowledge and skills that they have acquired in various subjects, and to act accordingly. With these points in mind, schools in their turn are called on, while teaching subject-knowledge and skills from a cross-curricular perspective and concentrating on those subjects with a particular affinity to this approach, to use the skills and knowledge that students acquire as a trigger to get them involved in practical activities.

Furthermore, as explained in Chapter 10 (1), a school cannot teach all the many different kinds of issues that occur in present-day society. There is a need to take a fresh look at content, the significance of which as material that should be taught in common has become somewhat diluted due to contemporary change, and at the same time to develop contacts with families and local communities, firms and so on.

In particular, the 7 points listed above represent issues that have a high level of interest within society, and it is important to get to grips with them while engaged in a process of liaison and cooperation involving schools, families and communities, and to forge deeper links between these various concerned parties.

(1) Strengthening language activities

○ Strengthening language activities in every subject is an important point for improvement in

every subject and subject area in the current round of revisions to the Courses of Study.

Specific details as to what kind of language activities are being tackled in each subject are given in Chapter 8 below, but taking the case of language activities within Japanese language, these are not only a matter of cognitive activity (understanding and thinking), but also, as shown in Chapter 5 (7), the foundation of communication and of sensitivity and emotions.

With this in mind, in the teaching subject, Japanese Language, teachers should put stress, in line with the roles performed by language, on ensuring that children's understanding is correct and on developing their ability to think and express themselves in theoretical terms as well as their ability to carry on discussions while respecting the thinking and standpoints of others. At the same time, teachers should cultivate the sensitivity and feelings of children in respect of the language culture of Japan. More specifically, particularly in the lower and middle grades of elementary school, teachers should ensure that children get a thorough grasp of fundamental language abilities by means of reading and writing Japanese kanji, reading aloud and recitation from memory, conversation and presentations. It is also necessary, by means of recitation of the classics, to enable children to experience the beauty and the rhythm of words, and at the same time, cultivate their abilities in such ways as making a written record, summarizing, giving an explanation and writing an essay.

○ In each subject, it is important, for example, in terms of the activities listed below, to teach from the perspective of the fundamental functions of language, using as a foundation the abilities cultivated in the study of Japanese language.

- In observations and experiments in Science, or in reports on social phenomena, being able to clarify one's perspective, and to record and report on points of difference and points of similarity in objects or phenomena observed (Science, Social Studies).
- Being able to utilize when giving an explanation inductive and deductive thinking in terms of the techniques needed to draw comparisons, make classifications or establish connections (Arithmetic / Mathematics, Science, etc.)
- Being able to establish hypotheses and carry out observations and experiments on the basis of these, evaluate the results and express these in the form of a summarized presentation (Science, etc.).

As in all the above examples, it is important to strengthen the learning activities involved in utilizing the knowledge and skill acquired in each teaching subject.

With regard to the role of language as the foundation of sensitivity and emotions, it is important to adopt the perspective shown in the following points.

- Expression of what has been felt or perceived as a result of experience in such forms as word and song, pictures, gestures, etc. (Music, Art and Handicrafts, Physical Education,

etc.)

- Reflection on hands-on, experiential activities and making a record of what has been learned (Life Environment Studies, Special Activities, etc.)
- Learning how to express things to others and sympathize, using as a learning medium group activities and physical expression such as choral singing, playing in an ensemble, ball games and dance (Music, Physical Education).
- Producing a summary of what has been experienced or investigated and making a shared presentation about it (Homemaking, Industrial Arts and Home Economics, Special Activities, Period for Integrated Study, etc).
- Being able to debate and discuss things with someone who has a different opinion, being able to summarize the opinion of a group after a collective debate (Moral Education, Special Activities, etc).

○ As explained in Chapter 5 (2), regarding the strengthening of language activities of the kind just described in each subject, what is particularly important is to get an adequate degree of understanding of the need from subject teachers in lower and upper secondary school other than the teachers of Japanese language. With this aim in mind, there is a need to find a specific place for language activities when preparing the lesson plans for each subject, and to improve the basic way of taking forward each subject in the course of a lesson.

○ In addition to this, when it comes to actually carrying out language activities as described here in the course of each lesson, the following points need to be given special attention as conditions that will support the kind of language activities described.

1. When carrying out learning activities that involve a rich use of vocabulary and utilize the knowledge and skills acquired in each subject, it is indispensable that through the medium of their textbooks, children become positively involved with the kind of learning activities described here, and that ingenuity is concentrated on enhancing abilities concerned with language. Also, particularly in the subject, Japanese Language, it is important that the teaching materials adopted suitably reflect the role played by language.

2. The promotion of reading activities. In the context of cultivating language-related abilities, reading activities are indispensable. In school education, for example, taking the case of Japanese Language, reading is assigned an appropriate place at each level: in elementary school, the main focus of the teaching content is on making children familiar with reading in the course of their daily lives, while in lower secondary school, the main focus is on teaching content that is designed to give added richness to children's reading. It is important, in ways such as this, to clarify the aims of the teaching and to promote reading activities on the basis of the stage of

development reached. Of course, the role of families in firmly establishing reading habits in the minds of children is a large one. It is necessary to strengthen reading activities still more through the co-operation of schools, parents and local communities.

3. The importance of utilizing school libraries and establishing a language environment. When concerned with cultivating language-related abilities, for example when guidance is given on how to use dictionaries or newspapers or how to use the library, it is important that children are enabled through these activities to acquire additional information or to deepen their thinking ability. It is also necessary that children understand how various kinds of media work, and that their ability to use these appropriately is heightened.

(2) Strengthening science education

○ Within the context of a "knowledge-based society", the main driving forces of science and technology are competitiveness and increased productivity. In particular, as pointed out in the Third Science and Technology Basic Plan[1], there has been a sharpening of global competition since the mid-1990s, in terms of academic research and science and technology, focusing on such areas as the life sciences, nano-technology and information science. It is recognized that cultivating people who can take the lead in bearing the burden of such competition is the foundation of national capacity in every country in the world, and a competitive international scramble for human resources has become a reality.

On the other hand, Japan is challenged not only by a society characterized by a declining birth rate and a rising proportion of elderly people, but by global problems such as energy and environmental problems, and questions are being asked about what science and technology can contribute to the development of sustainable human society so that we do not bequeath a minus legacy to the next generation.

○ With these points in mind, the cultivation of human resources versed in science and technology and able to bear the burdens of the next generation has become an ever more pressing problem, and at the same time, given a living environment in which the results of science and technology research are being utilized in every corner of society, the question of how to raise the basic level of knowledge of science and technology in every individual member of society has taken on a sense of urgency.

In the context of school education, there are demands for the strengthening of science education as the foundation of science and technology, and as shown in Chapter 3, in Arithmetic and Mathematics and in Science, Japanese children do not show a positive attitude to their studies in international comparisons, and such facts as the relative scarcity of Japanese who

show a marked aptitude for these subjects, indicate that eagerness to study is not necessarily adequate[2]. Furthermore, against the background of only a small number of children, in terms of international comparisons, who perceive that good marks in Mathematics and Science are required if they are going to get the job to which they are aspiring, the level of eagerness among children to get involved with the world of work is also a major issue.[3]

○ A further issue in the context of the current revisions to the Courses of Study concerns emphasis on the utilization of knowledge and skills from the perspective of the ability to think, to make judgments and to engage in self-expression, and efforts are being made to strengthen language activities in every subject. As pointed out in (1) above, when focusing on the role of language as the basis of cognitive activities such as logical thinking, important language activities are:

- utilizing and explaining inductive and deductive thinking in terms of the kinds of thinking needed in comparing, classifying and making connections;
- evaluating and expressing in summary form the results of establishing and observing a hypothesis.

The role performed by these activities in Arithmetic and Mathematics as well as Science is a large one.

○ There is a need to implement strengthening of the teaching of Science from the kind of perspectives outlined above, and specific proposals for doing this are shown in Chapter 8, but the basic thinking underlying the proposals is as follows.

1. In the teaching of Arithmetic and Mathematics and in Science, there is a need to increase teaching time in order to secure sufficient time to carry out many different activities, including the following: recapitulation of learned material between grades and between schools so as to ensure that children have a thorough grounding in basic knowledge and skills; carrying out observations and experiments, and writing reports and essays to as develop abilities in thinking and self-expression; and engaging in activities concerned with the practical utilization of knowledge and skills concerned with quantities and graphical data. It is through the medium of activities of the kind described here that getting children to feel the joy of understanding or the significance of learning can be linked to enhancing interest in Arithmetic / Mathematics or Science, or eagerness to learn.[4] Another effective device, with the enhancing of interest or eagerness as a basic goal, is, for example, to use the Period for Integrated Study to arrange a hands-on activity in cooperation with a local museum, or to implement a discovery-type activity or the production of an artifact that involves utilization of scientific knowledge.

2. There is also a need at the same time, as already explained in this text, to take a fresh look

at the content of what is being taught against the background of increased questioning about the international communicability of Science and Mathematics education in the context of the continuing advance of science and technology. From the dual perspectives of, on the one hand, the cultivation of human resources to bear the burden of scientific research and science and technology, and on the other hand, confirmation of the basic infrastructure of science necessary for the creation of social autonomy, there is a need to examine the integrity and cohesiveness of Arithmetic and Mathematics as well as Science on the basis of ensuring a smooth transition between elementary school, lower secondary school and upper secondary school. Looking for example at Science, if we take as its supporting pillars basic concepts or ways of looking at things such as "energy", "particles", "life", or "the world", we can identify these pillars in terms of the structuring of the content of Science in elementary, lower secondary and upper secondary school, but there is a need to aim at further strengthening of the necessary content from the point of view of confirming its systematic integrity and from that of ensuring a smooth transition in terms of the learning content between the different levels of schooling.

3. Looking more closely at what is involved in this kind of strengthening of education in Science and Mathematics, it is important, in addition to strengthening the content, to aim at putting in place the necessary conditions to support this. Specifically, there is a need to pay attention to points such as improving the student/teacher ratio in order to strengthen grading by ability and small-group teaching, strengthening teaching by part-time teachers in the higher grades of elementary school by, for example, utilizing externally recruited people, allocating science teaching support staff, making sure all equipment is available for observations and experiments, strengthening textbooks designed to encourage students to carry out revision of their learning or to tackle more advanced topics on their own initiative, and so on. It is also important to use training courses to raise the level of quality or specialization in the teachers responsible for Science and Mathematics teaching. As shown also in Chapter 10 (2) below, it is also important when thinking of strengthening Science and Mathematics education, that ways are devised to question children's ability to think, make judgments and engage in self-expression in terms of the questions set in Mathematics and Science in the school entrance examination.

(3) Strengthening education concerned with traditions and culture

○ When aiming to cultivate Japanese who can be active in international society, it is necessary to strengthen and enrich education that will enable students to accept and absorb Japanese culture and traditions, and make them aware of their role in inheriting and further developing their country's culture and traditions. It is precisely by equipping children, as persons who will go out and contribute to the world, with an attitude of respect for, and deepening their

understanding of, the culture and traditions of their own native country and birthplace, that they will be able, in a society marked by globalization, to have respect for people whose history and culture is different from their own, and coexist with people whose lives are based on these different values.

It is also the case that a deeper understanding of culture and traditions is not simply a matter of relationships with other people and other societies, but is also extremely important in deepening understanding of oneself in the context of an internal dialogue.

○ Pursuing the above line of thinking with regard to culture and traditions, it is necessary to enrich and strengthen teaching so that it is carried out in a positive manner in every subject in line with the stage of development of the children concerned.

Taking the case of Japanese Language first, the Japanese language is the foundation of Japanese culture, formed through a long historical process, indeed, the Japanese language itself is Japanese culture. In every word of the language, we can find an accumulation of the sentiments and feelings of our forebears, and the Japanese language is indispensable as a means of enabling children to understand traditional culture, to see it as part of their heritage, and to create and further develop a new culture.

A detailed explanation, made from this kind of perspective, is shown in Chapter 8, but as explained in (1) above, it is important that in the lower through the middle grades of elementary school, children are enabled in the first instance to experience the beauty and rhythm of words by reciting the classics and in other ways, and on this foundation, make contact with and deepen their understanding of the many forms of writing that have been familiar to Japanese over a long historical period, including *tanka* (short poems), narrative tales, *haiku* (another kind of short poem), classical Chinese poems and other classical Chinese literature, and of works from the more modern period, including narrative writing, poetry, biographies and folk tales.

○ A deepening of understanding and an attitude of respect towards the traditions and culture of Japan can also be cultivated in Social Studies, particularly in History, by such means as investigating the activities of our forbears who put so much effort into developing Japan and their own home areas, also major cultural events, forms of art, and the cultural legacy of Japan, and it is hoped that more effort can be put into strengthening and enriching these aspects. For example, topics that might be taken up in elementary school include the lives of people in the Jomon era, nationally representative cultural artifacts, and so on. And turning to lower secondary school, it is important to emphasize and improve learning concerned with a variety of traditions and cultural aspects, within the framework of, and matched to the special characteristics of Geography, History and Civics.

○ Turning to the artistic field, specifically the subjects of Music, Fine Arts, Industrial Arts and Homemaking, Calligraphy and so on, it goes without saying that enabling children to become familiar with these fields, to learn how to express themselves, to create things for themselves and to appreciate works of art is an important part of understanding and developing the legacy of traditions and culture. With particular reference to traditional culture, it is important in Music, Art and Handicraft, Industrial Arts and Homemaking, and Fine Arts, to strengthen and enrich teaching concerned with Japan's traditional arts and culture, such as *shouka* (a type of choral singing) and folk songs, also songs and Japanese musical instruments found in the artistic activities of local areas, and to heighten students' interest in the creative aspect, as part of their cultural legacy, of activities of this kind. In Industrial Arts and Homemaking, too, students should be enabled to become familiar with the traditions of daily life, including clothes, food and dwelling places, and again there are demands to strengthen and enrich the Courses of Study from the perspective of continuing and further developing these activities. In addition, in Health and Physical Education, it is important to strengthen instruction in the martial arts, and to put children even more closely in touch with the traditions and culture of their native country.

(4) Strengthening moral education

○ Education aims at perfecting the human character, and the characteristics of being able to act autonomously, to cooperate with others, and to have a caring heart and a rich fund of emotions are the foundation of school education. With the aim of equipping young people with these characteristics, today as in the past, the question of how to cultivate a rich heart and mind is a major issue. In the revisions of the Fundamental Law of Education and the School Education Law, it is stipulated that the objectives of compulsory education and education outside the compulsory framework should include cultivating a rich fund of emotions and a sense of morality, a spirit of autonomy and independence as well as cooperation, an awareness of norms and standards of behavior, the ability to make impartial judgments, public-spiritedness, a positive attitude toward social participation, love of one's country and one's place of birth, and a willingness to contribute to the development of peace and international society.

Specifically, Moral Education has as its objective the cultivation of characteristics of morality such as moral feelings and the ability to make judgments as well as an attitude of wanting to take a practical view; with the aim of cultivating a member of Japanese society who is able to live independently, these characteristics are to be cultivated by activating a concrete sense of respect for human life and the spirit of humanity. The aims as outlined here are to be implemented in all educational activities through the whole of school education.

○ Particularly in elementary and lower secondary school, a time slot with the label, Moral Education, was established as the pivotal point for the teaching of moral education, but while aiming to establish close connections with Special Activities in particular and indeed with all other school subjects, ongoing efforts are directed at deepening awareness of a way of life as a human being that is characterized by moral values implemented in a planned, forward-looking way, and at the same time as cultivating a pragmatic basis for living. And as far as moral education in upper secondary school is concerned, it is centered in the time slot for Civic and in homeroom activities, but the aim is that education concerned with the way of living and acting as a human being should be implemented through the medium of all school educational activities.

○ The kind of moral education outlined here is implemented through the medium of all school educational activities, but as explained in Chapter 4, (2), 5), it is important that there is contact and a sharing of roles among the school, the home and the local community, and the role of the home and family is particularly large. However, as pointed out in Chapter 3, nowadays many different phenomena constitute the social background, such as a great social change in the form of tremendous oscillations in social norms themselves, or a decline in the educative functions of families and communities, or a decline in opportunities for children to interact with adults other than parents or teachers and in the number of nature-based, hands-on activities. Against this kind of background, many different problem issues have been identified, including a lack of respect for life, a lack of feelings of self-respect, inadequate confirmation of basic living habits, a lowering of awareness of social norms and standards, and inadequacy in terms of the cultivation of a sense of social belonging through such means as building human relationships or group activities.

It is also the case that the teaching in the time slot marked Moral Education in elementary and lower secondary schools has become very formalized, and attention has been drawn to the fact that children's acceptance of the material they are taught drops as they move up through the school grades[5]. What is more important than anything else is reform aimed at improving the level of effectiveness.[6]

There is a need to aim at strengthening and enriching Moral Education on the basis of the above points.

○ From the above perspectives, the first step with regard to Moral Education is to put a clear emphasis on the issues to be tackled at the various stages of kindergarten, elementary school, lower secondary school and upper secondary school as well as in the lower, middle and upper grades of elementary school, taking as a foundation the actual condition of children in these

various stages. When doing this, it is necessary to give consideration to the following points.

- in kindergarten, cultivating the seeds of an awareness of social norms.
- in elementary school, at the same time as thoroughgoing teaching aimed at forming in children a sense of moral values as the foundation of daily life, strengthening teaching concerned with the children's own way of living.
- in lower secondary school, while taking account of the special circumstances surrounding the age of puberty, strengthening teaching designed to enable students to recognize the nature of living as human beings on the basis of interaction with society.
- in upper secondary school, strengthening teaching aimed at deepening still further awareness of the way of living and acting as a human being by such means as searching for how to live independently as a member of society.

In particular, it is important to cultivate in children the following: basic habits of daily living and a minimum awareness of social norms and rules which a person must have in order to implement social living, including, for example, things that they must not do; feelings of respect for oneself and others, including respect for the life of oneself and others and confidence in oneself; and a sense of morality including a caring and compassionate heart. At the same time, with these qualities as a foundation, it is also important for children to understand the significance of law and rules and the meaning of strict obedience to them and important that they are brought up as human beings who are able to make independent judgments and behave in an appropriate manner.

○ With regard to teaching materials, many different kinds of materials are in use, including the "Notebooks for moral education" compiled by MEXT as well as many types of printed matter and audio-visual materials compiled by private companies, local boards of education, and so on[7]. These materials should have content that is prioritized according to the stage of schooling or the level of school grade, and it is important that the content is devised in such a way that it deals with a minimum awareness of social norms appropriate to the stage or grade in question, human relationships, ways of living and laws and rules. At the same time, there is also a need to encourage the utilization of materials which allow the emergence of the power and beauty of those things that affect people emotionally, including the way of life of our forbears, nature, traditions and culture.

Furthermore, in order that teaching materials for Moral Education can be enriched and strengthened in the ways suggested here, and in order that improvements in Moral Education, using these materials, can be set out as a goal in each school, it is necessary for the appropriate conditions and infrastructure to be set in place by central government, local boards of education and other bodies.

○ As pointed out in Chapter 5, (7), 1), it is very important that in line with the stage of development of the children concerned, and that through experiential, hands-on activities, such as interchange with other children and with adults from the community other than parents or teachers, activities involving group accommodation, work experience activities, volunteer activities and so on, children are enabled to look back at direct interaction with other people, with society, with nature and with their surrounding environment, and activities of this kind contribute greatly to the development of moral education. With these aims in mind, as pointed out in (5) above, it is also necessary for the time slots for Special Activities or the Period for Integrated Study to be used to promote experiential, hands-on activities.

○ As also pointed out above, children are brought up not only by the education they receive in schools, but by education in the home and in their local community, and they are also influenced by social change and by the current of the times. With this point in mind, when it comes to strengthening moral education, in view of the very important role played by the family in particular, liaison and cooperation between the family, the school and the local community are indispensable. In getting to grips with the various issues, it is important that the three partners become one. For example, as a system whereby schools, parents and members of the local community cooperate in getting to grips with a problem, one can think of participation in a Moral Education class by someone from the local community, or one can take the issue of strengthening practical activities, or in terms of families and communities positively taking forward involvement in issues, one can think of daily living habits such as "early to rise, early to bed and eating a good breakfast" or instilling good manners and courtesy into children; it is also important to think of the most fundamental behavioral issues, such as the precepts "Do not kill! Do not steal! Don't tell lies!" as issues in respect of which schools, families and communities must all work in unity.

There is a need from now on to deepen special studies on specific policies designed to enable the whole of society, in ways such as outlined here, to promote the confirmation of basic living daily life habits in children, the growth of an awareness of social norms and the formation of a moral code of values.

○ We also examined from a specialist viewpoint the important issue of where to locate Moral Education in the curriculum in elementary and lower secondary schools in the context of efforts to strengthen its content. A variety of opinions were put forward:

- At present, Moral Education is treated as a special subject different from other subjects in the curriculum, and there is a need for a textbook in Moral Education to be compiled;
- It is important to utilize a variety of teaching materials, and there is a need for policies to

support the introduction of supplementary readers by schools or boards of education;

- Because teaching and guidance cannot be implemented satisfactorily without confirming the availability of teaching time, thought must be given as to how sufficient time can be secured and how strengthened content can be thoroughly taught, in the same way as other subjects, on the basis of a discussion about locating Moral Education in the curriculum;
- It is appropriate to think of strengthening Moral Education on the precondition that it is dealt with within the framework of the current curriculum;
- Many different kinds of teaching materials are used in schools depending on the special characteristics of the locality in question, so it is difficult to think of using a standard textbook.

Further opinions were also received from a meeting of organizations concerned with producing the "Summary of Deliberations" and from interested members of the public.

It is clear from the above that many different opinions were received on the issue of locating moral education time in the curriculum, but common to all the opinions was the view that at present, teaching time for moral education is not necessarily adequately secured, there is an awareness that a problem exists in terms of how to improve the issue of securing enough time for moral education, and there was unanimity on the point that Moral Education needs to be strengthened and enriched. Looking at the perspectives outlined here, it is clear that the issue of strengthening teaching materials, which play an important role in teaching, is an important one. For example, it is possible to think of constructing a system aimed at providing support to ensure sufficient utilization of appropriate teaching materials based on the Courses of Study as materials that are equivalent to textbooks. In this context, it should be noted that at present, teaching is implemented in all schools by using a wide diversity of materials, including "Notes for Moral Education", compiled by MEXT, and materials compiled by private companies and by boards of education, and that from the standpoint of enriching and strengthening the content of moral education, it is important that while duly acknowledging the range of materials available, efforts are made to further strengthen the contents and ways of utilizing it.

(5) Strengthening experiential activities

○ Children engage in experiential activity in a context of interaction with other people, society, nature and the surrounding environment, and by means of doing this, encounter their own inner beings as well as experiencing what it means to exist as a member of society. It is as a result of this that a kind and caring heart and an awareness of social norms are cultivated. Further points are that experiencing the joy and the feelings of fulfillment that derive from encountering the grandeur and the beauty of nature, coming into contact with culture and art, heightening one's

interest in a wide variety of phenomena, identifying problems, challenging difficulties, and building a relationship of trust with others and moving forward together, all these things are what form the basis of social living and a rich sense of humanity, basic physical strength and stamina, a healthy body and mind, and the ability to think in theoretical terms.

○ Putting the above in a different way, one could say that experiential, hands-on activities in such forms as interchange with children of different ages or with adults from the local community other than parents and teachers, trips involving overnight group accommodation, work experience projects, volunteer activities, nature-oriented activities and cultural or artistic activities are all vitally important as representing the point of direct contact with other people, society, nature and the surrounding environment. And a precondition for the implementation of these experiential, hands-on activities, is that the role played by the family and the community is large. However, against the background of social change as exemplified by the advance of urbanization and the growth of the nuclear family, there has been an observed decline in the educative functions of the family and the community, It is on the basis of this kind of situation that voices can be heard calling for enrichment and strengthening of experiential, hands-on activities, and on ensuring that opportunities for these are safeguarded.

○ With the above points in mind, there is a need at the present time for a further strengthening of experiential activities to be implemented in the time slots labeled Special Activities or Period for Integrated Study. On such occasions, instead of simply bringing an activity to an end as prescribed by the limits of the place in question, it is possible, by spending time on pre-activity preparation about the aim of the activity, to enable the children to fully understand its significance. Specifically, there is a need to link the activity in question to a much wider spectrum of awareness, and this can be done by spending time on preparations and on investigating what the activity is meant to accomplish, thereby heightening children's eagerness to implement it and at the same time, when the activity is over, getting them to look back on what they felt and noticed, treating themselves as something to be examined, and then noting points down in the form of written sentences and sharing these with others.

○ It is also important that any strengthening of hands-on, experiential activities is carried out in line with the stage of development of the children concerned. As shown in Chapter 6, (4), the main characteristics that can in general be identified as signs of individual differences in the stage of development are, for example, the following.

- in elementary school, as children move up through the school grades, looking at themselves objectively has a new meaning as they become able to put distance between

themselves as perceiving observers and objects being observed;

- after entry to lower secondary school, even though they are still at the "budding adult" stage, children acquire minds and bodies that are close to those of adults, and in a context of interaction with adult society, experience a growing awareness that adults too have their own individual worlds, but at the same time play a responsible role in society;
- after they enter upper secondary school, at the same time as escaping from the confusion of the age of puberty, children become able to take an overview of adult society and encounter their own ambitions and desires about what kind of responsibility they want to have in adult society.

○ In addition to the points related to the various stages of development as listed above, it is expected that the following activities will be taken forward as priorities by schools.

- in elementary school, when a child's self-awareness develops, group trips involving overnight accommodation, during which a child can encounter the grandeur of nature and deepen interaction with schoolmates in the context of a natural environment;
- in lower secondary school, at the time when a child becomes aware of the responsibilities of an adult in society and begins to question his or her career path, experiential workplace activities which will foster a view of the life of work by means of enabling the child to have a glimpse of what society is like in terms of life in the workplace;
- in upper secondary school, when a child thinks more deeply about relationships with others and with society at large, in the context of a feeling of eagerness to do one's best for people or to contribute to society, volunteer activities or workplace experience activities, as a result of which a student may be expected to think more deeply about future prospects or about the role he or she can play in society.

In particular, work-experience type activities play a very important role from the point of view of career education.

○ Against the above background, even at the present time, with the section dealing with "Special Activities" in the current Courses of Study for elementary, lower secondary and upper secondary schools, one can find examples such as "journeys (excursions) involving group accommodation" or " labor and production or volunteer events". In the revised Courses of Study, there is a need to clarify even more the necessity of hands-on type activities and to set out, in line with the content, those activities to be prioritized at each level of education, elementary, lower secondary and upper secondary. It is also necessary to clarify in the Courses of Study that as and when necessary, experiential activities can be strengthened and located in the Period for Integrated Study[8].

In particular, by implementing the kind of experiential activities outlined here over a fixed period of time (for example, about 1 week (5 days)), awareness of the activities can be still further deepened and high expectations evoked of their effectiveness. There is a need, without putting an extra burden on schools or parents, to strengthen support from central government, boards of education, and so on, in terms of securing places where such activities could take place, helping with necessary costs, and so on. There is also a need to aim at closer liaison between schools and boards of education on the one hand and social education facilities like "nature houses", or with firms, local governments, and so on, on the other.

○ With regard to the implementation of these hands-on activities within the Period for Integrated Study, it is necessary to clarify the goals and purposes of the activities that are planned, to ascertain what kind of problem-solving or discovery-type activities they will consist of, and to ensure that they are in line with the basic purpose of the Period for Integrated Study. When thinking about the effects that are likely to result from such activities, it is reasonable to think of these being of the same kind as ones expected from other special activities (school events) featured in the Courses of Study, namely school trips (excursions) involving group accommodation, labor and production or volunteer events, and so on. In this context, there needs to be flexibility in ensuring that it is possible to substitute hands-on activities for special activities when locating them in the Period for Integrated Study.

(6) Japanese language activities at elementary school level

○ With the rapid globalization of society and the economy, and the demands for international cooperation aimed at the coexistence of different cultures and sustainable development, as well as heightened international competition for human resources, strengthening foreign language education in schools has become an important issue.

Internationally speaking, the number of countries implementing English language education at elementary school level as a national strategy has shown a rapid increase. For example, looking at the non-English speaking countries of Asia, English language education was made compulsory in Thailand in 1996, in South Korea in 1997, and in China in 2005. It was also made compulsory in France in 2007.

○ In the case of Japan, it is stipulated that foreign language education will begin from lower secondary school and at present, elements suitable for initial contact with a foreign language such as ways of introducing oneself and simple greetings are taught in lower secondary school. But in fact, activities of this kind of can be thought of as being more appropriate to elementary

school. Furthermore, because it is stipulated that within foreign language teaching in lower secondary school, priority is to be put on the teaching of listening and speaking skills, while at the same time, reading and writing are also dealt with, the fact of having to teach 4 skills at the same time on entry to lower secondary school causes difficulty in terms of teaching.

It is against the background of this kind of situation that it is considered important, by enabling contact with, and providing the chance to experience a foreign language in elementary school, to lay the foundation for future communication skills which will be cultivated in lower secondary and upper secondary school.

○ On the other hand, looking at the learning of foreign language skills in, it is expected that, for example, skills in areas concerned with phonetics such as listening and related skills will be a heightened to a certain extent. However, in an environment in which there is little chance to use learned skills in actual daily life, it is likely to be difficult to maintain the interest of elementary school pupils in learning that is carried on by means of memorizing a large number of expressions and understanding the theory of detailed grammatical constructions. With these points in mind, it is necessary to establish a foundation for the cultivation of an attitude aimed at the active promotion of communication by such means as utilizing the services of ALT[9].

○ Against the above background, by utilizing the flexible adaptability that all elementary school pupils possess with the aim of encouraging awareness of words and language and cultivating a wide spectrum of language-related abilities on the part of pupils as well as laying the foundation of international awareness, the implementation of foreign language activities can be deemed an appropriate measure. However, this should not be seen as a kind of front-loading for instruction in English grammar and other aspects of the language that will be taken up in lower secondary school, but as a means of deepening understanding of language and culture including the Japanese language and Japanese culture, and at the same time, as a means of positive cultivation of communication abilities.[10]

It should also be noted that in Asia too, as in other parts of the world, English is used as a common medium of international communication, so the high level of the international applicability of English is also a factor making it appropriate to implement English language activities within the framework of international activities in elementary school at the same time as maintaining the principle that English is taken as a foreign language in lower secondary school. Furthermore, proceeding from the view that contact with a wide spectrum of languages contributes to nurturing a foundation of international awareness, it is desirable that while maintaining the principle of English as the main foreign language, consideration is also given to enabling children to have contact with other languages.

○ Turning to the pattern of implementation of the kind of foreign language activities referred to here, it is appropriate, at the same time as selecting a familiar setting and choosing a language-related or culture-related theme that blends suitably with such a setting, to enable children to experience English communication by means of utilizing the services of ALT, and to carry out activities centered on phonetic aspects and utilizing basic vocabulary and expressions that match the setting and theme chosen, thereby laying the foundation of an understanding of language and culture.

It should also be noted that the process of enabling children to become accustomed to the differences in the sound system and basic expressions in the two languages, English and Japanese, is linked to the process of making children aware of the importance and richness of language, heightening their interest in language, and instilling in them an attitude of respect for language, and that these activities also contribute to increasing their abilities in respect of the Japanese language.

○ With specific reference to English language activities in elementary school, it is already the case that in many elementary schools, such activities are implemented within the framework of the Period for Integrated Study, but the methods of doing this are uncoordinated and fragmented, and there is no consistency among schools. It is with this situation in mind that it is felt to be necessary that, when foreign language activities are formally implemented in elementary schools, which are a stage of compulsory education, central government should set out the content to be taught in common in every school from the perspective of securing equality of educational opportunity and ensuring a smooth transition from elementary to lower secondary school.

In the above circumstances, the fact that the objectives and content for each school are centrally decided will lead to differences from the spirit and character of the time slot currently set aside for the Period for Integrated Study. It is also appropriate that the implementation of foreign language activities takes place in an agreed form on the basis of the contents and objectives set out for these activities, but if the language activities are carried out within the Period for Integrated Study, then as in the case of other activities carried out within this time slot, it is not considered possible to award numerical grades. It follows from this that it is appropriate to secure a separate time slot (35 units a year, equivalent to 1 class hour a week)[11] for the Period for Integrated Study in the higher grades of elementary school, so that the matter of locating a timetabled subject, i.e. language teaching, in the curriculum is dealt with as a separate issue.

○ As far as actual teaching is concerned, it can be expected that for a limited period, in the same

way as is happening in schools at present, the grade teacher (depending on the condition of the school, the responsible teacher) will be the primary contact point, and will conduct classes in cooperation with an ALT or with a fluent English speaker from the local community on the basis of team teaching. What is needed from now on is that on this basis, central government makes efforts to strengthen teaching staff through in-service training or by securing teaching personnel.

With the aim of confirming qualitative criteria in foreign language activities, it is reasonable to think of it being necessary in the first place for the government to provide common teaching materials. Over and above this, it is important to think of strengthening teaching by means of the utilization of ICT with particular reference to the phonological aspect of teaching, including the provision of CDs, DVDs and other electronic items, also distance education in isolated areas and remote islands, and TV conferencing systems in the context of promoting international exchange.

○ One important goal that should be set with regard to introducing foreign language teaching into elementary schools is that of achieving a very close contact between elementary school and lower secondary school. For example, there is a need to aim at a smooth transition into foreign language education in lower secondary school on the basis of the actual situation in terms of the teaching and content of foreign language activities in elementary school, and the instructional content at lower secondary level requires still more improvement

Over and above this, when the Courses of Study for lower secondary schools are revised, there is a need to aim at a revision which ensures that in foreign language education in lower secondary schools, the 4 skills of "listening", "speaking", "reading" and "writing" are developed in a balanced way on the basis of the foundation provided by foreign language activities in elementary schools.

(7) Improvements to be made in a cross-sectional analysis of subjects from the perspective of responding to social change.

Information education

○ As a result of the very rapid advance of information technology-related devices in society, it has now become possible for anyone to accumulate a vast amount of information by utilizing ICT. And at the same time, it has become very easy to edit and transmit many different kinds of information. In schools, ICT is utilized as a very important device to facilitate many different kinds of learning including investigations and presentations. In ways such as these, children are

helped to understand the importance of using ICT effectively in learning. At the same time, their ability in information utilization, which constitutes the objective of information education, is cultivated, thereby ensuring a thorough acquisition of basic knowledge and skills, which also form the foundation of language activities and are utilized in such forms as presentations, record-keeping, summarizing and making reports.

○ On the other hand, it is not only what one could call the bright side of the spread of information, but also the dark side that has a great influence on children. Among the many kinds of problems that could be listed are slanderous statements posted on internet bulletin boards, cyber-bullying, the leaking of personal information and violation of privacy, internet crimes, the passing of harmful information and becoming the victim of virus infections. In terms of responses to problems of this kind, a large role is played by families, but in schools too, while liaising closely with families, it is necessary to cultivate information morality, and to ensure that children acquire knowledge about the concept of information safety.

○ It follows from this that there is a need to aim at improvements, carried out from the above perspectives in line with the stage of development of the children concerned, in the area of information education.[12] In particular, with a view to ensuring a thorough grasp of the concepts of information education by children in the lower grades of elementary school, one can envisage use being made, with information morality at the core, of the information education notes issued by MEXT or of specially constructed guidance documents. Points requiring particular attention are as follows.

- At the elementary school level, there is a need to strengthen, in every subject, guidance aimed at ensuring the acquisition of basic manipulation techniques through active utilization of ICT networks, and guidance concerned with information morality[13].

  Particularly when information studies are being implemented in the Period for Integrated Study, consideration should be given to implementing problem-solving, discovery-type activities as means of ensuring that children learn about the influence exerted by information on everyday life in such ways as receiving, accumulating, collating and transmitting information. In the area of Moral Education too, consideration should be given to dealing with information morality in line with the stage of development of the children concerned.
- At lower secondary school level, there is a need for guidance in information morality to be strengthened within the context of instruction in every subject, on the basis of what was learned in elementary school, and at the same time for active utilization of ICT networks to be voluntarily undertaken by students on their own initiative.

With particular regard to the contents of Industrial Arts and Homemaking, all students should be made to learn the basic contents of the use of multimedia, programming, and measurement and control.

・At upper secondary level, building on the foundation of what was learned in elementary school and lower secondary school, there is a need to strengthen guidance on information morality within the context of instruction in every subject, at the same time as making practical use of ICT networks.

With particular reference to Information Studies in general-course schools, there is a need to take a fresh look at the existing subject structure from the viewpoint of equipping every student with information utilization ability, regardless of the career path they choose to follow in future.

○ Moreover, on the basis of the current situation in Japanese schools,[14] where the installation of an ICT environment is lagging behind overseas countries in terms of an international comparison, the necessary infrastructure in the form of equipment, teaching materials and a support system as required for an ICT environment must be put in place in schools.

Environmental education

○ Problems faced in common by countries all over the world include environmental problems occurring on a global scale such as global warming, the breakdown of the ozone layer, depletion of tropical rain forests, and so on, and urban lifestyle pollution problems such as urbanization and the increase in household garbage, water pollution and air pollution which have occurred as an accompaniment to changes in lifestyle habits. In terms of searching for a solution to these problems, there is a strong requirement, within the context of a finite global environment, for every individual, on their own initiative, to get to grips with keeping the burden on the environment to a minimum and aiming to maintain global ecology by such means as recycling. There is also a requirement to construct a sustainable society by putting in place socio-economic devices that will support the efforts made by individuals.

○ Turning to energy-related environmental problems, these are of course very important for the future existence and prosperity of humankind as a whole, and are also very important to Japan as a country poor in natural resources. There are strong requirements to deepen the understanding of children who will live and grow up in the 21st century with regard both to the relationship between human beings on the one hand and nature and the surrounding environment on the other, and to the relationship between environmental problems on the one

hand and lifestyle patters and the desirable shape of socio-economic systems on the other. At the same time, we are required to cultivate in children the practical attitudes, qualities and abilities that they will need in order to take action on their own initiative that is designed to support environmental conservation and create an even better environment. It should also be noted that the causes of, and the solutions to energy-related environment problems, are closely related to science and technology, and in this context, it is important that children learn that they must acquire a scientific way of looking at and thinking about things. Furthermore, there is also a need, through a variety of hands-on activities conducted in a rich and fertile natural environment, to cultivate in children's hearts and minds a rich fund of sensitivity with regard to nature and a respect for life, as well as interest in the environment.

○ On the basis of this kind of situation, may different kinds of initiatives, designed to help the construction of a sustainable society, are already being taken forward, both within Japan[15] and on an international level.

○ In the future too, as a continuation of what is already happening, it is necessary for environmental matters to be studied in every timetabled subject as well as in the context of Moral Education, in Special Activities, and in the Period for Integrated Study, in line with the respective conditions of the context. Specific details are shown in Chapter 8 below, but the following examples can be cited: efforts to strengthen and enrich learning of current social issues such as environmental or resource and energy problems in Social Studies, Geography and History, and Civics; strengthening and enrichment of learning in the context of "Science and Technology and Humankind" or "Nature and Humankind", or the utilization of nature observation in outdoor discovery-type learning; and strengthening and improvement of resource- and environmentally considerate lifestyle matters and environment-related society and technology matters in Life Environment Studies and in Homemaking (elementary school) and in Industrial Arts and Homemaking (lower secondary school. There is also a need to continue to take forward hands on-type activities in such forms as nature discovery activities from very early childhood in line with the stage of development of the children concerned.

Making things

○ It goes without saying that Japan's economy is supported by its strong competitive ability in the area of manufacturing or making things. However, it has been pointed out that in recent years, there has been a slackening of children's experience in actually making things.

○ The importance of making things is to be found not only in the perspective of acquiring the skill of making something by hand. It is rather the case that its importance lies in cultivating attention to precision and perseverance, in an awareness of the importance of beauty in objects, and in an understanding of the traditional Japanese way of thinking as expressed in the phrase, "it would be a waste" in terms of its linkage with the construction of a sustainable society. Its importance can also be found in encouraging an attitude of getting to grips with the vital issue of team work in making things, and in spontaneous ingenuity and improvement. These attributes can all be cultivated in the following areas: Art and Handicraft, and Homemaking (elementary school) and Industrial Arts and Homemaking (lower secondary school); the study of quantity in Arithmetic・Mathematics; learning about design; scientific, hands-on experiences in such ways as making things in Science; nature-oriented experiences in familiar natural surroundings; ball games in the course of Physical Education; choral singing in Music; and an understanding of the concept of cultural heritage in Social Studies. There is also a need to emphasize, through such ways as reading activities or hands-on activities in the local community, knowledge of the ways of living and thinking of the people who have supported traditional industrial arts.

Career education

○ As pointed out in Chapter 2, the way of thinking expressed in the concept "zest for living" signifies emphasis on in the first place on clarifying the abilities required by children to live in society, and then on improvements in the ideal pattern of education to be achieved. Against the background in recent years of structural changes in industry and the economy, and diversification and increased fluidity in employment, great changes have taken place in the environment surrounding children's career paths, regardless of whether these involve employment or further study. In the context of changes of this kind, it is necessary to strengthen career education aimed at cultivating a work-based perspective in every child in order to enable them to act independently and autonomously as members of the workforce and as members of society, responding with flexibility and courage to the many diverse challenges they will face in the future.

○ On the other hand, as pointed out in Chapter 4 (1), given in particular such phenomena as a change in the employment environment seen in such forms as an increase in the number of those in irregular employment, or in the field of education, the advent of what has been called the "age of universal entry to university", it is possible to identify a situation characterized by children feeling uneasy about their future, or being unable to identify any connection between what they are studying in school and their own future, and a consequent drop in eagerness to

study and a failure to consolidate learning habits. A shallowness in work-based perspectives, a growing prevalence of “freeters” (young people who flit from one job to another) and the existence of young people known as NEETs (people Not in Employment, Education or Training) have also now become social problems.

○ On the basis of the above, efforts are already being made in terms of the following:

- improvements in career guidance in lower and upper secondary schools;
- promotion of experiential activities in such forms as experience of the workplace or activities concerned with looking for a future career.

In the future too, it will be necessary to tackle the strengthening of career education which is organized and systematic and pervades all the activities of a school in line with the stage of development of the children concerned.

Specifically, as pointed out in Chapter 8 below, it is necessary to carry out learning which emphasizes the relationships between lifestyles and society, and different kinds of work on the other, and which is geared to the characteristics of each subject or to those of Special Activities or the Period for Integrated Study. Particularly important are experiential activities which get children thinking about and getting a real feeling for studying, working and living, and which can be linked to enabling them to have dreams or ambitions about their own future. It is necessary to encourage examples like the following:

- Using the Special Activities time slot to emphasize the cultivation of a desirable work-based perspective;
- Using the Period for Integrated Study, Social Studies or Special Activities to promote, at elementary school level, experiences in viewing different workplaces, at lower secondary school level, work-experience activities, and at upper secondary school level, experiences of looking for work.

Dietary education

○ As explained in Chapter 4 (1), consolidation of lifestyle habits such as improvements in food habits and confirmation of adequate sleeping time are the foundation of "zest for living", and are the primary responsibility of the family. However, in recent years, there has been a decline in the educative functions of the family, leading to such phenomena as biased nutritional intake on the part of children, going without breakfast, or other confused eating habits or an increase in insufficient sleeping time. Following on from this, there is a fear that confused eating habits may be one cause of lifestyle-related illnesses, leading to demands for strengthened guidance within school education that is related to eating habits as the foundation of children's lifestyles.

○ Guidance and instruction concerned with food should be promoted from a comprehensive perspective and include the following matters: the importance of food; the nutritional and food intake necessary to maintain and promote physical growth and health; the ability to make a judgment for oneself about the quality and safety of food ingredients on the basis of correct knowledge and information; an attitude of respect for the importance of food and appreciation for the efforts of those who produce it; the formation of good habits concerned with food; and an understanding of the products of local communities and food-related culture.

○ With the above points in mind, it is important that the concept of food education[16] is clearly located in the curriculum and that, while giving due consideration to the respective stage of development of children, a consistent approach to tackling the issue is promoted throughout every school grade. At the same time, it is also important, at school mealtimes and through documents linked to Life Environment Studies and to Homemaking (elementary school) and to, Industrial Arts and Homemaking (lower secondary school), to aim at strengthening the contents of guidance and instruction on food and to tackle the issue at whole-school level. In this context, it is important that in every subject, instruction concerned with food makes positive efforts to use the food actually eaten by children in school as teaching material.

A further point concerns the importance of liaison between the school, the family and the local community in the promotion of food education.

Safety education

○ In recent years, in a climate in which we frequently hear of children becoming victims in tragic incidents or accidents, there are widening fears for their safety, and there is a need to preserve a society, including the family, in which they can live safely. With regard to schools in particular, strengthening safety education of all kinds, including comprehensive safety in the face of natural disasters, road safety and safety in everyday life has become an important issue.

○ From the point of view of enabling children to make correct judgments about information concerned with safety, and to link their judgments to safe, practical action, specifically, equipping them with the ability to forecast danger for themselves and for others, and to take avoiding action, it is important that safety education is tackled at whole-school level, while taking due consideration of the stages of development of the children concerned. In this context, it is necessary to get children to understand that they must pay attention to their own mental and physical state and to their behavior in order to be able to confirm that they are safe. It is also

necessary to get them to understand the importance of establishing a safe living environment for society as a whole and the need for every individual to take responsibility so that everyone can live together in safety.

In addition to the above, it is important, when promoting safety education in schools, to aim at establishing liaison between families and communities. This kind of liaison and cooperation is also linked to the issue of deepening relationships between schools, families and local communities.

A correct understanding of mental and physical growth and development

○ What is more important than anything else in school education is putting emphasis on the harmonious development of the mind and body of children. With this point in mind, it is indispensable that children have a correct understanding of mental and physical growth and development. However, in recent years, with the emergence of such phenomena as a flood of sex-related information, the social environment in which children grow up has undergone great changes. One issue that arises from this is the need to ensure that children have a correct understanding of sex and are able to behave accordingly. Other issues are the spread of AIDS and STD (sexually transmitted diseases) among the younger age group and the problem of induced abortion.

○ With the aim of realizing the above points, it is important, while aiming at a common understanding throughout the whole school and while taking due note of the stage of development of children in respect of a particular issue, that children are thoroughly equipped, in the course of instruction in relevant subjects such as Physical Education (elementary school) and Health and Physical Education (lower secondary school) as well as in Special Activities, with knowledge about health and the growth and development of mind and body, and about prevention of STDs, and that emphasis is put on teaching respect for life and for the individuality of oneself and others; and at the same time, on developing a caring heart and enabling children to construct sound and desirable human relationships; these various points should all be linked together in the course of instruction.

It is also important to promote contact with families and communities, and obtain understanding on the part of parents and communities, as well as to ensure effective links between group instruction and individual instruction.

[1] On the basis of the provisions of the Science and Technology Basic Law, the government draws up the Science and Technology Basic Plan with the aim of promoting science and technology in Japan. The

Basic Plan is renewed every 5 years according to the following timescale: First Basic Plan (1996-2000); Second Basic Plan (2001-2005), Third Basic Plan (2006-2010).

[2] Various kinds of designated projects aimed at strengthening Science and Mathematics education are being pursued under the auspices of MEXT, for example, ① with the aim of supporting Science in elementary schools, external human resources such as researchers and technologists are placed in schools (Placement Project of Science Supporters); ② a national treasury subsidy is given to equip elementary, lower secondary and upper secondary schools with science education equipment; and ③ prioritization of Science and Mathematics in upper secondary schools (super science academy schools).

[3] The question posed in TIMSS (Trends in International Mathematics and Science Study), implemented by the IEA (International Association for the Evaluation of Educational Achievement) was the following: In order to get the job you want in the future, is it necessary to get good marks in school? The percentage of respondents (students in Grade 2 of lower secondary school) who replied, "I strongly think so" or "I think so" was 73% as an international average, compared to 47% for Japan in the case of Mathematics, and 66% compared to 39% for Japan, in the case of Science (2003 results).

Looking also at the 2006 OECD PISA survey, in response to the statement, "I would like to get a job for which science is necessary?", the percentage from Japan who agreed was 23% (OECD average of participating countries: 37%), while for the statement, "When I'm grown up, I would like to do science research or get a job concerned with science", the percentage agreeing from Japan was 17% (average 27%). In both cases the level of agreement from Japan was lower than that of the average of OECD participating countries. A further result is that the percentage of students expecting to have a job concerned with science when aged 30 was 25.2% as an OECD average, compared to 7.8% for Japan. It has been pointed out that results like these indicate not only a problem with school education, but also a need to examine the way in which science as a whole categorizes jobs concerned with science.

[4] In the 006 OECD PISA survey, the feelings of students about instruction in Science were surveyed (in the case of Japan, upper secondary school Science).

- "Have you ever been given an opportunity to make a presentation of your thinking?" Students from Japan who replied in the affirmative: 34%; average for OECD participating countries: 61% (the pattern for responses is the same in the following).
- "Have you ever taken part in a whole-class debate or discussion in the course of instruction?" "Yes" from Japan: 34%, OECD: 61%.
- "Are students asked to think about what results can be expected from a given experiment?" "Yes" from Japan: 26%,OECD: 51%
- "Has your Science teacher ever taught you that you can utilize scientific thinking in many different fields?" "Yes from Japan: 26%, OECD: 59%.
- "Does your Science teacher explain that scientific thinking is very closely linked to everyday life?" "Yes" from Japan: 19%, OECD: 46%.

[5] According to the "Situation survey on the promotion of Moral Education", implemented by MEXT in 2003, if we take schools in which "almost all the children" or "about two-thirds of the children" said that Moral Education was "enjoyable" or "very useful for me" and apportion this level of satisfaction among the schools surveyed, we find that in elementary schools, the percentage of children who thought this way was 87.9% in the lower grades, 76.8% in the middle grades and 60.7% in the higher grades, falling in lower secondary schools to 49.8% in Grade 1, 40.8% in Grade 2, and 39.7% in Grade 3.

[6] In "Basic Guidelines of Economic and Financial Policy 2007" (Cabinet decision of June 2007), the following points were stipulated "for elementary school children, nature experience activities once a week; for lower secondary school children, weekly implementation of social activities; and for upper secondary school students, compulsory voluntary service activities". Furthermore, moral education should be contained in a "new framework", thereby "making it into a subject and preparing a diversity of textbooks and teaching materials".

In addition, regarding the question of a "subject", while not legal definitions, the following points can be thought of as generally applicable: ① possession of a teacher's license (in lower and upper

secondary school, a license for the subject being taught); ② instruction involving the use of textbooks; and ③ the use of numerical evaluation.

[7] According to the "Situation survey on the promotion of Moral Education", implemented by MEXT in 2003, the "Notebooks for moral education compiled by MEXT", which are distributed to every child, are the most frequently used teaching materials, used in 97.1% of elementary schools and 90.4% of lower secondary schools. Next in terms of frequency of use are "Reading materials developed and published by private teaching material companies", used in 81.5% of elementary schools and 70.8% of lower secondary schools. In addition, "Reading materials developed and published by prefectural or municipal boards of education" are used in 58.8% of elementary schools and 49.8% of lower secondary schools, and "audio-visual content (TV broadcasts and so on)" is used in 6.8% of elementary schools and 66.3% of lower secondary schools.

[8] Even within the current Courses of Study, while there is a basic presumption of a planned period of instruction in each subject for 35 weeks or more in a year, in order for instruction to be given in an effective way in line with the special characteristics of the learning activity in the subject concerned, it is possible to carry out instruction of the subject in a specially designated time slot. By enabling activities such as organized trips with group accommodation in natural surroundings or workplace experiences to be implemented within a specific period of time, a high degree of educational effectiveness can be anticipated. In this connection, there is a need to clarify that experiential activities can be implemented in a concentrated way in such time slots as the Period for Integrated Study regardless of the semester boundaries.

[9] The abbreviation for Assistant Language Teacher, a foreign national who cooperates with the teacher in such ways as team teaching. ALTs invited to Japan in fiscal 2006 under the JET (Japan Exchange and Teaching Programme) numbered 5,057 (of which 137 were exclusively attached to elementary schools), 2,796 ALTs are employed on an individual basis by local governments and allocated mainly to elementary schools.

[10] Foreign language education at elementary school level can be categorized into the following three types in terms of its objectives and the percentage of time taken up within the curriculum as a whole.

① Immersion ... Education in which 50% or more of the time in a week is taken up by education using a foreign language, with practical foreign language learning as the objective.

② FLES (Foreign Language in the Elementary School) ... With direct, skill-based learning as the objective, taught as the subject, "Foreign Language Education".

③ FLEX (Foreign Language Experience / Exploration) ... In the context of introducing foreign language learning in a very broad sense, the objectives include introducing the question of why foreign languages are taught, stressing the importance of communication in a language other than one's mother tongue, and deepening appreciation of one's mother tongue. The time allocated to instruction per week varies between 1% and 5% of the overall time.

In terms of the above categorization, the pattern shown under ③ FLEX may be considered as appropriate for foreign language education at elementary school level in Japan.

[11] This time period is integrated with the allocated time for foreign language activity using the ③FLEX pattern, identified in the previous footnote as being the most appropriate pattern for Japan.

[12] The following can be identified as problem areas:

- Elementary school: it is stipulated that children should become familiar with information devices through the process of instruction in each subject, and that learning with appropriate use of information devices should be strengthened, but in many schools, the main focus of attention is on getting children to become familiar with information devices, and there is a big diversity from school to school in ways of tackling information education. Moreover, almost no instruction is given regarding information morals.
- Lower secondary school: Within the subject area, Industrial Arts and Homemaking, "Information and Computers", "Multimedia Utilization" and "Programming and Measurement" are school

elective subjects, and there are wide differences in the ability to use information among students at the time of graduation.

- Upper secondary school: There are wide differences between students in terms of knowledge and skill concerned with information at the point of entry.
- At all three stage, elementary, lower secondary and upper secondary, insufficient attention is paid to instruction on information morals.

[13] Information morality is defined as "a way of thinking and an attitude that can serve as a foundation for the implementation of activities that are suitable for the information society" (Commentary on the Course of Study for Upper Secondary Schools, Information section). More specifically, what is meant here is “information morality”, including rules and manners on information networks, avoidance of danger, personal information and privacy, damage to human rights, response to copyright, etc., and the links to health resulting from the computer.

[14] Details of international comparisons on the installation of an ICT environment in schools in Japan and a number of overseas countries are as follows. Dates for the data are: Japan: March 2007; U.S.A.: 2005; Korea: December 2005).

- Number of pupils per computer: Japan, 7.3; U.S.A., 3.8; Korea, 5.7
- Percentage of schools equipped with LAN: Japan, 56.2%, U.S.A., 94%, Korea, 100%.

[15] In July 2003, the "Law Concerning the Promotion of Eagerness to Contribute to the Conservation of the Environment and the Promotion of Environmental Education" was enacted. Furthermore, in September 2004, a Cabinet decision approved, on the basis of this law, "Basic Guidelines Concerning the Promotion of Eagerness to Contribute to Environmental Conservation as well as to Environmental Education".

In the revision of the Fundamental Law of Education, Article 2, Clause 4, carried out in December 2006, the objectives of education are redefined as "to cultivate an attitude of respecting life, putting a high value on nature and wanting to contribute to the conservation of the environment". On the basis of this revision, a revision of the School Education Law, Article 21, Clause 2, redefined the objectives of compulsory education as being ""to promote nature-based, experiential activities both within and outside school, and to cultivate a spirit of respect for life and nature as well an attitude of wanting to contribute to environmental conservation".

In addition to the above, various policies designed to strengthen environmental education are being implemented under the auspices of MEXT, including subscribing to the "GLOBE" (Global Learning and Observation to Benefit the Environment) project advocated by the U.S.A. We have also devised the "Green Plan for Advancing Environmental Education" which includes staging a Conference of Presentations on Environmental Education (environmental learning fair).

[16] In the Fundamental Law of Food Education, enacted in June 2005, there is a call to "promote education that will cultivate human beings who have acquired knowledge about food and the ability to select food, and who can implement a healthy food lifestyle".

8. The Content of Each Subject and Subject Area

○ It is appropriate, on the basis of the deliberations set out above, to examine below the improvements in each subject and subject area.

In the course of the investigation, we will emphasize the following points.

① The need to achieve a smooth transition from one grade and one level of schooling to the next, in accordance with the stage of development of the children concerned, in every subject and subject area, through the various stages of schooling from kindergarten, through elementary school, lower secondary school and upper secondary school.

② The need to strengthen language activities by utilizing acquired knowledge and skills in terms of such things as compiling reports, writing accounts of things, giving presentations, and so on, not only in Japanese Language, but in every subject.

(1) Kindergarten

(i) Main directions of improvements

○ At the level of kindergarten education,[1] there is a need to encourage, on the basis of the topics and themes[2] appropriate to this level, the healthy growth of children through a planned structuring of the children's environment, in terms of safeguarding the continuity of development and learning and that of life in the kindergarten in such ways as contact with children's families, and to respond to recent changes in children's upbringing and to changes in society at large.

○ Specifically, kindergarten education needs to clarify the contents and the significance of the activities and content concerned with support and out-of-hours care for children who are not collected promptly by their parents when the kindergarten day comes to a close. In this context, there is also a need to ensure that activities carried on during this out-of-hours period are appropriate in terms of educational activities suitable for kindergarten level.

(ii) Specific items for improvement

Strengthening of kindergarten education on the basis of continuity of development and learning

a) Smooth transition between kindergarten education and elementary school education

○ Kindergarten education furnishes an environment that is appropriate for the healthy growth of pre-school children, and is carried on within this environment on the basis of the characteristics of early childhood and with the goal of fostering the children's mental and

physical growth. There is a need to clarify the way in which the foundation for education in the period of compulsory education and beyond is cultivated through kindergarten life, which is developed on the foundation of kindergarten education.

○ Given the importance of aiming at a smooth transition from kindergarten to elementary school and the formation of a link between the results of kindergarten education and elementary school, including responses to the pattern of daily life in elementary school, the aim should be to deepen through exchanges of opinion between teachers at the different levels mutual understanding of the actual state and the ideal pattern of education given to infants and young children, and efforts should be made on the part of kindergartens to achieve closer contact by such means as encouraging contact between infants and young children.

○ As well as cultivating autonomy and spontaneity within the context of group-oriented living activities, kindergarten education must also generate common objectives for all the infants together, and must offer repeated experiences of cooperating, exercising ingenuity and achieving realization of objectives.

○ It is important to cultivate in the minds of infants the seeds of an awareness of social norms by deepening human contact with other people through group-oriented living activities. With this aim in mind, and with a relationship of trust between teachers and children as the foundation, children are enabled to learn by a series of repeated experiences, how to state their own thoughts clearly to one other, how to accept some things and not accept others, and become aware of the necessity of rules as a means of making it possible to live together with their friends.

b) Strengthening kindergarten education in response to changes in children and society at large by such means as putting emphasis on experiences and language.

○ Within a context in which all children encounter a variety of phenomena, carrying out activities and repeating diverse experiences in the company of their teachers and other children, kindergarten education is able to provide support for their harmonious development. In this connection, consideration needs to be given to the way in which an experience by which the heart of a child is moved generates a succeeding experience, with the goal of linking individual experiences into a connected chain.

○ Arrangements have to be made to enable kindergarten pupils, when their hearts are moved by an experience, to think about this emotion, to express their thoughts in words, and to savor the joy of transmitting it to their teachers and their friends, and together with this, to hear what others have to say, to understand its content, and to have the ability to communicate with others through language.

○ It is important that when pupils play with their friends, consideration is given to nurturing their curiosity and their spirit of discovery, and to cultivating the seeds of the ability to engage in thinking, and at the same time as activating the interest of each individual pupil, to enabling them to try things out with their friends, to use their creative ingenuity, and to become aware of their immediate environment from a new perspective, thereby enabling a new thought to be generated.

○ By enabling pupils to move their bodies sufficiently by engaging in all kinds of play, and through the feelings of enjoyment engendered in this way as well as through activities concerned with food, such as enjoying a meal together with their friends, kindergarten education aims to promote the process of the healthy growth of body and mind.

○ Guidance concerned with expression is strengthened, from the perspective of the importance of nurturing in pupils a rich fund of emotions and the ability to express themselves, each in their own way, in such ways as familiarization with music, expression by the use of the body, the plastic arts, and so on, all within the context of daily life in kindergarten.

○ By gaining recognition of their words and actions from their teachers and friends within the framework of the everyday activities of kindergarten life, each pupil should be enabled to become aware of their own good qualities and have the self-confidence necessary to carry out actions for themselves.

Strengthening of kindergarten education on the basis of continuity in terms of daily living as between kindergarten and family life

○ With the aim of enabling pupils to acquire the experience necessary to display themselves fully and develop within the framework of everyday kindergarten life, the links that pupils have with their families as bulwarks of support for their hearts and minds are very important, and from this perspective, at the same time as being enabled to feel the love that their families have for them, it is important that through feeling this love, they learn to value the concept of the family.

○ While maintaining contact with families and taking due consideration of the actual stage of development of each individual pupil, kindergarten teachers do what is necessary to ensure that each pupil is firmly equipped with basic lifestyle habits.

○ While sharing the joy of the growth of each child with its parents, kindergarten teachers deepen a relationship of trust with parents, and attach great importance to obtaining the cooperation and understanding of parents with the aim of enabling each child to lead a richly fulfilling kindergarten life. Against this background, within the context of maintaining contact

with families, arrangements should be made to deepen the understanding of parents with regard to kindergarten education by such ways as creating opportunities for activities involving parents and children.

Strengthening support for child education and the system of out-of-hours education

○ As a result of the partial revision of the School Education Law in 2007, a place has been found in the curriculum for "out-of-hours" education as a type of educational activity implemented in response to the actual state of support for child education in communities and to requests from parents. A re-examination of the field of kindergarten education on the basis of this concept has taken place.

○ More specifically, from the perspective of deepening the understanding of parents with regard to child education and of aiming to enhance the educational abilities of families and local communities, the functions and facilities of kindergartens are opened to families and members of the local community, including invitations to join kindergarten staff in discussions, the provision of information, receiving parents into the kindergarten, providing opportunities for exchanges of opinions among parents, and so on. At the same time, kindergartens, while giving due consideration to the restructuring of their internal systems, should aim to improve contact with related organizations and strive to fulfill the role of an early childhood education center in the community, thereby establishing "out-of-hours" care and education as a concept linked to the educational curriculum and other matters of education content

○ With specific reference to "out-of hours" education, it is necessary to consider the burden that might be placed on children's physical and mental development. In this connection, particular attention should be paid to the following points.

・The need to consider activities on the basis of the curriculum and, while ensuring that any additional activity is appropriate to the mental and physical development of very young children to am at establishing close liaison between the person in charge of educational activities within the curriculum and the person responsible for "out-of-hours" education.

・The need to give consideration to the lives of children within their families and within the local community, and to make arrangements to enable children to utilize local community-based resources at the same time as devising plans for "out-of-school" education.

・The need to aim at establishing a close liaison with families, and to endeavor to realize exchanges of information with parents with the aim of heightening awareness that they and kindergarten staff are together responsible for the children's education.

・The need to consider flexible operation of the implementation schedule and number of hours of operation of "out-of-hours" education on the basis of a child's daily rhythm based on the actual situation of parents and the local community.

・The need for implementation to be carried out under the responsibility and guidance of kindergarten teachers on the basis of an appropriate system of guidance being established.

In addition, it needs to be noted that in accordance with the actual conditions of the local community concerned, it may be that occasions will arise when activities are implemented even during the long summer holidays and at other holiday periods.

Other matters

○ There is a need to look again at the regulations concerning the objectives of kindergarten education as set out in the Course of Study for kindergartens, on the basis of the revisions to these regulations in the School Education Law.

(2) Elementary School, Lower Secondary School and Upper Secondary School

① Japanese language

(i) Main directions of improvement

○ With regard to the subject, Japanese Language[3], the overall aim, through elementary, lower secondary, and upper secondary school, is firstly, on the basis of the issues[4] comprised in this subject, to put increased emphasis on language education, to heighten interest on the part of pupils in Japanese language, and to cultivate an attitude of respect for the language. At the same time as this is being carried out, improvements are also aimed at in terms of equipping children and pupils in all grades to see ability in Japanese as the foundation of learning in life, in work and in all their school subjects, and in putting more emphasis on relevant content in terms of cultivating an attitude of seeing themselves as benefiting from, inheriting as their legacy, and having responsibility for developing Japan's linguistic culture.

In particular, emphasis will be put on cultivating in pupils the abilities required to achieve accurate understanding through language and to express thoughts in a theoretical way, to use language in communication while respecting the standpoint of others, and on nurturing the sensitivities and emotions involved in making contact with the linguistic culture of Japan.

With these points in mind, while continuing to maintain the existing structure of division into "speaking", "listening", "reading" and "writing", the improvements aim to equip children with the language abilities that they need in order to carry out topic-oriented enquiries or discovery-type activities by utilizing the basic knowledge and skills that they have acquired and to show in the content specific examples of language activities in various areas of everyday life. In addition to this, the improvements will look at the content of each subject field that has a deep connection with the existing "language headings", and aim to locate the content of each field in such a way that it interacts organically with actual language activities in everyday life;

wherever necessary, content items will be grouped together.

In addition, a new content heading under the title, "matters concerned with the special characteristics of the Japanese language and linguistic culture", and the content will aim to show how to cultivate an attitude of familiarity with the linguistic culture of Japan, how to deepen understanding of the role and the special characteristics of Japanese, and how to nurture a rich fund of language-oriented sensitivity.

○ Emphasis will be placed on the systematization of learning on the basis of the stage of development of the children concerned, and prioritized guidance will aim to equip children with the specific abilities they require within each level of schooling and in each grade within a particular school. In this context, the abilities that it is aimed to cultivate in each level of compulsory schooling are as follows: in elementary school, the basic language ability needed in everyday life, in lower secondary school, the basic language ability needed in social life, and in upper secondary school, the basic language ability needed to be able to function as a full member of society.

○ With regard to guidance in the classics, the improvements will aim to equip children with an attitude of familiarity with the classics that will persist throughout their lives, seeing them as persons who can receive, inherit and further develop the linguistic culture of Japan.

In terms of instruction in kanji (Japanese language ideographs), improvements will aim to emphasize the use of kanji in actual everyday life and in subjects such as Geography, Mathematics, Science, etc., and with a view to contributing to a strengthening of reading activities, strengthened guidance will aim to ensure a thorough acquisition of learning material by children. In terms of instruction in transcribing kanji, improvements in the content and in the way of teaching will aim to emphasize usefulness in everyday life and in the learning context.

With regard to instruction in "respect language", improvements will emphasize the appropriateness of using different language according to the situation and according to the status of the other person(s) involved, with a view to enriching the everyday language usage of pupils and facilitating smooth interpersonal relationships. Improvements will also aim to contribute both to systematic teaching of the rules of language and at the same time, to occasions when students have to read and write actual sentences.

On the teaching of reading, with a view to getting children to become familiar with reading and to both broaden and deepen their way of looking at things, their way of feeling and their way of thinking, improvements will locate reading activities in the content of the Courses of Study. On the question of teaching materials, with the aim of enabling students to become familiar with the linguistic culture that forms part of Japan's heritage, works selected will include classics that have been read over a long period of time and more modern works, all chosen to suit the stage of development of the children concerned.

(ii) Specific items for improvement

Elementary school

○ With a view to equipping students with the basic language abilities needed for everyday life, the following improvements are aimed at.

(a) Instruction will be given in a continuous fashion with the aim of ensuring that in terms of the skills of "speaking and listening", "writing" and "reading", every child is thoroughly equipped with the necessary ability to carry out language activities such as carrying on a conversation, keeping a record, passing or asking for information, making a request, giving an explanation, expressing gratitude, and so on, as the kinds of activities needed in everyday life. Necessary documents and resources matching the topic in question at any given time will be provided, and emphasis will be put on cultivating the ability to find solutions while deepening mutual thinking skills in terms of interaction among children and utilizing fundamental knowledge and skills.

For example, in the lower grades, the aim will be to enable children to carry out such activities as giving a report on something they have experienced, in the form of making a report on what they have seen and want to pass on to others, and then actually giving an explanation or introducing the topic. In the middle grades of the school, the aim will be to enable children to give a presentation in the form of taking something they have observed or the results of an experiment, reporting on it in an ordered way by writing out an explanation or a report and preparing documentation in support of their presentation. And in the higher grades, at the same time as enabling students to give a commentary or express an opinion from their own standpoint in line with a stated objective, to write a report, or to give an explanation backed up by supporting reasons, emphasis will also be put on cultivating in students the ability to look back on and reflect on their language activities.

Under the newly created language heading, "Matters concerned with the special characteristics of the Japanese language and linguistic culture", emphasis will be put on cultivating an attitude of familiarity with linguistic culture, by such means as reading tales, songs or poems, rewriting something or acting out a role. Emphasis will also be put on getting children to understand the many diverse functions and types of language, including the roles that language plays in transmitting awareness or thoughts about something to others, or using a pattern of speech or dialect that is appropriate to the other person. In addition, such items as pronunciation and vocalization, letters (orthographic symbols), writing, vocabulary, sentences and composition, will be located in the content of related fields in such a way that they have an organic connection with actual language activities, and as and when deemed necessary, will be grouped together in a summary fashion.

(b) Instruction designed to cultivate familiarity with the classics as linguistic culture will

emphasize easily understandable classical texts and activities such as reading aloud and choral recitation of Chinese classical poetry and literary texts.

(c) With regard to the instruction of kanji, many opportunities will be provided for children to practice reading, with a view to using kanji in everyday life or in other subjects such as Geography, Mathematics and Science. With a view to contributing to the strengthening of reading activities, kanji intended for use by higher grades or kanji not included in the distributed list of approved kanji may also be used with furigana to show how the kanji should be read. Emphasis will also be put on ensuring a thorough grasp of the use of kanji in everyday life, and children's acquisition of kanji will be strengthened by such means as getting them to revise repeatedly the ways in which kanji are actually used in sentences and texts.

(d) Instruction in writing Japanese using the Roman alphabet will start from an earlier age than at present, taking into consideration utilization of information devices and connections with other learning activities.

(e) Instruction in transcribing will be improved by efforts to make the contents and the pattern of instruction more relevant to learning activities and to actual, everyday life through such devices as writing letters and making records.

(f) In the teaching of respect language, emphasis will be put on getting children to understand the necessary basic knowledge and on enabling them to become accustomed to using respect language in actual situations.

(g) With regard to instruction in the rules of language, efforts will be made to try and ensure that children acquire a basic understanding of the necessary knowledge, and to improve instruction in terms of establishing connections with reading and writing with the aim of contributing to greater skill in polishing sentences, grouping expressions together, and so on.

(h) Instruction in reading will be located within the content of the Courses of Study in such a way as to encourage pupils to read with specific objectives in mind and to become familiar with reading as part of everyday life as well to utilize library services.

(i) With regard to teaching materials, with the aim of familiarizing children with linguistic culture as it has been handed down in Japan through the generations, classical works including ones long familiar to the Japanese in such forms as *waka* (a traditional Japanese poem), epic tales, *haiku* (a traditional Japanese poem), and classical Chinese poems and texts as well as more modern works including stories, poems, biographies, and folk tales will be taken up.

Lower secondary school

○ Aiming to further extend the language abilities cultivated in elementary school, the following improvements aim to equip children with the basic linguistic abilities that they need in order to live their lives in society.

(a) In the various areas denoted by "speaking and listening", "writing" and "reading", instruction will aim, adding to the skills already acquired in elementary school, to ensure that children have a firm mastery of the abilities needed to engage in linguistic activities in social life, including presentations, discussions, commentaries, statements and appreciation. Elaborating on this, while the education is ensuring that the abilities acquired in elementary school are firmly grounded, emphasis will be put on developing the abilities needed to work toward finding solutions to problems by deepening mutual thinking processes in the form of interaction among children; specifically, using sentences and texts selected as being appropriate for lower secondary school, children will be enabled to set out topics for themselves and to utilize the knowledge and skills that they have acquired.

For example, the education provided will aim to enable children to identify topics from a wide spectrum, including society at large, to set down a concise and well-grounded statement of their thinking, to make summaries using various types of sentences and documents, and to give an easily understandable presentation.

In the timeslot covered by the heading, "Matters concerned with the special characteristics of the Japanese language and linguistic culture", emphasis will be put on developing an attitude of treating language-based culture as a legacy and wanting to develop it further; with a primary focus on the classics, children will be encouraged to read, rewrite and act roles in respect of selected sentences and works. Stress will also be put on enabling children to understand the diverse functions of language such as the features of the Japanese language compared to other languages, the characteristics of respect language as used in society, and so on. In addition, items such as sounds, letters (orthographic symbols), vocabulary, words, and the construction of sentences and passages, also the use of language and transcription, will be located in the content of related fields in such a way as to create an organic connection with the actual use of language; where necessary, items will be brought together and presented in a summary form.

(b) Instruction in the classics, while making connections with the history of the language and with the historical and cultural background to the works selected, will put stress on developing an attitude of increased familiarity with the classics.

(c) Instruction in kanji will emphasize the use of kanji in social life and in other subjects, e.g. Geography, Mathematics and Science, and with the aim of contributing to the strengthening of reading activities, as well as that of enabling children to read the vast majority of approved kanji, will also let them become familiar with the lists of kanji distributed in each school grade.

Stress will also be put on giving children a firm grasp of how to use kanji in social life, and instruction will be strengthened in line with the extent to which pupils show a real sense of acquisition.

(d) Instruction in transcribing will continue to put emphasis on the use of transcribing in social life and will aim at improvements in the content and the manner of instruction with a view to enabling children to become familiar with written culture.

(e) With regard to instruction in respect language, emphasis will continue to be placed on ensuring that children have a knowledge of the role of respect language as it is used in social life, and on enabling them to use it appropriately while they continue to acquire knowledge in a systematic way.

(f) With regard to rules in language, improvements will be made to instruction with a view to getting children to better understand the special characteristics of Japanese and by making the instruction more directly relevant to what children actually read and write.

(g) Turning to instruction in reading, amendments to the Courses of Study will be made to enable children to look back over their reading life and give added richness to their everyday reading as well as facilitating more effective use of libraries and ICT in terms of searching for books and documents.

(h) With regard to teaching materials, with the aim of enabling children to become familiar with linguistic culture as part of the Japanese heritage, a variety of works will be taken up, including classical works long familiar to Japanese readers and a representative selection of more modern works.

Upper secondary school

○ Along with the basic aim of further extending the abilities of students beyond what they have learned in lower secondary school, and ensuring that they are firmly equipped with the basic abilities in Japanese necessary to function as a member of society, improvements will be made in each subject in terms of the content and the objectives with the aim of implementing a very diverse spectrum of learning in line with the abilities, aptitudes and interests of each individual student.

(a) "Japanese General" in the revised Courses of Study is an improved version of the existing subject "Japanese General". With the aim of equipping students with the abilities in Japanese necessary to take an active part in society, the content will be improved in such a way as to cover in a comprehensive way the learning of speaking, listening and writing as well as

reading.

In particular, emphasis will be put on cultivating the ability to acquire an accurate understanding of sentences and documents, to think in theoretical terms, and to carry out required speaking and reading tasks, and on the other hand, on nurturing a rich fund of emotions and sensitivities through the development of attitudes aimed at taking in and appreciating the legacy of Japan's linguistic culture.

(b) "Japanese: Expression" brings together in a revised form the contents of the former subjects, "Japanese: Expression I" and "Japanese: Expression II". Building on the results of learning in "Japanese: General", instruction aims to develop a firmly grounded ability to engage in expression in society, as shown in such ways as accurately understanding sentences and documents, thinking in theoretical terms, and speaking and writing in an appropriate manner, and at the same time, to inculcate in students an eagerness to practice expression and a wish to raise the level of the Japanese language as currently used.

(c) "Modern Writing A": a newly created subject which is a counterpart to "Classical Writing A". Building on "Japanese General", it aims to familiarize students with reading as an everyday activity in terms of an attitude that will stay with them throughout their lives. Establishing connections and covering such points as the desirable pattern of language life, the role of language, and the particular characteristics of Japanese, instruction aims to give students an accurate understanding of linguistic culture in Japan.

(d) " Modern Writing B": an improved version of the current subject, "Modern Writing". Building on the results of study of "Japanese: General", this subject takes up various kinds of sentences and texts from early modern times onward, with the aim not only of strengthening reading ability through such language activities as speaking, listening and writing as well as reading, but also aims to cultivate the ability of students to think about, make judgments on and evaluate what they have read, as well as to express what they think in theoretical terms, and through these activities to deepen their understanding of literature and the printed word as culture.

(e) "Classical Writing A": a revised version of the existing subject, "Reading Classical Works", in which the content has been improved. Building on the results of study of "Japanese: General", this subject takes up not only classical works (including works from the early modern period written in a literary style) but also a wide variety of materials such as commentaries on classical works, novels and essays, with the aim of familiarizing students with the world of classical literature. In this connection, instruction is also given in the role of language, and the formation process and characteristics of the Japanese language, so that students can gain an understanding of Japan's literary culture.

(f) "Classical Writing: B": an improved version of the existing subject, "Classics". Building on "Japanese: General", the subject takes up as teaching materials such items as critical evaluations of the classics, and through the language-based activities comprising speaking, listening and writing as well as reading, aims to enable students to approach classical writing in a systematic manner as well as to heighten their knowledge of classical works and improve their ability to read the original.

② Social Studies, Geography and History, Civics

(i) Main directions of improvement

○ In Social Studies, History and Geography, and Civics,[5] the direction of improvements, through elementary school, lower secondary school and upper secondary school, is aimed at getting students, through issues[6] arising out of these subjects, to take an interest in social affairs from many perspectives and angles, at cultivating attitudes and abilities conducive to making impartial judgments, and at stressing growth in the way of looking at and thinking about things within a social framework.

○ Instruction will aim to ensure that children have a firm grasp of the fundamental knowledge, concepts and skills concerned with social affairs, and will aim to clarify the knowledge and concepts to be learned, in line with the characteristics of each level of schooling, from the perspective of developing in children the ability to explore issues and to apply the skills and knowledge they have acquired. At the same time, the improvements aim to put additional emphasis on enabling children, while making use of computers and other aids, to extract information that they need from maps, statistics, and so on, and deal with it, to interpret the meaning and significance of social phenomena, to explain the characteristics of different phenomena and the relationship between them, and to set out their own thinking.

○ Improvements will be aimed at stressing the cultivation of a love of Japan, the land and its history by means of facilitating an understanding of the physical formation process of Japan and the world, the current socio-economic system, and a variety of traditions, cultures and religions. Efforts will also be made in the direction of stressing the cultivation of qualities and aptitudes that will enable students to take part on their own initiative in projects designed for the public good, such as the realization of a sustainable society, while at the same time, taking an active part in living in international society, as Japanese citizens possessed of a sense of self-awareness.

(ii) Specific items for improvement

Elementary school

○ Improvements will aim, on the basis of what is learned in Social Studies, and in line with the stage of development of the children concerned, at deepening love and understanding of local and regional society and of the land and history of Japan, at cultivating a socially oriented way of looking at and thinking about things, and at stressing the development of basic qualities and abilities conducive to participating in the formation of a better society through such means as utilizing the knowledge, concepts and skills with which children have been equipped.

In this connection, it is hoped that by strengthening experiential, problem-solving type learning, children will be more able to acquire the knowledge and skills that form the foundation of learning and of daily life. At the same time, learning will be strengthened so that by utilizing these skills and by observing and investigating, by bringing together and processing necessary information from various data sources, and then by accurately recording it, making comparisons, establishing connections and synthesizing the data, children will be enabled to reconstruct their learning and thinking in their own words and by discussing their results among themselves, will deepen their thinking processes.

(a) By further deepening an understanding from a wide perspective of local and regional society and of the country of Japan, improvements will put emphasis on equipping children with the fundamental knowledge and skills that they will need to take an active part in living in international society as Japanese possessed of a sense of self-awareness. For example, stress will be put on utilizing geographical data and global charts. In addition, the acquisition of knowledge of the 47 prefectures of Japan, their names and positions, the names and positions of the main continents and oceans, and the main countries of the world will be strengthened, so that children will be enabled to grasp the details of where the prefecture in which they live and where the territory of Japan fits into a global context.

(b) Improvements will put stress on cultivating the foundation of qualities and abilities needed to participate in the formation of a better society, including the realization of a sustainable society, at the same time as putting a high valuation on the culture and history of Japan, and the formation of awareness of what it means to be a Japanese citizen. For example, it is intended to enrich and strengthen content concerned with culture and traditions through such devices as adding new information about the lives of people who lived in the Jomon era and used Jomon pottery implements, or by showing representative examples of Japan's cultural inheritance in connection with historical events and phenomena. Further improvements planned include a strengthening of fundamental content concerned with the importance of rules and laws in social life and with basic economics, and at the same time additional clarification based on study of the development of high-level information technology. In addition, a restructuring of the

content concerned with the land and the regions of Japan will be carried out, including a strengthening of perspectives concerned with environmental conservation, natural disasters and traditions as well as with the conservation and utilization of local resources such as culture, natural scenic attractions, local products, and so on.

Lower secondary school

○ Taking as a basis what was learned in elementary school, the tripartite division into geographical, historical and civics-related fields will be continued, and children will acquire fundamental knowledge, concepts and skills concerned with the geographical and historical position of Japan in the world, law and politics, economics and so on. Through studying the interpretation of the meaning and significance of social phenomena, and the characteristics of such phenomena, and learning about and being able to explain the interconnections linking phenomena, it is planned that students will acquire a deeper understanding of socially oriented ways of looking at and thinking about things. Improvements are also planned in terms of emphasizing learning connected with the wide variety of traditions, cultures and religions that exists in the world.

The following improvements are planned in each field, after taking consideration of their respective characteristics and mutual interaction.

(a) In the field of Geography, headings will be set up so as to let students learn about the interactions between people's lives and the environment in different parts of the world as well as the diversity of the different regions of the world, with the aim of deepening the children' understanding of global geographical characteristics. In addition to this, increased efforts will also be made to deepen children's appreciation of the land and territory of Japan, in such ways as improving the content of what they learn so that they become able to grasp the characteristic features of each area of Japan and establish an organic connection with other phenomena. And by means of a revision of the entire content of what is to be learned, increased importance will be put on equipping children with geographical skills such as map-reading and map-making, while at the same time, efforts will be made to cultivate an attitude of wanting to contribute to the development of local areas and to a solution to related issues through study of the local environment.

(b) In the historical area, with a view to enabling children to understand the broad flow of Japanese history, and to developing their ability to consider history as a relevant factor and to deliver explanations, improvements will be made in the form of ensuring a firm grasp of basic content concerned with the characteristics of each historical period and of the turning points of history, as well as putting increased emphasis on topic-based and enquiry-based learning. In this context, increased emphasis will also be put on learning about early modern and modern times in order to increase children's understanding of contemporary society. So for example,

within the context of getting children to engage in historical study of their immediate environment by such means as getting them to learn various aspects of local culture and traditions, efforts will also be made to strengthen the way of dealing with world history as the global background to the history of Japan. Emphasis will also be put on learning that enables children to pursue and deepen their understanding of the meaning and significance of phenomena and the interrelations between them, and to express what they have understood in their own words.

(c) In the area related to Civics, at the same time as enabling children to deepen their understanding of contemporary society, efforts will be made to strengthen learning aimed at facilitating an understanding of the role of culture and in cultivating a deeper grasp of the fundamental ways of looking at and thinking about politics and economics by way of guidance on the role of rules, currency and so on. In addition, revised content will stress guidance designed to cultivate children's awareness as future taxpayers, and to get them to think about environmental problems from the perspective of a sustainable society, and about social security and financial problems in a society characterized by a rising proportion of elderly people and a declining birthrate. In this same context, emphasis will be put on getting children to utilize the concepts that they have acquired, to interpret the significance of various phenomena and explain the links between them, and deepen their ability to think together by such means as debate and argument.

Upper secondary school

○ Building on what was studied in lower secondary school and giving due consideration to the characteristics of each subject and to the linkages between them, emphasis will be put on enabling children to utilize the knowledge, concepts and skills that they have learned, and to explain the content and set down their own thinking. In such ways, efforts will be made to enable them to grow and develop in terms of their way of looking at and thinking about social phenomena, as well as deepening still further their way of acting and living as human beings. With these aims in mind, the following improvements are planned.

(a) In the subject areas of Geography and History, the connections between different subjects will be emphasized in an effort to deepen still further appreciation and understanding of the historical formation process of Japan and the world in general as well as local and regional characteristics of daily life and culture. Further efforts will also be made to enable students to get a firm grasp of the specialist knowledge, concepts and skills in each subject, and improvements will be made to help them utilize what they have learned. For example, further emphasis will be put on enabling students to learn how to utilize maps.

・ "World History A". Increased attention will be paid to the need to enable students to utilize

maps, chronological tables and various other kinds of data, as well as getting them to make connections with geographical features or with aspects of Japanese history. At the same time, this subject will concentrate on enabling students to understand the characteristics of a number of civilizations and the formation processes of modern world history. It will also aim to deepen students' awareness of the world today by engaging in discovery-type, topic-based study of issues concerned with the development of humanity, and to cultivate their ability to think in historical terms.

・ "World History B". While getting students to utilize maps, chronological tables and other data, and paying due attention to links with the geographical characteristics of a number of regions and with the history of Japan, the subject aims to enable students to understand the broad framework and flow of world history and to deepen their understanding of the diversity and complexity of culture. At the same time, it will put more emphasis on setting appropriate topics and pursuing these through discovery-type learning, and on cultivating ways of studying world history and the ability to think in historical terms.

・ "Japanese History A". While getting students to utilize various kinds of data and to establish connections with geographical conditions and with world history, this subject will emphasize topic-based, discovery-type learning, and enable students to understand the early modern and modern history of Japan and the formation of contemporary society as well as cultivating the ability to think in historical terms.

・ "Japanese History B". While putting emphasis on the utilization of different kinds of data and on getting students to establish connections with geographical features and with world history, this subject will concentrate on setting appropriate themes and pursuing discovery-type learning with the aim of enabling students to understand Japanese history from a comprehensive perspective and to deepen their understanding of traditional and cultural characteristics, as well as cultivating the ability to think in historical terms.

・ "Geography A". Practical, hands-on learning will be strengthened in such ways as locally based investigations as well as map-reading and map-making work concerned with geographical issues such as natural disasters that fall within the purview of people’s daily lives. As well as equipping students with geographical skills linked to everyday life, students will be enabled to consider, against a historical and geographical background, problems affecting the world today, such as the environment, resources, and energy, as well the development of a sustainable society, and the cultivation of the ability to look at and think about things in a geographical way will also be strengthened.

・ "Geography B". Due consideration will be given to a systematic study of the distribution and the causes of geographical phenomena, including the natural environment, resources, industry,

population, towns and villages, and races and ethnic groups in the contemporary world. At the same time, strengthened guidance will enable students to utilize the knowledge, concepts and geographic skills they have learned, as well as enabling them to consider the geographical characteristics of various world regions from many different angles while paying due attention to the historical background. Extra emphasis will also be given to cultivating the ability to look at and think about things from a geographical perspective.

(b) “Civics”. With a view to cultivating the qualities and abilities required to participate voluntarily in the formation of a better society, improved guidance will be given to enable students to understand the specialist knowledge, concepts and theories of each subject within this broad subject area as well as ethical values and the philosophical wisdom handed down through the ages. At the same time, improved and additional emphasis will be aimed at enabling students, using the subject matter outlined here as a guide, to consider and reflect on topics selected in line with the characteristics of each subject, and to deepen their awareness of equitable and objective ways of looking at and thinking about social phenomena, and about ways of living and existing in general.

・ "Modern Society". This subject will pick up various topics from modern society concerned with ethics, society, culture, politics, law and economics, and will put extra emphasis on topic-based, enquiry-type learning concerned with ways of living and existing as a human being, enabling students to think about the topics under discussion by such means as debate with other students, and to explain and set out their thinking in the course of pursuing their topic-based research.

・ "Ethics". While laying stress on raising the level of interest on the part of students in the way of living as a human being, the topics selected will reflect thinking passed down through the ages and will serve as a clue to enable students to deepen their own thinking and understanding about ethical values as needed in order to be able to formulate their own independent criteria for making judgments. Topics concerned with such matters as life, the environment, information and culture will also be selected, and more stress will be put on enabling students to debate and to carry out topic-based, enquiry-type learning, and on getting them to pursue the concept of independent living as a member of society.

・ "Politics and Economics". This subject will enable students to utilize the knowledge, concepts and theories that they have learned, will put increased emphasis on topic-based, enquiry-type learning, and will cultivate economic and politically oriented ways of looking at and thinking about things. Efforts will also be made to enrich and strengthen content concerned with such matters as laws and finance, when responding to such phenomena as the advance of globalization and deregulation, an increase in the role of laws, and so on.

③ Arithmetic, Mathematics

(1) Main directions of improvement

○ In Arithmetic (elementary school) and Mathematics (lower and upper secondary school)[7], focusing primarily on the issues[8] arising out of these subjects, improvement plans entail strengthening arithmetical and mathematical activities through elementary, lower secondary and upper secondary school, in line with the stage of development of the children concerned at each level of schooling. Efforts will also be made to ensure that all children have a firm grounding in basic knowledge and skills, to cultivate mathematical thinking power and expressive ability, and to enhance the desire to learn.

○ Basic knowledge and skills concerned with numerical quantities and diagrams are the foundation of everyday life and learning. Questions are also being raised, in the context of advances in science and technology, about the international applicability of education in Mathematics and Science. With these points in mind, emphasis will be put on a systematic arrangement of the content in both Arithmetic and Mathematics, from the perspective of trying to ensure a thorough grasp of the fundamental knowledge and skills concerned with numerical quantities and diagrams, and at the same time, by carrying out a partial repetition of the content at times of transition between grades or between levels of schooling, the curriculum will be designed in a spiral form that aims to match school grades and the stages of development of the children concerned.

○ Furthermore, thinking and engaging in acts of expression in numerical terms have an important role in terms of promoting cognitive communication at the same time as taking forward rational and theoretical thinking processes. With these points in mind, efforts have been made to show, in specific, concrete terms, instructional content and activities that are designed to cultivate numerical thinking and powers of expression. In particular, instruction will be strengthened in terms of enabling students to clarify the basic grounds of their thinking and set out their chain of reasoning in a systematic way, as well as to understand the mutual relationships between words and numbers, formulae, diagrams, tables and graphs, to use these tools in an appropriate way in solving problems, to be able to explain their own thinking in an easily understandable way, and to express this thinking in the process of debate and discussion with others.

○ It is very important to enhance children's eagerness to study Arithmetic and Mathematics and to enable them to get a real understanding of its significance and usefulness. With this objective in mind, the following points will be strengthened:

- Enabling children to get a real understanding of the meaning. of quantity and diagrams by incorporating basic learning activities that will be the basis of this understanding.

- Making it possible for children to get a real feeling of advances in their learning in such ways as a broadening and deepening of their understanding, achieved by a curriculum based on a spiral process of learning matched to the stage of development of the children concerned.
- Applying the learning that children acquire to everyday life and to other subjects, and utilizing it in more advanced mathematical studies.

○ At the same time as ensuring that children have a thorough grasp of basic knowledge and skills, activities involving calculation and numbers also have an important role to play in enhancing children's mathematical thinking ability and powers of expression, and in getting them to really understand the meaning and the joy of learning Arithmetic and Mathematics. With a view to additional strengthening of instruction that aims to utilize and bring mathematical activities to life, as well as ensuring that instruction takes place in the form of putting emphasis on language-related and hands-on type activities, efforts will be made, at elementary and lower secondary school level, to present mathematical activities in a much more specific and concrete form in the learning content of each grade, and at upper secondary school level, to locate "topic-based learning" in the content of compulsory subjects and in the optional subjects selected by large numbers of students.

(ii) Specific items for improvement

Elementary school: Arithmetic

○ At elementary school level, while strengthening arithmetical activities, and cultivating a rich and full perception of really understanding quantity and diagrams, improvements are aimed at in terms of ensuring that children have a thorough grasp of basic knowledge and skills, and at the same time, emphasis is to be put on enhancing mathematical thinking and power of expression and on utilizing the arithmetic learned in everyday life or in the course of studying. With these points in mind, specific improvements to be aimed at are as follows.

(a) The following areas will be dealt with as at present: "numbers and calculation", "quantity and measurement", "diagrams", and “quantitative relationships”. In order to emphasize thinking power and expressive power when using words and numbers, formulae, tables and graphs, instruction in “quantitative relationships” will begin in the lower grades.

(b) With a view to ensuring a firm grasp of knowledge and skills concerned with quantities and shapes and with cultivating numerical thinking and powers of expression, stress will be put on the consistency of arithmetic, and part of the content will be repeated at the time of transfer between grades. Doing this will enable the instructional content to be smoothly developed, and opportunities for re-learning to be created, so that as a result, the learning process will be taken

forward in a spiral fashion in line with stages of development and grades.

(c) In order to be able to put increased emphasis on arithmetical activities, arrangements will be made for them to be located in the content of instruction at each grade. Consideration will be given to ensuring continuity between elementary and lower secondary school.

For example, give a specific, concrete form to arithmetical activities: using concrete objects in activities to get children to understand the meaning of quantities and shapes, or activities to get them to utilize areas of knowledge and skill, or ones that involve thinking about and explaining problem-solving methods.

(d) In the area of "numbers and calculation", emphasis is to be put on understanding the meaning and methods of expressing integers, decimals and fractions; ways of enriching perceptions of numbers; and cultivating the power of expression by means of words and numbers. Furthermore, additional emphasis is to be put on instruction of the following three points: understanding the meaning of calculations; thinking about the meaning of calculations; and becoming proficient in utilizing calculations.

For example, carry out basic groundwork in terms of fundamental learning activities to ensure understanding of fractions in the lower grades (ex. fold a piece of paper in 2 to show the meaning of half). Make improvements so that by means of a curriculum based on spiral learning, with repetition in accordance with stages of development and grades, children in the lower and middle grades will be equipped with a firmly grounded ability to calculate using integers, while children in the middle and upper grades will acquire through a smooth process of development the ability to calculate using fractions and decimals. Furthermore, in the middle grades, instruction will be given on making an estimated calculation, and children will be enabled to get an overview of calculation methods and to use their judgment in an appropriate way.

(e) In the field of "quantities and measurement", emphasis will be put on enabling children to gain an understanding of measuring various kinds of units of quantity, to enrich their perceptions of the size of something, and to enable them to think and explain in their own words such things as how to find the area of something.

For example, in the lower grades, use specific objects to give instruction on comparing sizes in terms of length, breadth and so on. In the middle and upper grades, give guidance on investigating the relationships between units of quantity. In addition, in the upper grades, give instruction to children on how, by utilizing what they have already learned about finding the area of something, to think about and explain how to find the area of a rhombus or a trapezium.

(f) In the field of "shapes", emphasize understanding of the meaning and qualities of shapes, ways of enriching perceptions of shapes, and development of the ability to utilize ways of looking at shapes in daily life and in school-based study.

For example, from the lower grades through the higher grades, at the same time as giving instruction on the content of comparing shapes and sizes, by such means as drawing, making or spreading out many different kinds of shapes, give careful consideration to achieving a balance between flat, one-dimensional shapes and three-dimensional shapes. And in the higher grades, deal with the content of such matters as congruence of shapes or shapes that are enlarged or reduced in scale.

(g) In the area of "quantitative relationships", emphasize ways of expressing quantitative matters by using language and numbers, formulae, tables, graphs and so on, and the cultivation of ways of thinking about functions in terms of investigating changes and correspondence in the relationship between two quantities.

For example, even in the lower grades, give instruction on how to investigate and express, using a simple table or graph, something that happens in the immediate vicinity. In the middle and higher grades, give guidance on ways of using oral communication or writing. And in the higher grades, strengthen instruction of content concerned with proportion and inverse proportion.

Lower secondary school: Mathematics

○ In lower secondary school, emphasis will be put on enabling children to engage of their own volition in mathematical activities; at the same time as ensuring the acquisition of basic knowledge and skills, and developing the ability to think in mathematical terms, instruction will enable children to become acquainted with the joy of Mathematics and to deepen their understanding of the usefulness of Mathematics in learning and in everyday life, and of the connections between Mathematics and Science, and will cultivate attitudes and abilities conducive to considering various phenomena in mathematical terms. With these aims in mind, the following improvements will be made.

(a) With regard to the composition of areas to be studied, the current three areas, namely "Numbers and Formulae", "Shapes" and "Quantitative Relationships" will be reshuffled. "Utilization of Data", dealing with probability and statistics, will be created as a new area, and "Quantitative Relationships" will be renamed "Functions", resulting in 4 areas: "Numbers and Formulae", "Shapes", "Functions" and "Utilization of Data".

(b) With a view to dealing with points perceived by children as difficult, time will be taken to provide detailed guidance. Moreover, when it comes to learning the new content, emphasis will be put on creating opportunities for re-learning content which has already been studied once.

(c) In order to put even more stress than in the past on mathematical activities, specific references will be made to mathematical activities within the explanations of content for each

school grade, and careful attention will be paid to the transition between elementary school and lower secondary school.

For example, demonstrate specific kinds of mathematical activities, including ones which generate numbers, ones which make use of numbers, ones which involve numbers being transmitted from one child to another, and ones which give children a real feeling for what mathematics is.

In addition, in the area of topic-based learning as currently practiced, efforts should be made to achieve improvements in terms of locating mathematical activities in the place where topic-based learning takes place and in enabling children to get to grips with problem-solving by utilizing in a comprehensive way what they have already learned.

(d) In "Numbers and formulae", emphasize the need to think of using letters as something entirely usual and deepen their understanding of the value of doing this; emphasize also ways of expressing relationships between objects in the immediate vicinity, using numbers and letters, and ways of using formulae efficiently in accordance with set procedures, and get children to take a positive approach to tackling the meaning of formulae and explaining this to themselves.

For example, teach the way of expressing relationships of size by using expressions of inequality, or the meaning and give instruction on the concepts of special terms such as proportional expressions, and rational and irrational numbers, as well as formulae for solving quadratic equations.

(e) In "Shapes", taking children's real feelings based on their actual experiences as a foundation, get children to see objects in their immediate surroundings as "shapes", and enable them to clarify the qualities of these different "shapes" and the relationships between them, get them to clarify the reasons for the qualities of different shapes, to put their ideas in order and explain them, and go on to emphasize how, on the basis of this explanation, new qualities and new relationships can be discerned.

For example, give guidance on different ways of dealing with shapes, such as moving them, looking at different projections, thinking about the surface area or capacity of a sphere, comparing the surface area and capacity of different shapes, and so on.

(f) When dealing with "Functions", emphasize how things happening in your immediate surroundings can be seen as "functions", and enable children to investigate and explain the appearance of change and response, using tables, numerical expressions, graphs, etc, and then go on to help them to grasp new functions and their characteristics, and interpret these at the place where they happen.

For example, introduce the concept of "functions" as a specialist term from Grade One, so that on the basis of this concept, children can come to understand the meaning of proportion and inverse proportion. Draw attention also to the connections between different kinds of

phenomena and functions.

(g) "When dealing with "Utilization of Data", emphasize that the tendencies and characteristics of groups can be identified on the basis of data, and that judgments can be made on the basis of what is identified.

For example, as an addition to probability, which has already been taught, children should be taught how to grasp overall trends by using a histogram or representative values, and how to grasp trends in the mother body by extracting and investigating specimens.

Upper secondary school: Mathematics

○ In upper secondary school, the objectives will aim to further improve emphasis on the significance and usefulness of learning Mathematics. With particular reference to the composition and the content of the subjects comprised in Mathematics, fresh consideration will be given to emphasizing the consistency in the learning of Mathematics and the diversity of student choice, and to enhancing eagerness to study Mathematics and the ability of students to think and express themselves in mathematical terms.

(a) The subjects comprised in Mathematics will be "Mathematics I", "Mathematics II", "Mathematics A", "Mathematics B" and "Applications of Mathematics".

(b) The contents of "Mathematics I", "Mathematics II" and "Mathematics III" will be revised and reconstituted as follows.

"Mathematics I" will aim to ensure that all students are equipped with the basic mathematical knowledge and skills appropriate to upper secondary school Mathematics as well as with the ability to utilize this knowledge and skills. In consideration of making connections with the mathematics learned in lower secondary school, instruction will include such content as numbers and sets, shapes and measures, and two-dimensional functions.

"Mathematics II" will aim to extend mathematical qualities and abilities, while giving due consideration to continuity with the content of subjects covered in "Mathematics I"; the content will include, for example, various kinds of expressions (expressions and proofs, higher dimensional equations and so on), shapes and equations, triangular functions, and so on),

"Mathematics III" will take interest in Mathematics as its starting point and will aim to equip students with the knowledge and skills needed to study Mathematics more deeply and deal with it on a specialist level in future. The content will include, for example, limits, differentiation and integration.

(c) In "Mathematics A" and "Mathematics B", various required electives will be available to students depending on their ability, aptitude, interests and intended career path, for example, probability, sequence, vectors and so on.

(d) "Applications of Mathematics" has been formulated as a subject which will utilize the aims of "Basic Mathematics" and develop its content further at a more advanced level. Instruction in this subject will aim to get students to understand the relationships between mathematics and human beings, and the role that mathematics plays in social life. At the same time as aiming to enhance the interest felt by students in Mathematics, it will endeavor, by making use of specific, concrete objects and events, to enable students to appreciate mathematical ways of looking at and thinking about things, and to cultivate an attitude of wanting to utilize mathematics.

(e) In "Mathematics I" and "Mathematics A", content that establishes connections between Mathematics and real, everyday life will be treated at a more advanced level, and topic-based learning, which puts emphasis on mathematical activities by setting out themes designed to enhance the interest and eagerness of students to study Mathematics, will be located in the subject content.

(f) "Mathematics I", "Mathematics II" and "Mathematics III" are to be studied in that order. Also, "Mathematics I" can be studied either in parallel with "Mathematics A" or after it, while "Mathematics B" should be studied after "Mathematics I".

④ Science

(i) Main directions of improvement

○ In Science[9], focusing primarily on the issues[10] arising out of this subject, improvements include ensuring that children, through elementary, lower secondary school and upper secondary school, in line with the stage of development reached at each stage of schooling by the children concerned, are equipped with intellectual curiosity and a spirit of enquiry, and are familiar with nature; at the same time as cultivating, by means of carrying out purposeful observations and experiments, the ability and attitude conducive to engaging in scientific investigations, improvements will aim to further strengthen children's sense of scientific awareness and nurture scientific ways of looking at and thinking about things.

○ The fundamental knowledge and skills involved in scientific learning have an important meaning as the basis of real-life applications and of theoretical thinking ability. Furthermore, questions have been raised in recent years about the international communicability of science and mathematics education in the context of advances in science and technology. With these points in mind, from the perspective of aiming to ensure that children have a firm grounding in fundamental knowledge and skills such as an understanding of scientific concepts, the main pillars selected in terms of fundamental scientific approaches and concepts will include

"energy", "particles", "life" and "planet Earth", and improvements will be focused in the direction of achieving a systematic structuring of scientific content through elementary, lower secondary and upper secondary school, on the basis of these pillars and in line with children's varying stages of development.

○ From the perspective of aiming to cultivate scientific ability in thinking and expression, the direction of improvements will be aimed, in accordance with the instructional content in each grade and at each stage of development, at strengthening, for example, activities comprising consideration and arranging of the results of observations and experiments, as well as discovery-based activities and activities aimed at enabling children to give explanations while making use of scientific concepts.

○ Improvements will focus on the direction of strengthening still further scientific experiences in the form of observations and experiments, with a view to ensuring a thorough grounding in scientific knowledge and concepts and to cultivating a scientific way of looking at and thinking about things.

○ In order to give children, in the first instance at elementary school, opportunities to really understand the significance and usefulness of learning Science, improvements will focus on strengthening and enriching content which emphasizes connections with society and real, everyday life, from the point of view of enhancing interest in studying Science at a more advanced level. Furthermore, in consideration of the demands for the construction of a sustainable society, in Science too, improvements will be carried out in terms of strengthening environmental education.

(ii) Specific items for improvement

Elementary school

○ Instruction will aim to enable children, on the basis of the learning content of Life Environment Studies, to identify of their own volition problems in the immediate natural environment, and at the same time as cultivating problem-solving ability by such means as equipping them with an overview of observations and experiments, will aim at giving them an understanding and a real feeling for the connections between learning content and actual, everyday life, and at nurturing an attitude of respect for life and the natural environment and one of scientific enquiry, laying emphasis on a scientific way of looking and thinking about things. With a view to implementing these aims, the following improvements will be aimed at.

(a) With regard to the composition of the subjects comprised in "Science", in consideration of such matters as children's way of learning and the continuation, in the form of a division into 2

areas, into lower secondary school, it has been decided to change the three areas, namely "Biology and its Environment", "Matter and Energy", and "Planet Earth and the Universe", into two areas, "Matter and Energy" and "Life and the Earth".

(b) "Matter and Energy". The content will be structured in such a way as to lay emphasis on guidance that will enable children to explore through observations and experiments the characteristics and the functions of matter, and changes in the states of matter, and to utilize such characteristics in making things. Care will be taken to present in a systematic manner the content comprised under the headings of "energy" and "particles" as pillars representing fundamental scientific concepts and ways of looking at things.

In the above context, instruction should include such items as the functioning of wind and rubber, and the use of electricity. With regard to learning about pendulums and collisions, currently treated as elective topics, the two topics will be separated with pendulums continuing to be treated in elementary school, while collisions will be treated in lower secondary school.

(c) In "Life and the Earth", the content will be structured in such a way as to place emphasis on enabling children to explore, through observations and models, numerous phenomena including the lifestyles and growth of biological creatures, the composition of the body, as well as the surface of the earth, the atmosphere and astronomical bodies, and enabling them to make connections with such things as natural disasters. Care will also be taken to present the contents of "Life" and "The Earth" in a systematic way as pillars that exemplify fundamental scientific concepts and ways of looking at things.

In this context, instruction should include, for example, observation of nature, the form of the human body and movement, and the sun and the moon. Instruction should be given as at present in growth within an egg and within a mother's body, in earthquakes and volcanoes.

(d) Emphasis should be put on learning activities which enable children to arrange, consider and express the results of their observations and experiments with a view to further deepening in children's minds a scientific way of looking and thinking about things. With regard further to problem-solving ability, which should be cultivated as a priority in each grade, while adhering to the current way of thinking, a fresh look needs to be taken at the transition from elementary to lower secondary school.

(e) In consideration of the links to the subject, Life Environment Studies, efforts will be made to strengthen natural, hands-on experiences with objects in the immediate vicinity, and scientific experiences in the form of making things.

(f) From the point of view of taking forward and deepening environmental education, efforts will be made to strengthen learning which deals with the characteristics of the Earth, and enables children to think about preserving it, and which draws attention to the need to be

careful about the burden that is placed on the environment.

Lower secondary school

○ At the same time as putting further emphasis on enabling children to identify problems in terms of objects and phenomena in a familiar environment and to engage in problem-solving observations and experiments, as well as on cultivating abilities and aptitudes conducive to exploring the natural environment, emphasis should also be put on getting children to utilize scientific knowledge and concepts, and to establish connections between learned material and society and real, everyday life. While doing this, efforts should be made to cultivate a scientific approach and way of thinking, and a comprehensive view of the natural world. With these points in mind, the following improvements are aimed at.

(a) The current fundamental framework, comprising a division between No. 1 field (physical sciences and chemical sciences), and No. 2 field (biological sciences and earth sciences) will be maintained; with regard to the content, the following improvements, aimed at the formation of scientific thinking and fundamental scientific concepts, will be carried out.

a. In No. 1 field, the content is constituted of pillars comprising fundamental scientific ways of looking at things and concepts, such as "energy" and "particles", and renewed efforts will be made to ensure that children are equipped with a firm grounding in fundamental concepts concerned with science. Furthermore, learning content conducive to cultivating a comprehensive approach on the part of children in terms of such topics as "science and technology and humankind", "energy and the environment" and so on, will also be prepared.

In the above context, instruction should be given in, for example, electric power supply (Wh), combination and division of forces, work and power (= amount of energy used within a set time interval), conductivity of fluids, formation of atoms, ions, and so on.

b. In No. 2 field, the content is constituted of pillars comprising fundamental scientific ways of looking at things and concepts, such as "life" and "the Earth", and renewed efforts will be made to ensure that children are equipped with a firm grasp of the fundamental concepts of science. Furthermore, learning content conducive to cultivating a comprehensive approach on the part of children in terms of such topics as life, the environment, natural disasters and so on, will also be prepared.

In the above context, instruction should be given in, for example, biological diversification and evolution, the regularity of heredity, the existence of DNA, Japanese weather, the movements and appearance of the moon, changes in the Earth and natural disasters, and so on.

(b) From the perspective of aiming to cultivate scientific thinking and powers of expression, at the same time as enabling pupils to carry out, of their own volition, observations and

experiments aimed at a specific objective, further emphasis will also be put on learning activities aimed at enabling pupils to consider and express the results of their observations and experiments. In this connection, with a view to further enhancing the problem-solving abilities acquired by pupils in elementary school, attention should be paid to cultivating scientific research abilities in terms of such skills as analyzing and interpreting the results of observations and experiments.

(c) Improvements will be aimed at strengthening scientific, hands-on experiences in a natural environment, aiming to show how making things demonstrates rules and laws, comprising in turn the need to ensure a firm grasp of scientific knowledge and concepts. At the same time, attention will be paid to cultivating scientific ways of looking at and thinking about things, as well as to confirming in an outdoor setting an understanding of what has been learned in the classroom. Children will thereby be enabled to make natural environment-based observations, utilizing in the course of their classroom learning what they have discovered or noticed while out of doors.

(d) Content which puts emphasis on links between science learning and real society and actual, everyday life will also be strengthened, from the perspective of wanting all children to have an opportunity to really understand the significance of studying science and its usefulness in life. Moreover, in a situation in which demands are being made for the construction of a sustainable society, a fresh look will also be taken at content aimed at strengthening environmental education. With these points in mind, the following aspects of learning will be strengthened: in Field No. 1, links between science and technology and humankind, and in Field No. 2, links between the natural environment and humankind.

(e) In terms of the order in which learning content is presented and acquired, standard content appropriate to each grade will be presented, so that due consideration is given to attaining consistency in the content, while at the same time, children are enabled to utilize the characteristic features of each locality.

Upper secondary school

○ At the same time as emphasizing enquiry-based learning, enabling children to study the multiple branches of natural science on the basis of the results of their study in lower secondary school, developing a broad knowledge of fundamental science, and nurturing an attitude conducive to continued interest in science, the contents of science learning will be structured in the ways shown below. The aim of this will be to heighten abilities and attitudes conducive to pursuing the discovery of the natural world and to enable each individual pupil to study in greater depth in line with their respective abilities, aptitudes, interests and future career objectives.

(a) In consideration of the ways in which the development of science and technology has enriched and brought benefits to society and everyday life, a new subject, "Science and Everyday Human Life" has been created, with the aim of nurturing a scientific way of looking at and thinking about things in terms of facilitating understanding through observations and experiments concerned with familiar objects and phenomena, and at the same time, enhancing interest in science and the natural world.

"Science and Everyday Human Life" will be comprised of issues such as the development of science, science within everyday life, and science and human lifestyles.

(b) From those subjects which have "I" or "II" in the subject description, a selection will be made of subjects in which the learning content, while having due regard to the transition between lower secondary school and upper secondary school, comprises observational, experimental and enquiry-based activities, and in which the learning deals with basic concepts and enquiry-oriented methods. These newly created subjects will be renamed "Physics Fundamentals", "Chemistry Fundamentals", "Biology Fundamentals" and "Earth Science Fundamentals". In this connection, due consideration will be given to links with real society and actual, everyday life.

"Physics Fundamentals" will deal with such topics as the motion of bodies and forces, physical phenomena and energy, "Chemistry Fundamentals" with such topics as chemistry and human lifestyles, the composition of materials and changes in materials, "Biology Fundamentals" with such topics as cells and heredity, and the diversity and ecology of living things, and "Earth Science Fundamentals" with such topics as the earth in space, the changing earth, and so on.

(c) While the learning content of those subjects which have "Fundamentals" in the subject description will, as the name implies, focus on fundamentals, namely on observations and experiments, and on enquiry-based activities, the learning of more advanced concepts and enquiry-oriented methods will take place in newly created subjects labeled "Physics", "Chemistry", "Biology" and "Earth Science".

"Physics" will deal with such topics as motion, waves, electricity and magnetism, and matter and atoms, "Chemistry" with such topics as states of matter, changes and equilibrium, inorganic matter, and organic compounds as well as with the qualities and uses of high molecular compounds, "Biology" with biological phenomena and matter, the lifestyles and reactions of living creatures, groups of living creatures, evolution and so on, and "Earth Science " with such topics as an overview of the earth, the history of the earth and activity within it, the atmosphere and the oceans, the earth in space, and so on.

(d) With specific reference to topic-based research in those subjects that have "II" in the subject description, in consideration of the fact that further strengthening of the content is

required from the perspective of enhancing creative thinking and cultivating abilities and attitudes conducive to carrying out research in the natural world, a new subject, "Topic-based Research" will be created with the aim of enabling students to implement research on a continuous, ongoing basis.

In "Topic-based Research", students will take as a basis the results of the discovery-type activities carried out in those subjects with "Fundamentals" in the subject description as well as in "Physics", "Chemistry", "Biology" and "Earth Science", and from research concerned with advanced experiments on specific natural phenomena as well as from investigations on the natural environment, identify research topics and carry out research on them.

(e) "Physics", "Chemistry", "Biology" and "Earth Science" are to be taken after students have completed the corresponding subjects with "Fundamentals" in the subject description.

(f) "Topic-based Research" is to be taken after completing one or more subjects with "Fundamentals" in the subject description.

(g) From the point of view of aiming to cultivate scientific thinking and expressive ability, additional priority will be attached to learning activities that take the results of observations, experiments and discovery-type activities and to leading students to the point where they can analyze, interpret and think about these for themselves, and then express the results of their thinking.

(h) In the life sciences, the content has undergone changes in line with the very rapid development of these sciences, and a re-evaluation will be aimed at from the perspective of making connections with society and real life, and of ensuring a smooth transition between upper secondary school and university.

⑤ Life Environment Studies

Elementary school

(i) Main directions of improvement

○ In "Life Environment Studies"[11], focusing primarily on the issues[12] arising out of this subject, children will be enabled, through specific, concrete activities and experiences, to develop an interest in the relationships between people, society and the natural world and to engage in thinking of their own volition. At the same time, further efforts will be made to ensure that in the course of this learning process, children are thoroughly equipped with the skills and habits required in daily life, and improvements will be made to strengthen activities linked to people, society and the natural environment, and to enable them to deepen their

understanding of themselves.

○ Emphasis will be put on learning activities that aim to strengthen still further experiences and activities that will enhance children's ability to notice things. In addition, learning activities that aim to give children a real feeling for what is mysterious and fascinating about the natural world will also be incorporated, from the perspective of cultivating a scientific way of thinking and looking at things.

○ In consideration of the changes in the environment within which children live, safety education will be strengthened, and there will be an additional enrichment and strengthening of learning activities which will enable children to get a real feeling for the splendor of the natural world, and to appreciate the nobility of life. In addition, at the same time as further strengthening a smooth transition for young children into the subject learning of elementary school, links will be formed with pre-school education, and educational activities that group together children of different ages will be taken forward.

(ii) Specific items for improvement

(a) Improvements will aim at heightening children's qualitative ability to notice things with a view to making them aware of their own characteristics and their potential, deepening their understanding of their own growth, and getting them to think about what they have noticed. In this context, consideration will be given to strengthening a diversity of learning activities enabling children to do such things as identify, compare and draw an analogy.

(b) With the aim of getting children to think more about themselves and their relationships with the people around them, there will be a strengthening of learning activities designed to enable children to look back on what they have done or experienced, to arrange their thoughts in their own way, and to communicate and share with others around them what they have noticed or felt. At such times, there needs to be a further improvement in guidance in expressive activities aimed at enabling children to express what they have done or experienced in words and pictures.

(c) In the middle grades of elementary school and above, when learning Science enters the children's horizon, there will be a strengthening of learning activities directed toward devising games and making things that can be used in games, with a view to enabling children to become really aware of the mysterious, fascinating and curious aspects of the natural world. Consideration should be given, for example, to play activities that involve devising and making moving toys, to play activities that involve dissolving things in water, or to play activities involving the use of wind power.

(d) Consideration will be given to strengthening guidance concerning safe ways of going to and from school, such as investigating the route that children take and making them aware of the people who are there to ensure their safety. Consideration should also be given to strengthening guidance aimed at giving children a real feeling for the nobility of life and the splendor of the natural world by such means as experiences which involve direct contact with nature and continuing care for animals and plants over an extended period.

(e) From the perspective of aiming to ensure a smooth transition from pre-school education into elementary school, Life Environment Studies will continue to play a central role with the primary focus on initial entry to the school. There will be a further strengthening of guidance in the form of combined subject teaching and linked teaching, using such means as the creation of credit units focused mainly on the content of Life Environment Studies, but also using content from other subjects, and on the other hand, taking up content from Life Environment Studies to be used in the teaching of other subjects. Consideration will also be given to carrying out learning activities for children in the lower grades together with kindergarten children with the aim of enabling children to get a real feeling for their own growth. At the same time, it is also important to deepen understanding among teachers from the different institutions by mutual exchange of views on teaching content and teaching methods.

⑥ Music, Art (Music)

(i) Main directions of improvement

○ In "Music", "Art (Music)[13], focusing primarily on the issues[14] arising out of this subject, children will be enabled to feel the good qualities and the joy contained in Music. At the same time, emphasis will be put on cultivating children's ability to express themselves with a specific purpose in mind and to savor the pleasure of listening to music, and on equipping them with an attitude of familiarity with musical culture that will last them throughout their lives.

○ In order to achieve the above aims, while taking due consideration of the continuation of the content at each level of schooling in line with the stage of development of the children concerned at that stage, instructional content in respect of singing, instrumental music, composition and appreciation will be clearly shown. At the same time, in elementary and lower secondary school, revisions will show clearly instructional content (common items) which will act as a support for activities of expression and appreciation in such forms as facilitating understanding of musical symbols and notation while linking this to musical activities. Further emphasis will be placed on these items as well as on cultivating awareness of sounds and music, enabling children to get a real feeling for their plus points and essential characteristics, and enabling them to think and make judgments on musical matters.

○ In the area of creative composition, from the point of view of enabling children to experience the sheer joy of making music, it has been decided to show this aspect under the rubric "Making Music" in elementary school, and "Composition" in lower secondary and upper secondary school. Appreciation activities too, as well as making children fully aware of the interesting, enjoyable and positive aspects of music, will also serve to cultivate the ability in children to make firmly grounded criticisms in their own way.

○ In the present age, there are increasing demands to cultivate in Japanese an awareness that they live as members of international society, and in this context, further efforts will be made to establish as a baseline in children's minds an understanding of Japanese traditional music, and to nurture feelings of attachment to Japanese musical culture and, at the same time, an attitude of respect for the musical culture of other countries, From this perspective, instruction in the traditional music of Japan and its regions will be further strengthened in line with the levels of schooling and school grades.

(ii) Specific items for improvement

Elementary school: Music

○ With a view to cultivating the ability to acquire a deep feeling for the positive values of music, to engage in purposeful expression and to savor and appreciate the entire range of music, as well as to nurturing an understanding of musical culture and a rich fund of emotion, the following improvements will be undertaken.

(a) The content comprises the area of expression (made up of "singing", "instrumental music" and "making music"), the area of appreciation, and “common items”. Regarding “Common items”, specific examples will be clearly shown, for example, getting children to listen carefully to the use of different kinds of musical devices with a view to gaining an understanding of what it is that enables music to be called music, and then to feel deeply the positive points and the fascination generated by these different musical devices; links will also be established between such activities and instruction aimed at enabling children to understand musical signs and notation.

(b) "Making Music". This subject will enable children firstly to become consciously aware of hearing a variety of sounds in the course of everyday life, of searching for sounds and then experiencing the fascination of sounds which they make themselves. At the same time, children will be enabled to become aware of the interest contained in the process and the means whereby sounds are made into music.

(c) "Appreciation". Instruction in this subject will firstly aim to develop the ability to hear the

points that can be deemed characteristic of music and the devices employed by music, and go on to enable children to take in the fascination and the joy of musical expression. The links that join the content of appreciation and the content of expression will also be clearly set out.

(d) There will be renewed efforts to take up into instruction singing, folk songs and songs handed down in regional localities, and a strengthening of the use of common material[15] dealing with singing and songs. On the question of the selection of material for appreciation classes, the current policy of locating this in the upper grades of elementary school will be followed, but in addition, improvements are aimed at in terms of dealing with Japanese music in the middle grades.

(e) Emphasis will be put on instruction that gives everyone a feeling of joy through cooperation with others, such as getting all the children to join together to make music by singing in unison, simple choral singing, producing music in an ensemble, and so on. Arrangements should be made so as to enable children to feel that music study is linked to their daily lives and to give them a feeling of familiarity with the sounds all around them; instruction should instill a sense of valuing the sounds and the music that they hear in everyday life.

Lower secondary school: Music

○ Emphasis will be placed on cultivating in children the ability to take in and absorb a wide variety of sounds and music, to exercise creative ingenuity in musical expression, and to savor the joy of musical appreciation, as well as on deepening children's understanding of musical culture and nurturing a rich fund of emotion. With these objectives in mind, the following improvements will be aimed at.

(a) The content comprises the area of expression (made up of "singing", "instrumental music" and "making music"), the area of appreciation, and "common items". Specific examples of "common items" will be shown, for example, awareness of the various factors that give shape and form to music, and sensitivity toward the characteristics and the atmosphere that can be generated by music, as well as enabling an understanding of musical signs and notations while linking these to concrete musical activities.

(b) In "Composition", emphasis should be put on experiences that involve transforming sounds into music, in such forms as enabling children to make a short melody by experimenting with stringing sounds together, and to create music by the use of their ingenuity in selecting and combining musical materials.

(c) In "Appreciation", emphasis will be put on cultivating in children the ability, while making use of words concerned with music, to formulate a critique of music and to provide reasons to

justify their view.

(d) From the perspective of strengthening learning concerned with traditional Japanese culture, at the same time as enabling children to savor more deeply the positive points of traditional music by such means as familiarizing them with Japanese instruments in the form of the expression of a simple melody, renewed emphasis will be put on guidance in the traditional songs of Japan.

In addition to this, renewed efforts will be made to take up songs that will enable children to savor the beauty of the Japanese language and the nature, seasons and culture of Japan, from the perspective of getting children to feel a greater attachment and familiarity with the musical culture of their country.

(e) By giving children the experience of all making music together in such ways as singing in unison or choral singing, emphasis will be put on guidance which enables children to convey their images to one another and to feel the joy of cooperating in their musical efforts. At the same time as developing the ability to understand, by means of the breadth of their musical studies as a whole, the great diversity of musical culture, instruction will aim to give children a real feeling for the links between music and society or everyday life, by such means as enhancing their interest in the acoustic environment and getting them to think about the role played by sounds and music in their daily lives.

Upper secondary school: Art (Music)

○ While carrying out creative activities that utilize the individuality of every student, and cultivating a rich fund of emotion in the form of an attachment to music that will last students throughout their lives, emphasis will be put on nurturing an understanding of music as an art form and an attitude of respect for and deepening understanding of musical culture, including the traditional music of Japan. With these objectives in mind, the following improvements will be aimed at.

(a) In "Music I", the content, building on the content already studied in lower secondary school, will comprise the area of expression, made up of "singing", "instrumental music" and "composition", and at the same time as heightening creative expressive ability throughout all three fields, children will study all the areas comprised in Expression as well as the areas comprised in Appreciation from the standpoint of deepening their comprehensive understanding of music.

(b) In "Music II", while creative activities aiming to utilize the individuality of each student will be carried out, students will select, from the standpoint of further enhancing musical expressive powers, one or more subject from the three fields making up Expression, and study

it in greater depth at the same time as studying Appreciation. In particular, care will be taken to ensure that sufficient time is allocated to the study of Appreciation from the standpoint of cultivating in students the ability to capture the value of the diversity of traditional music, including that of Japan.

(c) In "Music III", from the point of view of further deepening study that utilizes student individuality, students will select from the three fields making up "Expression" as well as from Appreciation" one or more subjects to study as an elective, and in every subject selected, efforts will be made to include study of the traditional music of Japan, and to cultivate an attitude conducive to appreciating and continuing to create the musical heritage of Japan.

(d) In the same way as at present, the principle will be that "Music II" will be studied after completion of "Music I", and "Music III" after completion of "Music II".

⑦ Art and Handicraft, Fine Arts, Art (Fine Arts, Crafts Production)

(i) Main directions of improvement

○ In the subjects, Art and Handicraft, Fine Arts, Art (Fine Arts, Crafts Production)[16], focusing primarily on the issues[17] arising out of these subjects, at the same time as enabling children to feel the joy of creating something, emphasis will be put on cultivating basic skills to be acquired in the course of creative activities involving the plastic arts and comprising skills of thinking, forming judgments and engaging in the act of expression. And along with this, emphasis will also be put on enabling children to understand the functions of art in daily life and on nurturing and imbuing children with an attitude of interest in artistic culture that will remain with them throughout their lives.

○ With a view to attaining the above objectives, while taking due consideration of the need for continuity of content at each level of schooling, the connections between the aptitudes and abilities to be cultivated and the learning content will be made clear, and at the same time, the configuration of qualities and abilities that function as common threads [common items] running through the various subjects to be found in Drawing and Handicrafts in elementary school and Fine Arts in lower secondary school will be clearly set out.

○ At the same time as efforts to strengthen and enrich experiences in molding and the plastic arts with the aim of nurturing creativity, emphasis will also be put, by means of communication through shapes and colors, on developing attitudes that are richly interconnected with society and everyday life, and on guidance that aims to enable students to form deep feelings for the function performed by art and sculpture in bringing beauty and luxuriance into daily life.

○ While making efforts to enable students to savor the positive points and the beauty of appreciation, emphasis will also be put on guidance in Appreciation that gets students to talk about their thoughts to one another and to formulate criticisms that embody a conscious sense of values, with the aim of cultivating in still greater richness and depth the ability to take in and absorb as well as the ability to think about artistic matters.

○ With a view to heightening student interest in Japan's legacy of artistic culture and in artistic creativity, there will be increased strengthening of activities through which students can savor in an individually subjective way the beauty and the positive points of works of art and of guidance concerned with the artistic culture of Japan.

(ii) Specific items for improvement

Elementary school: Art and Handicraft

○ At the same time as enabling students to savor the joy of making something for themselves through activities of expression and appreciation, emphasis will be put on heightening the basic abilities involved in plastic creative activity, while getting students to energize awareness in their limbs and their whole body as well as their sensitivity and creative ability; at the same time, emphasis will he placed on developing attitudes conducive to a spontaneous interaction with society and everyday life, and on nurturing a rich fund of emotions. With these objectives in mind, the following improvements are planned.

(a) Efforts will be made to set out the abilities and the qualities to be cultivated and to clarify the forces that function in the process of expression and appreciation, and at the same time, improvements will be made to the content in terms of the relationships linking these concepts. Furthermore, with the aim of enabling children to engage in activities whereby they utilize shapes, colors, images and so on, that are based on their own volition and awareness, the qualities and abilities that can be found in all the subjects and subject areas [common items] will be clearly identified.

(b) From the standpoint of the connections with society and everyday life, as well as from that of the joy involved in making things, activities that enable to children to make things while utilizing specific tools and materials and to energize their sensory perceptions in their limbs and their whole bodies as well as activities that enable them to take in and discuss among themselves, the shapes and colors around them and the immediate natural environment, will be clearly set out and identified.

(c) In the area of Appreciation, there will be a strengthening and enrichment of activities that

enable children to savor the joy of being able to appreciate the excellence and the beauty of works of art, and along with these, activities that enable them to talk about and share their thoughts with their friends, and to confirm what they have felt, and by such means, to perceive meanings for themselves and to make judgments about such things as excellence and beauty.

(d) In learning about the plastic arts in everyday life or about familiar forms of expression found in Japan or in overseas countries, emphasis will be put on ways of enabling children to feel and savor the beauty and the excellence of completed works of art.

Lower secondary school: Fine Arts

○ Through the wide spectrum of activities that embrace the areas of expression and appreciation, emphasis will be put on developing the emotions felt by lovers of art and enabling children to savor the joy of artistic creation, and at the same time, on extending the richness of children's sensitivities and their basic artistic abilities, as well as deepening their understanding of artistic culture and the role of art in life, and nurturing a rich fund of emotions in their hearts and minds. With these objectives in mind, the following improvements are planned.

(a) In the context of setting out in an orderly fashion the qualities and abilities to be developed, improvements will be aimed at in terms of showing a clear division in "A: Expression" between on the one hand, items concerned with ideas and concepts, and on the other hand, items concerned with the skills used in expression. At the same time, improvements will be made in the content so as to enable the two aspects to be brought together and permit flexibility to be demonstrated in the generation of ideas through skills in the use of shapes, colors and materials. In addition, with a view to developing the ability to take in the richness of the qualities, emotions and images derived from shapes, colors and materials, the qualities and abilities which can be discerned like common threads in all the areas and items will be clearly defined and shown as "common items".

(b) Learning aimed at enabling children to feel the beauty and excellence of the plastic arts in everyday life and the environment, as well as learning which will enable them to utilize shapes, colors and materials to transmit the content of their feelings and express these to their friends and to society in general will be further strengthened. In this connection, additional strengthening is planned from the perspective of appreciation in terms of learning aimed at an understanding of richness of design which in turn incorporates aspects of the familiar environment in terms of relaxation and coexistence with nature.

(c) In the area of appreciation, together with enabling students to savor the joy of appreciating beauty and excellence, there will be a strengthening of guidance aimed at enabling students to

formulate meanings and values in their own way, and engage in mutual criticism of what they have absorbed or thought within the framework of their own value consciousness. In this context, care will be taken to ensure that sufficient teaching time is provided for appreciation.

(d) Emphasis will be put on learning about the art of Japan, aimed at heightening interest in the legacy and creativity of Japan's artistic culture. In addition, there will be a further strengthening of guidance, within the context of Appreciation, aimed at deepening ways of looking at works of art as well as understanding of and interest in the characteristics of expression found in artistic culture, including that of a number of overseas countries.

Upper secondary school: Art (Fine Arts, Crafts Production

○ Emphasis will be put on carrying out creative activities that utilize the individuality of students, on imbuing students with feelings of love for art and craft that will remain with them throughout their lives, on giving them an understanding of fine arts and crafts as art, and on nurturing a deeper understanding and feelings of respect for artistic culture. With a view to achieving these objectives, the following improvements are planned.

a) Art (Fine Arts)

(a) In "Fine Arts I", at the same time as heightening understanding of and interest in Fine Arts as Art, instruction will emphasize learning concerned with Japanese art and culture, and there will also be strengthening of Appreciation in terms of links with artistic culture. In addition, care will be taken to ensure that sufficient time is allocated for instructional activities concerned with Appreciation.

(b) In "Fine Arts II", in addition to deepening understanding and real feelings on the part of students through rich artistic experiences, instruction will also heighten qualities and abilities aimed at creative artistic activities which utilize each student's individuality. With these aims in mind, the present pattern that enables students to select an option from each field comprised in the area of Expression or from the field of Appreciation will be maintained, but things will be arranged so that students will study the field of Appreciation and one or more subjects from the field of Expression.

(c) In "Fine Arts III", with the aim of enabling the individuality of students to be still further extended, students will study, as at present one subject or more from the field of Expression and one subject or more from the field of Appreciation.

(d) As at present, the principle followed will be that "Fine Arts II" will be studied after completion of "Fine Arts I", and "Fine Arts III" after completion of "Fine Arts II".

b) Fine Arts (Crafts Production)

(a) In "Crafts Production I", at the same time as aiming to enhance interest in and understanding of crafts as one of the arts, emphasis will be put on study concerning the art and culture of Japan, and provision will be made for a strengthening of Appreciation concerned with artistic culture. Care will also be taken to ensure that sufficient instructional time is secured for Appreciation.

(b) In "Crafts Production II", at the same time as deepening understanding of Crafts and getting a real feeling for the subject through rich esthetic experiences, students will also enhance their qualities and abilities with a view to carrying out creative abilities in Crafts that are designed to utilize each student's individuality. In order to achieve these aims, students will, as at present, be able to select from each area within the field of Expression, and from the field of Appreciation, but matters will be so arranged that students will study one ore more subjects from the field of Expression and study the field of Appreciation.

(c) In "Crafts Production III", with a view to further extending the individuality of students, they will be able to select, as at present, one or more subjects both from the field of Expression and from the field of Appreciation.

(d) As at present, the principle followed will be that "Crafts Production II" will be studied after completion of "Crafts Production I", and "Crafts Production III" after completion of "Crafts Production II".

⑧ Art (Calligraphy)

Upper secondary school

(i) Main directions of improvement

○ In Art (Calligraphy)[18], focusing primarily on the issues[19] arising out of this subject, and taking into account the connections with studies in transcription as studied in Japanese in lower secondary school, efforts will be made to strengthen learning concerned with the culture of writing with a view to further heightening student interest in the creation and the historical legacy of the culture of calligraphic writing. At the same time, effort will be put into developing student qualities and abilities in such ways as nurturing a rich fund of emotions and enabling students to think and make judgments while activating their sensitivities and creativity.

○ In addition, with a view to further enriching the ability of students to think and to take in and

absorb impressions, emphasis will be put on guidance that enables students to formulate statements of appreciation that have meaning and value for them, involving the process of making judgments that are imbued with their consciousness of values, and of talking to each other about what they think.

(ii) Specific items for improvement

○ While making efforts to ensure a smooth transition from practicing transcription of Chinese characters in lower secondary school, emphasis will be put on carrying out creative activities which utilize the individuality of each student, cultivating a love of calligraphy that will remain with students for the rest of their lives, giving students an understanding of calligraphy as an art form, and nurturing a deepening understanding and an attitude of respect for the culture of calligraphy. With these objectives in mind, the following improvements are planned.

(a) In "Calligraphy I", with the aim of making even clearer the links with transcription of Japanese kanji as carried out in lower secondary school, improvements will be made to the content of "writing in a mixture of kanji and the kana syllabary", and at the same time, efforts will be made to deepen a comprehensive understanding of calligraphy. In the field of Expression, given that calligraphy will be located in the content as the traditional culture of writing, emphasis will be put on seal-engraving [20] and seal-carving [21] as examples of three-dimensional work. Furthermore, as well as broadening students' horizons and deepening their understanding of the creation and the legacy of the culture of writing, provisions will be made to strengthen appreciation studies, from the perspective of still further enriching the ability of students to think and to take things in through their senses.

(b) In "Calligraphy II", at the same time as deepening understanding of calligraphy as art, in order to ensure that study of appreciation concerned with the culture of calligraphy is strengthened, students will be able to study Appreciation as well as choosing 2 or more subjects from the field of Expression, including "writing in a mixture of kanji and the kana syllabary".

(c) In "Calligraphy III", students will be able, as at present, to select one or more subjects from the field of Expression and from that of Appreciation.

(d) As at present, the principle followed will be that "Calligraphy II" will be studied after completion of "Calligraphy I", and "Calligraphy III" after completion of "Calligraphy II".

⑨ Homemaking; Industrial Arts and Homemaking

(1) Main directions for improvement

○ In the subjects, Homemaking (elementary school) and Industrial Arts and Homemaking (lower secondary school,[22] focusing primarily on the issues[23] arising out of these subjects, practical, hands-on learning activities will be used to cultivate in students basic understanding and skills concerned with the role of the family and the home, and with items necessary for daily life such as clothing, food, living accommodation, information, production of daily life items, and so on. At the same time, more effort will be put into cultivating a practical attitude and the ability to apply creative ingenuity in utilizing the skills learned with the objective of solving problems; improvements will be made to the content with these ends in view.

In the course of implementing the above, particular emphasis should be placed on making connections with other subjects, and to cultivating the basic skills required by children to live independent lives in society.

(a) With regard to the content of the subjects comprised in Homemaking and in Industrial Arts and Homemaking, emphasis will be put on links between self and family, and between the family and society. Against the background of an overview of life through its various stages, improvements will be made in the systematization of objectives and content matching the levels of schooling, from the standpoint of cultivating a practical attitude and the abilities needed to lead a still better life, and in line with the stages of development reached by children as they progress through the various levels of schooling.

(b) With specific reference to the fields of Industrial Arts and Homemaking, emphasis will be put on further enhancing the abilities needed to make things, and with a view to constructing a still better society in which to live, emphasis will be put on cultivating a practical attitude and the ability to evaluate and utilize technology in appropriate ways. With these objectives in mind, improvements will be made to objectives and content.

○ The following improvements will be aimed at in terms of responding to social change.

(a) In response to a social background characterized by a growing prevalence of elderly people, a declining birthrate and perceived inadequacy in the functions normally performed by a family, emphasis will be put on experiences aimed at enabling students to understand the nature of education and child upbringing in relation to the home and the family, and on exchanges with elderly people.

With the aim of taking forward education designed to promote a lifestyle that in terms of food is healthy and safe for the body and the mind, emphasis will be put on further strengthening content concerned with the role of food in life, nourishment and cooking, and at

the same time, there will be a strengthening of guidance, given from the perspective of encouraging autonomous living as consumers in society, and aimed at confirming a lifestyle characterized by desirable patterns of consumption that show consideration for resources and the environment

(b) There will be a strengthening of content concerned with the relationship linking technology, society and the environment, as well as energy and living creatures; guidance in these fields will be aimed at getting children to develop a view of the world of work as well as the construction of a sustainable society. Furthermore, in response to the increase in various kinds of trouble concerned with the spread of the information communications network and the safety of equipment, there will be a strengthening of guidance aimed at developing the ability tp utilize technology safely and in an appropriate manner.

○ There will be additional strengthening of practical, hands-on learning activities aimed at enabling students to acquire knowledge and skills through actual experiences, to deepen their understanding of basic concepts, and at cultivating abilities and attitudes conducive to actually utilizing what they have learned. Furthermore, with a view to utilizing knowledge and skills, efforts will be put into further strengthening problem-solving learning aimed at getting students to identify problem issues on their own initiative, and into cultivating the abilities that students need to find and solve problems that occur either in their learning or in actual daily life.

○ In the context of remaining firmly within the framework of links links with families and communities, fforts will be made to achieve an improvement of content that is concerned with establishing connections between school-based learning and actual life in families and societies.

(ii) Specific items for improvement

Elementary school: Homemaking

○ Through problem-solving type learning and practical, hands-on learning activities aimed at enable students to acquire a real feeling for daily life that entails full awareness of what it means to be a member of a family and to experience the joy of making things as well as the enjoyment of exercising ingenuity in solving all the problems of daily living, students will be encouraged to understand their own growth and develop feelings that value family life; at the same time, emphasis will be put on cultivating fundamental abilities and practical attitudes that support these measures. With these objectives in mind, the following improvements will be aimed at.

(a) Aiming to achieve a systematization of the content matching that of lower secondary

school, and from the perspective of cultivating basic skills and practical attitudes in respect of family living that will remain with students throughout their lives, the content will consist of the following 4 aspects: The family and home life; What to look for in food and the fundamentals of cooking; Pleasant things to wear and a pleasant place to live; and Everyday life and consumption and relations with the environment.

(b) In response to changes in society, the following improvements will be aimed at.
a. Strengthening of learning activities designed to give students awareness of their own growth as an individual member of a family and to nurture an attitude which puts a high value on a family.
b. As well as strengthening learning activities designed to get students to think about nourishment and the role of food and to know what to look for in food, as well as the fundamentals of cooking, there will be a strengthening of practical learning activities designed to enable students to think about such things as the role of money in everyday life and ways of choosing things, as well as the utilization of environmentally friendly objects; connections with other subjects will also be clarified.

(c) Increased emphasis will also be put on improving the content of issues like food, clothes and housing in terms of their relationship with the family, from the perspective of taking a comprehensive view of the family. In addition, as well as setting up guidance-type content for Grades 5 and 6 on the basis of the content dealt with up to Grade 4, the relationship with other subjects will be clarified and clearly set out.

Lower secondary school: Industrial Arts and Homemaking

○ The following improvements are planned from the perspective of making an autonomous, self-motivated response to social change with the aim of trying to create an even better lifestyle in the future on the basis of an overview of the likely future pattern of one's own life.

Industrial Arts

○ As well as enabling children to learn, through practical, hands-on learning activities, basic knowledge and skills concerning materials, processing, energy, biological creatures, information, and more, emphasis will be put on deepening understanding of the relationship between technology on the one hand and society and the environment on the other, and on cultivating attitudes and abilities conducive to evaluating and utilizing the skills that have been learned in an appropriate way so as to construct a still better society in the future. With a view to fulfilling these objectives, the following improvements will be aimed at.

(a) The many diverse skills utilized in present-day society will be divided up into the following

4 categories and will all be learned by students: skills concerned with processing materials; skills concerned with changes in energy; skills concerned with caring for living creatures; and skills concerned with utilizing information. In the course of this process, care will be taken to ensure continuity with information education learned in elementary school and in other subjects in lower secondary school as well as with information education to be studied in upper secondary school; with this latter point in mind, the contents of "B. Information and computers" will be restructured.

Furthermore, students will be enabled to learn basic knowledge and skills through involvement in the process of making things, and at the same time, from the perspective of cultivating the ability to utilize the skills learned and attitudes conducive to putting them into practice in society, labels will be attached to the various items of content defining the skills and associated factors as follows: "Basic knowledge, important concepts"; "Manufacturing, processing and caring as skills that utilize technology"; and "Connections with society and the environment".

(b) Additional strengthening will also be given from the point of view of cultivating the abilities that support skills and technology, to learning activities that aim at insistence on creative ingenuity and precise accuracy, co-operative relations with others (learning through co-production about making adjustments and taking responsibility), an attitude of respect for intellectual property, and cultivation of a view of the world of work. As well as this, additional strengthening will be given, from the point of view of cultivating the ability to use technology, to learning activities that involve an understanding of relations between technology and society and the environment, including aspects of risk and safety, as well as ones that aim at cultivating ethical views in relation to technology.

(c) From the standpoint of carrying out education concerned with technology in a systematic manner, the content in lower secondary school will be set out in the form of guidance based on what was learned in elementary school, with the aim of ensuring clarification of the links with other subjects.

Homemaking

○ Aiming at developing, through problem-solving learning and hands-on, practical activities concerned with such aspects of everyday life as clothing, food and housing, an awareness of what it means to live autonomously as a lower secondary school student, emphasis will be put on enabling students to understand such functions of the family as child-rearing and ensuring a peaceful and relaxed heart and mind, and along with this, on cultivating abilities and aptitudes that will enable children to devise better lifestyles in the future by identifying problem areas on their own initiative against the background of looking forward at their own future lives. With these objectives in mind, the following improvements will be aimed at.

(a) From the point of view of the systematization of elementary school learning content and the development of an awareness of autonomous living as a lower secondary school student, the content, all of which will be learned by all students, will be comprised of the following 4 areas: the family and the home and growth of children; autonomy and independence in respect of food life; autonomy in respect of clothing and housing; and family life and matters concerned with consumption and the environment.

In the process of implementing the above, arrangements will be made, from the standpoint of utilizing the knowledge and skills learned, and that of developing practical attitudes and the ability on the part of students to look forward to their future lifestyles, to set out instructional headings concerned with lifestyle issues and practices within the content dealing with such lifestyle aspects as the family and home, and food, clothing, and housing, and to enable students to select and study such aspects.

(a) In terms of response to social change, the following improvements will be aimed at.

a. A further strengthening of learning activities aimed at enabling children to understand the functions of the family and home and at cultivating the ability to achieve better interpersonal relationships. In addition, there will be a further strengthening of activities such as experiences of interaction with infants and small children aimed at deepening students' understanding of them and enabling the students to become aware of the role of the family and the home as the environment in which these infants and small children grow up.

b. With the aim of enabling students to have a degree of autonomy with regard to food in daily life, there will be a strengthening of learning activities concerned with such things as nutrition and menu planning, cooking and food culture. With regard to learning about relationships between family lifestyles on the one hand and consumption and the environment on the other, care will be taken to ensure that the links with the content of other subjects are clearly identified, and there will be a strengthening of practical learning activities based on changes in the lifestyles of students as consumers.

(c) From the standpoint of carrying out education concerned with Homemaking in a systematic manner, the content in lower secondary school will be set out in the form of guidance based on what was learned in elementary school, with the aim of ensuring clarification of the links with other subjects.

Upper secondary school: Home Economics

○ Students will be enabled to take a comprehensive view of lifestyle management on the basis of an overview of human development and the human life span, and in addition to enabling them to understand the relationships between the significance of the family and home on the one hand and society on the other, the subject will equip them with the knowledge and skills required for daily living; particular emphasis will be placed on cultivating the ability to create

patterns of living in the family and the community and attitudes conducive to implementing these patterns on an autonomous basis. With these objectives in mind, the following improvements will be aimed at.

(a) Emphasis will be put on content concerned with lifestyle culture in Japan and patterns of responding to a society characterized by a declining birthrate and rising numbers of elderly people. Specifically, targeted topics will include the importance of constructing family life, the promotion of food education, and the cultivation of a positive understanding of the position of elderly people and of attitudes conducive to behavioral support.

(b) Through study of such matters as career planning, lifelong lifestyle planning and human development as they affect upper secondary school students, perspectives designed to give students an overview of the significance of responsibility for the coming generation, lifelong issues, and so on will be clarified. At the same time, At the same time, through the addition of instruction concerned with lifelong income, and so on, there will be a strengthening of content concerned with comprehensive lifestyle management.

In the course of implementing the above, efforts will be made firstly to enable students to get a scientific understanding of the economics of daily life and the severe consumption issues of the present day as, for example, the multiple debts incurred by many people, also the interface between on the one hand social issues of everyday life such as clothing, food, and housing, and on the other, the environment. Along with this, there will also be a clarification of learning aimed at equipping students with the ability to make decisions and to create their own daily lives as members of society.

(c) Measures will be taken to link the study of Home Economics with practical, everyday life, and to further strengthen home projects that implement topic-based learning as well as the activities of school-based Home Economics clubs.

(d) "Basic Home Economics". In this subject, primary emphasis will be placed on nurturing abilities related to independence and co-existence as issues found in young people around the age of puberty, and through the study of lifestyle planning, on deepening a scientific understanding of clothes, food and housing, and on cultivating abilities and attitudes conducive to taking the initiative in creating family and community lifestyles.

(e) Comprehensive Home Economics". In this subject, through a study of the entire life span of a human being from the beginning of life until death, a number of issues will be dealt with in a comprehensive way, including the role of parents and child-rearing support; respect for human beings and a positive understanding of the position of elderly people; care of the elderly; everyday life (clothes, food, housing) and lifestyle culture, and consumption lifestyles, resources and the environment. Particular emphasis will be put on cultivating the ability to

carry out lifestyle management in the home and the community in an autonomous way at the same time as deepening scientific understanding through practical studies and experiments.

(f) "Life Design". In this subject, through practical study and experiments, emphasis will be put on deepening, through experiments and practical studies, understanding of values and the technological and cultural meaning of lifestyles, and on cultivating the ability to design and create future lifestyles. At the same time, emphasis will be put on heightening practical abilities aimed at taking food education forward. With these points in mind, a number of headings will be restructured as required electives.

⑩ Physical Education, Health and Physical Education

(i) Main directions of improvement

○ In the subjects contained in "Physical Education (elementary school)" and "Health and Physical Education (lower secondary and upper secondary school)",[24] focusing primarily on the issues[25] arising out of these subjects, emphasis will be put on getting students to maintain and promote good health throughout their lives and to realize a rich sporting life, and improvements made accordingly. With these aims in mind, instruction linking health and physical education in a continuous fashion will be given, from the perspective of getting students to see body and mind as a single unit and to realize the importance of promoting healthy growth.

In addition to the above, emphasis will be put on utilizing material that has been learned in actual daily life and society, and efforts will be made to clarify and systematize the instructional content by structuring it in such a way that it corresponds to the level of schooling and the stage of development of the children concerned.

○ With regard to Physical Education, bodily exercise develops children's physical abilities and at the same time, promotes emotional and cognitive development. Communicative ability is developed by such means as group activities and physical expression, while putting forward ideas, and thinking about practice and strategy, and then discussing these with friends are activities that develop and contribute to logical thinking. It is on the basis of the points presented here that efforts will be made to systematize instruction, and in line with the characteristics and fascination inherent in various movements, and while paying due attention to coherence in stages of development, equip children with basic physical abilities[26] as well as knowledge, and enable them to become familiar with exercise in a way that will remain with them throughout their lives.

Improvements will also be made to instruction in the martial arts so as to enable students, through study of the martial arts, to have a deeper contact with the characteristic culture and traditions of Japan.

○ Turning to Health, efforts will be made to improve the content still more in terms of cultivating the qualities and abilities required to administer and improve health in an appropriate way so that maintaining one's health will become a lifelong habit. Specifically, health content will be systematized on the basis of the development of the children concerned so as to enable instruction to be given systematically through elementary, lower secondary and upper secondary school. It is also important for students to learn that confused lifestyle habits and stress can influence a person's health, so at the same time as clarifying the content of concepts and issues related to health, efforts will also be made to improve the content of such topics as the following: health and physical and mental development; types of lifestyle-related diseases and their prevention; use of the health and medical service; health and the environment; and prevention of injuries. In particular, improvements will be made so that in the lower grades of elementary school, instruction is given in such a way as to ensure that children acquire an understanding of health through taking part in physical exercise.

(ii) Specific items for improvement

Elementary school: Physical Education

○ At the same time as equipping children with basic physical stamina and motor skills, and cultivating the fundamental qualities and abilities required to implement a lifestyle that is rich in physical exercise, emphasis will be placed on enabling children to understand in a practical context content concerned with health and safety in everyday life. With these objectives in mind, the following improvements will be aimed at.

(a) In the area of exerrcise, background factors can be defined in terms of efforts to achieve a smooth transition with pre-school education, the serious problem of a declining trend in terms of physical strength and stamina, and the reported polarization of children into ones who are very positive about physical exercise and those who are not. Against the background of these factors, on the basis of efforts to systematize instruction in each grade, the curriculum content for the lower grades will be composed of the following areas: "exercise to build up the body"; " exercise play using apparatus and appliances"; " exercise play involving running and jumping"; "water games"; "various kinds of games"; and "rhythmical expression play". For the middle grades, it will comprise: "sport and exercise to build up the body"; "sports apparatus"; "running and jumping sports"; "floating in the water and swimming"; "games" and "expressive exercise ". For the upper grades, the content will remain as it is at present[27].

(b) From the standpoint of cultivating the fundamental qualities and abilities that are conducive to the formation of lifelong familiarity with sport and exercise, measures will be taken to enable guidance to be given in line with the characteristics and particular fascinations of each

kind of sport. At the same time, the specific content elements that each child in the lower, middle and upper grades is expected to acquire will be clearly identified and specified. In this context, with the aim of ensuring that children acquire a thorough grounding in the instructional content, flexibility will be introduced into the method of taking up different kinds of exercise and sport, so that apart from " exercise to build up the body", it will be possible, in the lower, middle and upper grades, for content from one of two different grades to be taken up and used in the curriculum.

(c) With specific reference to "exercise to build up the body", given that further strengthening is seen as necessary, measures will be taken to require that this subject is taken up in every grade, in line with the stage of development of the children concerned, and the content will be improved in such a way that the instruction enables each child to utilize in the home family setting the content of what is learned in school. In the case of other subjects too, improvements in instruction will enable further enhancement of bodily strength and stamina in terms of the results of class learning.

(d) In the area of Health[28], instructional content will be improved from the perspective of putting emphasis on fundamental aspects of health and safety in everyday life. Specifically, content concerned with safe lifestyles n terms of preventing injury will be taken up, and the pattern of instruction in physical development will be improved in line with the stage of development of the children concerned. From the standpoint also of nurturing basic qualities and abilities needed to implement a healthy lifestyle, the content concerned with health will be clarified so as to enable guidance to be given that is consistent with the content of lower secondary school material, and improvements will be made to the pattern of instruction.

In the lower grades, on the basis of links with the field of sport and exercise, improvements will be made to the pattern of instruction to enable children to understand and be consciously aware of health matters when carrying out movement and sport from the field of exercise and movement.

Lower secondary school: Health and Physical Education

○ Ensuring the firm acquisition of the knowledge and physical abilities required for the foundation of a healthy body, and cultivating qualities and abilities that will enable children to commit themselves fully to the practice of exercise and sport depending on their respective stage of development, will constitute the overall context. At the same time, the following improvements will be aimed at with a view to ensuring that children have a scientific understanding of the content concerned with health and safety in terms of carrying out their daily lives as independent individuals.

(a) With regard to physical education, on the basis of continuity with instruction in the higher

grades of elementary school as well as of coherence in the stage of development of children, the objectives and the content for the fields comprised in physical education will be clearly shown in terms of a division between "Grades 1 and 2" and "Grade 3". The pattern to be followed will be that after studying a large number of areas, provision will be made for those who want to pursue their learning experiences more deeply to select a number of sporting areas as options. Specifically, in Grades 1 and 2, all students will be required to study "formation of the body through exercise", "sports apparatus", "athletics competitions", "swimming", "ball games", and "dance", as well as fields concerned with knowledge. Students in Grade 3 will be required to study "formation of the body through exercise" as well as fields concerned with knowledge, and in addition to these, a new system will be started whereby they can select optional fields for study. Provisions will be put in place so that students can select from clusters, in which sports with shared characteristics have been grouped, comprising, as one set of clusters, "Gymnastics", "Athletics", "Swimming" and "Dance", and as another set of clusters, "Ball Games" and "Martial Arts". Under the rubric "Ball Games", the sports will in principle be the same as at present, with a division being made according to the particular characteristics of the game in question into games with a goal, games with a net and baseball-type games.

In addition, with regard to "Dance" and "Martial Arts", which all students study as required subjects, it will be necessary to pay more attention than hitherto to ensuring safety and to get to grips with this in such ways as putting the requisite conditions in place.

(b) From the point of view of cultivating qualities and abilities conducive to forming a familiarity with exercise and sport that will last students throughout their lives, the specific content to be acquired in each field will be clearly identified. At the same time, and in order to ensure that students have a firm grasp of the instructional content, every field, with the exception of "formation of the body through exercise" and knowledge-related fields, will be taken up for instruction in either Grade 1 or Grade 2.

(c) With regard to "formation of the body through exercise", on the basis of the fact that children in their teens are passing through a period of marked physical and mental growth, and with the aim of enabling children to savor the enjoyment and the good feeling that they can get from exercising their body, instructional content will be improved so as to get them to realize the necessity of enhancing their physical strength and stamina in line with their health and the condition of their body, and so as to enable them to utilize what they learn in education throughout the school as a whole and in their everyday lives. Standards for the number of class hours will also be clearly specified. In relation also to fields other than "formation of the body through exercise", improvements will be made to the pattern of instruction so as to enable students to further enhance their physical strength and stamina as the results of their learning.

(d) With regard to fields concerned with knowledge, in view of the demand that all students

should acquire a firm and thorough grasp of basic knowledge, the instructional content will be clearly set out on the basis of the stage of development of the children concerned, and the standard for the number of class hours will be shown.

(e) With regard to the fields comprised in Health[29], from the perspective of emphasizing content concerned with health and safety in individual lifestyles, content concerned with medicines will be taken up, and instructional content will be improved. Moreover, from the point of view of cultivating qualities and abilities such as the ability to think and make judgments in the context of appropriately administering and improving one's own health, content concerned with issues and concepts related to health will be clearly identified and set out, so that instruction can be systematically provided on the basis of what was already learned in elementary school.

Upper secondary school: Health and Physical Education

○ Against the background of three main objectives, namely that all students are thoroughly equipped with the knowledge and with physical strength, stamina and exercise required to nurture a healthy body that will last throughout their lives, that the qualities and abilities needed to realize a rich sporting life geared to the conditions of each individual student are cultivated, and that students are able to achieve a comprehensive understanding of health and safety issues in individual and social life, emphasis will be put on developing in students attitudes and abilities conducive to improving appropriate self-regulation of health in a way that will remain with them throughout their lives. With these objectives in mind, the following improvements are aimed at.

(a) With regard to the topics grouped under the rubric, "Physical Education", on the basis of the wide diversity of conditions among students in terms of the experience of students with exercise or sport, their abilities, their interests, and so on, provision will be made to enable individual students in every school to raise the level of their ability to familiarize themselves with exercise and sport in line with their actual conditions, and to put every student in the position of being able to continue with at least one sport or form of exercise after graduating from the school. To achieve these objectives, in Grade 1, as a continuation of what was studied in the 3 years of lower secondary school, "Formation of the body through exercise" as well as areas concerned with knowledge will be studied by all students, while apart from these items, students will be able to choose options to study from two clusters, one containing "gymnastics", "athletics", "swimming" and "dance", and one containing "ball games" and "martial arts". In terms of implementation, the principles for taking up different sports will be the same as at present, with a division for ball games into those with a goal, those with a net and baseball-type games.

(b) From the standpoint of cultivating in students attitudes and abilities needed to realize a rich sporting life that will remain with them for the rest of their lives, improvements will be made in terms of clearly identifying specific content items from each area which students are to be enabled to acquire.

(c) With regard to "Formation of the body through exercise", on the basis of the wide diversity of conditions among students in terms of such things as their experience of exercise and sport, abilities, interests and so on, efforts will be made to enable all students to savor the pleasure and the good feelings to be derived from exercising their bodies, and improvements will be made to ways of equipping students with methods of enhancing their own physical strength and stamina in line with their individual health and physical condition, and to methods of instruction aimed at enabling students to utilize in the actual society of their local community what they have learned in school. In relation also to other fields, improvements will be made to the pattern of instruction so as to enable students to further enhance their physical strength and stamina as the results of their learning.

(d) With regard to areas concerned with knowledge, given the demand for all students to have a comprehensive understanding of exercise and sport and for them all to be able to utilize their knowledge in actual life, the instructional content will be clearly identified and set out in a way that will enable instruction to be systematically given on the basis of what was learned in lower secondary school, and the standard for the number of class hours will be shown.

(e) With regard to the topics comprised in "Health"[30], from the perspective of emphasizing content concerned with health and safety in individual and social life, improvements will be made to the instructional content. In this connection, examples of content concerned with such things as various health activities and countermeasures will be restructured, and improvements will be made to the content concerned with medicaments. Furthermore, from the point of view of cultivating in students qualities and abilities such as the ability to think and make judgments so as to be able to appropriately administer and improve their own health both in their school years and for the rest of their lives, content concerned with issues and concepts related to health will be clearly identified and set out, so that instruction can be systematically provided on the basis of what was already learned in elementary and lower secondary school.

⑪ Foreign Language

(i) Main directions of improvement

○ In the subjects contained in "Foreign language"[31], focusing primarily on the issues[32] derived from these subjects; knowledge acquired from "Listening" and "Reading" can be utilized in such ways as establishing connections with their own thoughts and experiences, while in

"Speaking" and "Writing", they can actively generate sounds and symbols. In this way, efforts will be made to improve and strengthen instruction in developing all 4 language skills in a comprehensive way through the years of lower and upper secondary school

○ With reference to content and materials that can be used in the course of instruction, the perspective adopted will be one of trying to strengthen content that will heighten interest and eagerness on the part of students to engage in foreign language study and to try and generate speech in a foreign language. With this perspective in mind, efforts will be made to improve materials that will contribute to activities aimed at developing all 4 language skills in a comprehensive way.

○ Through comprehensive guidance in the 4 language skills of "Listening", "Reading", "Speaking" and "Writing", students' abilities in using these 4 skills comprehensively for purposes of communication will also be developed. At the same time, improvements will be made in enabling students to understand grammar as the supporting foundation of communication and in treating grammar instruction and language activities as a unified whole. Furthermore, the vocabulary to be taught will be strengthened and enriched so as to facilitate strengthening and enrichment of the content of communication.

○ With regard to the oral/aural aspects of the instruction of "Listening" and "Speaking" in lower secondary school, there is a presumption that a set foundation in terms of a positive attitude toward oral communication in particular will have been laid down by means of the foreign language activities carried on in elementary school, and with this presumption as a basis, improvements will be made to instructional content. In addition, by means of efforts to strengthen instruction in "Reading" and "Writing", instruction in all 4 language skills can be given in a balanced manner, and the foundation of foreign language learning in upper secondary school and later can be established[33].

○ In upper secondary school, on the foundation of the learning acquired in lower secondary school, efforts will be made to give students the ability to use what they have heard and read to produce an utterance with coherent content reflecting what they have thought about or, and in order to achieve this aim, comprehensive language activities in which all 4 language skills, "listening", "reading", "speaking" and "writing" are joined together, will be implemented.

○ With a view to responding in upper secondary school to the needs of students whose studies in lower secondary school were not necessarily sufficient, the content used will relate to familiar scenes or topics. In this way, efforts will be made to ensure that all students have a really firm grasp of the things that they learned in lower secondary school, and necessary improvements will be made to ensure a smooth transition to study at upper secondary school level.

(ii) Specific items for improvement

Lower secondary school

○ At the same time as aiming to ensure that at the end of lower secondary school, i.e. at the stage marking the end of compulsory education, students can engage in communication about familiar topics, efforts will be made to cultivate the foundation of English language learning which will serve students through their time in upper secondary school and beyond. With this objective in mind, the following improvements will be aimed at.

(a) Efforts will be made to make improvements in instruction so that in "Speaking" and "Listening", students will be enabled, using as a foundation what was learned through the medium of foreign language activities in elementary school, to give a correct response to a simple statement, to describe and convey the elements of a happening or phenomenon in the immediate vicinity, and to discuss their own thoughts.

(b) Efforts will be made to strengthen instruction in "Reading" so that students will be enabled to read a sentence with coherent content, arrange and accurately take in the information it provides, and discern the intentions of the writer.

(c) In "Writing", efforts will be made to strengthen the instruction with the aim of enabling students to write sentences that have cohesion of content and are linked by a thread of consistency in such a way as convey their thoughts and feelings in the form of an accurate portrayal of their intentions.

(d) With a view to heightening ability in communication, language activities that effectively link language materials and show the working of language in a given scenario will be strengthened. Along with this, at the same time as aiming to improve grammar instruction, revisions will be made in the direction of strengthening habitual expressions with a high usage frequency and necessary vocabulary that is necessary for communication. In addition, as well as ensuring that students have a firm grasp of vocabulary and language structure, improvements will be made to instruction so that students are enabled to use what they learn in actual situations.

(e) Improvements in instruction will be aimed at deepening understanding of language and culture, through activities such as those aimed at increasing understanding of the use of a language other than Japanese, understanding of one's own country and native traditions, and international understanding.

(f) Efforts will be made to strengthen instruction concerned with the relationship between

sounds and symbols and the use of dictionaries, with a view to taking forward self-directed and sustainable learning.

Upper secondary school

○ With the unification of all 4 language skills as a basic objective, improvements in the composition and content of subjects from the point of view of enhancing the ability to produce and transmit language and of ensuring smooth continuation of studies in lower secondary schools will be made as follows.

(a) "Basic English Communication". This will consist of content aimed at ensuring a smooth transition from lower to upper secondary school, to be achieved by means of unified development of the 4 language skills in terms of implementing communication-oriented language activities concerned with everyday matters, the content of which deals with familiar scenes and materials.

(b) English Communication I". The content will aim to promote the comprehensive development of all 4 language skills, and the nature of the themes and content dealt with will match the implementation of comprehensive language activities. For example, different types of content, including the learning content of other subjects, such as Social Studies and Science, content concerned with the customs and history of Japan and local districts as well as many other aspects of Japanese tradition and culture, content dealing with discoveries and inventions as examples of science and technology and natural science, content concerned with inter-cultural communication, and so on, will be selectively drawn on and systematically dealt with in such a way as to enhance the level of student interest in communication

(c) "English Communication II" will build on the basis of "English Communication I", and will comprise content aimed at comprehensively raising the overall level of English language competence.

(d) "English Communication III" will build on the foundations laid by "English Communication I" and "English Communication II", and will comprise content aimed at comprehensively raising the overall level of English language competence.

(e) "English Language Conversation". Its aim will be to implement instruction designed to raise the level of ability of students to listen to and talk about feelings and thoughts; this objective will be attained through the implementation of language communication activities focused primarily on oral/aural competence, the content of which will be concerned with everyday scenes and topics.

(f) "English Expressions I". The aim will be to enable students to talk and write appropriately, matching a variety of scenarios, on the basis of the fundamental rules of the English language, and to cultivate thinking ability and the power to make reasoned judgments.

(g) "English Expressions II". The aims are to enable students to implement high-level communication taking such forms as making speeches, giving presentations, and taking part in discussions and debates, and to write numbers of sentences that accurately use complex constructions and exhibit coherent content. Further aims are to cultivate logical thinking ability and the ability to make reasoned judgments.

(h) Taking a very broad view covering many different subject headings, namely With regard to language activities, language materials, teaching materials, ingenuity in the course of instruction as well as special points to be noted, attention will be paid to the separate aims of each subject, while overall, efforts will be made to improve essential points in the same way as in lower secondary school. Care will also be taken to see that ICT is used effectively in the course of instruction.

(i) In the case of English Communication I, II and III, because the themes, the contents and the language materials used are graded in terms of difficulty, "English Communication II" should be studied after completing "English Communication I", and "English Communication III" should be studied after completing "English Communication II".

⑫ Information Study

Upper secondary school

(i) Main directions for improvement

○ In the subject "Information Study[34], focusing primarily on the issues[35] arising out of it, efforts will be made to take a fresh look at its content and objectives, with the aim of cultivating attitudes and abilities that will enable students to participate positively in our increasingly information-oriented society. Emphasis will be put on ensuring that students have a really firm grounding in scientific ways of thinking about and looking at things in the context of information.

○ With the aim of developing ethical attitudes and considerations about safety and security that are required for the appropriate handling of information, emphasis will be put on developing practical attitudes concerned with such things as information morality, safeguarding intellectual property rights, information security measures, and so on.

○ At the same time as responding to the many different learning demands made by students, emphasis will be put on content that will enable students to study more broadly and more deeply. Specifically, the content will help them to realize their desired career aspirations, and will contribute to cultivating abilities and attitudes whereby they can respond on their own initiative to the advances of an information-oriented society.

(ii) Specific items for improvement

○ With the aim of cultivating abilities and attitudes whereby students can respond on their own initiative to the advance of an information-oriented society, additional emphasis will be put on the 3 perspectives[36] of the objectives of Information Study; with this in mind, the following improvements will be aimed at.

(a) In a context in which the actual situation of upper secondary school students is becoming increasingly diversified, and the ability to utilize information and information appliances has developed into an indispensable base for social life, there is an increasing demand for the education of human resources who can create a high added value by doing this. Against this background, particular emphasis will be put on ensuring that students are thoroughly versed in practical information utilization and on cultivating ethical attitudes concerned with information and attitudes conducive to paying attention to safety and security as well as an awareness of normative standards. With that as a foundation, the present subject structure will be reevaluated with the aim of enabling students to study more broadly and more deeply and to think about and see things concerned with information technology in a scientific way in line with their actual situation in terms of their abilities, aptitude and interests; as a result, 2 new subjects, "Society and Information" and "Information and Science" will be created.

- "Society and Information". As well as getting students to understand the influence of information on modern society, priority will be attached to equipping students with the abilities and attitudes needed to participate positively in the advance of an information-oriented society in ways such as cultivating communications ability in terms of the effective utilization of information devices, and the ability to create and transmit information.

- "Information and Science". As well as enabling students to understand and acquire a scientific way of looking and thinking about knowledge of the way in which information has constructed the foundation of modern society and about science and technology, weight will be put on cultivating abilities and attitudes conducive to making a positive contribution to the advance of an information-oriented society by nurturing the ability to think and make judgments in a scientific way about information and the use of information devices.

(a) In addition to the above, more weight will be put on instruction, through the subjects listed

above, that cultivates the ability to use information in an appropriate manner. This will include a full understanding of the characteristics and role of information communications networks and information media, and consideration for safety and security issues. Furthermore, against the background of utilization of information communications networks and many different kinds of information media, additional weight will also be put on developing the ability to make rational judgments and engage in creative thinking as well as the ability to identify and solve problems, through activities such as generating fresh and new information, expressing information in an easily understandable way, and transmitting information accurately.

⑬ Subject Areas / Subjects for Specialist Education

(a) Vocational subject areas / subjects

(i) Main directions of improvement

○ Looking back at developments to date, specialist upper secondary schools have produced human resources in the form of people who have supported the industry and society of Japan in a wide range of areas. In the future too, at the same time as educating human resources (= people) who will be equipped with the abilities necessary to respond to the many kinds of changes in Japan's socio-economic situation, such schools will be expected to continue to play an important role in continuing to contribute to the development of Japan's local industrial society.

○ With these points in mind, in the subjects and the subject areas[37] in vocational upper secondary schools, focusing primarily on the issues[38] arising from them as well as the regulations[39] pertaining to vocational education as set out in the revised Fundamental Law of Education and other documents, what will be important in the future is not only to equip students with the fundamental knowledge and skills required in various specialist from the perspective of specialist education, but also to implement education which pays due attention to fermenting the kind of normative awareness and ethical world view required by a working adult to live in society and take social responsibility, and to cultivating in students a rich sense of humanity.

○ It is also important to incorporate newly required content and methods, at the same time as carefully selecting the educational content that is really necessary in the various specialist fields in order to be able to respond to changes in the structure of industry and in the state of scientific and technological advance.

○ Furthermore, with a view to strengthening and enriching vocational education in specialist upper secondary schools, an important perspective is that of strengthening links and

connections with related fields and organizations from the perspective of educating human resources to bear the burdens of the coming generation. Specific attention should be paid to continuation of the career education and guidance on future prospects provided in elementary and lower secondary schools, to the abilities and qualities demanded of specialist upper secondary students by universities and the world of industry, and to the need for a positive evaluation of specialist upper secondary students by society, universities, and so on. In the context of the kind of basic thinking set out here, efforts will be made to improve the structure and content of each subject in the subject areas set out below.

(ii) Specific items for improvement

Items concerned with subject organization

○ Improvements will be made to the organization of each subject on the basis of the 3 perspectives listed below.

○ The first perspective will be to cultivate practical abilities through hands-on learning in such forms as making things, at the same time as putting additional emphasis on the foundations of specializations required by specialists in the future, and to ensure that students have thoroughly acquired the fundamental knowledge, techniques and skills connected with various specialist fields.

In addition, instruction will aim to deepen practical abilities and to ensure that students have a thorough acquisition of knowledge, techniques and skills, to be obtained through purposeful learning aimed at meeting challenges in the form of competitions, various kinds of certification, qualifications, and so on. At the same time, it will aim to nurture positive attitudes and creative thinking, as exemplified in such ways as the ability to identify and solve topic-based problems, self-motivated behavior, adaptability, communicative ability, a sense of cooperation, eagerness to work and to learn, and a willingness to face challenges.

○The second perspective is that of nurturing human resources to support local industry in the future. From this perspective, improvements will be made in terms of strengthening practical education and instruction that utilizes outside specialists by means of, for example, liaison and exchanges with local society and industry, also cultivating practical ability, communications ability, and the ability to adapt to society. Attention will also be paid to deepening understanding of, and awareness of the contribution of local industry and society.

○ The third perspective is that of developing vocational specialists who have a rich sense of humanity. From this perspective, improvements will be made in terms of utilizing the characteristics of vocational education in such forms as interpersonal contact, relationships with the natural world, education to value life, and so on. At the same time as cultivating the

necessary humanity in people as representatives of professions and vocations, efforts will be made to cultivate a heart and mind that values life, nature, and artifacts, and to develop a normative awareness and an ethical world view.

○ In addition, when implementing the above improvements, with the aim of educating human resources who can respond flexibly to changes in the industrial structure of Japan, and to technological advances, particular emphasis will be put on ensuring that all students are thoroughly equipped with the basic knowledge and skills of various specialist fields. Additional emphasis will also be put on enhancing the practical skills of students, which are rooted in such factors as communication skills and a high level of awareness of the norms of a work ethic and a work-centered view of the world, to be obtained through such means as experimental work placements and contact with industry and society. Specifically, educational activities should be strengthened by arranging, for example, extended periods of work experience practice in companies for students.

○ In addition to the above, with a view to responding to changes in student consciousness and to the diversification of future career paths[40], the curriculum should be compiled in a flexible manner. As well as this, there is a need to pay attention to realizing a form of education whereby students can be equipped with the ability to make selections within vocational study options and to engage in life design planning, to be achieved by means of more heavily practice-oriented vocational education and work experience placements.

Items in individual subjects and subject areas

○ Improvements on the basis of the points made above will be made as below in subjects and subject areas concerned with vocationally oriented specialist education.

a) Agriculture

○ The background to needed improvements, in a context of internationalization and advances in the information-oriented nature of society, include the following: diversification of production, distribution and management in agriculture and forestry work; advances in sophistication and precision in technology; demands for stable food supplies; the growing need for environmental conservation on a global scale; and the expansion of "human service" utilizing plant and animal resources. In response to these many different factors, efforts will be made to achieve improvements in terms of restructuring subjects, including the creation of new subjects, and re-evaluating the content from the perspective of the need to educate human resources that can support agriculture in the new age of a sustainable society.

(a) With regard to subject objectives, in addition to enhancing the interest of students in the

diversified agriculture industry, improvements will be made in terms of clearly specifying the need for sustainability and stability in agriculture and society.

(b) On the composition of the curriculum, from the perspective of the improvements referred to above, 30 subjects will be included in the curriculum in place of the present total of 29 subjects.

Agriculture and the Environment; Topic-based Research; Comprehensive Practice; Information Processing in Agriculture; Crops; Vegetables; Fruit; Flowering Plants; Stock Farming; Agricultural Management; Agricultural Machinery; Food Product Manufacturing; Food Chemistry; Use of Microorganisms; Plant Biotechnology; Animal Biotechnology; Agricultural Economics; Food Distribution; Forestry Science; Forestry Management; Use of Forest Products; Agricultural Civil Engineering Design; Agricultural Civil Engineering Construction; Water Circulation; Landscape Planning; Landscape Technology; Environmental Greening Materials; Surveying; Use of Living Creatures; and Green Life.

(c) Subjects will be reconstituted as below.

- While paying due attention to the importance of environmental studies, because there is a need to study in a consistent fashion agriculture and the conservation and creation of the environment, 2 subjects, namely "Fundamentals of Agricultural Science" and "Fundamentals of Environmental Science", are to be combined into one subject, called "Agriculture and Environment".
- Previously, animal biotechnology and microbial biotechnology were studied together in the subject called "Microbial and animal biotechnology". However, it was felt that learning would be more effective if the two parts of the subject were separated. But the subject "Microbial Organisms: Foundations" already existed, so this would overlap with the hived-off section concerned with microbial biotechnology. It was therefore decided to deal with animal biotechnology in a subject to be called "Animal Biotechnology", and to combine the hived-off section with the existing subject, "Microbial Organisms: Foundations", and create a new subject, to be called "Use of Microorganisms".
- Matters concerned with forestry products (excluding timber), processing and use are studied systematically in "Forestry Product Processing", the name of which has been changed to "Use of Forestry Products".
- With a view to enabling students to study matters concerned with water in a unified fashion, including the circulation of water in the global environment and the connections with bioorganisms, matters concerned with water quality and the soil, previously studied as "Environmental Civil Engineering Design" and matters concerned with the agricultural use of water, previously studied as "Agricultural Civil Engineering Construction", have been combined into "Water, the Environment and Circulation".
- Taking as a foundation the content of landscape greening materials included in

"Landscape Technology", and with the aim of enabling all students to study in a systematic way the knowledge and skills required to carry out the development, use, maintenance and administration of materials that can serve to promote environmental greening over a wide area, including gardens and the periphery of buildings, the contents of "Environmental Greening Materials" have been rearranged and reclassified, and 2 new subjects have been created, "Landscape Technology" and "Environmental Greening Materials".

b) Manufacturing

○ Against the background of the globalization of the manufacturing industry and intensified international competition, there is a need to respond to such factors as the deepening crisis of environmental energy resources, advances in information networking, the demand for ethically aware technologists, and the heightening of awareness of the legacy of traditional technologies. In this context, from the perspective of cultivating human resources to support the industries concerned with making things in a new age, the following improvements are planned in terms of a restructuring of subjects, including the creation of new subjects, and a reevaluation of content.

(a) In terms of the objectives of subjects, consideration of environmental and energy matters has been added to the existing objectives, and the primary function of the training of technologists has been clarified in terms of practical technology and an awareness of the need for technological ethics

(b) With regard to subject composition, from the perspective of the improvements outlined above, the existing total of 60 subjects has been revised to a new total of 61 subjects.

Fundamentals of Manufacturing Technology; Topic-based Research, Practice, Drafting Fundamentals of Industrial Mathematics, Fundamentals of Information Technology, Fundamentals of Materials Technology, Production Systems Technology, English Terms in Industrial Technology, Industrial Administration Technology, Fundamentals of Environmental Engineering, Machine Manufacturing, Machine Design, Motors, Mechatronics, Mechatronic Applications, Automobile Engineering, Car Maintenance, Electricity Fundamentals, Electric Appliances, Electric Power Technology, Electronic Technology, Electric Circuits, Electronic Measurement Control, Communications Technology, Electronic Information Technology, Programming Technology, Hardware Technology, Software Technology, Computer Systems Technology, Architectural Structures, Architectural Construction, Architectural Structural Design, Architectural Planning, Architectural Laws and Regulations, Equipment Planning, Air Conditioning Equipment, Sanitation and Disaster Prevention Equipment, Surveying, Civil Engineering

Construction, Fundamentals of Civil Engineering Dynamics, Civil Engineering Construction Design, Fundamentals of Social Engineering, Industrial Chemistry, Chemical Engineering, Global Environmental Chemistry, Materials Manufacturing Technology, Engineering Materials, Materials Processing, Ceramic Chemistry, Ceramic Technology, Ceramic Industry, Fiber Products, Fiber and Dyeing Technology, Dyeing and Weaving Design, Interior Planning, Interior Fittings, Interior Element Production, Design Technology, Design Materials, and Design History.

(c) One subject, as below, has been newly created.

- "Environmental Engineering Fundamentals": Sets out to cultivate abilities and attitudes with a view to utilizing these in each field of engineering technology, by means of enabling all students to learn and acquire the fundamental knowledge and skills concerned with environmental engineering.

(d) In addition to (c), the subject below has been restructured.

- With a view to strengthening the learning content concerned with computer systems, the subject title of "Multi-Media Applications" has been changed to "Computer Systems Technology".

c) Business

○ In response to the growth of the service economy and globalization, to the rapid advance of ICT, and to the advent of a knowledge-based society, improvements to the restructuring of subjects, including the creation of new subjects, and to the reevaluation of content, are planned as listed below, from the perspective of cultivating human resources (=people) richly imbued with creativity and possessing the practical ability to implement a range of business activities on their own volition and in a rational manner, who have a law-abiding spirit and an entrepreneurial mentality.

(a) With regard to subject objectives, the background perspective is one of the diversification of career paths among students. With this in mind, the main focus of improvements is on establishing a link between study of the content of each subject within the Business subject area and a particular job or profession. With this in mind, the essence of improvements has been clarified as cultivating the ability to continue studying with a future job or profession in mind.

(b) With regard to subject composition, from the perspective of the improvements outlined above, the existing total of 17 subjects has been revised to a new total of 20 subjects.

Business Fundamentals, Topic-based Research, Comprehensive Practice, Business

Communication, Marketing, Product Development, Advertisements and Sales Promotion, Business Economics I, Economic Activities and the Law, Business Economics II, Bookkeeping, Financial Accounts I, Cost Accounting, Financial Accounts II, Management Accounting, Information Processing, Business Information, Electronic Trading, Programming, and Business Information Management.

(c) The 4 subjects listed below have been newly created.

- "Product Development": this subject aims to give students an experiential understanding of the flow of product development focusing on customer satisfaction as the goal; specifically it aims to cultivate the ability to plan, develop and present new products.
- "Business Economics I": the subject will enable students to grasp the basic theoretical knowledge of micro- and macro-economics, aiming to equip them with the abilities and aptitudes they will need to respond on their own initiative to a service economy-oriented society.
- "Management Accounting": the subject will equip students with the knowledge and skills needed to make decisions by utilizing the information necessary for management administration, aiming to cultivate the abilities and aptitudes suitable for exploring various business problems.
- "Business Information Processing": this subject will equip students with the knowledge and skills concerned with business information systems, aiming to cultivate the attitudes and abilities suitable for appropriately introducing and administering computer systems.

(d) In addition to the points in (c) above, the following subjects will be restructured.

- With a view to putting primary emphasis on the knowledge and skills required for communication within the office or with people from overseas, the two subjects, "English in Practice" and "Business Skills" will be combined into "Business Communication".
- As a result of categorizing and rearranging the contents of "Goods and Distribution" as well as "Marketing", learning content that is primarily concerned with market investigations and the distribution of goods will be systematically summarized in "Marketing", while in "Advertising and Sales Promotion", the main focus will be on fundamental knowledge and skills concerned with advertising and the sales promotion of goods.
- With a view to putting primary emphasis on the basic knowledge and skills concerned with the service economy, the name of "International Business" will be changed to "Business Economics II".
- With a view to putting primary emphasis on the basic knowledge and skills concerned with financial accounts, the name of "Accounts" will be changed to "Financial Accounts".
- With a view to putting emphasis on the ability to make a speedy response to changes in

the criteria and laws concerned with financial accounts, the name of "Accounting Practice" will be changed to "Financial Accounts II".

- With a view to equipping students with the basic knowledge and skills concerned with electronic trading utilizing information communication networks or with PR, the content of "Document Design" will be changed to "Electronic Trading".
- In principle, "Business Economics II" should be taken after completion of "Business Economics I", and "Financial Accounts II" should be taken after completion of "Financial Accounts I".

d) Marine Products Industry

○ On the one hand, there is a need for responses to be made to changes in the environment surrounding the marine products industry, such as expansion of the global demand for marine products, the administration of marine resources, a heightening of the need for a stable supply of marine products, changes in the distribution pattern of marine products, changes in the needs of consumers, and so on. Against this background and on the basis of such factors as a heightening of international interest in marine matters, as seen in such points as multi-faceted utilization of the oceans or questions of safety of the marine environment, the following improvements are planned in terms of subject restructuring, including the creation of new subjects, and reevaluation of the content, from the perspective of training human resources who will be able to support the marine products industry and connected industries in a new age.

(a) In terms of the objectives of subjects, the main focus has been on changes in the environment surrounding the sea, and the primary purpose of the subject has been clarified while incorporating learning material ranging over a wide area concerned with marine products and the seas and oceans, including sustainable and effective use of fisheries and marine resources, fish-eating culture, environmental conservation, and so on.

(b) With regard to subject composition, from the perspective of the improvements outlined above, the existing total of 20 subjects has been revised to a new total of 22 subjects.

Marine Fundamentals; Topic-Based Research; Marine Information Communication; Diving; Marine Industries; Navigation, Instruments; Operating Boats; Small Boats; Marine Products Distribution; Marine Engines; Machine Design Construction; Electricity Theory; Marine Environment; Mobile Communications Systems; Resource Propagation; Marine Creatures; Manufacture of Food Products; Food Products Management; Marine Sports; Fisheries and Marine Science; Marine Communications Technology.

(c) The two subjects listed below have been newly created.

- "Marine Sports": The subject will aim to equip students, through the medium of marine sports, with the knowledge and skills required to carry out a variety of activities on

rivers and open water as well as implementing daily life activities smoothly and safely. At the same time, it has the goal of cultivating attitudes conducive to a strict observance of laws and good manners, and of making a contribution to preserving the safety of the seas.

- "Marine Products and Ocean Science": Through advanced studies, on the basis of knowledge and skills concerned with the subject, a wide range of topics concerned with marine products and the oceans will be covered with the goal of cultivating necessary abilities and attitudes in a scientific manner.

(d) The following subjects will be restructured

- In the 2 subjects, "Electrical Engineering" and "Electro-Communications Theory", there is a lot of content duplication in such areas as semiconductors, circuits, automatic control, and so on, so they will be combined into "Electricity Theory".

(e) In addition to (c) and (d), the subjects below will be restructured.

- With the aim of including more content concerned with the seas and oceans than in the past and focusing on basic learning content concerned with fisheries products and oceans, the name of "Marine Products Fundamentals" will be changed to " Fundamentals of Marine Products and Oceans ".
- With the aim of dealing on a broader basis with information in a marine setting, the name of "Fisheries Information Technology" will be changed to "Marine Information Technology".
- With the aim of not limiting the content to fishing boats, but of dealing with ships and boats in general, the name of "Operating Fishing Boats" will be changed to "Operating Boats".
- With a view to clarifying learning content concerned with small boats, the title of "Boat Operations" will be changed to "Small Boats".
- With a view to dealing with ship-based LAN, including mobile communications using satellites between ship and shore, data communications, fiber optic communications, and so on, the title of the subject "Communications Engineering", which previously covered these matters, will be changed and 2 subjects will be formed. One will be "Mobile Communications Engineering", dealing with the theory and fundamental instrument manipulation of wireless communications, and one, "Marine Communications Technology", dealing with wire-based communications, laws and regulations concerned with communications matters, maintenance, and so on.
- With a view to strengthening learning content concerned with the breeding and propagation of fisheries products, the title of "Fisheries Aquaculture" has been changed to "Resource Propagation", which will also incorporate the resource management of coastal fish.
- With a view to dealing with the creatures that live in the seas and oceans of our world

over a very wide range, the title of "Marine Creatures " has been changed to "Ocean Creatures ".

- While keeping fisheries food products as the foundation of this subject, with the aim of clarifying the fact that, as the occasion demands, different kinds of food products will also be dealt with, the title of "Manufacture of Fisheries Food Products" will be changed to "Manufacture of Food Products".

e) Home Economics

○ Against the background of a diversification of lifestyles, a growing percentage of elderly people and a declining birthrate, the perspective is one of cultivating human resources (=people) who: 1) are able to respond to the demands of society taking such forms as a demand for the promotion of food education; 2) have an accurate grasp of the needs of consumers vis-à-vis lifestyle industries concerned with "human services" in the everyday living areas of clothes, food and housing; 3) are equipped with the planning and management ability required to undertake the necessary service provisions; and 3) are both aware of the legacy of traditional lifestyle culture and can create new lifestyle patterns. With a view to responding to this perspective, the following improvements are planned in terms of a restructuring of subjects, including the creation of new subjects, and a reevaluation of content.

(a) With regard to subject objectives, improvements will clarify these in terms of cultivating the attitudes and abilities considered necessary for workers in every field of the lifestyle industry concerned with "human service", i.e. clothes, food and housing, and at the same time cultivating the abilities and aptitudes that can contribute to traditional lifestyles and culture as well as creating new patterns.

(b) With regard to subject composition, from the perspective of the improvements outlined above, the existing total of 19 subjects has been revised to a new total of 20 subjects.
Lifestyle Industry Fundamentals, Topic-Based Research, Lifestyle Industry Information, Consumer Lifestyles, Child Development and Care ・Education, The Culture of Children, Lifestyle and Welfare, Living Design, The Culture of Clothing, Fashion Creation Fundamentals, Fashion Creation, Fashion Design, Clothing Crafts, Food Design, Food Culture, Cooking, Nutrition, Food Products, Food Product Hygiene, Public Hygiene.

(c) The subjects listed below will be restructured.

- In view of the emphasis to be put on appropriately processing and utilizing information by means of computer information networks in each branch of the lifestyle industry, the subject name, "Home Economics Information Processing" is to be changed to "Lifestyle Industry Information".
- Aiming to equip all students with the knowledge and skills concerned with the health

and welfare of the aged and with nursing care, and to train human resources (=people) who can contribute sufficiently to heightening the quality of life of aged persons, and to providing care and support to enable them to live independently in the community, the subject hitherto named "Family Nursing Care and Welfare" will be renamed "Lifestyle and Welfare".

- With the aim of having all students acquire knowledge and skills concerning the characteristics of development from early infancy to elementary school as well as lifestyle patterns and care during this period, this subject sets out to train human resources who will be concerned with community support for child upbringing and have the ability to support the healthy development of children. With these aims in mind, the name of the subject will be changed from "Development and Child Care" to "The Development and Care of Children".
- Interpreting from a very wide perspective the knowledge and skills concerned with children's games and the cultural treasures of childhood, the course "Child Culture", aiming to develop human resources who will be concerned with children, will be renamed "The Culture of Children".
- The course, "Clothing Manufacture", will be divided into 2 course: one course, named "Fashion Creation Fundamentals", will aim to have all students acquire the fundamental knowledge and skills concerned with clothing manufacture, aiming to develop the abilities and practice-oriented attitudes necessary to be able to select materials appropriate for a particular design or purpose of wear, and to manufacture such clothing, while another course, "Fashion Creation", will enable students to develop and apply their knowledge and skills, and develop abilities and attitudes required for high-level tailoring and creative production of clothing, aiming to cultivate human resources who will be concerned with the fashion industry and apparel industry.

f) Nursing

○ The following improvements to the subjects in this section, in terms of restructuring courses, including the creation of new courses, and the reevaluation of learning content, will be made from the perspective of training human resources who can respond to such changes as the increased sophistication of medical care, the growing age of patients and the increase in serious illnesses, who have the ability to make high-level nursing judgments in such cases as physical assessments and a thorough grasp of nursing skills concerned with safety management administration or safety issues concerned with medical appliances, and who are imbued with a rich sense of humanity, including nursing ethics, communication skills and respect for human rights.

(a) With regard to subject objectives, since there is no change in the fundamental aims of nursing education, these will remain as at present.

(b) With regard to subject composition, from the point of view of the improvements outlined above, the existing total of 6 subjects has been reconstituted as 13 subjects.

Nursing Fundamentals, Nursing Fundamentals A, Nursing Fundamentals B, Nursing Fundamentals C, Adult Nursing, Geriatric Nursing, Mental Health Nursing, Home Nursing, Motherhood Nursing, Pediatric Nursing, Nursing Practice in situ, Utilization of Nursing Information, and Integration and Practice of Nursing.

(c) The following subject will be newly created.

- "Integration and Practice of Nursing": this subject aims to integrate the knowledge and skills that students have learned in each branch of nursing with a view to being able to utilize the content in a clinical setting.

(d) In addition to the content of (c), the following restructuring will be carried out.

- With the aim of strengthening the educational content in the subjects that form the foundation of specialist learning in nursing, the content of "Medical Nursing Fundamentals" will be categorized and rearranged into 3 subjects.
- "Nursing Fundamentals A": the structure and functions of the human body, nutrition, infection and iImmunity.
- "Nursing Fundamentals B": the etiology of illness and the process of recovery, medicines and pharmacology.
- "Nursing Fundamentals C": mental health, lifestyle and health, the social security system and welfare.
- Against the background of a rising percentage of elderly people, with a view to strengthening the educational content of the various specialist fields concerned, so as to be able to respond in an appropriate manner to the variety of circumstances surrounding this phenomenon, the educational content of the subject, "Geriatric and Adult Nursing" has been categorized and arranged into 4 subjects, namely "Adult Nursing", "Geriatric Nursing", "Mental Health Nursing" and "Home Nursing".
- In consideration of the specialist nature of the 2 fields, motherhood nursing and pediatric nursing, the educational content of the 2 fields has been respectively strengthened and rearranged, and the content of the hitherto existing field "Mother and Child Nursing" has been reconstituted as 2 subjects, "Motherhood Nursing" and "Pediatric Nursing".
- With a view to strengthening the content of nursing practice by means of practice in a variety of nursing situations, not limited to clinical nursing practice, the name of "Clinical Nursing Practice" will be changed to "Nursing Practice in situ"
- With a view to strengthening the content concerned with cultivating the ability to utilize information and information devices in all branches of nursing and medical care, the name of "Nursing Information Processing" will be changed to "Nursing Information Utilization".

g) Information Study

○ Against the background of change in the structure of the information industry, manifested in such ways as the creation of a new information industry generated by advances in information technology, the following improvements to the subjects in this section, in terms of restructuring courses, including the creation of new courses, and the reevaluation of learning content, will be made. The perspective will be one of training human resources who can respond to the diversification, differentiation and increased sophistication of human resources demanded by the information industry, and are equipped with creative ability, the ability to carefully consider questions, problem-solving ability, integrative ability, and an awareness of professional ethics.

(a) With regard to subject objectives, clarification will be made of the main intention of the subject area as being to train human resources who are able to respond to changes in the structure of the information industry and to the diversification, differentiation and increased sophistication of human resources demanded by the industry and are equipped with applied and advanced knowledge and skills in each field of information study as well as with an awareness of professional ethics.

(b) With regard to subject composition, from the standpoint of the improvements outlined above, the current total of 11 subjects has been revised to a new total of 13 subjects.

The Information Industry and Society, Topic-based Research, The Expression and Management of Information, Information and Problem Solving, Information Technology, Algorithms and Programs, Network Systems, Databases, Development of Information Systems, Information Design, Information Media, Media Editing and Expression, Development of Information Contents.

(c) The following 4 subjects will be newly created.

- "Information and Problem Solving": in response to the demand for human resources with a high level of information skills, this subject will aim to develop the ability to identify and to solve problems, and the ability to act independently.
- "Information Technology": in response to the demand for human resources with a high level of information skills, this subject will aim to equip students with the ethics and skills of information technology.
- "Databases": in response to the demand for human resources with a high level of information skills who are able to take responsibility for systems design and systems management, this subject will aim to equip students with the knowledge and skills concerned with databases.
- "Information Media": in response to the demand for human resources with a high level of information skills who are able to take responsibility for content production and

transmission, this subject will aim to equip students with the knowledge and skills required to understand the characteristics of many different kinds of media.

(d) The content of the following 2 subjects will be reconstituted and integrated into other subjects.

- "Information Practice": the various kinds of practice which presently constitute the content of this subject will be incorporated into the content of the different kinds of specialist subjects.
- "Modeling and Simulation": the current content will be transferred to the new subject, "Information and Problem-Solving".

(e) Apart from the points referred to in (c) and (d) above, the following subjects will be restructured.

- In line with the priority to be attached to cultivating the abilities to express and manage information, which constitute the basic abilities of high-level information specialists, the course, "Information Expression" will be renamed as "Expression and Management of Information".
- In line with the priority to be attached to equipping students with the knowledge and skills concerned with algorithms in response to the demand for high-level information specialists in systems design and management, the course "Algorithms" will be renamed as "Algorithms and Programs".
- In line with the priority to be attached to equipping students with the theory and skills of information design in response to the demand for high-level information specialists who can take responsibility for content production and transmission fields, the course "Computer Design" will be renamed as "Information Design".
- In line with the aim of equipping all students with the theory and skills concerned with media editing and expression, in response to the demand for high-level information specialists who can be responsible for content production and dissemination, the existing courses, "Diagram and Image Processing" and "Multi-Media Expression" will be restructured and integrated as "Media Editing and Expression".
- In response to the demand for high-level information specialists who can take responsibility for content development and transmission, weight will be put on cultivating abilities and attitudes conducive to content development and transmission, while paying due attention to intellectual property rights, at the same time as utilizing different kinds of media and software. With these points in mind, the course, "Multi-Media Expression" will be renamed "Information Content Development".

h) Welfare

○ In the background, accompanying a rapid increase in the number of elderly persons and a declining birthrate, are changes in the national consciousness vis-à-vis social welfare, as manifested in the direction of support for independent living in the community and the diversification of welfare needs. In response to this situation, from the perspective of educating human resources who can offer a variety of high-level welfare services, the following improvements will be made in the subjects in this section, in the form of restructuring subjects, including the creation of new subjects, and reevaluating content, paying due concern to such points as the qualifications of registered nurse careers.

(a) With regard to subject objectives, since there is no change in the fundamental aims of welfare education, these will remain as at present.

(b) With regard to subject composition, from the point of view of the improvements outlined above, the existing total of 7 subjects has been reconstituted as 9 subjects.

Human Beings and Society, Overview of Nursing Care, Communication Skills, Daily Life Support Skills, The Nursing Care Process, Comprehensive Nursing Care Practice, Nursing Care Practice, Mind-Body Mechanisms, Welfare Information Utilization.

(c) With regard to the composition of subjects, the following 3 subjects will be newly created.

- "Daily Life Support Skills": this subject aims to have students acquire the knowledge and skills to be able to offer support safely, utilizing appropriate nursing care skills, with a view to enabling the person receiving care to be able to move toward independence in accordance with that person's physical state.
- "The Nursing Care Process": this subject aims to cultivate the ability to develop the nursing care process, put forward nursing care plans, and offer nursing care services, with a view to integrating the knowledge and skills concerned with welfare as learned in other subjects.
- "Mind-Body Mechanisms": this subject aims to cultivate the ability to offer psychological and social care, as demonstrated by understanding of the structure and the functions and psychology of the human body, which form the foundation of nursing care skills, and the points to which attention has to be paid in order to offer services safely.

(d) Reconstitution and integration of subjects will take place as below.

- With a view to strengthening the educational content in terms of a subject that forms the specialist learning foundation of welfare, the content of 2 subjects, "Social Welfare Foundations" and "The Social Welfare System" will be rearranged and integrated into "Human Beings and Society".

(e) Apart from the points made in (c) and (d) above, the following subjects will be restructured.

- "The subject, "Nursing Care Fundamentals" will be renamed "Overview of Nursing Care", and the content rearranged so that the subject can be grasped from the standpoint of the daily lives of those being cared for, at the same time as enabling understanding of the underlying thinking of nursing care.
- The subject, "Social Welfare Support Skills" will be renamed, "Communication Skills", and the content rearranged with the aim of enabling students to understand the basis and the techniques of communication in terms of interpersonal skills and the nature of a support relationship toward the person being cared for.
- The subject "Social Welfare Practice" will be renamed "Comprehensive Nursing Care Practice", and the content rearranged to make it a subject that provides comprehensive learning concerning the necessary knowledge and skills of nursing care practice and the development of the nursing care process.
- The subject "Social Welfare Practice" will be renamed "Nursing Care Practice", and the content rearranged to make it a subject that enables students to combine the knowledge and skills concerning welfare that they have learned in other subjects, and acquire the practical ability to offer nursing care services.
- The subject "Welfare Information Processing" will be renamed "Welfare Information Utilization", and the content rearranged so that it will cultivate the ability to record and accumulate data that can be utilized in nursing care practice.

(f) There is a need to continue examination of the content that constitutes the subject "Welfare" on the basis of system reforms concerned with the creation of the status of Registered Nursing Care Welfare Practitioner.

(b) Other subjects and subject areas concerned with specialist education

○ With regard to specialist subjects and subject areas other than those covered by vocational education, efforts will be made to utilize even more strongly the characteristics of the subjects concerned (e.g. Science, Physical Education, Music, Art, English, etc.). Furthermore, from the perspective of further extending the interests, abilities and aptitudes of each individual student in response to social change, it will be appropriate to implement various ways of improving and strengthening the learning process,, such as establishing new subjects, making some content learning optional, and prioritizing aspects of learning, and at ways of reevaluating the learning process with a view to enabling students to focus on independent and problem-solving learning,

⑭ Moral Education

(i) Main Directions of Reform

○ With regard to the subject-matter of Moral Education[41] focusing primarily on the issues[42] deriving from it, weight will be put on cultivating in students, through the study of Moral Education in elementary, lower secondary and upper secondary schools, a spirit of respect for human beings and reverence for life, and nurturing an attitude of healthy self-respect and the ability to live independently and in cooperation with others, and to make a contribution to social development as a member of society.

Furthermore, efforts will be made to clarify, by school grade and level of schooling, the main points to be covered by Moral Education, on the basis of children's actual situation and the issues they have covered in class as shown by such factors as their stage of development and their developing interaction with society.

○ Given the substantial differences in the time allocated to Moral Education in elementary and lower secondary school, while the period spent in kindergarten and upper secondary school will still be a matter for consideration, the priorities and characteristics of instruction in elementary school and lower secondary school will be clarified with a view to implementing more effective education.

In upper secondary school, while there is no set time allocation for moral education, in a rapidly changing society, in which phenomena such as a weakening of interpersonal links and a lowering of a sense of awareness of social norms can be observed, education that aims to cultivate a sense of morality, in line with the stage of development of the children concerned, and contributes to their growth as human beings will be taken forward.

○ Efforts will be made to strengthen the structure and system of taking moral education forward from the perspective of aiming to strengthen the real substance of this area in terms of the way in which the school as a whole grasps it.

In addition, at the same time as additionally promoting hands-on activities that contribute to the education of morality, efforts will be made to strengthen practical activities which enable the school, the family and the local community tco work together in grappling this issue.

(ii) Specific items for improvement

(a) With regard to the instructional content of Moral Education, one point that should be prioritized at every stage of development is the cultivation in children of a sense of autonomy and independence, and an attitude of respect for life. At the same time, improvements will be made in the area of clearly showing points to be prioritized in each grade and at each level of schooling, from the perspective of cultivating such characteristics as basic everyday life habits, an awareness of social norms, the ability to construct interpersonal relationships, an attitude of

willingness to participate in society, and an attitude of respect for culture and traditions. In particular, efforts will be made to clarify the responsibilities to be borne on the basis of the special characteristics of each subject, with Special Activities playing a leading role, through practical study involving such factors as roles and responsibilities in human relations and membership of groups.

In addition, the content headings of Moral Education in each school grade and each level of schooling will be made more easily understandable.

(b) In the area of the time spent on moral issues in elementary school, from the perspective of ensuring a thorough acquisition of responsibility for leading one's own life as well as the sense of moral values that forms the foundation of this, special attention will be paid in the lower grades to ensuring continuity with what was learned in kindergarten. This will take the form, for example, of emphasizing instruction that focuses on sensitivity and morality as forming the foundation of learning and everyday life, as manifested in such forms as basic daily life habits, judging the difference between right and wrong, observance of rules, and so on.

At lower secondary school level, emphasis will be put on instruction that takes account of experiences and developing human relationships, as exemplified by talking to and cooperating with people in the immediate vicinity, observing social and organizational rules and norms, and so on.

In the upper grades of elementary school, due consideration will be paid to including in the perspective continuity with the learning carried out in the lower grades, and emphasis will be put on having hopes and dreams in one’s daily life, and on by such means as utilizing a wide variety of experiences concerned with roles and responsibilities as a member of a social group, on understanding the standpoint of others and providing mutual support, and focusing more on interaction with society and human relationships.

(c) In terms of the time spent on moral issues in lower secondary school, weight will be put on instruction that aims to deepen self-awareness concerned with a way of living as a human being that is backed by a framework of moral values, implemented from the perspective of strengthening instruction that gets students to look hard at their way of living as a human being and their relationship with society, on the basis of a wide pattern of social interaction. In the process of doing this, a variety of different ways of learning will be taken forward, including the focusing of attention on laws and rules, and on ways of interacting with society, learning that involves looking at what lessons can be learned about ways of living from famous figures in history or taking oneself as a theme and examining and debating what that "self" is.

It should also be noted that the system in lower secondary school is to have specialist subject teachers, and emphasis will be put on developing patterns of teaching that involve cooperation between grades and levels of schooling, utilizing the fact that instruction in different subjects is given by many different teachers.

(d) Looking next at upper secondary school, in order to ensure that Moral Education is effectively implemented in all educational activities at this level of schooling, the priority points and the direction of instruction at whole-school level will be clarified; at the same time, improvements will clarify the role to be played by each subject, by Special Activities, and by the Period for Integrated Study.

It is also important to clarify even more deeply the sense of self-awareness comprised in thinking about and discussing ways of existing and living daily life as a human being, exemplified in such ways as the search for how to live an independent life as one member of society. From this perspective, improvements will be made in the content of areas that form the core of school instruction, such as "Ethics" or "Modern Society" ("Civics"), or "Home Room Activities" ("Special Activities").

(e) Particularly in the case of learning concerned with rules and regulations, human relations, ways of living or other aspects of social independence, at the level of the higher grades of elementary school or of lower secondary school, it is necessary, with a view to implementing more effective instruction, to establish as a base a network of connections between teachers responsible for Moral Education or for teaching concerned with morality in other subjects, and to devise teaching materials and forms of instruction such as dramatic role playing, whereby expressive activities can be utilized in the classroom setting.

(f) From the perspective of aiming to form a morality-based view of life and the world, efforts will be made to strengthen opportunities for students to express their own feelings or judgments through, for example, reading or writing activities, thereby enabling them to make a reality of their own moral growth through their own efforts.

(g) Against the background of a society that is witnessing the rapid spread of information devices of all kinds, information morality will be treated, in accordance with the stage of development of the students concerned, as a means of responding to the dark side of the growing information provision as seen in cyber bullying or slanderous and malicious statements posted on internet bulletin boards.

(h) From the point of view of strengthening the real substance of Moral Education as an issue that is tackled by a school as a whole, efforts are being made to promote open classes (i.e. classes that are open to parents) in elementary and lower secondary schools and to create a system, with the person designated as being in charge of moral education taking the lead, whereby a specific action plan that can be effectively implemented is formulated.

(i) As experiential, hands-on activities that can contribute to the development of a sense of morality in children, a variety of such activities will be promoted. These could take the form, for example, at kindergarten level, of hands-on activities that enable young infants to feel a

sense of reverence for life, in elementary school, of field trips involving group accommodation and contact with nature, in lower secondary school, of work experience activities, and in upper secondary school, of voluntary activities.

(j) As with other school subjects, in the case of Moral Education too, the role of the family and the local community is very important. Specifically, in the context of deepening all kinds of school education activities that involve linking the school, the family and the community, it is important to take forward, in the area of Moral Education, measures whereby the issue of ensuring that students are versed in good manners and courteous living styles is positively tackled in the home and the community.

⑮ Special Activities

(i) Main Directions of improvement

○ In the area of Special Activities,[43] focusing primarily on the issues[44] arising from this area, the respective roles to be implemented within Special Activities, Moral Education and the Period for Integrated Study will be clarified, and weight will be put on constructing a rich pattern of school activities comprising positively oriented group activities and experiential activities. At the same time, weight will also be put on utilizing the characteristics of Special Activities to aim at cultivating social sensitivity and a public-spirited attitude, and on this basis, to develop in particular the ability to form good human relations, a willingness to participate in society, and the ability to live independently. A fresh look will also be taken at objectives and content from the perspective of aiming to strengthen instruction in the practice of morality in the course of living.

○ With a view to clarifying the aims and the significance of each part of the content of Special Activities, the attitudes and abilities that are to be cultivated by the activities pertaining to each part of the content will be specified as the objectives of that part of the content within the content of the objectives of Special Activities as a whole.

○ At the same time as putting even more stress on independent, spontaneous activities by children, there is a need, in order to respond in a suitable way to the actual reality of children and children's lives, to identify and clearly show content which is suitable for particular themes or for a particular grade or for the stage of development of the children concerned, and to male provision for prioritization in the course of instruction. In the course of taking such provisions forward, it is necessary to devise materials and instructional methods which aim to establish effective connections with the Period for Integrated Study and other parts of the curriculum.

○ There are many cases of children who lack self-confidence, who feel unsure about human relationships, and who are visibly in a situation in which they lack training in how to construct the kind of human relationships that should be constructed. In response to this situation, increased emphasis will be put on experiential activities that aim to heighten, through practice, the ability to form relationships, discussion-type activities that aim at lifestyle improvement, and group activities that involve contact with children of different ages.

With particular reference to experiential activities, emphasis will be put on activities that enable children to look back on what they have felt or noticed in the course of carrying out the activities, to put this into words and present it in the company of others.

(ii) Specific items for improvement

Elementary school

(a) In terms of grade-based activities, the content will be comprised of how to adapt to ① forming a way of life suitable for the school and the grade in question, and ② everyday living and learning, as well as of matters concerned with health and safety. In addition, in order to facilitate planned instruction that matches issues taken up within a particular grade group, or issues appropriate to the stage of development of the children concerned, the content to be prioritized in the lower, middle and upper grades will be clearly shown.

① With particular reference to grade-oriented or school-oriented lifestyle formation, additional emphasis will be put on discussion-type activities aimed at forming a consensus so as to form a better lifestyle for oneself, or on activities comprising the observance of rules that each person has individually formulated. In addition, at the same time as cultivating eagerness on the part of children to get to grips with making a reality of a better grade life, efforts will be made to heighten children's sense of awareness and responsibility as a member of a group. Also, provision will be made to facilitate planned activities that comprise tasks allotted in turn to different members of the class, at the same time as carrying out activities related to the perspective of emphasis on work.

② With reference to adapting to learning and everyday life or to health and safety matters, emphasis will be put on issues concerned with adapting to a group, such as the so-called "Elementary 1 Problem", and activities designed to equip children with social skills that will enable them to form better human relationships will be effectively incorporated. In particular, efforts will be made to prioritize instruction by paying close attention, at the

point of entry into elementary school, to continuity with kindergarten education, and in the upper grades, to ensuring continuity with the points in lower secondary education such as devising a lifestyle for oneself.

(b) With regard specifically to the activities of the Children's Council, specific content will be shown from the perspective of emphasizing the cultivation of self-governing ability formed through groupings that consist of children of different ages, taking the form of contributions to groups or discussion movements that aim at constructing a better school life by means of their own efforts.

(c) With regard to club activities, improvements will be made in the form of showing specific content from the perspective of aiming to strengthen the cultivation of ability to construct better human relationships and an enjoyable school life. These goals are to be achieved through activities comprising the pursuit of interests common to many children as exemplified in groupings of children of many different ages aimed at extending children's individuality.

(d) With regard to school events, it is important that at the same time as deepening the sense of belonging to a group and the sense of solidarity among children, these also facilitate interactions between school friends or local people, make children aware of the significance of cooperation, and give them chances to really feel the essential nature and value of natural surroundings and culture. On this kind of basis, efforts will be made to improve the content of school events from the perspective of providing group accommodation experiences in natural surroundings, offering many different kinds of exchange experiences such as contact with children of different ages, and putting emphasis on cultural experiences.

Lower secondary school

(a) Looking at school activities, these can be seen as comprising 3 areas of content: creating a lifestyle to suit the grade and the school, promoting adaptability and growth as well as health and safety, and lessons and future career paths. Within the context of implementing these three content areas, emphasis will be placed, in line with the stage of development of the children concerned, on items concerned with raising the level of eagerness among children to get grips with achieving the realization of a better school life through their own efforts, enabling children to acquire good manners and a spirit of obedience to rules as members of groups and of society at large, cultivating desirable views of work and professional life, and developing relationships comprising awareness of the way of living as a human being as well as future autonomy and independence, and the content of all these areas will be rearranged and

revised.

In addition, due consideration has to be given to the emotional problems of the age of puberty or problems of adapting to different social groups, as indicated by the catchphrase "lower secondary gap" (this is a phrase coined in Niigata Prefecture and taken up over the whole country to indicate the sense of unease and disorientation felt by many children on entering lower secondary school with the loss of familiar relationships, new types of class structure, and so on, resulting in social problems such as failure to attend school regularly, bullying, and so on). Against this background, efforts will be made to incorporate effectively activities aimed at equipping students with social skills that they can use to construct a better human society. In particular, priority will be given to ensuring appropriate guidance which stresses continuity with elementary school, at the time of entry to lower secondary school.

(b) With regard to the activities of the "Pupils' Council", the specific contents will be clearly shown from the perspective of the development of health, human relationships through various kinds of group membership both within and outside the school, and the weight to be put on cultivating a sense of responsibility and the ability to work autonomously to construct a better school life.

(c) With regard to school events, it is important, while continuing to deepen among children the sense of belonging to various groups and solidarity with each other, to provide opportunities for various kinds of human contact in school and in society at large, and to enable children to really feel and respect what the concepts of living and working mean. It is also necessary for children to come into contact with cultural artifacts from the point of view of contributing to the cultural legacy of Japan. On the basis of the various points made here, improvements will be made to the content of school events from the standpoint of stressing experiential activities such as work experience, volunteer experience, cultural experiences and so on.

Upper secondary school

(a) Looking at home room activities, these can be seen as comprising 3 areas of content: creating a lifestyle to suit the home room class and the school, promoting adaptability and growth as well as health and safety, and lessons and future career paths. Within the context of implementing these three content areas, emphasis will be placed, in line with the stage of development of the students concerned, on items concerned with raising the level of eagerness among students to get to grips with achieving the realization of a better school life through their own efforts. At the same time, from the perspective of wanting to promote social

autonomy and independence on the part of students, priority will be attached to the following: enabling students to acquire the manners and courtesies of social living and the manners and skills involved in obeying rules as members of groups and of society at large, cultivating desirable views of work and professional life, and developing relationships comprising awareness of the way of living as a human being as exemplified in planning a future life and career as a full human being. The content of all the relevant areas will be rearranged and revised.

In addition, guidance will be strengthened with particular regard to the importance of adaptation to school life and to social autonomy.

(b) With regard to the activities of a "Students' Council", specific contents will be clearly shown in terms of putting weight on the cultivation in students of a sense of responsibility and the ability to work autonomously, using their own efforts, to construct a better school life, as well as of deepening relationships with local people and society at large from the perspective of stressing activities that contribute to society.

(c) With regard to school events, it is important, while continuing to deepen students' sense of belonging to various groups as well as their sense of solidarity, to provide opportunities for experiential activities that implant in students' minds the concepts of social autonomy and contributing to society, as well as enabling them to feel respect for the significance of living and working together with others in real society. It is also important that students acquire, through contact with cultural artifacts, a perspective of the historical legacy of culture and a desire to contribute to it. On the basis of factors of this kind, improvements will be made to the content of events from the perspective of emphasizing various kinds of experiential activities, such as voluntary activities, work experience, and cultural experiences.

⑯ Period for Integrated Study

(i) Main directions of improvement

○ The basic aims of the Period for Integrated Study[45] can be defined as developing, in response to severe social change, the ability on the part of children to engage themselves, using their own resources, in identifying problem issues, studying them, forming independent judgments about them, and in becoming more adept at finding solutions. In the light of these aims, the abilities to carry out thinking processes, make judgments and engage in self-expression, will become more and more important in the "knowledge-based society" of our time.

In the "Period for Integrated Study", focusing primarily on the issues[46] arising out of it, there is a presumption that ensuring a firm acquisition of fundamental knowledge and skills,

and utilizing the knowledge and skills acquired through learning activities will be covered in ordinary subject teaching. On the basis of this presumption and while paying due consideration to experiential learning, efforts will be made in the Period for Integrated Study to strengthen cross-cutting, comprehensive learning and discovery-based activities that transcend the framework of separate subject teaching. Learning activities of this kind will nurture the ability to think, make judgments and engage in self-expression, and at the same time, combine with subject teaching in extending the ability of children and students in such ways as contributing to ensuring that they have a firm grasp of fundamental knowledge and skills.

○ The time allocation for the Period for Integrated Study will be clearly specified in the curriculum, and with a view to aiming to strengthen school instruction, guidance on the Period of Integrated Study will be taken out of the general school Rules and Regulations and specified afresh as a chapter heading.

○ In the time allocated for the Period for Integrated Study, we can see examples of the implementation of education, in the form of supplementary study, focused completely on learning specific subject-based skills, or examples of practical activities confused with matters such as preparation for Sports Day. Against this background, there is a need to improve the disparities between schools and between school levels in terms of the actual state of getting to grips with the aims of the Period for Integrated Study. For these reasons, it was decided to secure, as a basic precondition, a sufficient allocation of time for the thorough acquisition of basic knowledge and skills and their utilization, and to set out clearly the respective roles of the Period for Integrated Study, individual subject classes, elective courses, and Special Activities. There is also a requirement to make clear the abilities that are to be cultivated by means of the Period for Integrated Study from the perspective of ensuring smooth liaison and communication between the different parts of the curriculum specified here. Furthermore, it goes without saying that indispensable conditions for the appropriate implementation of the Period for Integrated Study are the provision of information on effective case studies, creative ingenuity on the part of teachers, and the establishment of conditions sufficient to ensure training of the necessary human resources.

○ With a view to rectifying the duplication between schools in getting to grips with the issues raised above, examples of learning activities at each school level will be revised on the basis of the actual conditions of each school, paying due consideration to the respective stages of development of the children concerned. Furthermore, by such means as the exchange of information between neighboring elementary, lower secondary and upper secondary schools, care will be taken to ensure liaison between school levels.

(ii) Specific items for improvement

(a) With regard to the aims and objectives of the Period for Integrated Study, items common to elementary, lower secondary and upper secondary schools will be identified, and with a view to making clear to children the significance of these items in terms of learning and objectives, emphasis will be put on connections to actual society and actual real life, in such ways as making efforts to identify problems in real life and finding ways of solving them. In addition, additional clarification will be given of the need to use the time allocation of the Period for Integrated Study to study in a cross-curricular, comprehensive way, issues which transcend the framework of single subject teaching, and to engage in discovery-type activities.

(b) With a view to rectifying the disparity between schools and levels of schools in terms of tackling the problems posed by the Period for Integrated Study, examples of viewpoints on abilities that should be cultivated during this time period will be shown. In this connection, the viewpoints shown in the examples comprises matters concerned with methods of learning, matters concerned with oneself, matters concerned with others and matters concerned with society as a whole.[47]

(c) Details of the abilities to be cultivated and the content of the learning activities and the issues to be addressed will be clearly determined in each school in line with the actual situation of the children concerned, and there will be a clear evaluation of the skills with which children are to be equipped.

(d) New learning activity examples to be added will include, for elementary schools, examples of people's lives in the local community, traditions and local culture, and for lower secondary schools, learning activity involving the world of work and future life planning.

(e) Consideration will be given in elementary schools, when the learning focus is concerned with international understanding, to facilitating the implementation of learning activities that include, in the form of problem-solving or experiential activities, investigations of the lifestyle or culture of overseas countries.

(f) In the context of information study in elementary schools, consideration will be given, when the learning focus is concerned with information, to facilitating the implementation of learning activities that include, in the form of problem-solving or experiential activities, receiving, accumulating, processing and transmitting information, as well as study of the ways in which information influences everyday life and society.

(g) In lower secondary school, when learning concerning the world of work or future life planning is being implemented, consideration will be given to facilitating the implementation

of learning activities that include, in the form of problem-solving or experiential activities, thinking on the part of each pupil about how their life is being lived.

(h) Emphasis will be put on learning activities that involve looking for solutions to problems in cooperation with others, in such forms as teaching and learning from others or exchanging opinions, and at the same time, on analyzing, through the use of language, summarizing and expressing the solutions to problems as well as on discovery-type activities. In this connection, provision will be made to bring together, at the end of lower secondary school studies, the results of study in that school, in the form of an essay report.

(i) It is necessary to ensure that in every school, learning activities in the Period for Integrated Study are more appropriately implemented than at present, by such means as putting sufficient frameworks in place, such as supplying information resources about effective case studies or training human resources who can act as coordinators, or by strengthening support for such measures as utilizing the educative capability of communities.

(j) Improvements will also be made in the area of taking forward inspections and evaluations so as to ensure, on the basis of instruction and guidance from the local board of education, that in each school, in accordance with the spirit and aims of the Period for Integrated Study, learning activities are being appropriately carried out, with reference to organized, whole-school involvement, the system and planning of instruction in the school, implementation conditions, and so on.

（3）Specially supported education (Special Education Needs)

(i) Main directions of reform

○ With regard to specially supported education,[48] focusing primarily on the issues[49] arising from it, efforts will be made to improve curriculum criteria from the point of view of implementing appropriate education and necessary support in response to the educational needs of every individual child with a handicap. The background is comprised of the following three factors: ① social change and the diversification as well as the growth in severity and in multiple handicap among children with handicaps; ② the creation of a system of specially supported schools which can provide education in response to the classification of multiple types of handicap; and ③ the systematization of specially supported education in kindergartens, elementary schools, lower secondary schools and upper secondary schools.

(ii) Specific items for improvement

① Specially supported schools

a) Educational objectives

○ The objectives of specially supported schools will be clearly shown in the Courses of Study on the basis of revisions in the School Education Law.

b) Autonomous activities

○ The contents of autonomous activities can be classified into 5 categories (maintenance of good health, psychological stability, grasp of surroundings and the environment, physical mobility, and communication), and 22 headings can be shown under these categories. With a view to further strengthening appropriate guidance corresponding to many different types of disability, including increasing severity or multiple handicaps in a period of social change, autism, LD (learning disabilities)[50], ADHD (Attention Deficit Hyperactivity Disorder)[51], and so on, many new headings will be incorporated into the contents, including ones corresponding to interaction with others, understanding the intentions and feelings of others, understanding oneself and regulating behavior, participation in groups, awareness and the characteristics of cognition, and so on.
○ As a new category to be added to the existing 5 categories, "formation of human relationships" will be created, and related headings will be put in place.
○ In the area of autonomous or self-help activities, clear indications will be given in improved guidance that evaluation is to be carried out on the basis actual practice, and together with this, the order and procedures for carrying out teaching planning will be made more easily understandable.
○ At the same time as taking even further forward self-initiated activities on the part of children, clarification will be given concerning ways in which guidance can be given to enable children to carry out activities more easily in such ways as arranging their own environment or seeking help from other people when this is necessary.

c) Instruction of children with severe and multiple handicaps

○ In the case of a person suffering from 2 or more disabilities (multiply handicapped person), provision will be made to enable a more flexible curriculum to be formulated.
○ Within the framework of a whole-school, organized response, clarification will be given on implementing a pattern of instruction which of course arranges for appropriate education to be given through the cooperation of a number of teachers, and also, as occasion demands, utilizes the advice and wisdom of many different specialists, including doctors, nurses, physical therapists, occupational therapists, language hearing specialists and psychologists.
○ Clarification will also be given concerning visiting education to be given by teachers who

make home or hospital visits to give education to children, in the form of sowing how ingenuity and creativity can be used to improve teaching methods and content in line with the actual situation of individual children.

d) Subjects in specially supported schools providing education to mentally handicapped children

○ With regard to the content of individual subjects, more easily understandable indications will be given on how to carry out an evaluation of content on the basis of the actual state of children and in the light of social change.
○ In the upper sections of specially supported schools, a new specialist subject called "Welfare" will be created with content that provides basic content concerned with welfare; this change was motivated by the desire to continue to take forward the vocational education of students on the basis of their actual condition and of their entry into the world of work after graduating from high school.
○ On the question of the kind of instruction or guidance that is to be given, further clarification will be given on how to devise ways in which children can utilize in their actual daily lives the knowledge and skills that they acquire in schools.

e) Vocationally oriented subjects

○ Necessary reevaluation will be carried out in respect of specialist subjects in the upper sections of specially supported schools on the basis of such factors as social change and contemporary advances as well as recent developments concerning the employment of people with disabilities.
○ With regard to subjects concerned with vocational areas, further emphasis will be put on experiential learning involving practical, workplace-based learning, and further clarification will be given in the area of efforts to liaise with local communities and the local industrial world, and on the positive efforts by companies to utilize specialists from outside the company.

○ On the question of career guidance, while continuing efforts will be made to liaise with relevant organizations, there will be a strengthening of career guidance given at an early stage with the aim of enabling students to make their own, self-motivated selections about what career path suits each of them.

f) Improvements to methods of instruction

○ Improvements will make clear, on the basis both of more effective and efficient individual subject instruction being achieved by the utilization of information devices, and of the planning of individual instruction, the necessity for more effective instruction using ingenuity in lesson

planning and group formation.
○ With regard to particular points to be noticed in kindergarten and to points to be considered in terms of individual subject instruction in elementary, lower secondary and upper secondary schools, a reevaluation will take place on the basis of such factors as the characteristics of particular disabilities and the changes in the social environment surrounding children.

g) Planning instruction for individual children

○ At present, instruction in self-generated activities as well as instruction for children with multiple handicaps is treated in the context of the planning of individually oriented instruction, but in order to take forward more effectively instruction that is appropriately geared to the multi-faceted reality of individual children, the preparation process of individual instruction planning including the points to be considered in respect of each individual subject will be made clear.
○ With specific regard to such planning, clarification will be given in terms of utilizing in instructional improvements the results of evaluation carried out on the basis of actual practice.

h) Planning of individual educational support

○ At present, efforts are made to raise the level of effectiveness of instruction by means of ensuring close liaison with families, child welfare institutions, medical institutions, and so on. Efforts will be made to take this liaison process even further forward, including the family, welfare, medical and child care facilities, employing organizations and so on, and clarification will be given aimed at formulating individual educational support plans designed to implement educational support to meet the individual needs of each child, and at ways of utilizing these plans.
○ Clarification will also be given, in connection with formulating individual educational support plans, on how to take forward further efforts to involve families.

i) Functions appropriate to specially supported education centers

○ At present, efforts are being made to arrange for functions appropriate to specially supported education centers to be carried out in respect of educational advice and counseling in the community. These efforts will be intensified, and in order that such functions can be carried out, the following measures will be specified as curriculum-related headings.
○ As a result of demands from kindergartens, elementary schools, lower secondary schools and upper secondary schools, clarification will be given to the effect that necessary advice and support will also be offered to children with disabilities and their parents.
○ Clarification will be given to ensure that while efforts will continue to get roles appropriate to specially supported education centers carried out in the community, advice is offered at an

early stage, while liaising with appropriate organizations, so that parents of children with a handicap are given the chance to receive advice and counseling from an early stage.
○ Clarification will be given on establishing a system within schools for tackling the issues raised here in an organized fashion.
○ Clarification will also be given on setting up connections with other specially supported schools as well as with kindergartens, elementary schools, lower secondary schools and upper secondary schools.

j) Exchange programs and joint learning

○ With regard to exchanges and joint learning carried out with children in kindergartens, elementary schools, and lower and upper secondary schools, efforts will be made to implement these at an early stage in an organized, planned, and continuous fashion, on the basis of a thorough examination of the content and methodology in relation to the educational needs of both parties involved in such exchanges or joint learning.

k) The ICF perspective

○ An accurate grasp of children's actual condition, effective liaison with relevant organizations, and consideration for environmental factors will be incorporated from the standpoint of aiming to strengthen still further instruction which has autonomy and social participation as its objectives on the basis of the thinking comprised in the ICF (International Classification of Functioning, Disability and Health)[52] concept.

l) Raising the level of specialist teacher competence and establishing a framework of educational conditions

○ With a view to raising the specialist level of teachers in specially supported schools, a range of measures will be taken forward, including the promotion of acquisition of teacher licenses by teachers in specially supported schools, and a strengthening of training courses at national and prefectural level as well as in-school training courses.
○ In order that specially supported schools can carry out the role of a center for specially supported education in a given locality, there is a need to take forward revisions in the number of staff needed.

② Specially supported education in kindergartens, elementary schools, lower secondary schools and upper secondary schools

a) Specially supported classes and instruction in standard classes in elementary and lower secondary schools

○ The following improvements are planned with a view to ensuring that all teachers offer education uniformly to children in specially supported classes and standard classes in elementary and lower secondary schools, and that such instruction can be implemented in the school as a whole.

- With regard to the formation of a special curriculum for specially supported classes and specially supported children in standard classes, measures to facilitate the construction of such a curriculum will be incorporated into the provisions of the Courses of Study for specially supported schools.
- It will be specified that the establishment of a support system within a school must be accompanied by whole-school involvement.
- Efforts will be made to formulate individual instructional guidance with a view to enabling the preparation of individually tailored lesson plans based on an accurate assessment of the actual condition of each individual child.
- With a view to ensuring appropriate support for every individual child, efforts will be made to formulate individual educational support plans and to utilize these, as necessary, in the context of the importance of liaison with the families of children concerned and related organizations.

b) Strengthening instruction in standard classers (for non-disabled children) in kindergartens, elementary schools, and lower secondary and upper secondary schools

○ It has been pointed out that about 6% of the children in standard classes in elementary and lower secondary schools are suffering from LD (Learning Disabilities), ADHD (Attention Deficit Hyperactivity Disorder) or other afflictions. In this situation, it is necessary to ensure that the disability characteristics of these children are sufficiently well understood, and that they are given appropriate instruction in each of the specialist subjects. With this in mind, the following improvements are designed to strengthen understanding of the children's disabilities and the appropriateness of the instruction given in all schools, including kindergartens and upper secondary schools.

- Clarification will be given of provisions to ensure that necessary measures are appropriately taken in response to the disabilities of individual children. Examples of these are measures to implement the preparation, as the conditions require, of individual educational support plans and individual instruction plans in respect of children with disabilities who are currently enrolled in standard classes in kindergartens, elementary schools, lower secondary schools and upper secondary schools. Instruction methods used in specially supported schools or specially supported classes will serve as reference points.
- In view of the very significant effect that the implementation of appropriate instruction from a very early age has on subsequent education, efforts will be made to strengthen

support for children with disabilities who are enrolled in kindergartens, including consideration of the newly established "centers for early childhood education and care". Furthermore, the policy of strengthening guidance to deal with children with disabilities in kindergartens will be reexamined.

- At the stage of late secondary education, in the light of the importance of providing appropriate education for pupils with disabilities and of implementing the necessary support, a reexamination will also be made of policies for strengthening guidance and instruction to be given that corresponds to the actual state of disabilities in children in upper secondary school.

c) On utilizing center-type functions

○ When functions whereby a specially supported school takes on the role of a local community center for specially supported education, implementing support to meet the demands of kindergartens, elementary and lower secondary, as well as upper secondary schools, great results are expected in the area of taking forward education that corresponds to the children's needs. With this in mind, efforts will be made to utilize functions analogous to those of a center, even in standard kindergartens, elementary and lower secondary, as well as upper secondary schools, by constructing within schools a system that can provide appropriate guidance and necessary support to children with disabilities.

d) Exchanges and joint learning

○ With regard to exchanges and joint learning involving children with disabilities and those without disabilities, efforts will be made to implement such projects in an organized, planned and continuous fashion after sufficient examination to ensure that the contents and the methodology correspond to the educational needs of both kinds of children.
○ On the basis of the belief that it is important for children without disabilities to deepen their understanding and knowledge of children with disabilities, strengthened guidance will aim to deepen this knowledge and understanding.

e) Raising the specialist level of teachers and improving the conditions of the educational environment

○ In order to raise the quality of teachers in specially supported education, policies will be implemented to raise the level of teachers in specially supported schools by means of the conditions for acquisition of the required teaching certificate, and to strengthen the content of study training carried out on a national and prefectural level as well as within schools.
○ With a view to implementing appropriate instruction geared to the disability of an individual child, it is necessary, at the same time as making improvements to the set number of teaching

staff, to take forward detailed measures relating to the educational environment, from the standpoint of promoting specially supported education, such as raising the specialist level of educational staff, including support staff working within specially supported education, making even more use of outside specialists such as school counselors, school doctors, and so on, and modifying equipment and facilities so as to make a barrier-free environment.

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[1] Infant education is very important in that it cultivates the foundation of human character formation, which will last throughout a person's entire life. Kindergarten education structures the environment in a planned way and enables the child to accumulate experiences through daily living with a primary focus on play, and implements comprehensive guidance geared to each individual child. Furthermore, the Courses of Study for Kindergarten stipulate the content of kindergarten education, and show the "aims" in terms of the feelings, desires and attitudes that are expected to be cultivated in the infant by the end of his or her time in kindergarten; also shown as "content" are key headings denoting the experiences that infants will have with a view to achieving these aims and the guidance that teachers will give. The "aims" and "content" can be divided into the following 5 categories from the perspective of infant development: "health", "human relationships", "environment", "language", and "expression". There are 15 "aims" and 50 items of "content" shown.

With regard to the relationship between kindergartens and nurseries, efforts continue to be made up to the present time to integrate the educational content found in the Courses of Education for Kindergartens and the Care Guidelines for Nurseries, and in fiscal 2005, Centers for Early Childhood Education and Care were newly created. More work needs to be done from now on in taking forward the links between kindergarten and nurseries.

[2] With regard to kindergarten education, the following issues can be cited.

- The nature of child upbringing has changed in recent years. Among the problems that have been identified are the following: a lack of basic habits of daily living, confused food life, weakening of self-control and a consciousness of social norms, lowering of physical motor ability, lack of communication ability, inability to adapt to life in elementary school.
- In the broader social context of a lowering of the educational ability of families and communities as the result of social change, there is a need to take away the unease that many parents feel about child upbringing, to enable parents to feel the joy of caring for a child, and to utilize the functions of kindergartens so as to offer support for child rearing with the aim of making better child upbringing a reality. The number of kindergartens that will "look after a child after a hours" is also increasing, and these institutions are called upon to exercise their educational functions as kindergartens.

[3] In the subject, Japanese language, the aim, through elementary, lower secondary and upper secondary school, is to cultivate the ability to express oneself appropriately in Japanese and to have an accurate understanding of the language as well as heightening the ability among children to convey things to each other. At the same time, the education also aims to cultivate thinking and creative ability, to equip children with a rich sense of language awareness, and to develop in children an attitude of respect for the Japanese language. In order to realize these aims, the content of the teaching is composed of "language items" such as the four areas of "speaking and listening", "writing" and "reading", a knowledge of Japanese kanji and the rules of language, transcribing, and so on, so that through the medium of concrete language activities corresponding to the stage of development of the children concerned, their abilities in Japanese are developed

[4] With regard to Japanese language, the following issues can be cited:

- From the results of international ability surveys, a decreasing trend in reading ability has been identified. Specifically, problem areas are found in the interpretation of sentences and documents, reasoned deliberation and evaluation, questions concerned with the form of written statements.
- In the results of the Survey on the State of Curriculum Implementation, the percentage of correct answers overall is increasing, but problem areas can be identified in respect of questions to do with formal writing. When children are able to express their own feelings comparatively freely, the percentage of correct responses rises, but when it comes to reading sentences deeply and

understanding them analytically, and then composing a logical written statement on the basis of their understanding, the percentage of correct responses decreases. At upper secondary school level, there are also problem issues concerned with developing familiarity with and having the ability to read classical writing, as well as with understanding the rules of literary language and the Japanese reading of Chinese characters.

- From the results of investigating specified issues, it is clear that children have a thorough grasp of kanji (Japanese ideographs) which are used in everyday life and have a high usage frequency, but there is a problem in terms of an insufficient grasp of kanji which have a low level of frequency usage or which are only used within a very narrow range.
- With regard to respect language, data from opinion surveys carried out by the Cultural Affairs Agency shows that over 80% of respondents make frequent mistakes in their usage of respect language, and there is a need to enable children to make appropriate use of respect language in the course of their daily lives.

[5] Through the teaching of Social Studies in elementary and lower secondary schools, and of History and Geography as well as Civics in upper secondary schools, it is hoped that the following aims can be achieved: to give children an awareness of themselves as citizens of Japan, including equipping them with an interest in Japanese and global phenomena, enabling them to consider these from many different angles, developing an attitude and an ability conducive to making fair judgments, giving them an understanding of the history and geography of Japan, and of the spirit of international cooperation; it is hoped in these ways to develop abilities and qualities that will enable children to live autonomous lives in international society. In order that these aims can be realized, children in elementary school, in line with their progress through school grades, study content concerned with topics such as local society and the land, industry, history and politics of Japan, and in lower secondary school, make a systematic study of the differentiation of the three areas of Geography, History and Civics. At upper secondary school level, their study is divided into Geography and History on the one hand and Civics on the other, and specialist awareness is emphasized through the study of World History, Japanese History, Geography, Modern Society, Ethics, Politics and Economics.

[6] The following problem issues can be cited:

- An examination of children's learning situation shows that they are insufficiently equipped with basic knowledge and concepts. Attention has also been drawn to the need to emphasize application of the knowledge and skills learned.
- In the current Courses of Study, relatively little attention is paid to culture within the various fields making up Social Studies in lower secondary school or Civics in upper secondary school, and there are calls for a strengthening of education concerned with the traditions and culture of Japan.
- In Social Studies in elementary school, the basic knowledge provided about overseas countries is inadequate, and in the geographical sections of Social Studies in lower secondary school, study is limited to 2 or 3 case studies of selected countries, while in the historical sections, there is very little content concerned with world history. On the basis of these points, there are demands for a strengthening of content concerned with world history and geography.
- In the context of changes in the form that the socio-economic system should take, as exemplified by the development of globalization and deregulation as well as the increase in the role of laws and regulations, it is important to equip children, who will bear the burdens of society in the future, with the ability to create new things and to turn their attention toward the formation of a better society, and to enable them to participate positively and of their own volition, in society and to seek solutions to problem issues.

[7] In Arithmetic in elementary school and Mathematics in lower secondary and upper secondary school, the aims are to give children, through the medium of arithmetical and mathematical activities, a thorough grounding in knowledge and skills concerned with quantities and diagrams, as well as equipping them with the ability to think and express themselves in mathematical terms. At the same time as being engaged in this learning process, children will develop an attitude of wanting, of their own volition, to apply what they have learned. With the object of realizing these aims, the content of teaching at the different levels of schooling will be composed of the following key items: ① in elementary school, "number and calculation", "quantity and measurement", "diagrams" and "quantitative

relationships"; ② in lower secondary school, "numbers and numerical expressions", "diagrams", and "quantitative relationships"; and ③ in upper secondary school, of the following 7 subjects: "Basic Mathematics", "Mathematics I", "Mathematics II, "Mathematics III", "Mathematics A", "Mathematics B", and "Mathematics C".

[8] The following problem issues can be cited:

- No decreasing trend can be identified in the acquisition of basic calculating skills either from the results of the Survey on the State of Implementation of the Curriculum or from those of international surveys of ability. However, problem issues have been identified in such areas as understanding of the meaning of calculations. In addition, children's ability to apply the knowledge and skills that they have learned in everyday life is insufficient.
- According to the results of the Survey on the State of Implementation of the Curriculum or from those of international surveys of ability, problem issues were identified in terms of the following: interpretations of matters or aspects of things in mathematical terms, solving problems by utilizing mathematical ways of thinking or looking at things, and expressing one's own thinking in mathematical terms.
- As a result of the investigation of specific issues, the importance of problem-solving instruction in terms of specifying concrete aspects to be solved, and of continuous instruction in calculation spanning several grades has become clear.
- With regard to arithmetical and mathematical activities, instruction which tackles aspects of quantity and diagrams through by including practical, hands-on activities is gradually increasing, but there is still a need for further development of practical studies and for further clarification of the aims of activities.
- In the PISA survey, the percentage of children who were interested in studying Mathematics was below the international average, while the percentage of those who felt uneasy about Mathematics was higher than the average. In the TIMSS survey too, the percentage of those who thought they enjoyed studying Arithmetic or Mathematics was lower than the international average.
- On the question of whether children liked or disliked Arithmetic / Mathematics, there was a noticeable decline from Grade 6 in elementary school through Grade 1 in lower secondary school of those who said they liked it.
- The issue has been raised of the need to heighten awareness of the significance and usefulness of Arithmetic / Mathematics and the role that Mathematics plays in society at large, and there are also voices that say that it is necessary to nurture feelings of self-respect and autonomy based on confidence gained through a feeling of achievement at having solved a particularly stubborn and tricky problem.

[9] In Science at all levels of schooling, i.e. in elementary, lower secondary and upper secondary school, the aims are stipulated as being to familiarize children with the natural world, to heighten their interest in natural objects and phenomena, to enable them to carry out observations and experiments with a conscious objective in mind, and to enable them to carry out investigations in a scientific way. At the same time, instruction should aim to deepen understanding of natural events and phenomena, and cultivate a scientific way of looking at and thinking about things. With the object of realizing these aims, the content of teaching at the different levels of schooling will be composed of the following subjects. ① in elementary school, "Living creatures and their environment", "Matter and energy" and "The earth and space"; ② in lower secondary school, "matters concerned with Physics and Chemistry" in "Field No. 1" and "matters concerned with Biology and Earth Science" in Field No. 2; and ③ in upper secondary school, "Science Fundamentals", "Comprehensive Science A", "Comprehensive Science B", "Physics I", "Physics II", "Chemistry I", "Chemistry II", "Biology I", "Biology II", "Earth Science I", and "Earth Science II".

[10] As problem issues, the following can be cited.

- Compared to other subjects, the desire on the part of children to study Science is high, but the level of consciousness that attaches a high value to it is low, and the existence of this gap is a problem issue. If we look too at international comparisons, we can see that among Japanese children, eagerness to study Science is relatively low compared to the children of other countries.
- It has been suggested that against the background of a low level of interest in science among

people generally, a fresh look needs to be taken at science education from the perspective of making it something in which children will have a continuing interest throughout the whole of their lives.

- Comparing the experiences that children have now with those in past times, the current situation is that nature-based experiences and hands-on, experiential experiences, which constitute the foundation of science, have become rarer.
- In the Survey on the State of Implementation of the Curriculum, it is possible to see that the percentage of correct responses to problems posed in the past has risen, but that basic knowledge and understanding are insufficient in the case of content such as balance in the case of leverage, collisions, the structure and functioning of the human body, conservation of mass in the case of a change in the state of matter or a chemical change, the lives and classification of plants, and so on.
- In the Survey on the State of Implementation of the Curriculum, the ability to think and express oneself in scientific terms was insufficient when it came to problems such as making inferences and deductions, or problems concerned with assigning a meaning or giving an explanation to accompany the establishment of a connection; a problem involving the interpretation of a graph; or of having to consider what was happening part way through an experiment. In the PISA survey too, "recognizing a scientific question" was relatively problem-free, but there were problem issues with "explaining a phenomenon in scientific terms".

[11] In Life Environment Studies in the lower grades of elementary school, the close and immediate environment of the children is used as learning material, with the aim of "cultivating a foundation for independence" through specific activities and experiences. With this aim in mind, the content is composed of 8 areas: ① school and everyday life, ② the home and everyday life, ③ the local community and everyday life, ④ using publicly owned things and public facilities, ⑤ the changing seasons and everyday life, ⑥ play using natural objects and man-made things, ⑦ looking after plants and animals, and ⑧ my own growth.

[12] As problem issues, the following can be cited.

- According to surveys of specially designated schools, learning activities and experiences end when the experience or activity ends, and there is insufficient guidance aimed at qualitatively enhancing what the children have acquired or noticed during the activity or experience.
- There is a tendency for expressive activities only to aim at the end result, and guidance that utilizes the characteristics of children of this age to identify thinking and the act of expression and to get them to look back on and think about the activity or experience does not take place.
- There is a need to strengthen guidance aimed at heightening children's intellectual curiosity and cultivating a scientific way of looking at things and thinking about them.
- In a context of widening fears about safety and security in children's daily lives, safety education is being strengthened, and there is a fall in the number of opportunities to make contact with natural phenomena. Against this background, the importance of experiential activities in learning about the awesome nature of life or natural phenomena needs to be emphasized.
- Given the reality as shown in "Elementary Program 1", that that there are children who have difficulty in adapting to school life, attention has been drawn to the need to establish concrete lines of communication between kindergartens and elementary schools.

[13] In "Music" in elementary school and lower secondary school, and "Art (Music)" in upper secondary school, the common aims, pursued through a wide range of activities involving expression and appreciation, are to develop a fondness for music and sensitivity in musical matters, to extend children's basic abilities in musical activities, and to cultivate a rich fund of esthetic sensitivity. With the goal of achieving these aims, the content in elementary, lower secondary and upper secondary school consists of 2 fields: "A. Expression" and "B. Appreciation". In elementary and lower secondary school, "A. Expression" consists of "Singing", "Instrumental music" and "Composition"; the items for individual guidance differ between elementary and lower secondary school. In upper secondary school, the content consists of the three fields of "Singing", "Instrumental music" and "Composition".

[14] There are calls for action in respect of the following issues.

- Heightening esthetic sensitivity, cultivating the ability to engage in a range of processes involving

thinking, making judgments and engaging in self-expression, enabling familiarity with music in a way that will last children all their life, enabling children to savor musical culture, and developing attitudes of using the richness of music in society and daily life.

- In the context of cultivating skill in musical expression and ability in expression, putting emphasis on making children aware of sounds and music and getting them to understand by putting their sensitivity to work.
- There is a tendency for a bias to be seen toward singing activities, and the situation is one in which there is insufficient learning of other areas of expression and of appreciation, so there is a need to strengthen composition and appreciation.
- Children should be enabled to develop a love of the musical culture of Japan, and to feel and understand its good points, while at the same time developing an attitude of respect for the culture of other countries. With these points in mind, there is a need to strengthen familiarization with Japanese songs, which have been passed down through the ages, and with traditional Japanese music.

[15] In the Courses of Study for Music in elementary schools, as a way of familiarizing children with the way in which the positive aspects of Japanese musical culture have been passed down through the ages, 4 traditional songs are listed for each grade. Children in the lower and middle grades of elementary schools must deal with 3 out of the 4 pieces, while children in the higher grades deal with 2 out of the 4.

It should also be noted that in the Courses of Study of 1989, common teaching materials in the form of songs and in the form of materials for appreciation were specified for elementary and lower secondary schools, but in the revisions of 1998 to the Courses of Study, ut was decided, from the point of view of promoting the originality of each school and of developing many different kinds of musical activities which utilized the actual situation of schools and local areas, that appreciation materials used in common elementary school as well as appreciation materials and songs used in common in lower secondary school should no longer be specified.

[16] In "Art and Handicraft" in elementary school, "Fine Arts" in lower secondary school, and "Art (Fine Arts, Crafts)" in upper secondary school, the common aims, pursued through a wide range of activities involving expression and appreciation, are to develop a fondness for art and a sensitivity in artistic matters, to extend children's basic abilities in sculpting and creative activities, and nurture a rich fund of esthetic sensitivity. With the goal of achieving these aims, the content in elementary, lower secondary and upper secondary schools will be composed of "A. Expression" and "B. Appreciation". Looking in more detail at "A. Expression", it is composed in elementary school of "Fun Molding Activities (molding play)" and "Pictures and 3-D models, making whatever you want to make"; in lower secondary school of "Pictures, Sculptures, etc." and "Design, Industrial Arts, etc.); and in "Fine Arts" in upper secondary school of "Paintings and Sculpture", "Design" and "Expression through Visual Media", while "Crafts Production" comprises "Production of Industrial Arts and Crafts" and "Production of Actual Products".

[17] There are calls for action in respect of the following issues.

- Putting children's sensitivities to work and cultivating in them the ability to engage themselves with a range of processes, engaging in expression and appreciation of works of art while exercising their ability to think, make judgments, and show creative ingenuity.
- Aiming to improve guidance and instruction that utilizes children's interests with the aim of enhancing their ability and aptitudes while raising the level of their interests.
- Enabling familiarity with the arts in a way that will last children all their life, getting children to utilize art in society and their daily lives, and cultivating a rich fund of artistic sensitivity.
- Strengthening guidance and instruction in appreciation in such ways as getting children to use as a foundation what they have felt and understood, and enabling them to discover meaning in their own way while putting a high value on their thoughts and ideas.
- Using guidance and instruction in the culture of Japan to heighten children's interest in the long historical legacy and the creation of this culture, and enabling them to understand the culture of a number of overseas countries.

[18] The aim of "Art (Calligraphy)" in upper secondary school is to develop in students, through pursuing

a wide range of activities, feelings of fondness for calligraphy and sensitivity toward it, to heighten their ability in transcribing and to nurture a rich fund of esthetic sensitivity. With the goal of realizing this aim, the contents comprise "A. Expression" and "B. Appreciation". More specifically, "A. Expression" is composed of 3 fields, "Calligraphy written in a mixture of kanji and kana", "Calligraphy written only in kanji", and "Calligraphy written only in kana". In elementary and lower secondary school, calligraphy is covered by instruction in transcription within "Japanese language".

[19] There are calls for action in respect of the following issues.

- With a view to forming a rich and fruitful life, enabling children to utilize their creative abilities and to express their own thoughts in calligraphic forms.
- Enabling children to savor the goodness of artistic culture and become familiar with calligraphy, and cultivating an attitude of wanting to enrich society and daily life through the use of calligraphy.
- Working to ensure a smooth transition between the study of transcription in elementary and lower secondary school and calligraphy.

[20] "Seal-engraving" denotes carving or engraving kanji (Japanese ideographs) into the material used, either stone, wood or some other material, using as the form of kanji the oldest written form, known as "*tensho*".

[21] "*Kokuji*" (Seal carving) denotes the carving of kanji into prepared wood, and also denotes the finished product.

[22] In "Homemaking" in elementary and upper secondary school, and "Industrial Arts and Homemaking" in lower secondary school, the common aim, pursued through practical and experiential activities, is to deepen children's understanding of the connections between everyday life and technology, to enable them to acquire the knowledge and skills needed in daily life, to cultivate the ability to devise and create living patterns, and to nurture a practical attitude and an eagerness to construct a better society. With the goal of realizing these aims, the curriculum at the various levels of schooling is constituted as follows.

- "Homemaking" in elementary school has 8 content items, all of which emphasize everyday activities that are part of life, for example, "Home life and the family", or "Interest in food".
- In "Industrial Arts and Homemaking" in lower secondary school, in the Industrial Arts field, there are 2 content areas: "A. Technology and making things", and "B. "Information and computers". In the "Homemaking" field, there are also 2 content areas: "A. Daily life independence and clothes, food and housing" and "B. The family and home life".
- In upper secondary school, students must take 1 subject selected from: "Family fundamentals", "Comprehensive study of the family" and "Daily life technology".

[23] There are calls for action in respect of the following issues.

- Developing the practical ability to pursue a better life, on the basis of an overview of future life patterns and with attention focused on the links between self and the family, and between the family and society.
- Study of child upbringing, focusing on the desired pattern of the family and on personal relations within the family, also on autonomous daily living, and at the same time, study of knowledge and techniques required to make contact with and live together with others.
- Promotion of food life and consumer education.
- Strengthening education aimed at enabling students. from the point of view of constructing a sustainable society, to establish a lifestyle that pays attention to resources and to the environment, and at the same time, developing the ability to evaluate and administer different technologies used in society, such as the efficient use of energy and forestry resources.
- Developing the ability to support the manufacture of products in Japan and the ability to utilize safely the required technology.

[24] In "Physical education" in elementary school and "Health・Physical Education" in lower and upper secondary school, the aims, pursued through enabling understanding of exercise as well as promoting health and safety, and through rational and practical exercise, taking the body and mind as a single unit,

are the following: to develop the abilities and qualities conducive to positive familiarization with exercise and sport; to raise the level of practical ability needed to maintain and improve good health and physical strength and stamina; and to cultivate an attitude of being able to manage a rich and cheerful daily life. With the goal of realizing these aims, the main content of the curriculum is as follows.

- In "Physical Education", movement of the body, gymnastic exercise, athletic competitions (athletic exercise), swimming, ball games (exercise using a ball), martial arts (only in lower and upper secondary schools), dance (expressive movement) as well as knowledge concerning these various forms of exercise (only in lower and upper secondary schools).
- In "Health", development of the functions of the mind and the body and health of the mind, prevention of injury, prevention of disease, health and the environment, and the ways to develop and maintain a healthy lifestyle.

[25] In "Physical Education", attention is drawn to the following points, on which action is called for.

- There is a polarization between those children who practice exercise and those who do not.
- There is a continuing serious problem of a decline in children's physical strength and stamina.
- Examples can be found of insufficient efforts to cultivate abilities conducive to a familiarity with sport that will last children throughout their lives, as exemplified in interest in exercise and eagerness to engage in exercise and sport of one's own volition, awareness of the pleasure and joy of various forms of exercise, and the basic skills that are fundamental to exercising and knowledge about these.
- Doubts have been raised as to whether there are not children who select options without any learning experience.
- and in "Health", the points are the following..
- In future, there will be an even stronger requirement for people to collect information to enable them to manage their own health, to make judgments and to act accordingly, and with these points in mind, there is a need for greater systematization of the content of "Health", aimed at cultivating the abilities and aptitudes necessary to improve appropriate management of one's own health through the whole of life.
- Given that attention has been drawn to confused lifestyle habits even among children in the early years of elementary school, there is a need for improvement in the content of learning about health in these years, including examination of the appropriate age at which such learning should begin.

[26] Physical ability is composed of physical strength and stamina combined with exercising skills. While knowledge denotes the interactive connection between exercising skills and such factors as eagerness and thinking ability, it is something with which a child needs to be equipped, and there is a requirement for instruction which is able to strengthen the importance of knowledge through the process of acquiring skills in exercising.

[27] At present, in the upper grades, the content is composed of "exercising to strengthen the body", "gymnastics", "athletics", "swimming", "ball exercises", as well as "expressive movement".

[28] At present, the health area of Physical Education in elementary school is constituted, in the middle grades, of living a healthy lifestyle and physical growth and development, and in the upper grades of avoidance of physical injury, mental and emotional health as well as avoidance of illness.

[29] At present, the field of "Health and Physical Education" in lower secondary school is composed of the development of physical and mental health and health of the heart and mind, health and the environment, prevention of injury, healthy lifestyles and prevention of illness.

[30] At present, the subject, "Health", within the subject area of "Health and Physical Education" in upper secondary schools, consists of modern society and health, health throughout life, and social living and health.

[31] In "Foreign Language" in lower secondary school and upper secondary school, the aims, pursued through the study of foreign languages, are to deepen understanding of language and culture, to develop an attitude of positive eagerness to engage in communication, and to cultivate practical communicative

abilities in areas such as listening and speaking. With the goal of achieving these aims, the main areas of content are: "Language Activities", ""Handling Language Activities" and "Language Materials"; on the basis of the stage of development of the pupils and students concerned, foreign language ability is cultivated through concrete language activities. For example, in lower secondary school, instruction in "Listening" and "Speaking" is prioritized, and overall, "Listening" can be termed comparatively good. At upper secondary school level, "Reading" can be termed as comparatively good in terms of, for example, appropriately grasping an overview and central points.

[32] The following points can be cited as issues requiring attention.

- Accompanying the rapidly advancing globalization of society and the economy, it is no longer sufficient simply to be able to understand foreign languages; training in the ability to "produce and transmit" in the form of communicating one's thoughts to the other party is becoming increasingly important.
- The fact is that the present situation is one in which, in lower and upper secondary school, students are inadequately equipped with the ability to use basic vocabulary and sentence structures in communication, and their ability to write a sentence with coherent content is also inadequate.
- Compared to attitudes toward other subjects, the number of students who think that English is important and that it will be of use to them in daily life and society is comparatively large, but as students rise up through the school grades, there is a discernible decrease in the number of those who like English. In lower secondary school, the percentage of those students who do not understand what they are learning is comparatively high compared to other subjects.

[33] From the perspective of striking a balance in teaching between the 4 language skills and of cultivating a basis in foreign language learning that will serve students in upper secondary school and beyond, it is possible to think of adopting the following goals as prioritized items: "to be able to listen to and understand English spoken at normal speed when the content is what has been taught in Grade 3 of lower secondary school", "to be able to write a coherent speech about an assigned theme", "to be able to read English sentences of a reasonable length and have an overview of the main points" and "to be able to write a coherent English sentence in a short space of time".

[34] In "Information Study" in upper secondary schools, the aim, through study of the knowledge and skills necessary to utilize information and information technology, is to cultivate a scientific way of looking at and thinking about information, to enable students to understand the influence of information and information technology and the role they play in society, and to develop in students abilities and attitudes conducive to responding on their own initiative to the growing advance and pervasiveness of information devices. With the goal of realizing these aims, the curriculum consists of 3 subjects, "Information A", "Information B" and "Information C", and students must take at least one of these.

[35] Action is called for on the following issues.

- With a view to linking knowledge and skills resulting from the application of information as well as information devices, transmission networks, software, and so on, to real-life uses in life and work, there is a need for emphasis on instruction designed to ensure that each individual students is firmly equipped with the ability to utilize information in order to enable that student to respond as an individual to the rapid changes in society.
- In a context in which considerable teaching time is devoted to prioritized learning of information technology, comprising such things as methods of manipulating information devices, there is a need for the strengthening of instruction aimed at cultivating the ability to apply information for such purposes as communication, the ability to select, process and transmit information on a self-motivated basis, and the ability to engage in creative thinking and make rational judgments of the kind that are indispensable to identifying and solving problems.
- In a context in which we have seen the multiple occurrence of crimes resulting from the use of information communication networks, further additional strengthening of instruction aimed at developing basic attitudes concerned with the appropriate application of information, including information security in such areas as prevention of damage through the net, information morality, the protection of intellectual copyright and so on, is required.

[36] The 3 perspectives of information are: practical ability to utilize information, a scientific understanding of information, and an attitude of wanting to participate in the information society.

[37] The subject areas concerned with vocational education taught on specialized courses are as follows: agriculture, manufacturing, business, marine products industry, home economics, nursing, information study and welfare. Various subjects are comprised within each of these subject areas. For example, in agriculture, there are "Fundamentals of Agricultural Science", Fundamentals of Environmental Science, etc.; the total number of subjects is 29, and they are specified in Appendix 3 of the School Education Law Implementation Regulations.

[38] As the background to issues of concern, economic globalization, changes in the industrial structure accompanying internationalization and deregulation, the growing sophistication of industrial society accompanying the information revolution, internationalization and the spread of the information society, and changes in the employment structure resulting from the diversification of employment patterns can all be cited. As a result of these various factors, the expectations of the industrial society of Japan and of Japanese firms toward specialized upper secondary courses have changed, and the skills and abilities required of students on these courses have also changed. Moreover, given the changes in the consciousness of upper secondary students and the increasing differentiation of career aspirations, with the advent of the "age of universal university entrance", appropriate responses are called for so that the selection of career paths can be encouraged on the basis of a much clearer awareness of objectives than currently exists.

[39] Specifically, the objectives as listed in the regulations are as follows.

- Fundamental Law of Education, Article 2 (educational objective): "to emphasize connections with jobs and professions".
- Fundamental Law of Education, Article 21 (objectives of compulsory education): "to cultivate fundamental knowledge and skills concerned with jobs and professions, and the ability to lay due weight on the world of work as well as to select a future career path corresponding to individual aspirations".
- School Education Law, Article 51 (objectives of upper secondary schools): to cultivate, as objectives aspired to by upper secondary school education: "a rich sense of humanity", "the acquisition of specialized knowledge, techniques and skills", and "an attitude of wanting to contribute to the development of society".

[40] The situation of those graduating from upper secondary courses is as follows. in 1996, 12.2% proceeded to university or some other institution of higher education, but by 2006, the figure had risen to 19.8%; also in 1996, 58.2% entered employment, but by 2006, the figure had fallen to 48.9%.

[41] In order to cultivate citizens of Japan with a sense of self-awareness, using such means as specifically embedding in the course of daily life a spirit of respect for humankind and feelings of awe and respect for life, Moral Education sets as its objectives the cultivation of a moral sense in such forms as a spirit of morality, the ability to make judgments, and practical eagerness and attitudes. These objectives are implemented in schools through a range of educational activities.

- In elementary and lower secondary schools, while efforts are made to maintain close connections between Moral Education and the educational activities in every subject, with the time slot allocated to Moral Education as the central pivot, the objectives of Moral Education are to deepen awareness of moral values (plus, in lower secondary school, the pattern of living as a human being), and to cultivate practical moral values. In terms of the main content of Moral Education, all the subjects are grasped from 4 perspectives, namely "self", "relationships with others", "relationships with nature and sublimity" and "relationships with groups and society". The number of subjects varies by grade as follows: elementary school, Grades 1 and 2: 15 subjects; Grades 3 and 4, 18 subjects; Grades 5 and 6, 22 subjects; lower secondary school, 23 subjects.
- In upper secondary school, emphasis is placed on cultivating through school educational activities as a whole, the way of living as a human being, with the main focal point being Civics and homeroom-based Special Activities.

[42] Action is called for on the following issues.

- Looking at the present state of children's growth, attention has been drawn to the fact that within a framework consisting of changes in the environment by which children are surrounded, a lowering of the educational functions of the family and the community, and a decrease in hands-on experiences, a number of trends can be identified, all of which are indicative of a weakening of children's mental and emotional vitality. Specifically, these include inadequate feelings of respect for life, a weakening of feelings of self-respect, insufficient acquisition of basic lifestyle habits, a lowering of awareness of social norms, and a weakening of the capacity to form interpersonal relationships. There are also calls for greater emphasis on developing an attitude of eagerness to participate in society.
- Regarding the time allocated to Moral Education, effectiveness does not increase as a result of formalization of instruction, and children are less good at taking things in as they rise through the school grades.
- It has been pointed out that priority points in moral education are difficult to identify on the basis of levels of school and grades, that instruction permeating educational activities as a whole and links between subjects including Moral Education are inadequate, and that some of the content is difficult for teachers to understand and difficult to teach.
- At upper secondary school level, it is stipulated that education concerning patterns of living should permeate school education as a whole, but it has been pointed out that instruction that consciously tries to do this is inadequate.
- The system and framework surrounding moral education needs to be strengthened, and there is also a need to take forward closer unification of the roles of the family and the local community.

[43] At all 3 levels of schooling, elementary, lower secondary and upper secondary, the common aim stipulated for Special Activities, to be pursued through approved group activities, is to infuse richness into grade (home room) and school life, and at the same time, to cultivate a practical, self-reliant attitude of wanting to construct a better society. With the goal of realizing this aim, the content of "Special Activities" in elementary school is composed of 4 elements, namely grade activities, children's activities, club activities and school events. In lower secondary school and upper secondary school, the content is composed of 3 elements, namely grade activities (in upper secondary school, home room activities), student society activities, and school events.

[44] The following issues have been cited as requiring attention.

- The strengthening of special activities is deeply intertwined with the degree of satisfaction and enjoyment felt about school life, but on the other hand, it has been pointed out that the linkage with the cultivation of children's abilities and qualities is insufficient.
- In terms of the articulation between different levels of schooling, problems have been indicated in the area of adaptation to group life or a different form of school in what have been termed the "Elementary Grade 1 problem" and the "Lower Secondary Grade 1 gap".
- Against the background of changes such as the growth of the information society, urbanization, a declining birthrate and an aging society, and so on, a number of problems stand out, including inadequacy of lifestyle experiences, a weakening of interpersonal relationships, inadequacy in terms of willingness to work in groups and of the ability to discuss problems and seek solutions, and a lowering of the awareness of social norms. Inability to construct meaningful human relationships and insufficient cultivation of social sense through meaningful group activity has also been observed.
- With regard to Special Activities as a whole, the overall objectives are shown, but separate objectives for each area of content are not shown. In this situation, it has been pointed out that there is a lack of clarity about what is to be achieved by certain activities, and duplication of activities with those carried out in the Period for Integrated Study.
- Even within Special Activities, looking at learning activities or homeroom activities, which play a fundamental role within Special Activities, it has been pointed out that because the content of activities covering the 6 years of elementary school is presented in summarized form, it is difficult to carry out appropriate activities corresponding to a particular grade or stage of development. In addition, because in lower secondary and upper secondary school, content is presented in a comprehensive way, it is difficult to concentrate resources on areas of content that should be prioritized.

[45] It is stipulated that the main purpose of the Period for Integrated Study, in elementary school, lower secondary school and upper secondary school, is to implement educational activities, in line with the actual situation of each locality, each school and the children concerned, utilizing creativity and ingenuity and learning activities based on children's interests, and dealing with learning activities in a cross-sectional, comprehensive way. As specific aims, the following 3 points are specified: (1) to cultivate the abilities and qualities required to identify problem issues for oneself, to study and think about these, to make autonomous judgments, and to reach a better solution; (2) to equip children with ways of studying and ways of thinking, to cultivate abilities whereby they can engage of their own volition in problem-solving and discovery-type activities and engage themselves in creative projects, and to get them to think about their own ways of living (in upper secondary school, ways of being and ways of living), and (3) to establish integrative connections between the knowledge and skills learned in the Period for Integrated Study and those in each subject area, in Moral Education and in Special Activities, and to enable children to utilize the connections in life and learning, and make them work in a comprehensive way. It is on the basis of these purposes and aims that in every school, objectives, content and the qualities, abilities and attitudes to be developed are established.

[46] As points requiring attention, the following issues may be cited.

- Looking at the actual current state of the Period for Integrated Study, we can find on the one hand, examples of schools in which it has been a great success, but on the other hand, cases can also be observed where the basic mission and concept of the Period for Integrated Study have not been sufficiently realized. Examples can also be found of duplication in tackling issues between different kinds of schools, where the same kind of learning activities are being carried out in both elementary and lower secondary schools.
- With a view to improving this situation, it is necessary, at the same time as clarifying the aims of the Period for Integrated Study, to examine the abilities that it is desired to cultivate (the abilities with which children should be equipped) and the way of setting out the learning activities.
- Cases can be found of schools in which the Period for Integrated Study is used for education aimed at having children acquire subject knowledge and skills, carrying out what is in effect remedial instruction, or using the time for preparations for the school Sports Day, mixed up with practical work. In this situation, it is necessary to straighten out the links with individual subjects, to put the links with elective subjects at lower secondary school level in order, and to rectify the connections with the content of Special Activities.

[47] As examples of abilities that might be cultivated from the 3 viewpoints shown, i.e. matters concerned with methods of study, methods concerned with oneself, matters concerned with others and with society as a whole, the following might be eligible for consideration.

- matters concerned with methods of study: the ability to accumulate and analyze information; the ability to make an easily understandable presentation.
- matters concerned with oneself: the ability to make a decision of one's own volition; the ability to think for oneself about the kind of lifestyle that one should be adopting.
- matters concerned with others and with society as a whole: the ability to cooperate with others in solving problems; an attitude of participating in society with a view to solving problem issues.
- If the kinds of abilities outlined here are made more specific, for example, in an activity concerned with investigating environmental problems taking a local river as the target, the following might serve as examples.
- matters concerned with methods of study: gather some creatures that live in the river and compare them with creatures found in another river, analyze the results and present them in the form of a graph or diagram.
- matters concerned with oneself: take a fresh look at one's own lifestyle, take decisions concerning the immediate environment around oneself and act accordingly, for example, by not throwing rubbish into the river and by trying to use less water.
- matters concerned with others and with society as a whole: carry out an investigation while cooperating with other children, talk and listen to other people while investigating, cooperate with other people in the community by participating in activities aimed at keeping the river clean.

[48] The curriculum of specially supported schools consists of courses in a number of divisions corresponding to kindergarten, elementary school, lower secondary school and upper secondary school (there is a special, independent division for the education of those who are mentally handicapped), and in addition, of various "autonomy activities" in the form of fields which have the objective of improving and overcoming the many kinds of difficulties that have their origin in disability. Furthermore, with a view to implementing education that is geared to the actual state of the disability concerned, various special examples of curricula have been established.

The curricula in the specially supported elementary and lower secondary divisions are governed by Courses of Study applicable to those divisions, but in cases where this is especially necessary, special curricula can be produced. In such cases, it is stipulated that the Courses of Study for specially supported divisions are to be used as reference points, and curricula that correspond to the actual conditions drawn up. In addition, specially supplemented education may be given, depending on the nature of the disability, as a special form of instruction (instruction through autonomy activities, and so on) in special locations (classrooms for specially supplemented education), and special curricula can be devised either in addition to the standard curriculum or in place of some part of it. In such cases, the supplementary or replacement curricula are drawn up by taking the Courses of Study for specially supported schools as reference points. With regard to children with a disability who are enrolled in mainstream classes in kindergarten, elementary school, lower secondary school or upper secondary school, special instructional content and instruction methods can be devised to meet the actual needs of the situation.

In addition, in order to be able to implement appropriate education to meet the needs of children with multiple handicaps, the name of "schools for the blind, the deaf and the otherwise handicapped", as they were known up to that time, was changed to "specially supported schools" in order to enable education to be targeted by disability at children with multiple disabilities.

[49] Topics concerning specially supported education on which action is called for are as follows:

- In the elementary and lower secondary departments of specially supported schools, as of fiscal 2006, 42.8% of children were registered as having multiple handicaps (75.3% of the physically handicapped children in specially supported schools), a sign of the growing prevalence of severe and multiple handicaps and of the diversification of handicap; there are calls for detailed strengthening of instruction geared to the needs of each individual child, utilizing the system of "specially supported school" so as to be able to target children with multiple handicaps.
- In the context of taking forward specially supported education in local areas, there are demands for "specially supported schools" to utilize their specialist expertise by carrying out the role of a local center for special education support in response to demands from kindergartens, elementary schools, lower secondary schools and upper secondary schools.
- Finding employment in firms and elsewhere for graduates of specially supported schools remains a difficult problem, and there are demands for improvements in vocational education and career guidance for these students, while trying to maintain contact with firms and other employment organizations.
- It is stipulated that specially supported schools should draw up plans for implementing appropriate support to meet the individual needs of children with handicaps, while maintaining contact with organizations in the field of welfare, medical care, health and labor, and questions have been raised about how effectively these plans are utilized.
- It has been shown that there may be about 6% of children with LD (Learning Disabilities) or ADHD (Attention Deficit Hyperactivity Disorder) or similar, in ordinary elementary and lower secondary schools. There is a requirement to provide appropriate instruction and necessary support for children with disabilities, including children with LD and ADHD, in kindergartens, elementary schools, lower secondary schools and upper secondary schools.
- There are calls for more intensified promotion and more effective implementation of exchanges and joint learning activities involving children with and children without disabilities.

[50] Fundamentally, LD "Learning Disabilities" does not mean that overall cognitive development is delayed; it indicates various signs of noticeable difficulties in the learning and utilization of specific abilities, i.e. listening, speaking, reading, writing and calculating or reasoning.

[51] ADHD (Attention Deficit / Hyperactivity Disorder) is a behavioral disability characterized by an imbalance in age or development in terms of attentiveness and/or impulsiveness and hyperactivity, and causes functional hindrances to social activities and studies.

[52] ICF (International Classification of Functioning, Disability and Health) is a classification which has the function of recording the state of functioning of human life and disability, and is composed of the state of health, mental health, physical health, activity and participation, environmental factors and individual factors. It was adopted by WHO (World Health Organization) in 2001.

9. Educational Measures to Secure Time for Teachers to Interact with Children

○ As has been shown in the narrative up to this point, when we talk about making a reality of the concept of “zest for living”, We are talking about the requirement to tackle the task of enriching and strengthening on a whole-school level a wide range of issued, including the following: providing guidance and instruction geared to the level of understanding and ability of each individual child; learning activities that utilize knowledge and skills in the form of observations and experiments, and writing reports and essays; and hands-on activities such as workplace experience projects.

In order that these aims can be realized, it is necessary for teachers to have time to interact with children. To ensure that this is so, it is important, from the perspective of securing a sufficient number of teachers, to revise the criteria that define the set number of teachers. There is also a requirement to construct a system of utilizing human resources from outside the school and enlisting the support of the whole community. Furthermore, it is necessary to utilize interaction time with children effectively and efficiently by such means as the improvement of teaching methods and the strengthening of textbooks.

In ways such as these, there is a need for central government and local governments to cooperate in respect of firming up the conditions that constitute the infrastructure of education such as the disposition of teachers, the provision of textbooks and teaching materials, school facilities and equipment, and so on. These points need to be emphasized in the context of the formulation of "The Basic Planning of Educational Promotion", newly determined by the government on the basis of the regulations in Article 17 of the Fundamental Law of Education.

It also needs to be mentioned that while deepening liaison with the surrounding community, schools should take care to utilize effectively both time and human resources, since the question of whether or not schools are able to provide the detailed instruction and guidance that responds to the individual needs of each child depends on the organizational capacity of the school. Confirming the status of the school management in the person of the school principal and other senior staff, and heightening the overall organizational capacity of the school are important issues in terms of educational administrative support.

(1) Improvement of the set number of educational personnel

○ Improving the set number of teachers is more necessary than anything else in the context of securing sufficient teacher time for teacher interaction with children. In particular, within a framework of enhancing school organizational capacity, it is important, in order that a school

can implement detailed instruction geared to children's individual needs, to carry out such measures as strengthening the school management structure through supervisory educational personnel, and reducing the administrative burden on teachers at the same time as enriching and strengthening guidance and instruction geared to ability-graded, small-group teaching, and strengthening and enriching specially supported education. From perspectives of this kind, improvement in the necessary set number of teachers is an issue of urgency.

And on the issue of confirming academic ability, it is necessary, in the case of an increase in the yearly total of class teaching hours, to take forward improvements in the instructional system, beginning with revisions in the set number of teachers.

(2) Specific measures to secure time for teacher interaction with children

Utilizing outside human resources

○ As well as improving the set number of teachers, it is also important, as a means of securing teacher interaction time with children, to utilize human resources from outside the school in such ways as strengthening responses to the so-called "Elementary 1 Problem" or failure to register at school or strengthening specialist subject teaching in the higher grades of elementary school.

Lessening the administrative burden on teachers

○ While continuing to safeguard the number of class teaching hours, it is indispensable, if schools and teachers are to be enabled to carry out their fundamental role and mission adequately in such ways as specialist subject teaching and student guidance, to reduce the administrative burden on teachers.

○ With this aim in mind, in addition to the improvement of teaching personnel by such means as the apportionment of administrative personnel, it is also necessary to create many different patterns of providing support for teachers by creating a system to link schools and the surrounding community, and to carry out such measures as external contracting of administrative duties.

It has also been pointed out that the quantity of administrative work in such forms as surveys to be carried out by the school, has increased. There is a need to take a fresh look at whether such surveys are really necessary within the area of educational administration, including MEXT, and at the same time, it is to be hoped that by utilizing ICT and devising new

implementation methods in terms of the period of survey implementation and the time spent on surveys, the administrative burden on schools can be reduced.

○ In an environment in which the situation of children has changed and the demands from parents and society have become more diverse and sophisticated, the work of teachers has also become much more multi-faceted. Against the background of the diversification of values in society as a whole, it has been pointed out that the number of occasions on which teachers are required to give explanations of the pattern of school instruction in respect of children's education has increased, and that teachers continue to expend significant amounts of energy on this process. It has been suggested that a body might be constructed within a board of education to facilitate the way of dealing with third party opinions, within the process of carrying out investigations, and the construction of this kind of system is very important.

Setting up an ICT environment

○ At the same time as enhancing the organizational capacity of schools and consolidating children's academic ability through the effective and efficient implementation of education, it is important, with a view to cultivating children's ability to respond to changes in society such as the ability to utilize information, to put an ICT environment in place, to raise the level of ability on the part of teachers to give instruction using ICT, and to take forward the process of making the use of ICT part of educational administration

○ However, according to the "Survey on the Implementation of the Spread of Information in School Education" at the end of fiscal 2005, the results in terms of the percentage of high-speed internet connections, the percentage of LAN installations in schools, and the percentage of teachers able to carry out instruction using a computer fell below the target objectives set out in the "e-Japan Strategy"[1]. In response, MEXT set up new target objectives in the "New IT Strategy" in order to take the above points further forward, and good results are expected from the positive efforts of local governments in getting to grips with the implementation of ICT.

Raising the level of the organizational capacity of schools

○Consolidating management in schools, with the post of school principal at the center, and enhancing school organizational capacity is extremely important in terms of the following procedures: ① not only safeguarding time for interaction between teachers and students by clearly indicating the division of roles and responsibilities within the school, but also by

implementing responses to the local community and to parents by the school in an organized way, and ② not only responding on an individual basis to individual children, but also strengthening contact and cooperation among teachers. In addition, the role of management also has to be looked at again in the context of tackling innovations such as the introduction of foreign language teaching at elementary school level.

Under the partial revision of the School Education Law, enacted in June 2007 and put into force from April 2008, provision was made for locating the posts of deputy principal, chief teacher and supervisory teacher within a school. With a view to enhancing the organizational capacity of schools and utilizing still more the creative ingenuity of teachers, it is important to take such steps as making use of human resources from outside the school and contracting out administrative and clerical work, and positively implementing school evaluation and information provision, as set down in the revised law, and at the same time to utilize these various systems to the full. It is also a precondition for the kinds of implementation referred to here that the school principal has high qualities and a high level of ability as a leader, and it goes without saying that further enhancement of the principal's role in this connection is indispensable.

(3) Various policies designed for effective and efficient instruction

Improvements to teaching methods such as individually geared teaching

○ With a view to cultivating firmly grounded academic ability, in addition to maintaining emphasis on the traditional, whole-class teaching methods, there is a need to implement, in a positive and appropriate way, individually oriented methods of instruction such as ability-graded instruction and small group teaching, advanced learning and supplementary study. Consolidation of teaching methods within the framework of these new teaching parameters is highly desirable.

It is also necessary to include within the emphasis on teaching methods the perspective of home-based study comprising appropriately implemented study (homework, preparatory study and revision).

○ Accumulated case studies of the teaching methods used in the R & D school system established by MEXT are analyzed, with the best teaching methods being shared among teachers, who can experience using them in the course of their everyday teaching. There is a need for information to be disseminated very broadly to parents and to society at large, and to be shared among schools, teachers, administrators and researchers, while continuing to add into

this analyses conducted by researchers of points such as where children tend to stumble and have difficulty.

In the course of doing the above, it is important to strengthen the use of ICT and the support system provided to teachers by education centers in each locality. Education centers in particular, as well as implementing training courses for teachers, are required to provide support for the creative ingenuity of teachers by such means as carrying out curriculum development and cutting-edge research, or by providing sources of reference or items that teachers need in the form of books or other teaching materials.

Raising the quality of teachers

○ Article 9 of the Fundamental Law of Education already specified such items as those concerned with the mission and professional duties of teachers and the appropriateness of working conditions. New regulations have been added with the aim of strengthening the training of teachers. In order that eager, high-quality human resources (=people) will become teachers and feel the fascination of the teaching profession, it is necessary that appropriate working conditions and a balanced wage structure are realized on the basis of the reality of a teacher's working life, and improvements are required in the pre-service and in-service training of teachers at the same time as ensuring that the conditions of the working environment are such that, for example, teacher evaluations are reflected in the treatment accorded to the teacher.

○ With regard to the above points, a system of renewal of teaching licenses was introduced in the partial revisions to the Educational Personnel Certification Law and the Special Law for Public Education Personnel of June 2007. It is expected that as a result of the renewal system, teachers will acquire the latest knowledge and skills, and be able to stand on the teacher's platform with confidence.

○ Devices such as teaching materials research, class teaching research and peer evaluation by fellow teachers are also extremely important in ensuring a continuous rise in the quality of teachers. As explained above, local education centers are expected to provide this kind of support,

○ Moreover, in an environment characterized by a society in the throes of severe and violent change and the growing complexity and diversity of issues in school education, in order to be able to confirm people’s confidence in the unwavering integrity of teachers, it goes without saying that the pre-service teacher education stage at universities is very important. In the first

place, it is necessary that universities, principally teacher education universities and teacher education faculties, base their efforts to achieve improvement firmly on school education, defining this as comprised of emphasis on learning activities in the form of observations and experiments, report and essay writing and so on, aimed at cultivating in the children the ability to think, make judgments and express themselves, as well as experiential activities that utilize the skills and knowledge learned. Over and above these points, at undergraduate level, aspiring teachers must be equipped with the necessary skills and abilities of their chosen profession, and in the newly established "Professional Graduate Schools of Education", teachers who are equipped with qualitatively and quantitatively superior specialist skills are expected to be trained. It is necessary for universities to be sufficiently aware of their mission in this respect and tobe able to respond to the demands of society and the public.

Furthermore, it is also a required of universities and faculties of education, including attached schools, that ongoing support is provided for schools through such means as exchanges implemented on the basis of the results of research into effective teaching methods. In particular, it is also expected that such universities can play a major role in enhancing the leadership ability of municipal boards of education.

Strengthening textbooks and school libraries

○ Qualitative and quantitative strengthening of textbooks, which play a major role as the main teaching materials, is also required. In order that children can deepen sufficiently their understanding of the content of their class studies, and equip themselves thoroughly with the required fundamental knowledge and skills, and at the same time develop the ability to utilize the knowledge and skills that they have acquired, it is important that they are provided with textbooks which fulfill various conditions. Specifically, the textbooks should be well worth reading and ingeniously planned in such a way as to encourage the children to get to grips on their own initiative with polishing their own learning and with advanced learning in a form that utilizes their knowledge and skills. With these points in mind, in order to heighten children's eagerness to learn and to make it easier for teachers to teach them, it is necessary to devise content which adequately guarantees in terms of quality and quantity the necessary learning content for children during the learning process. Specifically, the material concerned with advanced learning needs to be strengthened and the number of pages in textbooks needs to be increased.

○ As pointed out in 7. (1), at the same time as strengthening children's language skills, it is important to enrich and strengthen the provision of resource material such as AV materials or

books in the school library with the aim ot getting children to involve themselves in learning on their own initiative,. There is a demand for a planned approach to reaching the book stock level specified as a target, in line with the size of the school, in the "Standard Criteria for School Library Books"[2]

Moreover, in order for the librarian-teacher[3], as the person having a central role in educational activities and reading activities that utilize the school library, to be able to perform that role to a sufficient extent in each school, it is necessary, with the school principal taking a leadership role and the school-librarian taking a central role, to aim, to aim at strengthening the school library from the standpoint of the various people involved, while securing the cooperation of volunteers and others.

Improvement of learning evaluation

○ With regard to learning evaluation, on the basis of the Curriculum Council report of December 4, 2000, entitled "On the desired pattern of evaluation of the actual situation in respect of children's learning and the curriculum", there has been a shift in the evaluation of each subject in elementary and lower secondary school from norm-referenced to criterion-referenced evaluation[4].

After MEXT renewed the format of the "instruction record[5]", it passed the new format to NIER, which prepared, for elementary, lower secondary and upper secondary schools separately, "Reference documents for the improvement of evaluation criteria preparation and evaluation methods", and got to grips with the issue of preparing evaluation standards[6] for each school.

○ However, inappropriate cases were observed in which an evaluation was carried out for the sake of the evaluation. The teachers would try, in the space of one class hour, to evaluate students from 4 perspectives (interest, eagerness and attitude; ability to think and make judgments; skills and the ability to engage in expression; and knowledge and understanding), but before beginning the lesson proper, would check with each student by asking; "Are you progressing satisfactorily?"

On the question of how evaluation methods have changed, many teachers in elementary and lower secondary schools (65.7% in elementary schools, 61.8% in lower secondary schools) said that "Recently, we are looking at every individual child". But on the other hand, large numbers of teachers (69.4% in elementary schools and 78.1% in lower secondary schools) felt that "The assessment process has become very complicated and all our spare time has vanished"[7].

It has also been pointed out that whether the present evaluation methods have been made sufficiently easy for parents and society at large to understand has to be seen as questionable.

○ With the above points in mind, as a result of the unification of instruction and evaluation, the responsibility of teachers is no longer simply limited to giving an explanation of their instruction. They must accept that their responsibility for the results of their instruction is an ongoing precondition, and we would like to see an examination from a specialist perspective on the possibility of establishing a framework by means of which an effective and more easily understandable learning evaluation can be implemented. This should be based on the fundamental thinking underlying the revisions to the Courses of Study and should cover such matters as the way of thinking about evaluation in general as well as the evaluation of specific items, the establishing of evaluation criteria, methods of evaluation, and the timing of carrying out an evaluation.

Utilization of the National Assessment of Academic Ability

○ As explained in Chapter 3 above, a National Assessment of Academic Ability was carried out in April 2007. The significance of the assessment exercise lies in the extreme importance of grasping and validating children's academic ability is in terms of clearly identifying priority items for instruction in each subject, and of strengthening instruction in order to ensure that children are thoroughly equipped with the required items of knowledge and skill. By acquiring objective data, it is possible to get clues as to how to improve teaching methods, and how to feed improvements back into children's learning. In order to achieve these aims, it is necessary to continue such assessments in the future.

○ The many different kinds of evaluations concerned with the educational results of the National Assessment of Academic Ability have a very important meaning in that they are used by the bodies that receive them, namely schools, establishers, and prefectural boards of education, to formulate improvement plans, and used in the improvement of educational activities by means of such measures as the consolidation of educational environments and the improvement of methods of instruction. These in turn take a variety of forms, such as very detailed guidance for children who have problems.

The establishment of a PDCA cycle in the curriculum

○ It is very important that the evaluations of the curriculum and teaching instruction as

described above and the efforts at improvement based on these are implemented within the framework of a sufficiently firm connection with school evaluations. It is through school evaluations that schools and their establishers are required to grasp the results of the education provided and the issues to be tackled, and to link these to improvements.

○ In ways such as these, the following steps should be carried out within the framework of curriculum administration from the perspective of raising the level of school education.

① Identify priority teaching items on the basis of the Courses of Study

② Put in place educational conditions such as securing time for teacher-child interaction

③ Put stress on closeness to the classroom teaching process in terms of formulation and implementation of the curriculum

④ Carry out evaluation in an appropriate manner

⑤ Carry out improvements to teaching activities on the basis of the evaluations

It is very important that these steps, which constitute the PDCA cycle in the form of Plan (①) - Do (②・③) - Check (④) - Action (⑤) are firmly consolidated. It is a requirement that in every school, utilizing in an appropriate way conditions of the kind outlined here, curriculum management is firmly established and consolidated in the form of strengthening effective educational activities through ceaselessly reexamining the curriculum and teaching methods.

(4) Improvements in the pattern of educational administration

○ In the area of educational administration, the following are some of the issues that have to be addressed. To what extent does the administrative system grasp what is happening in the classroom in schools and how speedily does it respond? Is the system of educational administration that supports school management, with the principal in the lead, functioning effectively and efficiently? Is the responsibility to give explanations to parents and the local community as well as the public at large being fulfilled? Is the infrastructure to support schools sufficiently well established? There is a need to evaluate ways in which questions like these are being tackled and the ways in which improvements are made. In particular, the issues of the responsibility to grasp what happens in the classroom in schools and to explain this to concerned residents and the general public are extremely important. It is also important, with a view to ensuring that school educational activities are compatible with and have an effect on the other different kinds of activities carried out by children, and that lifelong learning and social education, which support school education, are also strengthened.

○ On a separate issue, as explained in 5. (2), sufficient provision of information by MEXT,

boards of education and other interested parties with regard to the purpose and the content of the revisions to the Courses of Study centered chiefly on the concept "zest for living", is vitally important as one element in the educational infrastructure. Looking more closely at the provision of information, the carefully planned use of ingenuity is required to ensure that the purpose and content of the revisions are presented accurately to schools and to teachers, and that in each school, a curriculum is developed that is characterized by the fact that it gives sufficient consideration to the realities of the school and the local community and to the aptitudes and the physical and mental stage of development of the children concerned, as well as conforming to the Courses of Study, which constitute the fundamental principles of education.

○ In addition to the above, in the law of June 2007, revising part of the law concerned with the organization and management of local educational administration, while due respect is paid to the concept of decentralization, a required regulatory infrastructure, based on the revised Fundamental Law of Education, was put in place regarding such matters as clarification of the responsibilities and strengthening of the system of boards of education, clarification of the roles to be carried out in education by central government, educational administration of private schools, and so on.

On the basis of revisions to the system as set out here, a division of responsibilities was set out comprising, for central government (Fundamental Law of Education, Article 16, Paragraph 2), responsibility for "formulating and implementing comprehensive policies concerned with education with the aim of maintaining a rise in educational levels and equality of opportunity in the education of the country as a whole", and for local governments (*ibid*, Article 16, Paragraph 3), responsibility for "formulating and implementing policies concerned with promoting education in the local area concerned in line with the actual conditions of that area". There is a need for both parties to develop educational administration on the basis of an appropriate division of roles as set out here on the basis of mutual cooperation and with full awareness of the tensions inherent in such a division.

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[1] The national strategy denoting the decision by the Japanese government in January 2001, with the objective of making Japan the world's most advanced IT nation within 5 years, to establish an Advanced Information and Telecommunications Network Society Promotion Headquarters (IT Strategy Headquarters). Looking at the e-Japan Priority Policy Program, drawn up with the aim of making this strategy a reality, it is possible to identify, as policies concerned with promoting the spread of information and computerization within education, the establishment of an IT environment in schools, raising the level of ability among teachers to give instruction using IT, and so on.

[2] The percentage of schools which had reached the levels specified in the Standard Criteria for School Library Books by the end of fiscal 2004 amounted to 37.85% in the case of elementary schools and 32.4% in the case of lower secondary schools.

[3] Since April 2003, it has been specified that in schools with 12 classes or more, there must be a

librarian-teacher.

[4] In a report by the Curriculum Council issued on December 2001, norm-referenced evaluation is defined as "an evaluation of children's learning whereby they are assigned a mark denoting their position relative to other members of a group". In the same report, criterion-referenced evaluation is defined as "an evaluation system in which the mark assigned reflects the degree of attainment of the objectives set out in the Courses of Study". The report went on to propose that since the Courses of Study set as their objective the firm acquisition of fundamental content, emphasis should be put on criterion-referenced evaluation. As a result, the reference format of the Courses of Study was revised, and the evaluation of subjects in elementary and lower secondary schools was changed from a norm-referenced to a criterion-referenced system.

[5] This records the history of children's school enrollment and gives a summary of the results of the instruction process. It serves as a reference and certificate for later stages of schooling and for concerned bodies outside the school. According to Article 12.3 and Article 15 of the School Education Law Implementation Regulations, schools are obliged to make and to preserve instruction records, and the format is revised by local boards of education. Prior to the revision process, MEXT provides reference points for the format and headings of items to be recorded.

[6] These comprise the items for the evaluation of children's learning on the basis of the Courses of Study. It is not only "knowledge and understanding" but also "interests, wishes, attitudes", "thinking and making judgments" and "skills and powers of expression" that comprise the 4 perspectives of academic ability based on the Courses of Study. In order to be able to make a judgment on the level and state of achievement of these target perspectives, each school compiles evaluation standards. With a view to assisting schools in this task, NIER compiles and provides each school with reference documents concerning the compilation.

[7] "Consciousness survey on school education" (implemented by MEXT in June, 2003).

10. Taking Forward Liaison and Cooperation with Families and Local Communities; Expectations of Support from Firms, Universities, etc.

○ As pointed out in 4. (1) above, changes in the family, the community and society can be identified as background factors influencing the present condition and the many problem issues that concern them, including eagerness to study and lifestyle habits, confidence in oneself and interest in the future and the world of work, physical strength and stamina, and so on.

(1) Taking forward liaison and cooperation with the family and the community

○ The explanation up this point has been concerned with examining how school education responds to the lowering of the educational functions of the family and the community. It is fundamentally impossible, however, for all the functions that should be carried out by the family and the community to be supplemented or made up by schools, and even supposing that this was possible, it is a reasonable presumption that school education does not have the qualities and characteristics to replace education in the home and the community, for example, in being able to give full emotional satisfaction to children.

○ With this situation in mind, there is a strong requirement for self-awareness on the part of families that they should take primary responsibility for cultivating in children a healthy body and a fertile mind and fund of emotions. It is necessary to strengthen family education in terms of adoption of the principle of "going to bed early, getting up early, and eating breakfast in the morning".

○ Furthermore, the "After-school Plan for Children", included in the budget for fiscal 2007, is being taken forward in the form of developing a support infrastructure for learning activities after classes have finished, including the use of Saturdays, and places for experiential, hands-on activities. It is also important, with a view to getting full local community support for school education, to construct a liaison system linking schools and communities. It should also be noted that according to a Cabinet survey of February 2007, compared to the situation 7 years earlier in September 2000, there was a rise in the participation rate by children in such activities as local festivals, events organized by children's associations or neighborhood associations, cleaning exercises and evacuation drills, events in children's halls, citizens' halls and other localities, and so on[1]. It is to be hoped that interactions such as those described here between children and adults other than teachers and parents will be continued and developed in a strengthened form.

○ At the same time as promoting the upbringing of children as an activity involving schools, homes and the community, mediated by cooperation between parents and teachers, the role that has come to be played by the PTA in terms of offering a place where parents can study is very large, and further strengthening of PTA activities is required.

○ It is also a fact that nowadays, school education is confronting a very wide diversity of issues, including cultivation of a view of work and employment, moral education, environmental education, education concerning traditions and culture, and experiential activities.

With these points in mind, in the first place, as a result of a number of factors including social change, the significance of the content of what should be taught to everyone in common has become somewhat faint, and there is a need to reevaluate this. It is also necessary to consider how educational environmental factors such as the set number of teachers can be usefully utilized, but at the same time, there is a need not to leave every problem to schools, but to clarify the role of educational activities other than school education in the context of links between schools on the one hand, and families, local communities, firms, NPOs, youth organizations, and so on, on the other, and on this basis, to implement links such as the implementation of work experience activities.

○ Arrangements are also moving forward for the implementation of a location for after-school activities and a location for study and experiences, arising out of the "After-school Plan for Children", and it is reasonable to presume that no additional burden will fall on schools or teachers as a result of the utilization of school facilities for extra-curricular activities, and that efforts should be made to achieve qualitative and quantitative strengthening of opportunities for children's learning and experiential activities.

However, while keeping the above points in mind, it is also necessary for schools and boards of education to be positive about making contact with out-of-school activities which offer opportunities for learning and experiential activities to children.

○ In addition, as future issues, it is necessary to clarify the responsibility of boards of education in terms of offering learning opportunities or experiential activities to children and to examine the construction of procedures for promoting the provision of learning or experiential activities by such bodies as local communities, firms, higher education institutions such as universities, NPOs, youth organizations, and so on.

(2) What is expected of firms and universities

○ As indicated in 4. (1) above, changes in the employment environment in the form of an

increase in non-formal employment have also had an influence on children's eagerness to learn. As far as firms are concerned, we would hope strongly that firms would make arrangements that put weight on cultivating human resources in order that children can get to grips with learning that embodies hopes and broad visions for the future.

○ A very significant influence on children is also exerted by the mass media, the internet and cell phones. Among the items of information provided by these electronic devices, there are harmful items, and the extent of the harmful effects of such items is immeasurable, possibly leading to children becoming involved in crimes, or in certain circumstances, even becoming the perpetrators of such crimes themselves. We would express the very strong wish that firms will adopt the perspective of committing themselves to children's development, and adopt the kind of behavior that takes consideration of the environment surrounding children, by for example, strengthening measures to remove harmful information from web sites, or adopt filtering devices for cell phones, trying by such means to ensure that children do not come into contact with harmful information.

○ As shown by the work-experience activities described in (1), the cooperation of firms and other bodies is indispensable for the implementation of out-of-school learning and experiential activities. On the other hand, in order to ensure that adults are enabled to carry out satisfactorily their role of developing children's education and safeguarding their safety and security in families and communities, the issue of how adults interact with children is involved, and on this point, the cooperation of firms and other bodies is necessary. We would also hope that in a context in which the social responsibilities of firms are emphasized, firms will engage themselves more positively in participation and cooperation with school educational activities, and that in order for these efforts on the part of firms to be smoothly accepted in school education, the devices used by boards of education are strengthened.

It is also a requirement that in a society committed to aiming at gender equality, administrative procedures are such as to facilitate the compatibility of child upbringing and employment, and that firms and other bodies work to create an environment in which this is possible.

○ Looking next at universities, we would like to make a very strong request for improvement in university admission selection procedures, which have a very large impact not only on children's learning, but also on the ideal form of society.

In the first place, it is important that in the selection of university entrants, universities achieve a good balance between testing fundamental knowledge and skills and testing the ability of applicants to think, form judgments and express themselves, and that in terms of these

abilities, there is cooperation between upper secondary education and university education. This point can also be seen as being extremely important in terms of the reform of university education. We would like to see a strengthening of essay-type problems which query the ability of students to think, make judgments and engage in self-expression. From this kind of perspective, one method that might be considered useful could be evaluation of a record of any awards given to students in upper secondary school for subjects such as science, essay writing and so on.

And from the perspective of emphasizing the social autonomy of children in school education, it is important to consider ways of evaluating social participation, taking such forms as volunteer activities, by candidates.

In the second place, the present situation regarding selection for university admission in what has become known as the "age of universal admission to university", brought about by the decline in the 18-year old population, is also having a significant effect on the eagerness to learn of upper secondary school students. We believe that there is a need for the Central Council of Education as a whole to take a broad view of the upper secondary school curriculum, university selection, and the university undergraduate curriculum, and at the same time as safeguarding academic levels by appropriate evaluation of records of student achievement, to examine improvements that might be devised to enable students to get to grips with learning that is focused on the attainment of specific objectives.

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[1] "Survey report on the consciousness and lifestyle of pre-teens and early teens", Cabinet Office, February 2007.

Annex 1

Standard School Hours in Elementary Schools

(Current)

Subject	G1	G2	G3	G4	G5	G6	Total
Japanese Language	272 (8)	280 (8)	235 (6.7)	235 (6.7)	180 (5.1)	175 (5)	1377
Social Studies	----- -----	----- -----	70 (2)	85 (2.4)	90 (2.6)	100 (2.9)	345
Arithmetic	114 (3.4)	155 (4.4)	150 (4.3)	150 (4.3)	150 (4.3)	150 (4.3)	869
Science	----- -----	----- -----	70 (2)	90 (2.6)	95 (2.7)	95 (2.7)	350
Life Environment Studies	102 (3)	105 (3)	----- -----	----- -----	----- -----	----- -----	207
Music	68 (2)	70 (2)	60 (1.7)	60 ‘1.7)	50 (1.4)	50 (1.4)	358
Art and Handicraft	68 (2)	70 (2)	60 (1.7)	60 (1.7)	50 (1.4)	50 (1.4)	358
Homemaking	----- -----	----- -----	----- -----	----- -----	60 (1.7)	55 (1.6)	115
Physical Education	90 (2.6)	90 (2.6)	90 (2.6)	90 (2.6)	90 (2.6)	90 (2.6)	540
Moral Education	34 (1)	35 (1)	35 (1)	35 (1)	35 (1)	35 (1)	209
Special Activities	34 (1)	35 (1)	35 (1)	35 (1)	35 (1)	35 (1)	209
Period for Integrated Study	----- -----	----- -----	105 (3)	105 (3)	110 (3.1)	110 (3.1)	430
Total	782 (23)	840 (24)	910 (26)	945 (27)	945 (27)	945 (27)	5367

Note: The figures in brackets represent the number of class hours in a week

(Revised)

Subject	G1	G2	G3	G4	G5	G6	Total
Japanese Language	306 (9)	315 (9)	245 (7)	245 (7)	175 (5)	175 (5)	1461
Social Studies	----- -----	----- -----	70 (2)	90 (2.6)	100 (2.9)	105 (3)	365
Arithmetic	136 (4)	175 (5)	175 (5)	175 (5)	175 (5)	175 (5)	1011
Science	----- -----	----- -----	90 (2.6)	105 (3)	105 (3)	105 (3)	405
Life Environment Studies	102 (3)	105 (3)	----- -----	----- -----	----- -----	----- -----	207
Music	68 (2)	70 (2)	60 (1.7)	60 (1.7)	50 (1.4)	50 (1.4)	358
Art and Handicraft	68 (2)	70 (2)	60 (1.7)	60 (1.7)	50 (1.4)	50 (1.4)	358
Homemaking	----- -----	----- -----	----- -----	----- -----	60 (1.7)	55 (1.6)	115
Physical Education	102 (3)	105 (3)	105 (3)	105 (3)	90 (2.6)	90 (2.6)	597
Moral Education	34 (1)	35 (1)	35 (1)	35 (1)	35 (1)	35 (1)	209
Special Activities	34 (1)	35 (1)	35 (1)	35 (1)	35 (1)	35 (1)	209
Period for Integrated Study	----- -----	----- -----	70 (2)	70 (2)	70 (2)	70 (2)	280
Foreign Language Activities	----- -----	----- -----	----- -----	----- -----	35 (1)	35 (1)	70
Total	850 (25)	910 (26)	945 (27)	980 (28)	980 (28)	980 (28)	5645

Note: The figures in brackets represent the number of class hours in a week

Annex 2

Standard School Hours in Lower Secondary Schools

(Current)

Subject	1 (G7)	2 (G8)	3 (G9)	Total
Japanese Language	140 (4)	105 (3)	105 (3)	350
Social Studies	105 (3)	105 (3)	85 (2.4)	295
Mathematics	105 (3)	105 (3)	105 (3)	315
Science	105 (3)	105 (3)	80 (2.3)	290
Music	45 (1.3)	35 (1)	35 (1)	115
Fine Arts	45 (1.3)	35 (1)	35 (1)	115
Health and Physical Education	90 (2.6)	90 (2.6)	90 (2.6)	270
Industrial Arts & Homemaking	70 (2)	70 (2)	35 (1)	175
Foreign Language	105 (3)	105 (3)	105 (3)	315
Moral Education	35 (1)	35 (1)	35 (1)	105
Special Activities	35 (1)	35 (1)	35 (1)	105
Elective Subjects	0～30 (0～0.9)	50～85 (1.4～2.4)	105～165 (3～4.7)	155～280
Period for Integrated Study	70～100 (2～2.9)	70～105 (2～3)	70～130 (2～3.7)	210～335
Total	980 (28)	980 (28)	980 (28)	2940

Note: The figures in brackets represent the number of class hours in a week

(Revised)

Subject	1 (G7)	2 (G8)	3 (G9)	Total
Japanese Language	140 (4)	140 (4)	105 (3)	385
Social Studies	105 (3)	105 (3)	140 (4)	350
Mathematics	140 (4)	105 (3)	140 (4)	385
Science	105 (3)	140 (4)	140 (4)	385
Music	45 (1.3)	35 (1)	35 (1)	115
Fine Arts	45 (1.3)	35 (1)	35 (1)	115
Health and Physical Education	105 (3)	105 (3)	105 (3)	315
Industrial Arts & Homemaking	70 (2)	70 (2)	35 (1)	175
Foreign Language	140 (4)	140 (4)	140 (4)	420
Moral Education	35 (1)	35 (1)	35 (1)	105
Special Activities	35 (1)	35 (1)	35 (1)	105
Period for Integrated Study	50 (1.4)	70 (2)	70 (2)	190
Total	1015 (29)	1015 (29)	1015 (29)	3045

Note: The figures in brackets represent the number of class hours in a week

Annex 3

Subject Areas and Subjects in Upper Secondary Schools

(Current)

Subject Area	Subject	No.of Credits	Required Subject	
Japanese Language	Japanese: Expression I	2	✔	
	Japanese: Expression II	2	✔	
	Japanese General	4	✔	
	Modern Writing	4		
	Classics	4		
	Reading Classical Works	2		
Geography and History	World History A	2	✔	
	World History B	4	✔	
	Japanese History A	2		
	Japanese History B	4	✔	
	Geography A	2	✔	
	Geography B	4	✔	
Civics	Modern Society	2	Either a) “Modern Society” or	
	Ethics	2	b) “Ethics” plus “Politics and	
	Politics and Economics	2	Economics”	
Mathematics	Basic Mathematics	2	✔	
	Mathematics I	3	✔	
	Mathematics II	4		
	Mathematics III	3		
	Mathematics A	2		
	Mathematics B	2		
	Mathematics C	2		
Science	Science Fundamentals	2	✔	2 subjects to be taken:
	Comprehensive Science A	2	✔	(Either a) “Science
	Comprehensive Science B	2	✔	Fundamentals” and
	Physics I	3	✔	“Comprehensive
	Physics II	3		Science A” or b)
	Chemistry I	3	✔	Comprehensive
	Chemistry II	3		Science B and one
	Biology I	3	✔	other subject I)

	Biology II	3		
	Earth Science I	3	✔	
	Earth Science II	3		
Health and Physical Education	Physical Education	7～8	✔	
	Health	2	✔	
Art	Music I	2	✔	
	Music II	2		
	Music III	2		
	Fine Arts I	2	✔	
	Fine Arts II	2		
	Fine Arts III	2		
	Crafts Production I	2	✔	
	Crafts Production II	2		
	Crafts Production III	2		
	Calligraphy I	2	✔	
	Calligraphy II	2		
	Calligraphy III	2		
Foreign Language	Oral Communication I	2	✔	
	Oral Communication II	4		
	English I	3	✔	
	English II	4		
	Reading	4		
	Writing	4		
Home Economics	Basic Home Economics	2	✔	
	Comprehensive Home Economics	4	✔	
	Daily Life Skills	4	✔	
Information	Information A	2	✔	
	Information B	2	✔	
	Information C	2	✔	

Subject Areas and Subjects in Upper Secondary Schools

[Revised]

Subject Area	Subject	No.of Credits	Required Subject	
Japanese Language	Japanese: General	4	✔ (can be reduced to 2)	
	Japanese: Expression	3		
	Modern Writing A	2		
	Modern Writing B	4		
	Classical Writing A	2		
	Classical Writing B	4		
Geography and History	World History A	2	✔	
	World History B	4	✔	
	Japanese History A	2	✔	
	Japanese History B	4	✔	
	Geography A	2	✔	
	Geography B	4	✔	
Civics	Modern Society	2	Either a) “Modern	
	Ethics	2	Society” or b) “Ethics”	
	Politics and Economics	2	plus “Politics and Economics”	
Mathematics	Mathematics I	3	✔ (can be reduced to 2)	
	Mathematics II	4		
	Mathematics III	5		
	Mathematics A	2		
	Mathematics B	2		
	Applications of Mathematics	2		
Science	Science and Everyday Human Life	2	✔	Either a) 2 subjects including “Science and Everyday Human Life” or b) 3 subjects including “Fundamentals” in the subject title
	Physics Fundamentals	2	✔	
	Physics	4		
	Chemistry Fundamentals	2	✔	
	Chemistry	4		
	Biology Fundamentals	2	✔	
	Biology	4		

	Biology	4		
	Earth Science Fundamentals	2	✔	
	Earth Science	4		
	Topic-based Research	1		
Health and Physical Education	Physical Education	7～8	✔	
	Health	2	✔	
Art	Music I	2	✔	
	Music II	2		
	Music III	2		
	Fine Arts I	2	✔	
	Fine Arts II	2		
	Fine Arts III	2		
	Crafts Production I	2	✔	
	Crafts Production II	2		
	Crafts Production III	2		
	Calligraphy I	2	✔	
	Calligraphy II	2		
	Calligraphy III	2		
Foreign Language	Basic English Communication	2		
	English Communication I	3	✔ (can be reduced to 2)	
	English Communication II	4		
	English Communication III	4		
	English Language Conversation	2		
	English Expressions I	2		
	English Expressions II	4		
Home Economics	Basic Home Economics	2	✔	
	Comprehensive Home Economics	4	✔	
	Life Design	4	✔	
Information Study	Society and Information	2	✔	
	Information and Science	2	✔	