

Education,  
Dissemination and Raising  
the Awareness of Intellectual Property  
in Japan

Japan Patent Office

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Promoting Invention and Innovation

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# Introduction

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## Introduction

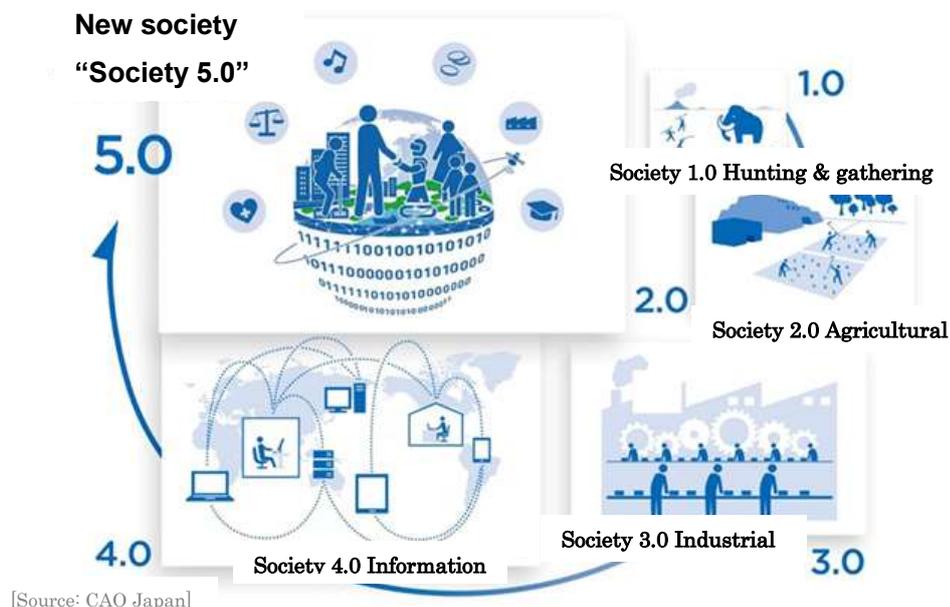
### 1 . The need for education, dissemination and raising the awareness of intellectual property

The intellectual property rights system involves the rights to achievements which result from a broad range of creative human activities, and it protects creators' rights pertaining to their achievements for a certain period of time. In Japan, the Intellectual Property Basic Act defines "Intellectual Property" as "inventions, devices, new varieties of plants, designs, works and other property that is produced through creative activities by human beings, trademarks, trade names and other marks that are used to indicate goods or services in business activities, and trade secrets and other technical or business information that is useful for business activities." A characteristic of intellectual property is that it is not a physical object, but information with property value. Information can be easily imitated and is not exhausted when used, and a large number of people can use it at the same time. As such, the intellectual property rights system restricts—to the extent required by society and to protect the creators' rights—the freedom of using information which could be freely used otherwise. In order to maintain this system design, the creators of intellectual property as well as its beneficiaries must gain a proper understanding of intellectual property and appropriately use the information property system; otherwise it will result in social disarray.

In Japan, the 5th Science and Technology Basic Plan was endorsed by a cabinet decision in January 2016. This plan proposes a future society that Japan should aspire to, called "Society 5.0." The term refers to a new society that represents the next stage after the hunting society (Society 1.0), agricultural society (Society 2.0), industrial society (Society 3.0), and information society (Society 4.0). It is defined as a human-centered society that balances economic advancement with the resolution of social problems by a system that highly integrates cyberspace (virtual space) and physical space (real space). All people and things will be connected through IoT (Internet of Things) in Society 5.0, enabling us to share various kinds of knowledge and information while creating new values, and giving us the ability overcome issues and difficulties. Moreover, artificial intelligence (AI) will allow us to obtain information when needed, and technologies such as robotics and autonomous cars will help us overcome issues such as a decreasing birthrate, aging population, local depopulation, and the gap between the rich and poor. Through social reform (innovation), Society 5.0 is expected to create a forward-looking society that breaks down the existing sense of stagnation, a society whose members have mutual respect for each other, transcending the generations, and a society in which each and every person can lead an active and enjoyable life.

In this society, the value of intellectual property (or information goods) is expected to increase further. It will be more necessary than ever to promote the correct understanding of intellectual property, the importance of creating new intellectual property, respect for creators and proper use of the intellectual property system to the entire nation. In other words, the need for education,

dissemination and raising the awareness of intellectual property is growing, more than ever.



## 2. About education, dissemination and raising the awareness of intellectual property

Intellectual property is the result of a broad range of creative human activities. It is considered technical or business information, therefore it is difficult to see the whole picture.

For example, if we look at patents, the functions and methods of rights acquisition differ greatly between machinery-related patents and pharmaceutical patents. For machinery, a single product is made up of a complex combination of numerous patented inventions, so if you decide to manufacture and sell a product, you need to use various patents of others, and they need to be mutually coordinated. To solve this, we need to standardize and to consider a combination of a general-use part and a unique part. On the other hand, a pharmaceutical product is usually composed of one or very few patents, and therefore it is very important to own that patent right. This broad range of usage styles must be established and operated as one single system.

In terms of a copyright, it arises naturally and various rights arise in different situations. For example, if you look at a song, there is a lyric writer, a composer and a singer. If you record the song, the record label will have the copyright, and if you broadcast it on media, the broadcasting company will have a right. In such cases, for example, whose permission should we obtain if we were to use a song at a school festival?

As you can see, it would be very challenging to educate young people about wide-ranging intellectual property and to correctly disseminate that information to the public.

Furthermore, education, dissemination and raising the awareness of intellectual property need to be done in a way that enhances the motivation to create new intellectual property. In Japan, standards

are established based on the School Education Act to ensure a certain level of education is equally provided throughout the country, and each school creates its curriculum based on those standards. The standards state that the curriculum is to “foster creativity in each development phase as a source of new discovery and concepts.”

However, we cannot foster creativity by simply providing knowledge or by teaching skills, and there are currently no established education techniques in this regard.

To promote education, dissemination and raising the awareness of intellectual property, it is essential to develop educators and human resources who can accomplish these tasks. However, the only training that school teachers currently receive is related to basic academic skills. As a result, most teachers have the same level of knowledge about this new territory of intellectual property as the general public. It would take a considerable amount of time and work to increase the knowledge of the majority of educators to a level where they can educate young people.

### 3. Efforts toward education, dissemination and raising awareness as part of Japan’s strategy to become an intellectual property-based nation

In light of these difficult challenges, and as the nation strives to become an “intellectual property-based nation,” the government has indicated three directions in the “Intellectual Property Strategic Program 2016” and started taking relevant measures. The three directions are:

- ① Implementation of systematic education focused on cultivating each person in Japan as human capital for developing and using intellectual property,
- ② Fostering the development of creativity which emphasizes the use of communal connections and knowledge, and
- ③ Achieving collaboration with local communities and society (construction of a support system via industry-academia-government collaboration).

Furthermore, the following three initiatives were established in the “Intellectual Property Strategic Program 2017,” and these initiatives will be undertaken in the future.

- ① Promotion of Education about Intellectual Property in Schools and Universities
- ② Construction of an Educational Support System in Partnership with Local Governments and Communities
- ③ Infrastructure Development for Intellectual Property Education and Raising awareness

#### 4. For detailed discussion

Some leading initiatives for education, dissemination and raising the awareness of intellectual property have already been implemented in Japan and they are showing some results.

We will discuss the following major initiatives in the following sections.

For intellectual property education

- Intellectual property education in elementary, junior high and high schools
- Intellectual property education in universities

For dissemination and raising the awareness of intellectual property

- Certification system (Japan-specific system)
- Other measures for dissemination and raising awareness

# Chapter 1

## <Elementary and Secondary Education>

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1. Introduction / Overview of intellectual property education in elementary and secondary education
2. Intellectual property education based on the growth of children
3. Physical development and personality formation when growing up
4. Example of intellectual property education at the elementary and secondary education stage
5. Overall picture of an intellectual property education model
6. Environmental education and intellectual property education—Application of intellectual property education techniques and synergy effects
7. Conclusion

## 1. Introduction / Overview of intellectual property education in elementary and secondary education

In addressing intellectual property education, what specific issues should we think about first?

Generally, when intending to conduct intellectual property education, the first thing we think of is, naturally, to make sure intellectual property rights systems are understood and learned. We tend to concentrate our attention on understanding the systems for industrial property rights and copyrights based on individual cases such as how they are used/applied or incidents of infringement.

While intellectual property education at the elementary and secondary education stages will of course mention such systems, we should first think of including the basic issues surrounding intellectual property systems. In considering the intellectual creation cycle (Fig. 1), it is necessary to address each element involved—creation, protection, and utilization—and relate them to the characteristics of each stage of growth.

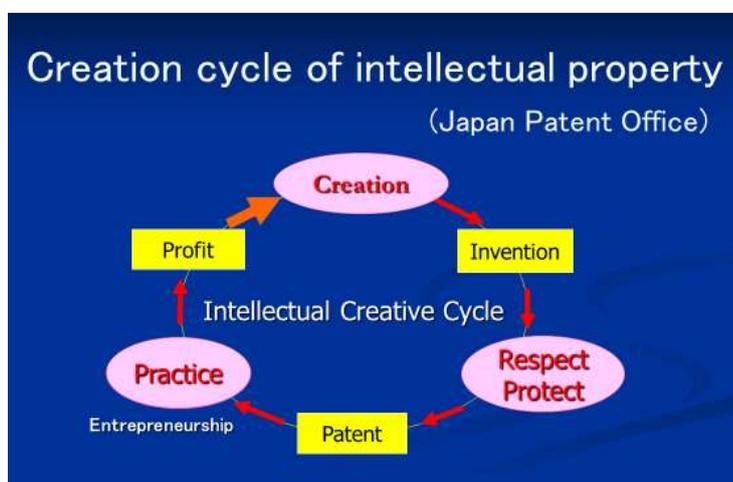


Fig. 1 Intellectual property creation cycle

For education at the elementary and secondary level, from kindergarten to senior high school, different approaches should be considered for different stages of child growth. It may sometimes be necessary to simply show the seriousness of the adult world to young children by explaining cases consisting of disputes over intellectual property. It is, however, more important to employ various approaches in view of the formation of the basic personality necessary to embody an intellectual creation cycle, such as teaching the original purpose for which the intellectual property rights systems (though not complete, perfect systems) have been established, and developing a feeling of sympathy for others, morals, the ability to formulate ideas, or a sense of self-efficacy.

When thinking about intellectual property education concretely, we must not exclude the concept of human resources development, which will help making the future society sustainable and in harmony with the natural environment. This perspective is anticipated to play a central role in

elementary and secondary education, while enabling the use of elements related to intellectual property as teaching materials in various scenarios.

As the proverb, “Necessity is the mother of invention,” says, intellectual property itself originates from creative activities that seek to find solutions under an awareness of the problem. It is therefore desirable to offer education that places priority on developing the individual creativity of both students and teachers, rather than to implement standardized procedures from a manual.

Tokai University, to which this author belongs, conducted research regarding intellectual property education at the elementary and secondary education stages as a program commissioned by the Patent Office from 2002 through 2004, with a project team consisting of teachers and faculty members of educational institutions ranging from kindergarten to university, led by Prof. Masayoshi Sumida. Up until today, the University has promoted the concept of “intellectual property education as creativity education” at its educational institutions. According to the three elements of the intellectual creation cycle, education on creativity, education on intellectual property rights systems, and education on entrepreneurship for applications, are set as the three pillars for this education. Among these, education on entrepreneurship is designed based on the Vaasa model (explained later) from Finland.

This paper describes an overview of intellectual property education at the elementary and secondary education stages, and includes a repost of part of the contents of a fiscal 2004 report submitted to the Patent Office.

\* What is the Vaasa model?

In the 1990s, Finland launched “education on entrepreneurship from kindergarten,” which attracted worldwide attention. Entrepreneurship education in Finland is not the same as entrepreneurship education in the narrow sense (external entrepreneurship education), but rather consists of education awareness reform that comes in response to the age of intellectual industry (knowledge industry, wisdom industry). The Vaasa model comprises diverse practical techniques that have been tested based on key concepts such as “from education by teaching, to education by learning,” “placing emphasis on methods rather than on content,” and “not creating a specific subject for entrepreneurship education but introducing a way of thinking based on entrepreneurship education to all subjects.” It is said to be education that focuses on three key points: Developing the attitude of voluntarily thinking and making decisions; maintaining motivation for learning; and removing walls that separate students from real-life society.

## 2. Intellectual property education based on the growth of children

In thinking about intellectual property education at the elementary and secondary education stages, we must consider approaches that take the growth stages of target children into account. Based on the awareness that these children will someday start working and support society in the future, it is important to consider what society in the near future will be like, what kinds of abilities, experience, and knowledge will be required then, and how to make sure the children acquire them at each stage.

In Japan, a country that has the longest life expectancy in the world and where the population is rapidly aging with a declining birthrate, it is crucial to change the form of the country and society into one that is sustainable. Outside of Japan, however, with the population expected to further increase from its current level of 7.5 billion, the advancement of information technology in addition to the movement of people and logistics is expected to be activated further due to progress in technology development. As the movement of people and flow of things are increasing globally, we must overcome differences in culture, tradition, values, religion, etc. between regions or countries, and realize a safe, peaceful, and sustainable global society. As is well known, maintaining a harmony with the natural environment is essential for economic activities and energy/resource consumption. Assuming that conservation of the natural environment is a prerequisite, the role of intellectual property will increase in importance in order to reduce consumption of mineral or energy resources while expanding economic activity.

A forecast for the year 2060 estimates that in Japan, the working population (aged 16 to 65), who support economic activities, will decrease by half compared to 2015, while the elderly population will double. It is thus obvious that if children today are simply taught or required to learn values that are considered normal at the present time, they will be required to once again acquire attitudes they should take on in a new environment when they become productive members of society. Although the same situation might have also occurred in the past, the speed of the changes has been accelerating, and the degree and volume of the changes are also likely to dramatically increase along with advances in technology innovation. Children in the near future may gain several times the experience that adults have so far had in their lifetime.

Under these circumstances, we must foster creativity starting from the childhood and understand the meaning and roles of intellectual property rights, and make use of them in society as a world common value, thereby substantially contributing to creating a sustainable society.

### 3. Physical development and personality formation when growing up

Before thinking about intellectual property education concretely, let us examine the growth of children—the basis of their education—from two perspectives: One is physical development and the other is personality formation.

Regarding physical development, Scammon's growth curve is known as a theoretical approach. It shows an outline of physical changes by age, from birth to maturity.

After birth, lymphoid, neural, and general tissues grow along with the growth of the child up to around six years of age. In particular, it is noteworthy that neural tissues complete over 80% of their final adult stage growth by the age of five.

In light of such changes in growth, it is easy to imagine that one's childhood environment, in other words, the attitudes and behavior of adults in the family, may influence the child's neural development.

Up to the age of 12 or 13 (from around the second year of kindergarten to the first year of junior high school) is a period of relatively stable growth, during which various experiences are accumulated. It is an important period for children to acquire habitual behavior, such as study and reading habits. In the sports world, it is an important time for athletes to learn the basics.

Considering this course of growth, in order to develop a mind that respects one's own ideas as well as the ideas of others and that supports belief in one's own ability, it is important to foster awareness about intellectual property starting from childhood and accumulate many related experiences. Children should develop a sense of morality and self-efficacy and experience the pleasure of creating something, as often as possible.

During this period, the behavior of adults around the child is particularly important. Knowing that children mimic adults and learn from their behavior, it is very important for adults around the child to be conscious about intellectual property at home, school, or on any other occasions where different generations gather. The above-mentioned intellectual property is not the same as the exclusive intellectual property rights used to extract victory over others, but rather to make a better society in the near future. In particular, it is the sense of intellectual property for having ideas, giving a concrete shape to them, and making use of them in society, thereby making the world a better place.

Another important element for the growth of the child is psychological factors at each development stage of personality formation. A representative theory that describes this is Erikson's theory of personality development. (Table 1) (Kishimoto, Shibata "Development and Learning" Gakubunsha, 1990)

This theory describes the growth of a person in eight stages, with each stage containing particular conflicts that the person must face and resolve. By overcoming those conflicts, the person

is considered to acquire virtue and personality development advances.

Table 1 Erikson's Theory of Personality Development

Growth stage		Range of important personal relationships	Basic virtue
I. Infancy	Trust – Mistrust	Maternal person	Hope
II. Early childhood years	Autonomy – Shame and doubt	Parents	Will
III. Preschooler	Initiative – Guilt	Basic family	Purpose
IV. School-age child	Industry – Inferiority	Neighborhood, school	Competence
V. Adolescent	Identity – Role confusion	Peer group and external group, role model	Fidelity
VI. Young adult	Intimacy – Isolation	Friendship, sexual competition, partner	Love
VII. Middle-aged adult	Generativity – Self-absorption	Division of labor, common family	Care
VIII. Late adult	Integrity – Despair	"Human beings" "Our species"	Wisdom

In early childhood years, a sense of autonomy develops as the scope of things that the child is capable of controlling increases along with his/her physical growth. This is a period in which the child begins to feel like doing everything by himself/herself. In order to prevent a sense of shame or self-doubt from overwhelming the child, it is necessary to have him/her experience the motivation for taking on new challenges. During the period from kindergarten to early elementary school, personality traits such as initiative and productivity develop. These traits lead to the motivation to produce intellectual property and then utilize it in society. Although experiencing failure is important to some extent, it is necessary to pay attention to avoid developing a sense of guilt or inferiority.

At the adolescent stage, the child gains a sense of identity through experiencing group life. The child secures his/her identity in group society by observing the behavior of not only his/her guardians within the family but also others around him/her through school activities and self-questioning. Sufficient attention should be paid to the importance of being aware of various systems, and making full use of one's own abilities and getting involved therein, which will help the intellectual property rights system to function more effectively.

Thus, by having children acquire appropriate experience, knowledge and intelligence at each stage of their growth, we can develop human resources who will help to make intellectual property one of the pillars of society.

What makes intellectual property education necessary and important is whether the persons who receive the education can make effective use of what they have learned or experienced in their daily lives. In other words, it is important to make clear what society in the next era will be like and what roles intellectual property will play in such a society. This means that the role intellectual property has previously played may possibly change. In short, the intellectual property rights systems

themselves must change in line with the times.

It is most important to develop an approach that takes into consideration the characteristics of each development stage, to have a comprehensive image of the current status of society and the changes occurring therein, and to design intellectual property education as a form of education that is capable of contributing to an increasingly globalized society in the near future.

#### 4. Example of intellectual property education at the elementary and secondary education stages (Case study at Tokai University)

There is a Japanese invention that had been used as a world standard technology until the end of the 20th century. It was a telephone technology that enabled direct dialogue between people in different locations around the world. It was intended to help deepen mutual understanding by talking directly to each other, eventually contributing to world peace. This technology, which consisted of a pair of communication cables capable of transmitting/receiving multiple channels by using carrier wave technology, developed into the field of wireless communication, such as FM broadcasting, optical communication, and the Internet.

The technology originates from non-loaded cable technology, which was invented by Shigeyoshi Matsumae (1901-1991) (Fig. 2) in Japan when he was a technical official at the Ministry of Communication, during the time when a communication system using loading coils (invented by Dr. M. Pupin of Columbia University, USA) had been the mainstream technology in the world. It was an innovative technology that almost destroyed common sense throughout the world.



Fig.2 Shigeyoshi Matsumae and non-loaded cable. Tokai University website

The development of this technology made Matsumae keenly aware of one thing—it is crucial for the future of a country to value intellectual property, such as patents, as well as to raise public awareness of science and technology, and it is also important to develop human resources to this end. For human resources development, education in both the sciences and liberal arts should adopt approaches that are sufficiently understandable with regard to each other, and should foster a view of history, a view of the world, and a view of the nation, as well as a view of life based thereon. In this case, a view of the world does not mean simply remembering a world map, but rather, for instance, a common concept of society concerning nature, or a paradigm. It should be noted in advance that this view may dynamically change over time in the future.

Wishing to realize a more prosperous and more peaceful society, Matsumae believed that the human resources who will enable people in each region or nation to engage in cooperation and healthy competition under certain rules in a global-scale society would be important in the future.

He later founded Tokai University, and launched industry-academia collaborative activities and intellectual property management from early on. Today, Tokai University offers “intellectual property education as creativity education” based on the experiences of Matsumae at its educational institutions for all stages, from kindergarten to elementary, junior high, and senior high school, and to university as well.

This paper explains the concepts and methods of approaches for intellectual property education, from kindergarten to senior high school, based on the methods studied at Tokai University in research commissioned by the Patent Office in 2004. For more details, refer to the Report on the FY 2004 Patent Office Commissioned Research Program, “Study on Intellectual Property Education in University” and “Study on Intellectual Property Education in Elementary/Secondary Education and Higher Education Institutions.” The following includes excerpts and citations from these reports.

## 5. Overview of the educational model for intellectual property

This educational model shows the concept of education for intellectual property that is considered to be required in each development stage, from kindergarten to high school. It aims to cultivate basic knowledge regarding “creation,” “protection” and “utilization,” which comprise the intellectual creation cycle, in accordance with the development stages. The model should be utilized in a curriculum corresponding to each development stage.

The general purpose of the curriculum should be “based on the school motto (educational idea of each school), and in this model, it is intended to cultivate human resources equipped with rich creativity and humanism which can contribute to build a peaceful society.”

When introducing intellectual property education to the current school education, it is possible to provide it widely in various school subjects and special courses given in daily school education.

The important points that teachers should know when providing intellectual property education in each stage of educational institutions are shown as one example as follows. The following case is established as a Tokai model for intellectual property education as mentioned previously, which is referred as a handbook for teachers responsible for the curriculum. Since intellectual property education is education involving creativity, a teacher’s creativity is important above all when teaching classes. We don’t dare to instruct everything about the procedures to teachers, but rather expect them to adequately express creativity and inspiration based on an entrepreneurial spirit when teaching intellectual property classes. Thus, it is necessary to provide adequate training before conducting the classes.

Important points regarding elementary and secondary educations are as follows.

Early on when conducting intellectual property education, lessons teaching importance of intellectual property and the morals to exercise intellectual property rights shall be introduced.

In other words, it is important to be aware of 1) how a creation affects society, and 2) what does society require regarding creativity for the process of creating objects (regardless whether tangible or intangible). This means it is important to have “an idea” about creation.

The following describes an outline of the measures provided for the three educational stages—from kindergarten to the second grade of elementary school, the third grade to the sixth grade of elementary school, and junior-high and high school, as well as for the parents of students.

## 5.1 Policy and educational materials for intellectual property education in kindergartens and during elementary school grades 1-2

Though the curriculum can be established for each educational stage or school when conducting intellectual property education, we divided the elementary school educational stage into grades 1-2 and grades 3-6 and combined the kindergarten stage with the elementary school grades 1-2 according to children's growth characteristics.

### (1) The objectives of intellectual property education in kindergartens and elementary schools (1-2 grades)

Considering the characteristics of growth in childhood and early stage schoolchildren, education in the creative aspect should be greatly focused on. It is important to conduct creative education while recognizing the intellectual creative cycle of creation, protection, and utilization. Even in conventional curricula, many classes are actually meant to be intellectual property lessons, so it is necessary to restructure them in the overall curriculum.

From the viewpoint of developmental psychology, this stage is "a period to cultivate curiosity and skills for unique trials." Educational objectives are thus established as follows.

- ① Experience the joy and pleasure of creation
- ② Provide caring and education that values self-efficacy (competent feeling)
- ③ Cultivate a feeling and attitude for valuing oneself and respecting other people (human relations)
- ④ Cultivate a feeling and attitude for valuing work created by other people (ownership)

### (2) Intellectual property education in kindergartens and elementary schools (grades 1-2)

Based on the current creativity education conducted in kindergartens and elementary schools, intellectual property education should be given during daily care and in the curriculum. Such education is provided to children classified into three stages: kindergarten and younger and middle classes (3 to 5 year olds), elder classes (5-6 year olds), and elementary school grades 1-2. Considering education at home, awareness of intellectual property for parents is also encouraged.

The general points of education regarding intellectual property and entrepreneurship are as follows.

- ① "Learning-focused education rather than teaching-focused education," "method rather than content (valuing human relationships), "purpose and process rather than results," "communicative, two-way lessons."
- ② Abilities to be cultivated and teachers' support (fostering self-efficacy)  
—Prepare a field that is actually visible, tangible, and that can be experienced.

- Cultivate a feeling of fun through devising and trying something.
  - Prepare an atmosphere of speaking freely. Never deny any child's idea.
  - Take care that the children are recognized by their friends and teachers.
  - Provide a successful experience so that children can obtain self-confidence and become positive.
- ③ Four methods for creative education
- 1) Playing with materials having plasticity
  - 2) Blocks, objects with a shape, discovery of shapes, combinations of them -> Enjoy changes
  - 3) Relation with nature, playing and making something by using natural things
  - 4) Making a story from experience and memory, composing music
- ④ "Project work," and "group work" are available
- ⑤ Activities that include making rules in playing (connect with the education for entrepreneurship)
- ⑥ Items from which educational effects can be expected:
- Courage for trying, cooperation, independency, sympathy, leadership
  - Rule-making can sometimes be recognized naturally in the elder class of kindergarten. A rule can be changed if a child's friends agree. Children in middle or younger classes cannot change the rules.
- ⑦ Free creation (Foster the mind of intellectual property education for making something)
- Items for which educational effects can be expected: Joy in creating something, curiosity, interest, patience
  - Children may imitate friends' works, and the imitated works may sometimes be cherished. It is impossible to completely imitate the forms or drawings of others.
- ⑧ Pretend plays regarding social life and help (concern and interest for society)
- Items for which educational effects can be expected: Interest regarding social connections, concerns, morality, mutual aids
  - There is a case study of "what do you want to be when you become an adult?" Value the play experience by pretending "what I want to be" or by "searching for what I want to be."

## 5-2. Policy and educational materials for intellectual property education in elementary school grades 3-6

### (1) Objectives of intellectual property education in elementary school grades 3-6

The elementary school period is the most stable period in children's growth until 20 years old, and is suitable for acquiring a basic lifestyle. How to relate intellectual property with conventional creative education and how to develop specific classes while recognizing relations with the intellectual creative cycle are considered to be important when conducting the lessons. Measures for intellectual property education are attracting attention from around the world, and future advancement is fully expected.

The purpose of intellectual property education at this stage is to understand that intellectual property should be protected as an asset. Experiences of creating and expressing intellectual property (or obtaining rights) are important in this regard. Additionally, it is aimed at understanding the content of intellectual property rights and the importance of utilizing intellectual property in society.

### (2) Development of intellectual property education in elementary school grades 3-6

Intellectual property education is, in principle, provided in "spiral form <sup>(note)</sup>" for each subject and special subject (5 classes in grades 5-6). Collaboration between elementary schools and junior-high schools can be conducted while considering the actual situation of each school.

(Note) What is "spiral-formed" education?

In intellectual property education, basic creative activities regarding "intellectual property" are first introduced to children to teach the fun of "intellectual property" activities. Then, further advanced educational content relating to "intellectual property" is taught to children who have experienced such content, with the ultimate purpose of fostering students who have "a mind for intellectual property." In other words, the "spiral-formed" educational system is education that involves teaching relatively easy content and progressing to high-level content by utilizing "interest generated by creative activities" according to the child's development stage, which ultimately aims to "foster an intellectual property mind." Types of "spiral-formed" education can be considered flexibly, for example, a 3-year curriculum composed of three 1-year cycles, or one 3-year cycle. The most effective "spiral-formed" education should be conducted uniquely in each school according to the current situation of each school.

### (3) Intellectual property education in each subject

The methods for providing education about intellectual property in each subject include introducing information about intellectual property into the educational content of each subject,

and teaching it through the observance of rules in each subject, such as, for example, in the use of the Internet, presentation quoting reference materials, or drafting/submitting reports.

In addition, another method is available to provide each subject as creative education. For example, creating a sequel to a story in educational material in the subject of Japanese language, or imagining an “if story” in history in a social subject, etc.

It should be noted that intellectual property education conducted in each subject also contains similar elements to the principle of moral education in the government course guidelines.

In this stage also, it is necessary to recognize the common concept of “learning-focused education rather than teaching-focused education,” “method rather than content,” “purpose and process rather than results,” “communicative, two-way lessons,” and “removing barriers in actual society,” etc.

#### (4) Intellectual property education in a special course

Basic thinking regarding educational materials in the special course for intellectual property education is as follows.

- ① Prepare educational materials, not textbooks, as reference materials or case studies for students and teachers
- ② Establish compulsory common items to be taught in each school

##### I. Introduction (compulsory items)

- a) What is intellectual property?
- b) Why do we learn about intellectual property?

##### II. Creation of intellectual property

- a) History of creating intellectual property
- b) Values of intellectual property (prosperity of human beings, something to enrich human life and spirit)
- c) Intellectual property is an asset
- d) Introduction of famous inventors (Gutenberg, Nobel, Edison, Shigeyoshi Matsumae, etc.)

##### III. System for protecting intellectual property

- a) Why is an intellectual property system necessary?
- b) How does the intellectual property system develop?
- c) What types of intellectual property and intellectual property rights are there?
- d) How do we obtain intellectual property?
- e) What are intellectual property rights?
- f) For what case can we use intellectual property freely?

##### IV. Before finishing learning (compulsory items)

V. Successful cases using intellectual property

VI. Case studies (case studies completed in 5 classes)

- a) Investigate the life of inventors
- b) Investigate the history of inventions of familiar instruments
- c) Make a design of a symbol mark for the class
- d) Make the school environment comfortable
- e) Make our town comfortable to live in
- f) Consider intellectual property rights from newspaper articles and the Internet
- g) Learn the spirit of intellectual property rights from cases that are allowable at school but not allowed in society
- h) Class using a “Wonder discovery map”

### 5-3. Policy and educational materials for intellectual property education in junior-high and high schools

#### (1) Objectives of intellectual property education in junior-high and high schools

- (1) Understand that intellectual property is required to be protected as an asset
- (2) Understand that experiences of creating and expressing intellectual property (or obtaining rights) by oneself are important
- (3) Understand the content of intellectual property rights
- (4) Understand the importance of utilizing intellectual property in society

#### (2) Development of intellectual property education in junior-high and high schools

- 1) To promote intellectual property education more positively in junior-high schools, education is developed in the “spiral form” for each subject and special course (5 classes in each grade)
- 2) The special course (5 classes or more) is provided according to the actual situation of each school.
- 3) Collaboration between junior-high and high schools is conducted according to the actual situation of each school.

#### (3) Intellectual property education in each subject

The methods for educating about intellectual property in each subject include the method of introducing information about intellectual property into the educational content of each subject, and the method of teaching rules about intellectual property in using the Internet, making presentations, and drafting/submitting reports in each subject.

In addition, another method to develop each subject from the aspect of creative education is available. For example, creating a sequel to a story in educational material in the subject of Japanese language, or imagining an “if story” in history in a social subject, and the performance of a skit contest, etc.

In principle, “spiral-formed” intellectual property education should also be developed for each subject.

#### (4) Intellectual property education in the special course

The most important things to provide for intellectual property education in junior-high and high schools are to cultivate the ability to perform creative activities while considering “for what purpose are creative activities carried out?” and “how does my creation affect society?”

##### (4-1) Guidelines for junior-high schools

- ① Develop a special course of at least 5 classes in each grade
- ② A class teacher is mainly responsible for the course with all teachers

- ③ A lesson on protection and respect of intellectual property rights should be conducted at least once every three years
- ④ Experience-based learning style is basically provided with group work
- ⑤ Regarding the special course composed of 5 classes, a subject theme completed in 5 classes should be established while observing the following teaching methods.
  - a) Teachers should clearly show the purpose of the lessons and concrete examples to students before starting such lessons.
  - b) Following item a), the students should represent the content of the activities (investigative study, experience, etc.)
  - c) Teachers should summarize the lessons while focusing on related intellectual property laws, protection/respect of intellectual property rights from a legal viewpoint.

Junior-high school first grade: One lesson on the guidance of intellectual property curriculum + lessons for understanding the importance of intellectual property education

[Example] a) Investigate the life of inventors

b) Investigate the history of inventions about familiar instruments

Junior-high school second grade: Creative activities (remove obstacles between schools and society and consider familiar society)

[Example] c) Make a design of a symbol mark for the class

d) Make the school environment comfortable

e) Make our town comfortable to live in

Junior-high school third grade: Understanding of protection/respect of intellectual property rights (intellectual property education from a legal viewpoint and spirit)

[Example] f) Consider intellectual property rights from newspaper articles and precedents

g) Learn the spirit of intellectual property rights from cases that are allowable at school but not allowed in society

#### (4-2) Examples of educational materials in junior-high schools

##### I. Introduction (compulsory items)

a) What is intellectual property?

b) Why do we learn about intellectual property?

##### II. Creation of intellectual property

a) History of creating intellectual property

b) Values of intellectual property (prosperity of human beings, something to enrich human life and spirit)

c) Intellectual property is an asset

d) Introduction of famous inventors (Gutenberg, Nobel, Edison, Shigeyoshi Matsumae, etc.)

##### III. System for protecting intellectual property

- a) Why is an intellectual property system necessary?
- b) How does the intellectual property system develop?
- c) What types of intellectual property and intellectual property rights are there?
- d) How do we obtain intellectual property?
- e) What are intellectual property rights?
- f) For what cases can we use intellectual property freely?

#### V. Successful cases using intellectual property

#### VI. Case studies (case studies completed in 5 classes)

- a) Investigate the life of inventors
- b) Investigate the history of inventions of familiar instruments
- c) Make a design of a symbol mark for the class
- d) Make our school environment comfortable
- e) Make our town comfortable to live in
- f) Consider intellectual property rights from newspaper articles and precedents
- g) Learn the spirit of intellectual property rights from the cases that are allowable at school but not allowed in society

#### (4-3) Guidelines for high schools

Classes can be arranged according to the actual situation of each school based on the contents and time management described below.

#### I. Creation of intellectual property

##### First grade

- a) Necessity of intellectual property: Understand the role of intellectual property in industries and culture through actual cases
- b) Practice of inventions and ideas => Observe actual cases of inventions and devices

##### Second grade

Practice of inventions and ideas => Devise and improve something familiar

##### Third grade

Practice of inventions and ideas => Future product development

#### II. Representation of intellectual property

##### First to third grades

Draft of abstract and drawings of an invention, presentation

★ Including guidance to encourage entry to various invention contests, idea competitions, etc.

#### III. Understanding the intellectual property system

##### First grade

History of the intellectual property system

##### Second grade

Types and details of intellectual property rights (Patent rights, design rights, trademark rights, copyright, etc.)

Third grade

Effects and limitations of intellectual property rights (infringement, problems of the intellectual property system, investigation of typical court cases, etc.)

#### IV. Importance of utilizing intellectual property

First to third grades

Study cases utilizing intellectual property (social effects)

★Choose topics corresponding to the actual condition of each grade and hot topics

#### (4-4) Educational materials in high schools

##### I. Creation of intellectual property

a) History of intellectual property

b) Value of intellectual property (prosperity of human beings, something to enrich human life and spirit)

c) Intellectual property is an asset

d) Introduction of famous inventors (Gutenberg, Nobel, Edison, Shigeyoshi Matsumae, etc.)

##### II. Experiential study for creating intellectual property

a) Experience of an invention

- Discover a problem and create a solution for that problem

- As a method for getting inspiration, use the brainstorming method, KJ method, NM method, etc.

b) Experience of designing (design appealing to the motivation to buy, a usable design)

c) Experience of naming (a mark guaranteeing product quality, promoting the motivation to buy, etc.)

##### III. Experience of representing intellectual property

a) Method to draft an abstract and drawings of an invention

b) Presentation (how to use PowerPoint, use of simili paper, etc.)

##### IV. System for protecting intellectual property

a) Why is the intellectual property system necessary?

b) How does the intellectual property system develop?

c) What types of intellectual property and intellectual property rights are there?

d) How do we obtain intellectual property?

e) What are intellectual property rights?

f) In what case can we use intellectual property freely?

##### V. Utilization of intellectual property

a) Importance of utilizing intellectual property

b) Successful cases utilizing intellectual property

c) How to start a business

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#### 5-4. Explanation of the intellectual property protection system to parents (intellectual property education + creative education)

It is important to explain about intellectual property to parents. Seven points in this regard are summarized as follows. (Point 3 is taught to children and students in daily care and by the curriculum). The critical point is that teaching the significance and roles of intellectual property is important for both parents and teachers.

- 1) History of the protection of intellectual property
- 2) Necessity of protecting intellectual property (Intellectual property has economic and personal value like a tangible material; it needs protection similar to tangible materials; infringement of intellectual property rights is easy)
- 3) Purpose of protecting intellectual property (development of human beings and society, establishment of a peaceful and highly creative society, necessity to build a society without imitations, respect of intellectual property and human rights, strengthening of international competitiveness in Japan, science- and technology-oriented nation, intellectual property oriented nation) -> Also teach to children and students
- 4) Procedures for applying for a patent, etc. (experiential study): Conduct if there is an opportunity
- 5) Content of intellectual property rights (Validity of the rights, infringement, relief, sanctions)
- 6) A case in which free use of intellectual property is permitted (test research from a laboratory, making personal copies, making copies at a school library, quoting when writing articles/reports, copying of educational materials by a teacher/student, making copies for educational material training by a teacher, copying a sculpture in a school yard, play/show at a school festival, installing and backing up purchased computer software, software upgrades, etc.)
- 7) Problems with intellectual property rights (AIDS therapeutic agents, environmental problems, plagiarizing of traditional knowledge, biological/genetic resources of developing countries by developed countries, bioethics and patents (patent for human cloning, medical technology and patents, etc.), new problems not described in the Copyright Act (ex.: photography of books, etc. with camera-attached cell phone, unauthorized copying on the Internet, use of file exchange services, transmission without permission, etc.)

## 6. Environmental education and intellectual property education - Application of intellectual property education techniques and synergy effects

If you wonder about what should be done to the current education framework for the future of society, it may be helpful to refer to approaches taken in other fields. Education on the environment is an initiative aimed at realizing a sustainable society.

While the initiative is often considered to be comprised of educational activities toward achieving SDGs (Sustainable Development Goals), which have been set recently, approaches for environmental education may give us a hint for determining what specific techniques are appropriate in promoting intellectual property education. Environmental issues have developed from the problem of regional pollution to global-scale challenges. In other words, the issues are associated with the flow of recognizing problems that have not been identified before, understanding their details, and finding solutions to them.

Similarly, intellectual property education may be a new concept for teachers. The flow consisting of understanding relevant systems and then applying them originates in the development of environmental education that has evolved to date.

Historic milestones in the development of environmental education include the Belgrade Charter adopted at the International Conference on Environmental Education in 1975 and the Tbilisi Recommendation in 1977. Following these, the Millennium Development Goals (MDGs) in 2001 and the 17 SDGs and 169 targets in 2015 were set up as goals for sustainable development, with consequent efforts being made to achieve these goals.

The Tbilisi Recommendation issued at the Intergovernmental Conference on Environmental Education (Tbilisi Conference) (held in Tbilisi, Republic of Georgia of the former Soviet Union) in 1977 defines environmental education by compiling 12 principles. It declares the goals and processes of environmental education as follows:

- 1) To foster a clear awareness of, and concern about economic, social, political and ecological interdependence in urban and rural areas
- 2) To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment
- 3) To create new patterns of behavior of individuals, groups and society as a whole towards the environment

The important processes of environmental education are presented in the following five categories:

- (1) (Awareness) To help social groups and individuals acquire an awareness of and sensitivity to the total environment
- (2) (Knowledge) To help social groups and individuals acquire a basic understanding of the

environment and its associated problems

- (3) (Attitudes) To help social groups and individuals acquire a set of values and feelings of concern for the environment, and the motivation for actively participating in environmental improvement and protection
- (4) (Skills) To help social groups and individuals acquire the skills for identifying and solving environmental problems
- (5) (Participation) To provide social groups and individuals with an opportunity to be actively involved at all levels in working toward resolving environmental problems

Based on the Tbilisi Declaration, the conference held in 1997 in Thessaloniki, Greece presented the roles of environmental education in building a sustainable society and the challenges for education as a whole, such as, for example, that environmental education is education for a sustainable future; that there is a requirement for rebuilding of the school education system with a view to sustainability; that it is necessary to raise public awareness of environmental issues; and that a sense of ethics is essential to achieve sustainability.

If the term environment is replaced with intellectual property, these statements provide some hints for us in contemplating a desirable form of intellectual property education. To be specific, even if intellectual property is not very familiar to us, we should not only focus on its systems, but rather pay attention to their objectives, understand the details, and consider their applications, thereby getting actively involved in them.

As a child advances through elementary, junior high, and senior high school, the world he/she recognizes widens. Similarly, it is possible to widen awareness of intellectual property. By comparing the environment and intellectual property, we can identify the following keywords as methods and elements that should be addressed in intellectual property education.

- (1) Hands-on experience
- (2) Sustainability (expansibility of learning)
- (3) Home education (fostering a sense of morals and ethics)
- (4) Relevance or consistency with school/subject teaching education
- (5) Learning by using facilities or organizations (observation tours, etc.)

In school education, every subject has relevance to environmental issues. Advancing the contents of the Thessaloniki Declaration indicates the usefulness of referring to environmental education techniques, as well as the importance of intellectual property education itself.

In comparison to the time required to gain an understanding of the environment and recognize its impact on society, intellectual property contributes more directly to the development of society and culture, and to the economic and industrial world through the advancement of science and

technology, and its associated changes occur faster. It was therefore once considered that environmental education and intellectual property education were incompatible or irrelevant. Environmental education and intellectual property education, however, share a common goal of achieving human prosperity and building a prosperous society. This means building a society that enables sustainable development. We can see that there is a common perspective in environmental education, which targets nature, and intellectual property education, which targets society.

Toward this common goal, considering complicated but close relationships among the economy, industry, science and technology, and the natural environment, we find that learning through environmental education how to live with the natural environment, and also receiving intellectual property education, thereby creating, protecting and utilizing intellectual property, will contribute to the development of the economy and society as a whole. Consequently, we can become aware of a desired form of industrial development that pays attention to the natural environment, or a desired form of environmental conservation that pays attention to the industrial development. We will thus be able to learn the methodology to build a sustainable society from the perspective of both the environment and the economy. In other words, a specific approach for human resource development can be formulated, which will contribute to a society aimed at balancing both the environment and the economy. Expansion of intellectual property rights, which are formless added values, is not necessarily associated with economic development through expansion of the consumption of natural resources, but may help to expand economic activity while maintaining the natural environment.

One task is common to both educations, namely, “fostering a sense of morals and ethics.” A proper relationship between people, or between people and society, does not exist without a sense of morals and ethics. In terms of the environment, it is impossible to conserve the natural environment without a sense of morals and ethics. Intellectual property rights, on the other hand, are private rights, and how such rights are utilized should be decided by the rights holder. This means that the decision may be substantially influenced by the sense of morals or the sense of ethics of the rights holder. Environmental education and intellectual property education should be implemented in view of the multi-phased relations between the natural environment, science and technology, industry, the economy, and society, as well as their changes over time. And for both educations, a sense of morals and ethics must be established.

In the relationship between environmental education and intellectual property education, environmental education techniques will play a significant role. At the same time, both educations are expected to complement each other from the perspective of sustainability, and generate synergy effects.

## 7. Conclusion

The objective of intellectual property education is for the entire nation to deepen its awareness and understanding about intellectual property, including its applications. It is important to promote the recognition that intellectual property is not something special, but will naturally exist under common value, utilized in the development of a more prosperous society in the future. In other words, it should be recognized as culture, or as a part of our lives.

In educational establishments, proper understanding of intellectual property by teachers will enable intellectual property education for students/children in kindergarten, elementary school, and senior/junior high school in all occasions. For parents, as their understanding about the intellectual property mindset grows through education for their children, acceptance of intellectual property as a part of literacy in daily life is expected to spread throughout society.

Education is conducted not only in schools, but through teaching provided through contact with parents at home, which is also very important. It is therefore also necessary that not only teachers but parents as well deepen their understanding about intellectual property, or in other words, that they think about how their children's creativity, understanding about intellectual property, and internal entrepreneurship should be fostered. In promoting intellectual property education at school, parental understanding is an essential factor that will strongly support the introduction of intellectual property education in educational establishments. Whether understanding by parents is achieved or not will determine the degree of difficulty in introducing intellectual property education in practice. When introducing a new type of school education, understanding by teachers is also important, as they have substantial influence in this regard.

The role of school education is to produce human resources that satisfy the needs of the times. It is crucial to properly respond to changes over time in view of the future without adhering to conventional educational models.

# Chapter 2

## <Higher Education>

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The Status of Intellectual Property Education in the Curriculum for Higher Education: With Objectives Ranging from Providing an Understanding of the Intellectual Property System to Educating Specialists in Intellectual Property (Authored by Tomohisa Kimura)

## 1. Introduction

Heretofore, intellectual property education in the curriculum for higher education has been largely provided by faculties of law and graduate schools of law in a structured manner. Complementary to this, intellectual property education tailored to specialty areas in faculties and graduate schools has been provided, though to a limited extent. To cite an example, faculties of engineering have provided intellectual property education in combination with Development education. By the same token, faculties of business administration have provided education in intellectual property strategy including branding, etc. The former example involves a mission to provide students with a pragmatic education that allows them to take on the power of execution required of intellectual property and/or legal personnel based on a study of legal interpretation. The latter example involves a mission to provide comprehensive education, including analytical studies of intellectual property information, from the perspective of formulation of effective research and development strategies. In addition, intellectual property specialist graduate schools designed to provide working adults with pragmatic education to allow them to take on the power of execution has a place in the cultivation of human resources in this area, albeit with a limited admission quota. Given the inclusion of intellectual property education tailored to specialty areas in faculties and graduate schools and the attributes of students in the curriculum for higher education as described above, the concept of “Intellectual Property Education” may vary from person to person. In fact, some people argue for the need to unify the definitions and concepts of the term. In this article, I do not discuss further about the definition of “IP Education”, in the situation that various departments proceed with their own educations with different concept of it, but point out the necessity of reconfirming the concept among concerned parties in such discussions.

Yamaguchi University, where I work for, has been promoting the enforcing the IP educational system since 20 years ago. Now we have various types of IP courses apart from the pre-existing IP courses: IP introduction course for all the undergraduates; IP course as an option; and IP course for scientific and engineering graduate students. Moreover, Yamaguchi University started running new courses/programs in Intellectual Property education, including Intellectual Property course for working adults (in 1977), Management of Technology Graduate School of Innovation and Technology Management for working adults (2005), Faculty of Global and Science Studies (in 2015), and a Certified Intellectual Property Program (comprising a Manufacturing Course and a Contents Course, in 2017). The summary of such courses will be explained further in this article, as a reference for opening IP educational courses in higher educational organizations.

## 2. Intellectual Property Education Advocated by Yamaguchi University

The IP educations in law schools and other type of IP educations which will supplement them would exist as the core part of the IP education system in a way of raising students specialized in IP. Yamaguchi University's approach to enrich the IP education is aiming to satisfy both of these: (i) to function for raising students adjustable toward the traditional IP education system; and (ii) to provide current and practical IP education as basic knowledge. In this context, there is a growing need for human resources with a certain degree of expertise and skill in intellectual property, not only as intellectual property specialists, legal specialists and intellectual property and research and development personnel engaged in creating intellectual property, but in every aspect of social life. For example, public relations personnel must have an elementary knowledge of and skills in copyright and trademark. Educational personnel must have, at least, knowledge of and skills in copyright. Also, the expansion of SNS to send and receive information through SNS would make ordinary citizens makes it necessary to have IP basics as a basic need. (See Fig. 1)

Fig. 1 IP required in working as basic knowledge

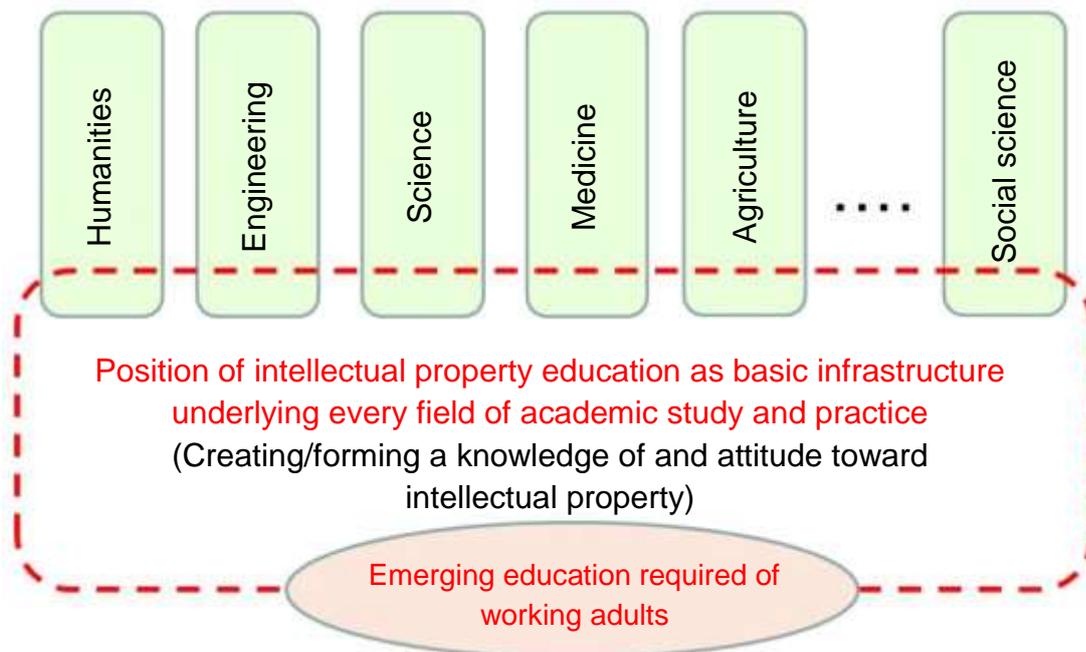


Figure 2 shows the abilities to be developed in selected specialist fields of study and an image of working people on the strength of the abilities so developed. Faced with the necessity of solving international problems involving intellectual property and/or taking part in negotiations on international standardization, intellectual property personnel need to acquire increasingly higher skills. Provision of universal IP education as an emerging subject required of working adults could have the secondary effect of securing a pool of human resources capable of dealing with sophisticated intellectual property practice.

**Fig. 2 Abilities to be developed and image of working people on the strength of those abilities**

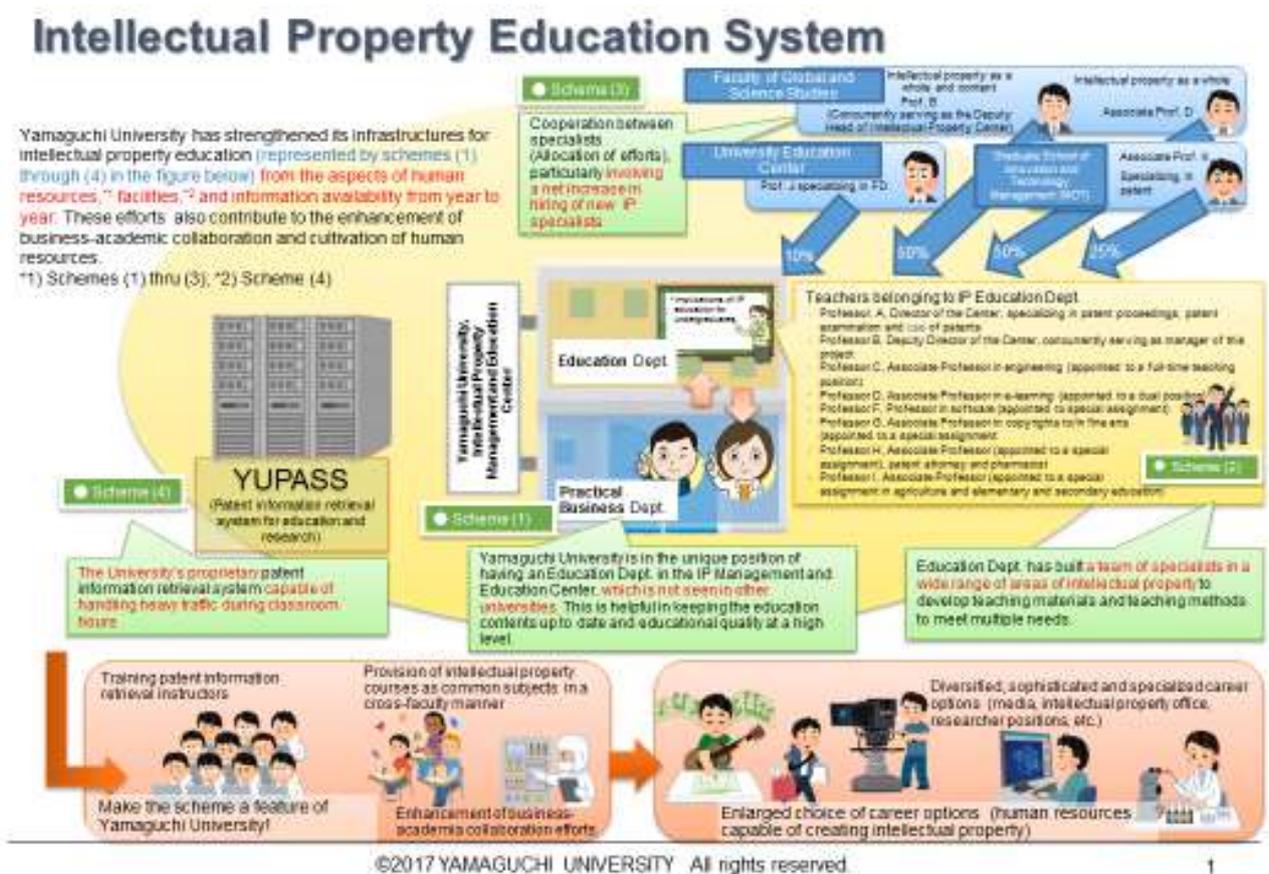
	Teacher training	Comprehensive liberal arts	Humanities	Social science	Development
Skills mastered in the past	Appropriate specialized knowledge, etc.	Appropriate specialized knowledge, etc.	Appropriate specialized knowledge, etc.	Appropriate specialized knowledge, etc.	Appropriate specialized knowledge, etc.
Abilities to be developed	<ul style="list-style-type: none"> <li>• The ability to enhance their creativity and development abilities with the aid of intellectual property information</li> <li>• The ability to make an advanced synthetic judgement on wide-ranging social phenomena based on their acquired knowledge of intellectual property</li> <li>• A rudimentary ability to manage content/development-related intellectual property</li> <li>• <b>The ability to provide intellectual property education to elementary and junior high school students as a school teacher</b></li> </ul>	<ul style="list-style-type: none"> <li>• The ability to enhance their creativity and development abilities with the aid of intellectual property information</li> <li>• The ability to make an advanced synthetic judgement on wide-ranging social phenomena based on their acquired knowledge of intellectual property</li> <li>• A rudimentary ability to manage content/development-related intellectual property</li> </ul>	<ul style="list-style-type: none"> <li>• The ability to enhance their creativity and development abilities with the aid of intellectual property information</li> <li>• The ability to make an advanced synthetic judgement on wide-ranging social phenomena based on their acquired knowledge of intellectual property</li> <li>• A rudimentary ability to manage content/development-related intellectual property <b>(including the ability to execute a basic agreement)</b></li> </ul>	<ul style="list-style-type: none"> <li>• The ability to enhance their creativity and development abilities with the aid of intellectual property information</li> <li>• The ability to make an advanced synthetic judgement on wide-ranging social phenomena based on their acquired knowledge of intellectual property</li> <li>• A rudimentary ability to manage content/development-related intellectual property</li> <li>• <b>Ability to plan branding processes</b></li> <li>• <b>Strategic planning ability for intellectual property</b></li> </ul>	<ul style="list-style-type: none"> <li>• The ability to enhance their creativity and development abilities with the aid of intellectual property information</li> <li>• The ability to make an advanced synthetic judgement on wide-ranging social phenomena based on their acquired knowledge of intellectual property</li> <li>• A rudimentary ability to manage content/development-related intellectual property</li> <li>• <b>The ability to develop and implement an overall strategy for intellectual property at the stage of research and development</b></li> </ul>
Image of working people on the strength of abilities they have developed	<ul style="list-style-type: none"> <li>• A teacher who is proactive in and plays a leading role in providing and spreading intellectual property education under the official guidelines for teaching in schools</li> <li>• A teacher who is able to impress students with the profound implications of what's going on in society using intellectual property as a teaching material</li> </ul>	<ul style="list-style-type: none"> <li>• A manager who formulates a development strategy based on his/her analysis of patent information, etc.</li> <li>• A strategic planning manager for his/her company's content</li> <li>• A manager dealing with the media</li> </ul>	<ul style="list-style-type: none"> <li>• A manager leading media coverage based on accurate knowledge of intellectual property</li> <li>• A producer who draws up and implements a content strategy for his/her publishing house</li> </ul>	<ul style="list-style-type: none"> <li>• A manager leading media coverage based on accurate knowledge of intellectual property</li> <li>• A producer who draws up a branding strategy and his/her company's IP strategy</li> </ul>	<ul style="list-style-type: none"> <li>• A manager who formulates a development strategy based on his/her analysis of patent information, etc.</li> <li>• A producer or chief technology officer who draws up and implements an IP strategy for his/her company</li> </ul>

As seen in the above, positioning intellectual property education as universal education is expected to offer many potential benefits, while at the same time, the quantitative expansion of intellectual property education is in actuality very slow. In fact, Yamaguchi University still remains in a unique position to provide IP education as a compulsory subject to all undergraduates in the curriculum for undergraduate education with a large class size, and to run as many as 10 general subjects in the general education curriculum. With the cooperation of Yamaguchi University, some universities are making efforts to make intellectual property a compulsory subject on a university-wide basis. Nevertheless, the pace of reform of the intellectual property education curriculum is too slow on the whole.

Possible reasons for the slow spread of IP education in the curriculum for higher education include: (1) the difficulty to cover the costs for hiring teachers and making educational materials; (2) lack of the IP teaching staff, who has an adequate qualification; (3) because IP education covers a wide variety of subjects ranging from

industrial property rights to copyright, it requires teachers with expertise in the specific field in view of differences in the fundamental principles of law (for example, a patent law teacher would find it difficult to teach copyright law); (4) a copyright needs to be dealt with differently depending on the type of work protected as is often the case with musical compositions and novels; (5) the current curriculum is fixed, leaving no room for IP education adjusting to the learning level; (6) in some cases, university officials for business-academia collaboration cover a part of the teaching load involved in intellectual education while dealing with their primary duties, which may lead to failure to secure the required time for the course; (7) Business-Academia Collaboration Sections tend to be seen involved more in business than education to take a role of such an education; (8) It is difficult to establish comprehensive educational system covering subjects ranging from interpreting IP laws to obtaining a patent; and (9) the development of educational materials poses a challenge in understanding the technical idea underlying an invention as under the Patent Act. Yamaguchi University has a Practical Business Department and an Education Department in the Intellectual Property Management and Education Center in the Business-Academia Collaboration Section. This organizational structure makes it an open possibility for teachers from the IP Education Department to engage in IP education on a university-wide basis across departments. With such a unique organization structure, unseen in other universities in Japan, these teachers are engaged in IP education in collaboration with the undergraduate education section, the Graduate School of Innovation and Technology Management and the Faculty of Global and Science Studies as well. Teachers belong to the IP Education Department are recruited per their specialization and business background for achieving a diversity of the members, and proceed development of IP educational materials and systems. (See Fig. 3.)

Fig. 3 IP education system in Yamaguchi University



IP Professor A, also the Director of the IP Management and Education Center, is responsible for the management of the Center and running the business practice, while conducting Staff Development(SD) programs of Business-Academia Collaboration not only in the university but also out of the university. IP Professor B, the author, is responsible for the management of IP educational team, and conducting IP classes in the university and Faculty Development (FD)/ SD programs in and out of the university. IP Professor C, a researcher in the field of engineering, is responsible for managing required IP courses on all the faculties of the university, and conducting IP education in combination of Development Education. IP Professor D, a researcher in the field of engineering, is specialized in e-learning, and writing a textbook for the Intellectual Property Management Skills Test (IPMST), which is a national examination. IP Professor F, the Executive Managing Director of the Association of Copyright for Computer Software (ACCS), conducts IP education courses for copyright and protection of computer programs. IP Professor G, a researcher in the field of IP law, who used to be a representative director (currently one of directors) of a copyright management society, conducts IP education focusing on the copyright including art related matters. IP Professor H, a researcher in the field of IP law, who is qualified pharmacist and patent attorney, conducts IP education including the development of IP educational materials focusing on the life science. IP Professor I, a researcher in the field of agriculture, conducts IP education along with the diversified agriculture counted as the 6th sector of industrialization, including the development of IP educational materials. In addition to the above, Professor L, having lectures in the Graduate School of Innovation and Technology Management,

develops educational materials and provides classes for working adults. Yamaguchi University has IP specialists with various research fields and background. This accentuated the specification of the university's IP education markedly.

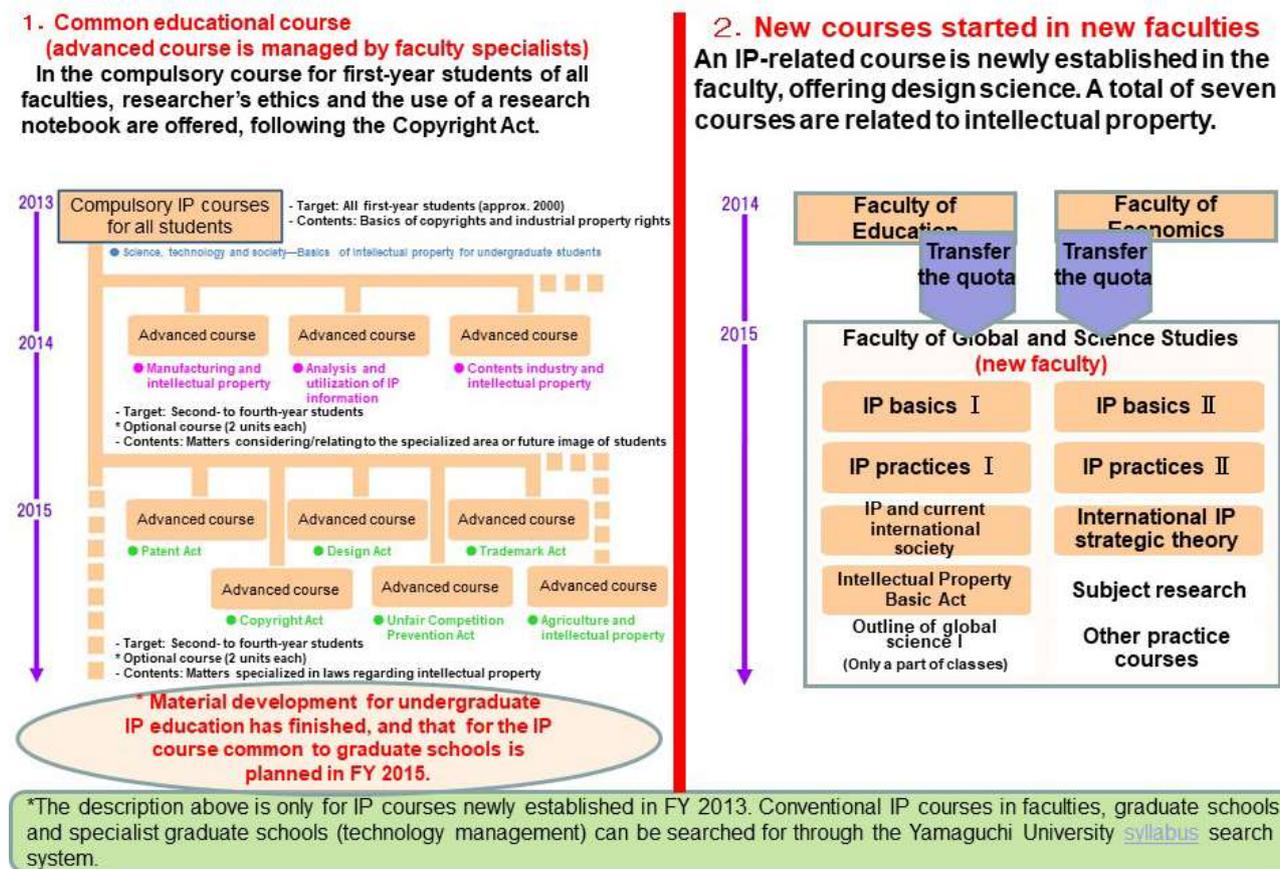
### **3. Yamaguchi University Model for IP Education**

#### **3.1. Development of Yamaguchi University and the current curriculum structure**

Yamaguchi University traces its origins back to Yamaguchi Kodo, a private school founded in 1815. Through various educational reform systems in the Meiji Era and the Taisho Era, this academic institution was reorganized into a national university in 1949 to play a key role in higher education in Yamaguchi. Now it has established itself as a national university corporation, with nine faculties and nine graduate schools. In terms of the number of students admitted, it has 8,702 undergraduates and 1,511 postgraduates, which is a medium-sized university as national universities in Japan.

Yamaguchi University has started the IP required course "Science Technology and Society", for 8 sessions of 90 minutes deserving for 1 credit, toward 2,000 newly enrolled students since 2013, in addition to the IP courses, which had existed. Since 2014, IP courses for faculty students are added: "Art of manufacturing and Intellectual Property", "Analysis and Use of Intellectual Property Information", and "The Contents Industry and Business", each for 16 sessions of 90 minutes deserving for 2 credit. Since 2015, six optional IP courses for undergraduate students have been set up, including courses titled "The Patent Act," "The Design Act," "The Trademark Act," "The Unfair Competition Prevention Act," "The Copyright Act" and "Agricultural Implications of Intellectual Property", each for 1 credit. Since 2016, "Standardization and business", for 1 credit, has started. Moreover, the faculty of Global and Science Studies, which combined language, design science and Intellectual Property, has opened since 2015, have provided the following sets of IP related subjects: "IP basics I", "IP seminar I", "IP basics II", "IP seminar II", "Theory of Science and Technology seminar I", each 1 credit; and "IP and Management of Technology", required subject for 2 credits, "IP Law", optional subject for 2 credits, "International IP strategy", optional subject for 2 credits, And "Studies through Project-based learning", required for 10 credits. In this faculty, all the students are required to go abroad for a year, as the premise. Therefore, an international personnel with IP information is expected to be fostered. (see Fig. 4). It is worthy of attention that the new courses opened on or after 2015 are arranged with the equivalent level of specialized education provided at a faculty of law, which is adaptable for students aiming to obtain intermediate level of IPMST (level 2) or advanced level of Business Copyright Exam(upper level).

Fig. 4 New IP courses set up in new faculties



In addition, a compulsory IP course titled “Intellectual Property Studies” for all graduate students has been set up in fiscal 2016 in each Graduate School of Sciences and Technology for Innovation formed by merging graduate schools in science fields into a single educational unit, and included in the Medical Doctor’s Curriculum and at graduate schools in liberal arts fields (each with one credit entitlement) (see Fig. 5). In the situation that a few universities are providing compulsory IP courses covering all the graduate students, Graduate School of Science and Technology for Innovation (at Yamaguchi university) has 3 IP courses: “Studies of Intellectual Property Rights”, “Ethics in research”, and “Academic Writing”, with 1 credit per subject. As for the pre-existing “Intellectual Property Law Studies”, with 2 credit, of Graduate School of Economics, it has continued apart from the above.

Fig. 5 IP courses for Graduate Schools at Yamaguchi University

● Graduate school



These IP courses set up in faculties and graduate schools deal with a comprehensive set of subjects including IP practice under their basic policy of providing IP knowledge and skills required for business activities as well as in everyday life. To cite an example, the curriculum of such an IP course is designed with a lecture on the basic ideas underlying intellectual property law to be followed by a process wherein students are faced with the task of developing a paper container for chocolate confectionery. The course provides ample opportunity for the students to gain simulated experience in searching and analyzing patent information on prior art, finding the technical scope of competitors' patents, determining the direction of their developmental efforts, making a container, identifying the technical idea behind his/her invention and writing a claim. In another example, students are faced with the task of making a proposal for the design of the packaging for a mouthwash product in settings wherein their company intends to obtain a license to use a word mark in connection with the products. They are guided to develop a preliminary package design that uses the word mark in combination with a figure trademark based on the results of their trademark search and offer the same to his/her company for official release. In a course focusing on copyright issues, students have to think about the rights and risks when they record a public domain music, "Hooray for Hollywood". After noticing them the fact that the arranged music score is not in public domain, they are required to plan how to handle this matter by using the original music without payment.

## **3.2 Detailed Description of the Yamaguchi University Model**

As was stated earlier, Yamaguchi University has a certain number of IP teachers. However, an increase in the number of IP courses developed and operated by the university, combined with an increase in the number of those courses intended for graduate students, is necessarily associated with an increased burden on IP teachers. To address this situation, the academic institution has developed a model called the “Yamaguchi University Model,” which we believe can contribute to the efficient development and operation of IP courses. The main characteristics of the model include:

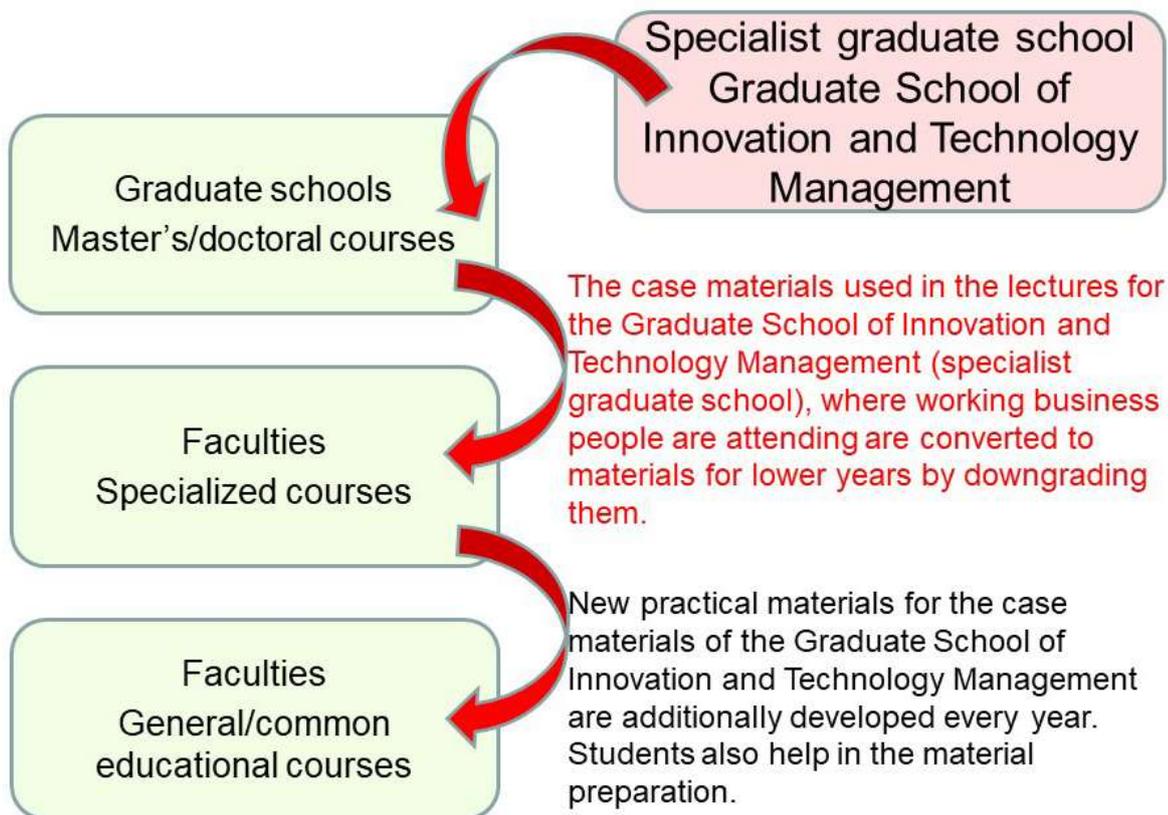
- (1) To convert teaching materials for graduate school courses to courses for undergraduate with necessary modification.;
- (2) To develop a full package of each IP course;
- (3) To develop a patent search system and e-learning materials in advance
- (4) To measure and analyze the teaching effect systematically.

Detailed descriptions will be given one by one below.

### **3.2.1 To convert teaching materials for graduate school courses to courses for undergraduate with necessary modification.**

A means of enhancing teaching effectiveness involves preparing interesting materials for students. In the IP education, generally, some students’ purpose of learning IP tends to connect to the concrete achievement, i.e., “one can analyze patent, which would contribute to the company’s research and development strategy”. Therefore, it is preferable to provide an interesting teaching material with adequate legal provisions along with the specifications of the students, on a timely manner. It is required for the teachers to include recent and current IP cases and decisions into teaching materials. Such materials made for graduate schools, especially professional graduate schools for adults, would be advisable to re-use for undergraduate with some modifications. (see Fig. 6).

Fig. 6. Conversion of teaching materials used for graduate students

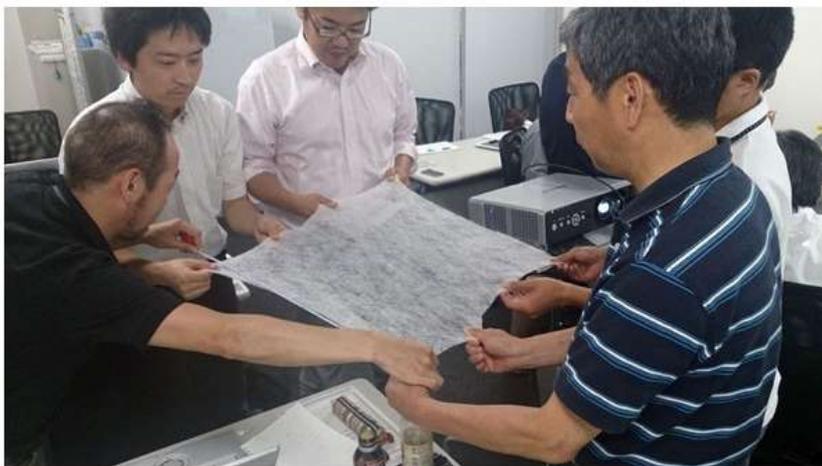


It is common practice in the specialist graduate school to engage in discussions with students about problem solutions using actual case studies. Such discussions with students, including some IP practitioners, could be a resource of making educational material with high quality. Reports of students are sometimes good enough to include teaching material upon obtaining the authorization of the author. Normally I received permission of the students easily for the use of younger students. There are 2 examples below: (i) By taking up a case of a patented non-woven fabric for clarifying the technical scope, students held a mock trial. They made complaint, refutation and a list of evidence for the trial (see Fig. 7). And (ii) students made a patent map on the subject of ion current measurement in automobile engines. Then, they need to name the researcher who made the biggest contribution to achieve the lowest fuel consumption.

Fig. 7 Presenting the argument for the stretch measurement method used in a patent on nonwoven fabric from the mock trial

● Infringing team

**Investigating whether a specific claim component (stretch of 120% to 140% in one direction) is satisfied, after segmenting the claim of the patent invention into components.**



Closure of the complaint is not a goal. The purpose is to comprehend the types and levels of evidence to be collected in advance, when drafting an evidence list, etc., in the complaint forming process.

Complaint prepared by a student



Yet another case involved a different approach in which, assuming that designs for “Yama-Me,” a Yamaguchi University character would be submitted by the public in a competition style, acting as the university official in charge, students were faced with the task of developing guidelines for applicants, creating specifications, dealing with the practicalities involved in bidding, preparing an agreement on the use of the selected design, creating a manual for its use within the campus and reviewing the schedule of fees and manual for its use. The character design selected by this approach is shown below (see Fig. 8). This approach provides an excellent opportunity to try out students’ IP knowledge and skills using the task of developing and establishing a character design as the base. More specifically, it is a useful indicator of their knowledge of (i) the laws that they can rely on for protection of the character design; (ii) whether they can contractually cover the lightly protected aspects of the character design; (iii) whether they can cover all possible uses of the character design (including the terms and conditions for using the design on printed matter, websites, animations, live action dramas, sales of items bearing the design, full-body suits, events outside the campus, etc.); (iv) the way of writing a contract order for and specifications on full-body suits bearing the design; (v) whether it is permissible for the contractor to subcontract the sewing to an outside designer; and (vi) the need to agree to nonuse of the moral rights of the author if the right to subcontract is granted to the contractor. In line with this, the approach is utilized in integrated exercises in practical business beyond the bounds of legal interpretation.

**Fig. 8 University Character "Yama-Me"**



### **3.2.2 To develop a full package of each IP course**

Yamaguchi University has consistently expanded its IP courses on a yearly basis. As there are necessities to have more teachers due to the numbers of students, we developed a full package of the course which would make some teachers, especially whose specialization is not IP, easier to teach. Also, even in a case that our textbook is applied to a class in another university, our full packaged material would support the expansion of the IP education if we deliver it to the person in charge.

- (1) Instructional slides;
- (2) Worksheets (designed to allow an active learning approach);
- (3) Homework sheets (for checking knowledge of IP law at home);
- (4) Short-form report (mini-examination);
- (5) Examination questions (containing 62 computer-scored examination questions and three questions requiring written answers);
- (6) Answer sheets (for 62 computer-scored answers and three written answers);
- (7) A Q&A pamphlet compiled around questions asked by students;
- (8) Instructional video (stored on a DVD and the server); and
- (9) A teaching-compliant textbook (ISBN 978-4-8222-3642-7, Nikkei Business Publications, Inc.)

The full package was developed for a compulsory IP course for first-year undergraduates titled “Science, Technology and Society: Basics of Intellectual Property for Undergraduate Students” (with a one credit entitlement) for which some 2,000 students were divided into 12 classes. By passing on the full package of IP course contents to other teachers while providing FD training to teachers newly assigned to IP courses (i.e., teachers from the Faculty of Engineering), teachers from the IP Education Department will gradually shift the

target of their teaching to elder undergraduate students and postgraduate students. Still there are some classes taught by teachers from the IP Educational Department, in order to improve the course content and maintain the know-how.

A worksheet is included in the package to deal with the use of an active learning approach in a large class (see Fig. 9).

The photographs below show scenes from a class session in which more than 200 students are seated at built-in desks in the classroom. Given that the classroom equipment was not always appropriate for active learning, the classwork involves the task of describing the content of the discussions between students on the worksheet, which provides a prime opportunity for students to reflect on and digest the content of learning and discussions that have taken place there. In addition, making a written record provides students and the teacher in charge of supervising the course with a useful tool for checking students' level of understanding.

**Fig. 9 Scenes showing students involved in active learning**

- Common education of first-year students (Science, technology and society)  
**Active learning and worksheet** for basic IP lecture for undergraduate students



••• Discuss the subject

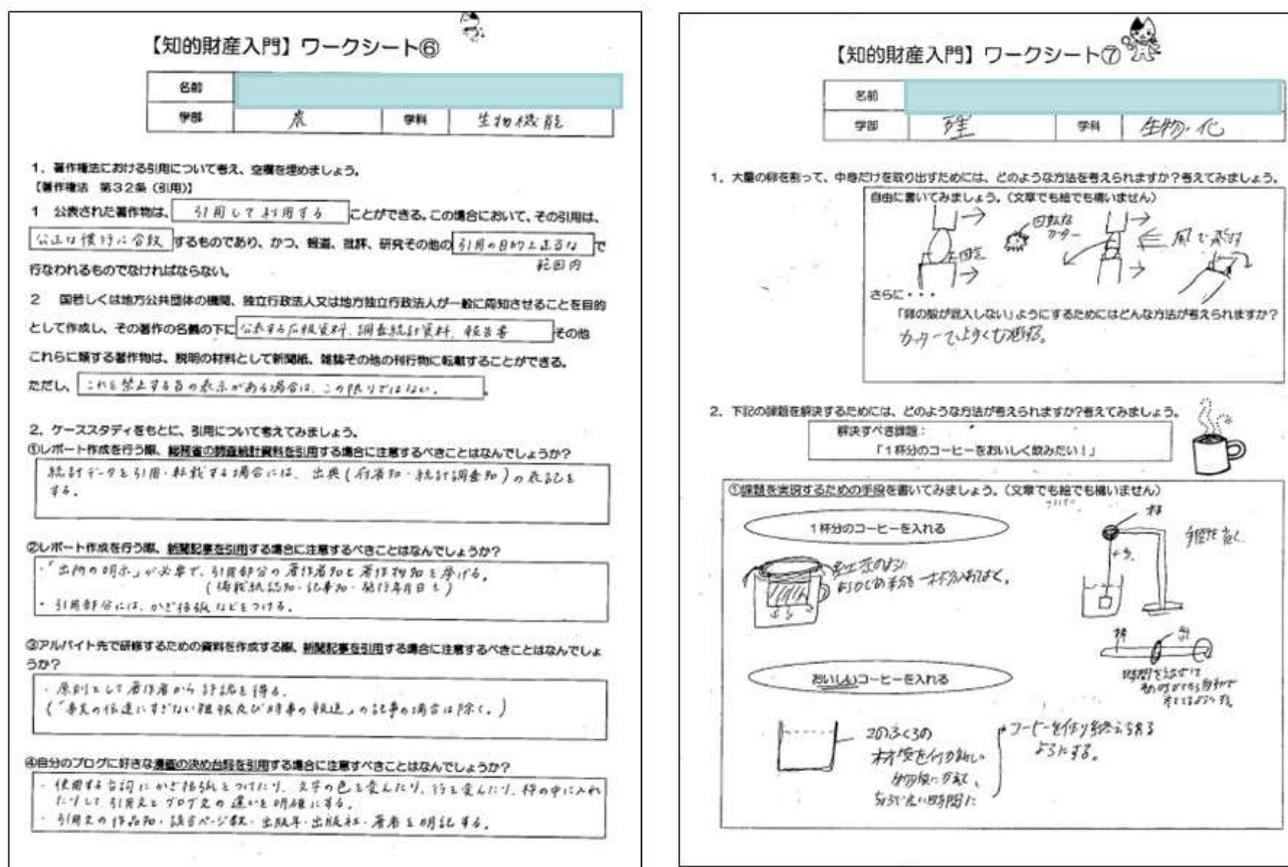
Active learning



••• Fill in the worksheet after discussion

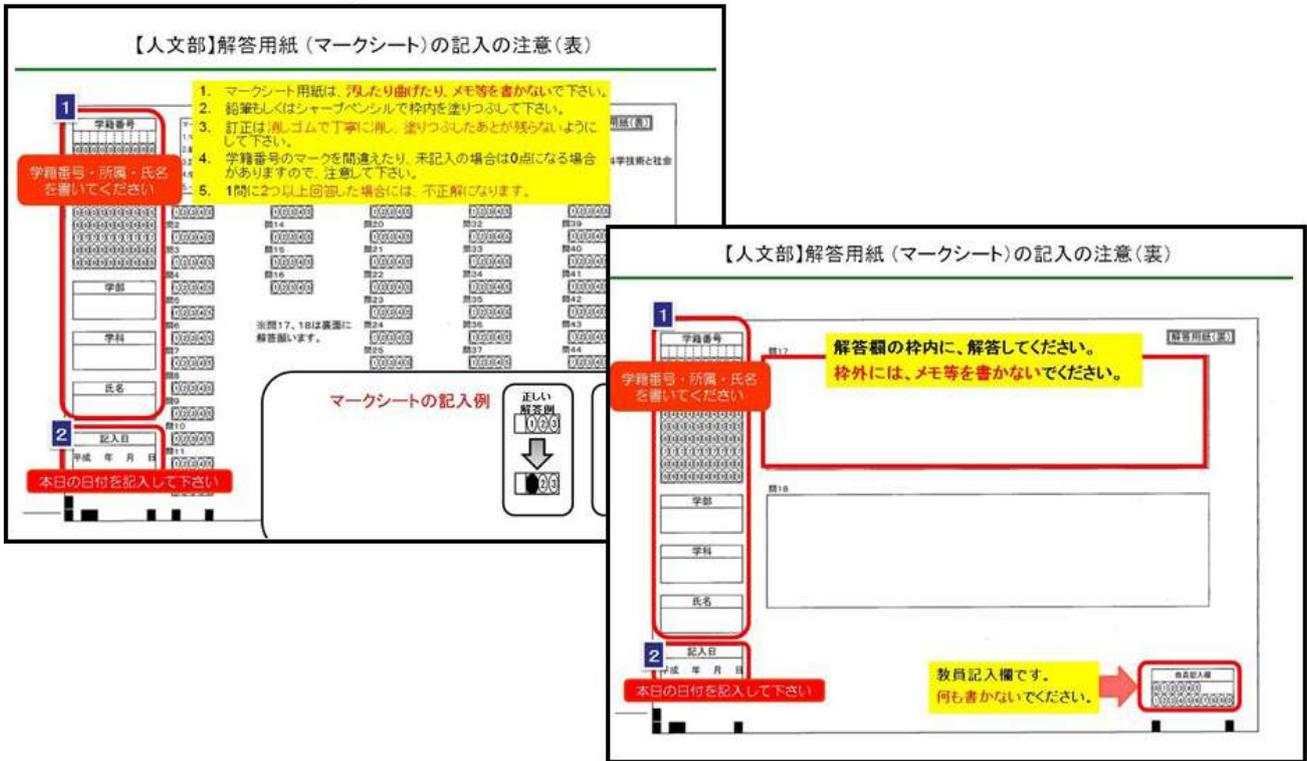
Examples of descriptions on worksheets are given below (see Fig. 10). Worksheet (6) on the left involves a problem setting in which students are asked to fill in the blanks in the quotations of the copyright. Worksheet (7) on the right involves a problem setting in which students are asked to think of the way to remove the content of an egg free from fragments of egg shell, as well as the way to make good coffee for one person using a coffee dripper. Worksheet (7) involves a training to find the way of expression and to think about the essence of inventive idea. These class sessions have a hidden objective of making students realize the importance of free thinking and the possible presence of more than one solution. At the end of the session, the worksheets are collected and checked for completeness. After that, they are graded and the grades form a part of the academic assessment for individual students. The same is true of short-form reports (mini-examination), which are collected at the end of the session and homework sheets (for checking knowledge of IP law at home).

Fig. 10 Examples of descriptions on a worksheet



Semester final examination questions comprise 62 computer-scored examination questions and three questions requiring written answer. The teacher in charge reads and grades written answers to the three questions and completes the appropriate section on the computer-scored answer sheet by marking the grade on the sheet. Learning results from sessions involving deep thinking of the essence of intellectual property and is evaluated based on the descriptive contents of the worksheet and the short-form report. The 62 computer-scored examination questions are designed to straightforwardly assess students' knowledge of intellectual property law.

Fig. 11 Answer sheet for semester final examination



In light of the fact that some 2,000 students take this course, extra care is paid to ensure the integrity of teaching contents and fairness in assessing performance on the course. Grade points given to individual students are entered in a spreadsheet in which horizontal rows represent data for students and calculation of the performance is carried out with a fifty-fifty weighting given to the raw scores from the semester final examination and the total grade points from other assessment tools (see Fig. 12). Other assessment tools mentioned above include: short-form reports (in terms of questions and/or doubts and ideas raised and provided by students); worksheets (in terms of the depth of understanding); and homework sheets (in terms of knowledge of intellectual property law). These tools, combined with scoring from the semester final examination, provide a balanced approach to assessing students' understanding and knowledge of intellectual property matters.

Fig. 12 Evaluation sheet

The image shows a spreadsheet evaluation sheet with columns for student ID (学籍番号), name (氏名), and various assessment tools. The columns include '総じて得た点数', 'テスト合計', 'レポート', 'ワークシート', '課題', '宿題', and '最終評価'. A red dashed box highlights the 'テスト合計' column, and a yellow box highlights the '最終評価' column. Callouts with arrows point to these columns and other specific data points.

学籍番号	氏名	総じて得た点数	テスト合計	レポート	ワークシート	課題	宿題	最終評価
71	13	82	4	4	4	3	3	3
55	13	84	4	4	4	3	3	3
50	13	85	4	4	4	3	3	3
61	13	72	1	3	3	3	3	3
77	13	88	3	3	3	3	3	3
82	13	73	3	4	3	3	3	3
51	13	88	3	4	3	3	3	3
56	13	87	1	4	3	3	3	3
56	13	70	1	4	3	3	3	3
60	13	70	1	4	3	3	3	3
57	13	71	1	4	3	3	3	3
83	13	83	1	4	3	3	3	3
49	13	84	1	4	3	3	3	3
70	13	84	1	4	3	3	3	3

### 3.2.3 To develop a patent search system and e-learning materials in advance.

At Yamaguchi University, we develop videos and e-learning materials for an emerging IP course and upload them to the teacher's office website and the college contents management system, known as "moodle," ahead of the introduction of the IP course (see Fig. 13). Basically we rationalize the cost by making these materials inhouse. Video materials are available in a variety of length and content to meet different teaching needs covering from a whole session in the e-learning environments to up to a few minutes wrap-up session to confirm students' understanding.

Fig. 13 Examples of video materials for e-learning

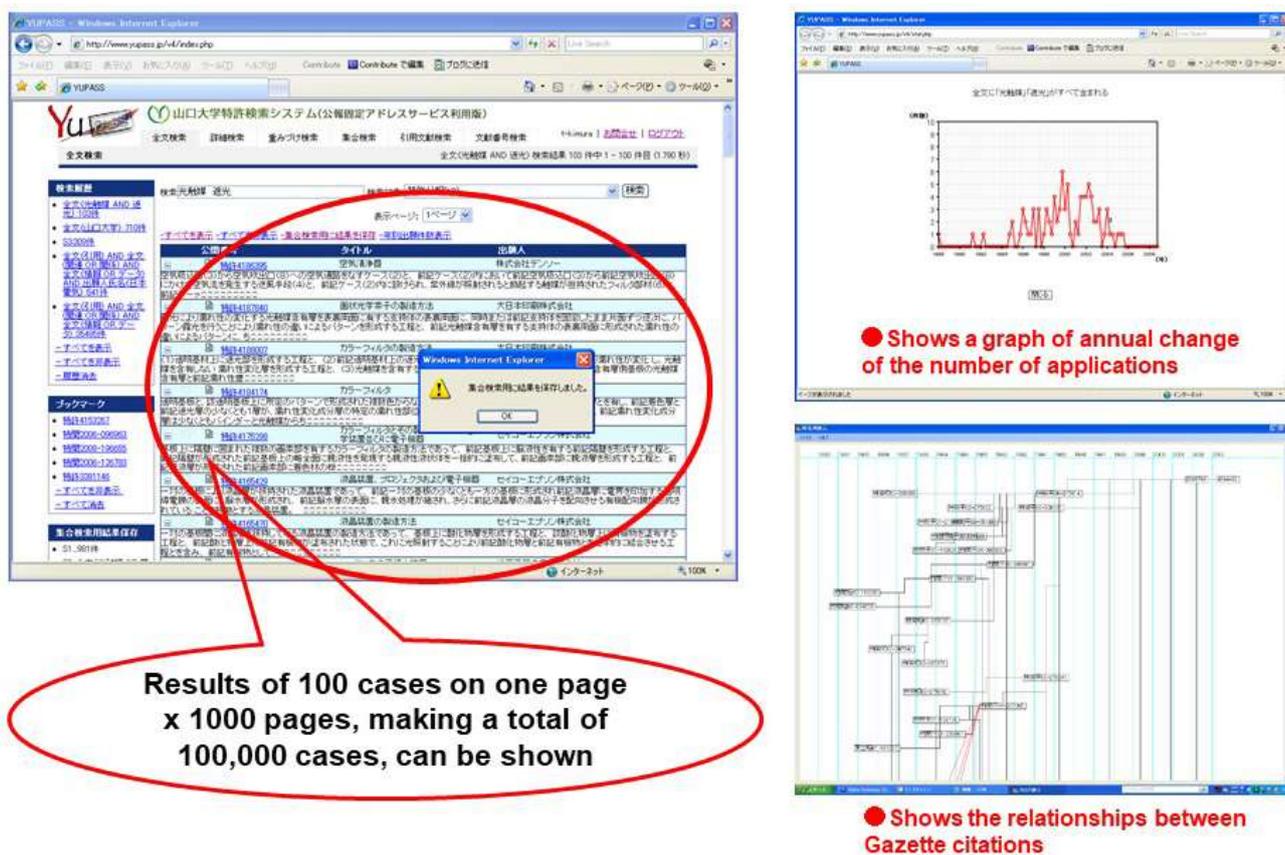


We have introduced YUPASS™ (Yamaguchi University Patent Search System), which makes the Patent Gazette content available to students in CSV format so that they can collect the information they need to build a patent map without regard for the costs involved in the process.

This patent search system was developed independently by Yamaguchi University. The system has a number of search functions including, but not limited to: (i) a text search function for the full text contained in documents filed under a patent/utility model application, including bibliographical items; (ii) similar search function with targeted words/phrases weighted; (iii) search function for class signs; (iv) search function for official gazette numbers; and (v) search function using search formula. The system is capable of reading out search results in list form, with 100 results to a page and up to 1,000 pages, which translates into 100,000 results. It is provided with features including: (a) a function to read out individual gazettes; (b) a function to read out information on prosecution history; (c) a function to bookmark official gazettes; (d) a function to read out official gazette

citations; (e) a function to read out changes in the number of filings of applications term by term in graphic form; (f) storage of search formula; (g) a function that gives notice when a new official gazette is issued using storage/search formula; and (h) a patent valuation system. Data in the system is updated at intervals of one week. It is important to note that the National Center for Industrial Property Information and Training (INPIT), a JPO-related organization, offers for use a patent information retrieval system. This system, known as “J-PlatPat,” is user-friendly and accessible to beginners. At Yamaguchi University, we usually recommend students to use the J-PlatPat system for easy information search tasks. For all these tasks, analytical work on the patent gazette content obtained using spreadsheet and patent mapping software would involve use of a fee-charging commercial search system. Yamaguchi University is a large establishment with more than 12,000 staff and students. If more university members reach the stage of using patent maps intensively, this could pose a problem for education and research activities due to budget constraints. That is why this academic institution developed its own patent search system for education and research within the campus before other universities. To pave the way for this, we purchased all relevant patent information including organized/standardized data.

Fig. 14 Examples of YUPASS screen images



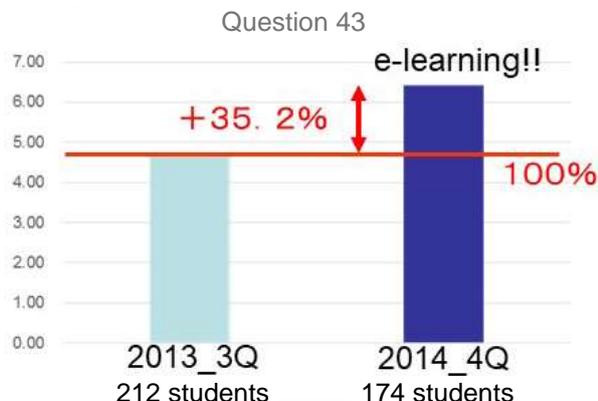
### **3.2.4 To measure and analyze the teaching effect systematically**

In IP courses operated by the IP Education Dept., we have been working to improve lessons based on systematic measurement of the effects of teaching and analysis of measurement outcomes. Specifically, in the compulsory IP course for first-year undergraduates titled “Science, Technology and Society” (with one credit entitlement) has been set since 2013, we conduct an analysis of the results of regular examinations for all students (based on answers to examination questions). In addition, we computerize text from short-form reports and use the computerized text to analyze the cognitive structure of learning and to measure the effects of teaching based on a text-mining approach. For example, an analysis of regular examinations in 2013 indicated that although most students found teaching based on an active learning approach very interesting, there was a problem with acquiring knowledge of intellectual property law. In this connection, from 2014 on, students would be given homework designed to summarize their knowledge of IP in every class session, which is required to be handed in at the beginning of the following class session. This scheme has brought about a continuous improvement in acquiring knowledge of IP since 2014. In addition, we carry out an analysis of variations in the learning results and percentage of questions answered correctly for different class teachers based on the final examination results and the spreadsheet to calculate the learning results. Judging from the result of this analysis, there is little variation in the learning results from class to class at this time. If such an analysis of the final examination results shows a low percentage of questions answered correctly for certain class sessions, the teacher responsible may be asked to change his/her lecture style or the teaching materials used in the sessions. If no improvement is shown after that, discussions will be held with teachers to determine whether it is a matter of teaching preparation. Figure 15 shows improvements in the learning results from an IP information retrieval session that were achieved unexpectedly as a result of changing the education method used in the session from real-life learning to e-learning in 2014. This fact provided the rationale for single application of an e-learning approach throughout IP information retrieval sessions for all 2,000 students from 2015 on. This enabled us to use the newly available time slot to cover design topics which used to be dealt with in a single class session, together with trademark topics, leading to improvements in the learning results. It is important to note that the class session currently under single application of an e-learning approach involves an IP information retrieval exercise, and is suited to an e-learning approach because students can conduct a search on the scene while watching individual video screens.

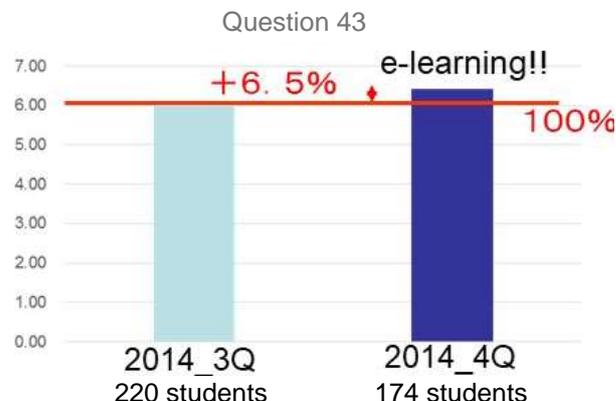
**Fig. 15 Rationale for single application of an e-learning approach throughout an IP information retrieval session**

● **Comparison of Scores Obtained from Regular Examinations in Courses Using an E-learning Approach**

Comparison of the average raw score obtained in the 3rd quarter of 2013 with that obtained in the 4th quarter of 2014 (on a seven-point scale)



Comparison of the average raw score in the 3rd quarter of 2014 with that in the 4th quarter of 2014 (on a seven-point scale)



The class in the 4th quarter of 2014 represents the class in 2014 that used an e-learning approach in its IP information retrieval sessions as a trial. Compared to the equivalent classes in the same year and the preceding year, the e-learning based class obtained a higher raw score for the final examinations. The question given in the examination read: “Assuming that you want to search for bread-baking machines for household use using the gazette text retrieval system in the patent search system, what search formula should be used? Write your answer in the answer section corresponding to Question 43 on the reverse side of the answer sheet.”

**3.3 Introduction to IP courses as general education courses for all undergraduates**

As of this moment, Yamaguchi University has 11 IP courses positioned as general education courses for all undergraduate students. These IP courses are divided into three groups according to the learning stage

**[Introductory Course]**

A compulsory IP course for first-year undergraduates titled “Science, Technology and Society: Basics of Intellectual Property for Undergraduate Students” (with one credit entitlement)

**[Second Stage Courses]**

Following completion of the first-stage IP course, a student may go directly to the third stage courses which deal with subjects such as “The Copyright Act,” “The Patent Act,” etc. However, it is generally advisable for them to finish some of the second stage course to gain the ability to identify the object of intellectual property and an understanding of the essence of intellectual property as an information asset before going on to a third stage course. Therefore, we have set the following 3 IP courses as the interface between the first and the third stage: “Art of Manufacturing and IP”, optional with 2 credit; “Analysis and use of IP information”, optional with 2 credit; and “Contents Industry and Business”, optional with 2 credit.

### [Third Stage Courses]

Third stage courses include the following courses, all of which are held at the professional education level for the law faculty students to form the final stage of IP education for undergraduate students.

- “The Copyright Act” (An optional course with a one credit entitlement)  
<http://www.kim-lab.info/copy.pdf>
- “The Patent Act” (An optional course with a one credit entitlement)  
<http://www.kim-lab.info/pate.pdf>
- “The Trademark Act” (An optional course with a one credit entitlement)  
<http://www.kim-lab.info/trad.pdf>
- “The Design Act” (An optional course with a one credit entitlement)  
<http://www.kim-lab.info/desi.pdf>
- “The Unfair Competition Prevention Act” (An optional course with a one credit entitlement)  
<http://www.kim-lab.info/anti.pdf>
- “Agricultural Implications of Intellectual Property” (An optional course with a one credit entitlement)  
<http://www.kim-lab.info/agri.pdf>
- “Business Implications of Standardization” (An optional course with a one credit entitlement)  
<http://www.kim-lab.info/standardization.pdf>

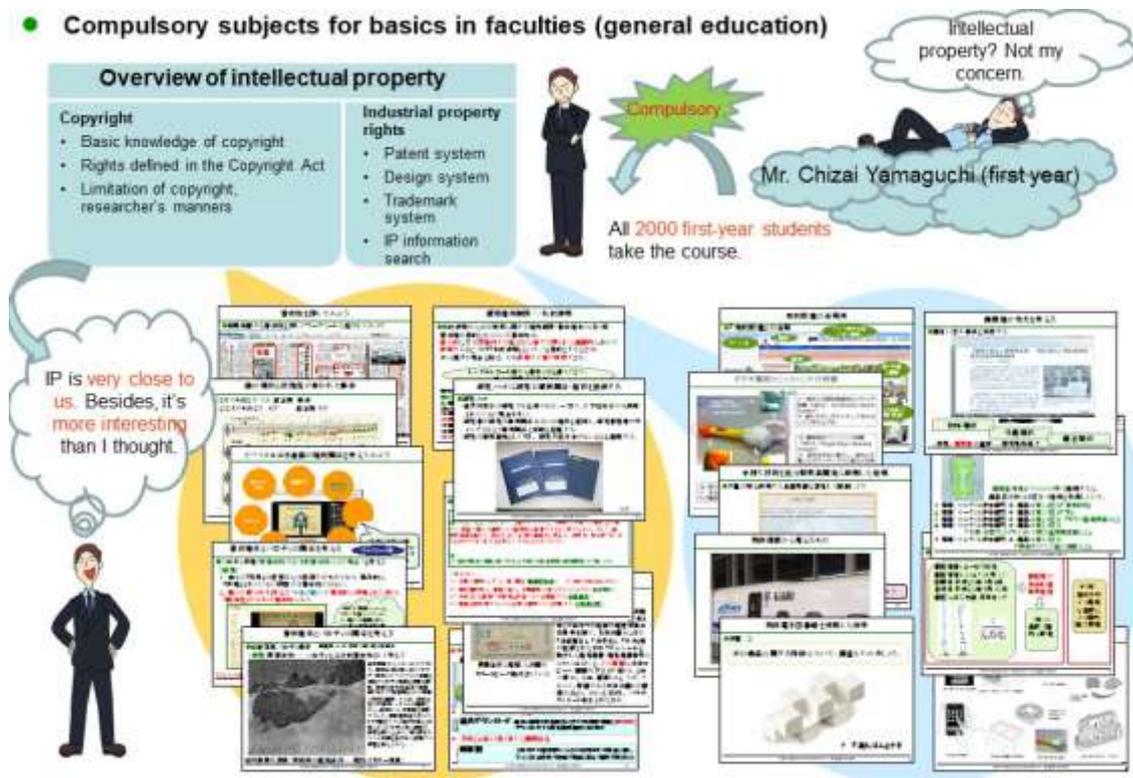
Given that the content of the five courses from the top (“The Copyright Act” through “The Unfair Competition Prevention Act”) complies with the content of general courses in IP law set up in the Law Faculty, detailed descriptions of these courses are omitted here. Detailed descriptions will be given of the other courses one by one here.

### **3.3.1 “Science, Technology and Society” as a compulsory course for first year undergraduates (with a one credit entitlement)**

“Science, Technology and Society: Basics of Intellectual Property for Students of XXXXX” (in this course title, the appropriate name of the faculty, such as the Engineering Faculty, is inserted at XXXXXX) is a compulsory IP course for all students with a one credit entitlement with some 2,000 students divided into 12 classes. With large class sizes ranging from 100 to 225 students, group work and presentation of results based on an active learning approach are incorporated into the course curriculum. The objectives of this course include: (i) to understand the whole picture of the IP; (ii) to learn skills for dealing with intellectual property using a visible example such as report writing; (iii) to grasp the object of the IP; (iv) to understand the value of the IP in society; (v) to learn skills for formulating an IP-based business strategy; and (vi) to train students to behave rationally in the presence of more than one solutions. In 2013, the first year of the course opened, we made some adjustment of the curriculum along with the specificity of each faculty. With a few upper-level courses available to students in 2014, we unified the course curriculum for “Science, Technology and Society” for all faculties. This IP course covers a wide range of intellectual property from industrial property to cultural artifacts. On the other hand, due to the limitation of time that total 8 sessions only are allocated to this subject, half of the teaching hours are devoted

to copyright-related subjects and the rest are for the industrial property-related matter. Whatever the case may be, we place the primary focus of the course on giving students the realization that the subject of intellectual property may be surprisingly familiar to them (see fig. 16).

**Fig. 16 Image clips of teaching**



The curriculum for this IP course is designed based on the premise that a student completing the course will have achieved the following goals:

- Knowledge and Understanding: to be able to grasp the whole picture of the IP
- Thought and Judgement: to be able to sort out IP-related matters with rationality
- Interest and Motivation: to be willing to deal with new matters related to IP positively
- Attitude: to be able to handle with self-motivated way upon grasping the nature of the conflict of the parties
- Skills and expressions: to be able to search for IP information systematically and summarize it.
- Other aspects: to be able to obtain the basic ability to apply IP knowledge and skills in their own field of specialization.

The eight class sessions are held according to the following schedule.

▪ **Week 1: Theme: “Grasp the Big Picture on Intellectual Property”**

In this session, a tangible product known as “Magic Hand for Picking Up Potato Chips” will be used as teaching material. The session is designed to get a quick overview of the big picture on intellectual property,

and its ubiquitous nature. We categorize them into 3 and learn how to obtain the right and to use them as the basic idea. Other topics are also presented as a basis for discussion. Examples include a recent legal dispute over the adequacy of making up a corrupted version of a song.

**Fig. 17 Examples of educational material: slide for the first session (extract)**



- Aim (effect to be expected)
- Draw interest/attraction from students by picking a specific product (**attitude of listening to the lecture**)
- Keep the students' concentration by showing real phenomena and videos (**improvement of the learning effect**)
- Maintain the relevancy of the relationship between the real product and intellectual property (**IP is not an unfamiliar matter**)
- Understand the value of intellectual property in actual society (**why protection by IP right is necessary**)

• **Week 2: Theme: “The Copyright Act: The Basics of Copyright”**

In this session, students will learn about the historical developments of the copyright system and an outline of rights granted under the Copyright Act. According to the Act, “the term ‘work’ means a production in which thoughts or sentiments are creatively expressed and which falls within the literary, academic, artistic or musical domain.” Exercises will place special emphasis on the concept of copyrightability.

• **Week 3: Theme: “The Copyright Act: Moral Rights of Authors, Neighboring Rights, Conception of Fair Use and Limitations of Copyright (First Half)”**

In this session, students will consider the moral rights of authors, copyrights (bundle of rights), neighboring rights, publication rights and limitations of copyright (reproduction for private use) based on specific issues.

• **Week 4: Theme: “The Copyright Act: Limitations of Copyright (Second Half) and IP knowledge for researchers”**

In this session, students will learn about the limitations of copyright, including the reproduction in educational institution and quotation etc., and the way of quotation or other point to be aware when they write research papers. Especially, students will consider the adequate way of quoting others’ writing, how to use graphic chart or photo, how to gather and use data, and use of concept of the idea itself, from the viewpoint of a researcher.

- **Week 5: Theme: “The Basics of Industrial Property Rights: The Patent Act”**

This session will deal with patent right as a typical intellectual property right. Students will learn the nature of rights granted under a patent, the way to obtain a patent and enforcement. How to use patent information will be addressed briefly. As for “the search of IP information, analysis and the use”, students will learn how to search by using patent information(J-PlatPat), Yamaguchi University Patent Search System(YUPASS), Registered copyright information with the Agency for Cultural Affairs; registered varieties of plants and seeds with the Ministry of Agriculture, Forestry and Fisheries; songs managed by the Japanese Society for the Rights of Authors, Composers and Publishers(JASRAC); through e-learning.

- **Week 6: Theme: “The Design Act, etc.: Protection of Designs”**

Protection of designs involves application of the Copyright Act, the Design Act and the Unfair Competition Prevention Act. This session is designed focusing on the Design Act. Students will learn the way to protect designs by the Design Act based on an understanding of the differences in protection available under these legislations.

- **Week 7: Theme: “The Trademark Act: Protection of Brands”**

Focusing on trademarks embodying the reputation of economic entities, students will look at the big picture on Protection of Brands.

- **Week 8: Theme: “Review and Semester Final Examination”**

### **3.3.2 “Analysis and Use of Intellectual Property Information” as an optional course with a two credit entitlement**

This course will start with a review of the whole picture on IP, and the summary of the IP information with its significance, followed by mapping analyses of search outcomes for technical information, mainly about patents and utility models. The analysis will be made with a view to providing basic materials needed to form a technological or research strategy. After that, information of design, trademark and copyright will be taken up in the same manner.

The achievement goals of students taking this course are set up as follows:

- Knowledge and Understanding: to be able to grasp the whole picture of the IP
- Thought and Judgement: to be able to interpret the substance of IP-related information
- Interest and Motivation: to be able to set the original theme and make a plan by using IP information search.
- Attitude: to be able to make adequate searches with self-motivated way by using the IP information analysis
- Skills and expressions: to be able to search for IP information systematically and summarize it.

- Other aspects: to be able to obtain the basic ability to apply IP knowledge and skills in their own field of specialization.

The sixteen class sessions are held according to the following schedule.

- **Week 1: Theme: “Guidance on the Circumstances Surrounding Intellectual Property”**  
This session will give an outline of the course curriculum and the overall course schedule. An explanation will be provided on the status of filing patent applications in selected countries, the origin of the patent system, the reason why intellectual property is now attracting public attention and the R&D implications of patent information.
- **Week 2: Theme: “Basics of the Intellectual Property System”**  
This session will provide basic knowledge on intellectual property, including the familiarity of intellectual property in our daily lives, the intellectual property system and intellectual property contrasted with intellectual property rights.
- **Week 3: Theme: “Introduction to Patent Information”**  
This session will provide the big picture on industrial property rights and the basics of patent information.
- **Week 4: Theme: “Access to Patent Information”**  
This session will explain the J-PlatPat patent information platform.
- **Week 5: Theme: “Field Utilization of the J-PlatPat Patent Information Platform”**  
This session will teach students how to use the J-PlatPat patent information platform.
- **Week 6: Theme: “Patent Search Exercise”**  
This is the exercise session of using J-PlatPat. Students will acquire the way of patent information search by using the J-PlatPat.
- **Week 7: Theme: “Patent Search Exercise”**  
This is the exercise session of using J-PlatPat. Students will acquire the way of patent information search by using the J-PlatPat.
- **Week 8: Theme: “Patent Search Exercise”**  
This is the exercise session of using J-PlatPat. Students will acquire the way of patent information search by using the J-PlatPat.
- **Week 9: Theme: “Brief Overview of Patent Mapping”**  
This session will provide a brief overview of patent mapping.

- **Week 10: Theme: “Patent Mapping Exercise”**

This session will teach students patent mapping methods.

- **Week 11: Theme: “YUPASS Yamaguchi University Patent Search System, Design System and Design-related Information Search”**

This session will teach students how to use YUPASS, Yamaguchi University’s Patent Search System, and give a brief overview of the design system and design-related information search methods based on the J-PlatPat patent information platform.

- **Week 12: Theme: “Trademark System, Trademark-related Information Search and Confirmatory Work”**

This session will give a brief overview of the trademark registration system and trademark-related information search methods based on the J-PlatPat patent information platform. Students will perform confirmatory work on patent/design/trademark search methods.

- **Week 13: Theme: “Variety Registration System”**

This session will give a brief overview of the variety registration system and examples of the use of variety registration under the Plant Variety Protection and Seed Act.

- **Week 14: Theme: “Variety Registration Information search and confirmatory Work”**

This session will explain search methods for varieties registered with the Ministry of Agriculture, Forestry and Fisheries under the variety registration system. Students will perform confirmatory work on the search method.

- **Week 15: Theme: “Copyright system, Song Information Search, Confirmatory Work and General Comments”**

This session will give a brief overview of the copyright system and search methods for songs registered with JASRAC. Students will perform confirmatory work on the search method.

- **Week 16: Theme: “Review and Semester Final Examination”**

### 3.3.3 “Art of Manufacturing and IP” as an optional course with a two credit entitlement

This IP course is designed to take students through a set of processes involved in manufacturing with awareness of intellectual property, allowing them to acquire the relevant knowledge and skills. Students will create a prototype as individuals or in groups while doing a search on prior art. Finally, they will present their prototype as the end product of their work and the idea underlying the product seen from the perspective of intellectual property.

**Fig. 18 Prototype of coffee drippers**

● Materialize/prototype a sample of your idea, solving a problem of coffee drippers using cardboard and a filter.

Patent search → design → prototype → preparation of claim sentences → presentation



The curriculum for this IP course is designed based on the premise that a student completing the course will have achieved the following goals:

- Knowledge and Understanding: to be able to grasp the whole picture of the art of manufacturing focusing on the IP
- Thought and Judgement: to be able to make a rational plan in art of manufacturing focusing on the IP. (finding a theme and the idea for problem-solving)
- Interest and Motivation: to be able to analyze the process of art of manufacturing from the viewpoint of IP.
- Attitude: to be able to deal with the art of manufacturing from the viewpoint of IP.
- Skills and expressions: to have a primary ability to deal in art of manufacturing from the viewpoint of IP
- Other aspects: to be able to overview the IP from the viewpoint of business strategy.

The sixteen class sessions are held according to the following schedule.

- **Week 1: Theme: “Guidance on the Basics of Intellectual Property”**

This session will give an outline of the course curriculum and the overall course schedule and explain the importance of intellectual property and a brief summary of the intellectual property system.

- **Week 2: Theme: “Introduction to Intellectual Property Rights”**

This session will give a brief overview of the patent system, how to read an official gazette and a brief outline of the design registration system and the trademark registration system.

- **Week 3: Theme: “Intellectual Property Embodied in Real Products”**

In this session, students will be personally exposed to real products to gain an understanding of the constitution and structure of those products. This will make students think more about what intellectual property and/or inventions are embodied in the products.

- **Week 4: Theme: “Various Manufacturing Industrial Sectors and Intellectual Property (1): Exercise (1)—Daily Commodities Industry/Consumer Electrical Appliance Industry (Development of Ideas)”**

In this session, specific examples of intellectual property familiar to the public, such as inventions for product and manufacturing processes, will be given and illustrated from the perspective of intellectual property. In the Daily Commodities Industry Consumer Electrical Appliances Industry Exercise, students will try to find problems with existing products (such as tea bags, coffee drippers) and bounce ideas off each other to solve the problem.

- **Week 5: Theme: “Various Manufacturing Industrial Sectors and Intellectual Property (2): Exercise (2)—Food Industry/Healthcare Industry (Prototyping (i))”**

In this session, specific examples of intellectual property familiar to the public, such as inventions for product and manufacturing processes, will be given and illustrated from the perspective of intellectual property. In the Food Industry/Healthcare Industry Exercise, students will embody their respective ideas of how to solve problems with conventional products (by means of prototyping).

- **Week 6: Theme: “Various Manufacturing Industrial Sectors and Intellectual Property (3): Exercise (3)—Automobile Industry/Aeronautical Industry (Prototyping (ii))”**

In this session, specific examples of intellectual property familiar to the public, such as inventions for product and manufacturing processes, will be given and illustrated from the perspective of intellectual property. In the Automobile Industry/Aeronautical Industry Exercise, students will embody their respective ideas of how to solve problems with conventional products (by means of prototyping).

- **Week 7: Theme: “Marshalling and Finding a Claimed Invention: Exercise (4) (Presentation)”**

This session will explain how to organize the contents of an invention (into a brief description) based on

finding the intention of the invention. Students will present a brief description of their inventions intended for prototyping.

- **Week 8: Theme: “Grasping Prior Art: Exercise (5) (Patent Search)”**

This session will explain form of invention relative to prior art and search methods for prior art. Students will receive practical training in doing a patent search on the J-PlatPat patent information platform and YUPASS Yamaguchi University Patent Search System.

- **Week 9: Theme: “Filing Documents: Exercise (6) (Writing Claims)”**

This session will explain the documents required when filing an application for a patent, including a request, claims, description, drawing and an abstract. Students will receive practical training in writing claims for familiar products.

- **Week 10: Theme: “Scope and Effects of a Patent Right: Assignment (1) (Development of Ideas)”**

This session will explain direct and indirect infringements of a patent. Students will learn the scope of a patent right. Based on lessons learned from the exercises carried out thus far, students will find problems with existing articles (such as packaging for confectionery) and bounce ideas off each other to solve the problem.

- **Week 11: Theme: “Assignment (2) (Patent Search/Prototyping (i))”**

In this session, students will do a prior art search on their own ideas and perform prototyping.

- **Week 12: Theme: “Assignment (3) (Prototyping (ii)/Brief Description)”**

In this session, students will continue prototyping and organize the contents of an invention into a brief description containing prior art, problems to be solved, solutions, effect of the invention and drawing.

- **Week 13: Theme: “Assignment (4) (Prototyping (iii)/Interim Presentation)”**

In this session, students will continue prototyping, prepare a brief description containing embodiment and claims and make an interim presentation.

- **Week 14: Theme: “Assignment (5) (Prototyping (iv)/Preparation of Presentation Materials)”**

In this session, students will continue prototyping and prepare materials for their final presentation.

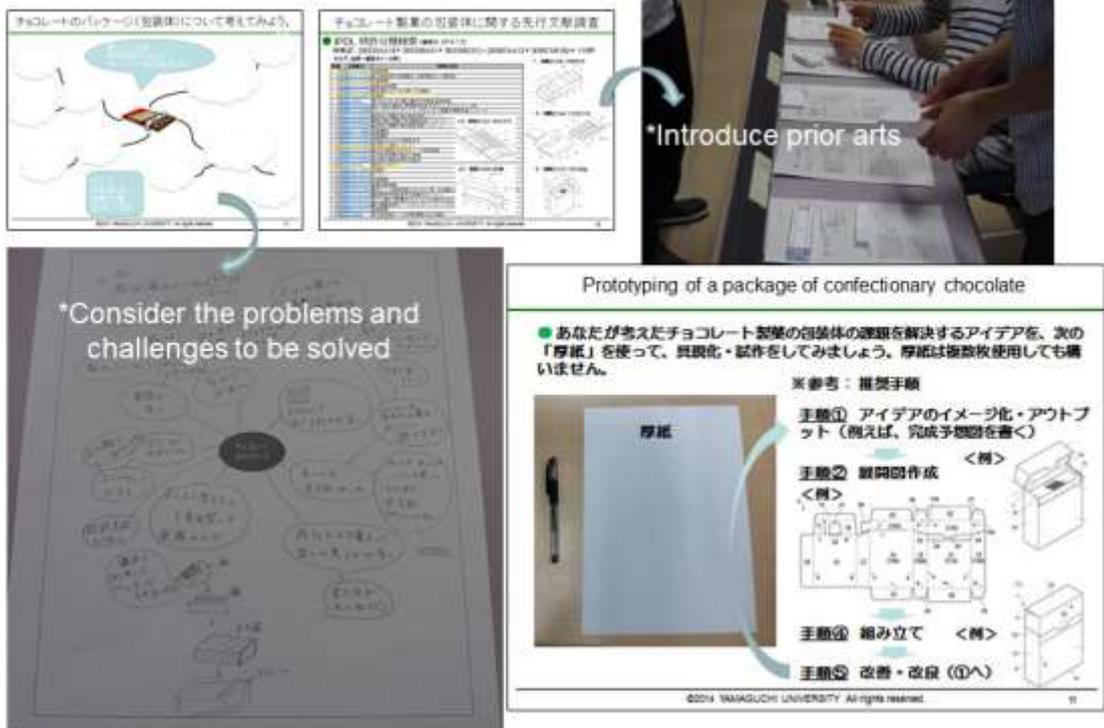
- **Week 15: Theme: “Assignment (6) (Final Presentation/General Comment)”**

In this session, students will make a final presentation of a brief description of the invention containing prior art, problems to be solved, solutions, effect of the invention, drawing, embodiment and claims. General comments on the presentation will be given.

- **Week 16: Theme: “Review”**

Fig. 19 Prior art search → prototyping → preparation of description

● Faculty special course level subject



**3.3.4 “Implications of Intellectual Property for the Content Business” as an optional course with a two credit entitlement**

This IP course is designed to give an overview of the big picture on the content business as a specific area of the media industry, including game software, animation and the movie businesses that involve intellectual property. From this, students will acquire the knowledge and skills required for the management of intellectual property and execution of operations based on a comprehensive understanding of intellectual property involved in business activities in the industry.

The curriculum for this IP course is designed based on the premise that a student completing the course will have achieved the following goals:

- Knowledge and Understanding: to be able to grasp the whole picture of the content business from the viewpoint of IP, and to understand one of the specific field of content business.
- Thought and Judgement: to be able to participate to formulate the strategy from the viewpoint of IP, by anticipating the business development of the specific content business.
- Interest and Motivation: to be able to connect a business development of a specific content business to their own field of expertise.
- Attitude: to be able to implement a business development plan in a specific content business from the

viewpoint of IP.

- Skills and expressions: to obtain an ability of analysis and primary business skills to support a business development of a certain content business.
- Other aspects: to be able to draw up a blueprint for creating a new field of content business.

The sixteen class sessions are held according to the following schedule.

▪ **Week 1: Theme: “Guidance”**

This session will give an outline of the course curriculum and an explanation of the role of intellectual property in the content business and the present status of management.

▪ **Week 2: Theme: “Introduction to Intellectual Property Rights”**

This session will give the big picture on the Japanese intellectual property system and explain the features of rights granted under the system.

▪ **Week 3: Theme: “The Present Status of Contents Business in Japan”**

This session will look at trends in some business which is categorized as the content business in Japan.

▪ **Week 4: Theme: “The Music Industry and Music-Publishing Business”**

This session will explain the structure and future image of the music industry and the status of the fast growing music distribution business.

▪ **Week 5: Theme: “Management of Music Copyrights”**

This session will explain the management of music copyright and the role of copyright management organizations and music publishers.

▪ **Week 6: Theme: “Movie Business”**

This session will explain the structure of the movie business and present a future vision.

▪ **Week 7: Theme: “Animation Business”**

This session will explain the structure of the animation business and give a future vision of the business.

▪ **Week 8: Theme: “Broadcast Programs and Broadcasting Stations”**

This session will explain the structure of broadcasting, illustrating the flow from program production to going on air.

▪ **Week 9: Theme: “Game Software Business”**

This session will explain the structure of the game software business and give a future vision of the business.

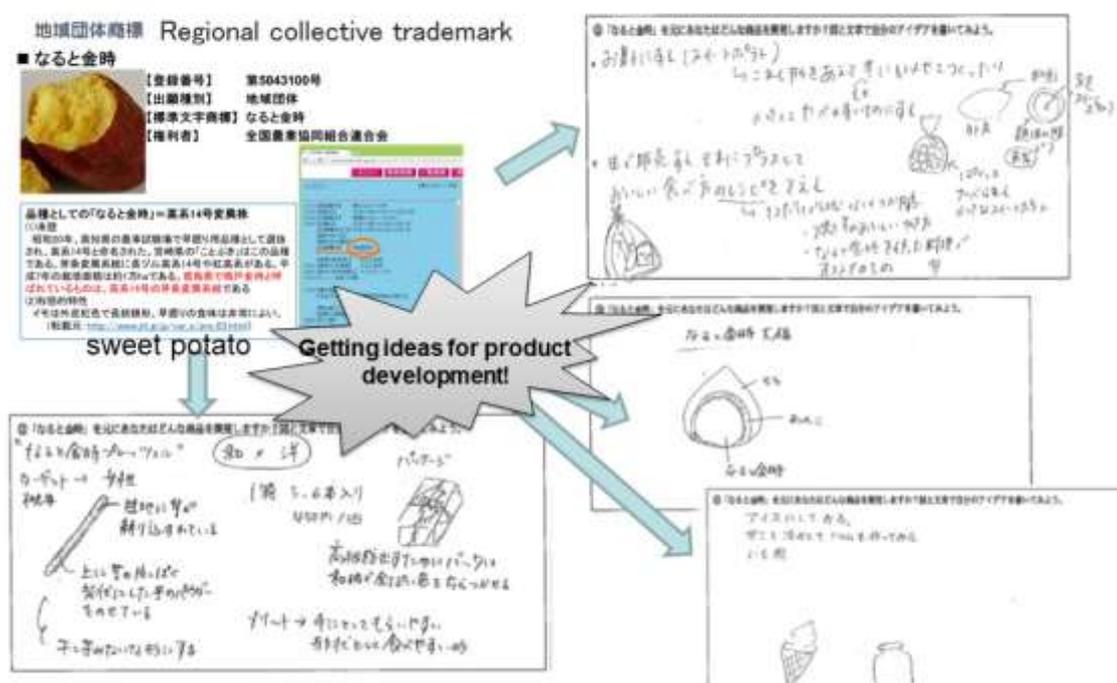
- **Week 10: Theme: “The Role of Service Providers”**  
This session will explain the role of content distribution service providers and the implications for intellectual property.
- **Week 11: Theme: “Publishing Business”**  
This session will explain the structure of the publishing business and give a future vision of the business, with an eye to the future of electronic publishing.
- **Week 12: Theme: “Character-based Business”**  
This session will give the big picture on the character-based business. Students will learn about the management and use of intellectual property in this business.
- **Week 13: Theme: “Advertising/Marketing Business”**  
This session will give the big picture on the advertising/marketing business. Students will learn about the management and use of intellectual property in this business.
- **Week 14: Theme: “Talent Agencies”**  
This session will explain the role of talent agencies. Students will learn about the management and use of intellectual property in this business.
- **Week 15: Theme: “Dispute over Intellectual Property between Content Businesses”**  
In this session, students will look at a case study of a dispute over intellectual property between content businesses.
- **Week 16: Theme: “Review”**

### 3.3.5 “Agricultural Implications of Intellectual Property” as an optional course with a one credit entitlement

Coupled with advances in the globalization of agriculture and food diversification, intellectual property has been expanding its presence in the realm of agriculture at a rapid pace. With the variety registration system under the Plant Variety Protection and Seed Act, the combined use of different types of intellectual property in agriculture has become prominent. Examples include: (i) patents for genetic engineering; (ii) measures to prevent registered varieties from being taken abroad; (iii) use of trademarks to protect agricultural products; etc. On the other hand, due to a lack of knowledge of intellectual property rights, a farmer committed an offence and was sued for infringement of the breeder’s rights. Following the trends of the times, businesses in the industrial field are making their first foray into the realm of agriculture at a brisk pace. Intellectual property rights provide the backbone for these trends in society. By understanding such situations, students will acquire knowledge on intellectual property as well as a creative way of thinking and problem-solving skills, giving them adequate knowledge of the importance of intellectual property rights and fueling their motivation to actively utilize them.

Fig. 20 Getting ideas for product development !

● Faculty special course level subject: Agriculture and intellectual property



The curriculum for this IP course is designed based on the premise that a student completing the course will have achieved the following goals:

- Knowledge and Understanding: to understand the IP system supporting the creation, protection and utilization of intellectual property, by understanding the cases of IP in agriculture
- Thought and Judgement: to be able to identify the needs and seeds latent in agriculture and figure out solution;

to think logically and strategically in a situation of problem-solving based on facts following the law; and to take various viewpoints, i.e. global v. local, past/current/future, parties concerned, into a fair consideration logically based on the legal compliance.

- Interest and Motivation: to be able to have interest in IP issues existing in agriculture or rural environment, and to have intention to settle the problems by using their idea as IP.
- Attitude: to be able to have a point of view to respect the others' IP, as well as to create by themselves; to connect agriculture or rural environment to IP positively; and to try solving problems by using IP.
- Skills and expressions: to organize their own idea and facts for reporting or presentation logically.
- Other aspects: to have basic competency in applying IP knowledge and skills in their field of expertise.

The eight class sessions are held according to the following schedule.

- **Week 1: Theme: “Guidance: Implications of Intellectual Property for Modern Agriculture”**  
This session will give an outline of the course curriculum and an explanation of the intellectual property system using case examples of patents, trademarks, utility models, designs and variety registered and patent applications filed by the Agriculture Faculty of Yamaguchi University in the field of agriculture.
- **Week 2: Theme: “Product Development and Sales Strategy in the Field of Agriculture: New Varieties, Traditional Vegetables, Farm Product Branding and the Sixth Sector Industrialization”**  
In this session, students will study intellectual property strategies involved in product commercialization and branding based on case example of the sixth sector industrialization and product development from the perspective of intellectual property and basic marketing.
- **Week 3: Theme: “Historical Developments and the Future of Agriculture Viewed from the Perspective of Intellectual Property”**  
In this session, students will study IP related products or tools from historical materials on agriculture, including agricultural handbooks from the Edo Era and patents for farm equipment granted in the Meiji Era. After that, agricultural implications of intellectual property over the course of time will be explained, including future prospects based on the IP policy in place (Intellectual Property Strategic Program) and a scenario building approach. Finally, students will learn about changes in the industrial structure (characterized by the intensive pursuit of intellectual property and division of labor among producers, breeders and engineers) that have taken place as agriculture has become industrialized.

- **Week 4: Theme: “Creation, Protection and Use of Agriculture Technology”**

Creation: Starting with problem-finding and idea-making, students will experience various skills in developing ideas.

Protection: After that, student will learn a sequence of procedure from the filing to the registration, and think about the expressions of the generic concept, which is required by claim document.

Use: Students will learn the potential of protection by plural IP rights, the secrecy by know-how, the open-and-close strategy and enforcement of rights.

- **Week 5: Theme: “The Variety Registration System and its reality”**

This session will deal with the variety registration system, requirements for registrability and limitations on breeder’s right, subordinate species, F1 hybrids, implications of gene patents for the variety registration system and protection of native varieties (as germplasm). As some concrete example of this system, crackdown effort in the case of breeding and selling seedling flowers; and the case of exporting abroad the infringed product in the Red Pearl Strawberry case.

- **Week 6: Theme: “Actual Disputes over Intellectual Property in Agriculture: A Case of an Injunction for an Infringement of a Patent on Agricultural Materials, etc.”**

This session will show students a real picture of disputes over intellectual property in agriculture and the risks involved in obtaining rights, requesting an injunction and filing lawsuits, referred by the cases such as the Plant Nursery Pot Case.

- **Week 7: Theme: “Globalization of Agriculture and Other Legal Systems Regulating Intellectual Property”**

This session will explain the international harmonization in plant genetic resources, including UPOV (the International Union for the Protection of New Varieties of Plants) Convention, and Convention on Biological Diversity, and other global tendency related to the IP of Agricultural sector. As an example Ashiro pentiana will be explained. In addition, the IP legal frameworks, i.e. geographical indication, indicating food function system, will be explained based on some actual cases.

- **Week 8: Theme: “Case Study of the Sixth Sector Industrialization (Selling Strategy, etc.), Business-type Management (Large-scale Management) and Development of Farm Equipment (Related Businesses)”**

In this session, “actual cases of the sixth sector industrialization”, and “the case of selling farm tools invented by the seller” will be explained. Then, students are expected to discuss about the case and express their ideas.

### 3.3.6 “Business Implications of Standardization” as an optional course with a one credit entitlement

Given that modern business people try to find business opportunities using the keywords “standards” and “standardization,” this course is designed to give students full recognition of the business implications of standards and standardization and to motivate them to spread their own skills through the world with this recognition in mind. This course will give students explanations using case studies. A guest speaker working at the forefront of global standardization efforts will give a lecture that will offer practical knowledge. In the final session, a semester final examination will be given to check and determine students’ levels of understanding. Class sessions in this course are designed to provide students with not only theoretical underpinning but also rudimentary business abilities. All class sessions will be held in an interactive learning style.

The curriculum for this IP course is designed based on the premise that a student completing the course will have achieved the following goals:

- **Knowledge and Understanding:** to be able to understand that the standardization is used in familiar daily products; the relationship between the standardization and business; conformity assessment system with standard; and the legal implications of standards, i.e. IP laws, antimonopoly act etc.
- **Thought and Judgement:** to be able to make a rational decision on business
- **Interest and Motivation:** to be able to think with an interest in knowing what role standardization plays in our daily lives and business situations.
- **Attitude:** to be able to think with the business implications of standards in mind
- **Skills and expressions:** to be able to think by themselves and tell the results to others correctly.
- **Other aspects:** to be able to understand the importance of standardization and to have the attitude and tools to make standard by themselves; and to convince top management of the company about the importance of the standardization.

The eight class sessions are held according to the following schedule.

- **Week 1: Theme: “Basics of Standardization”**

This session will give an outline of the course curriculum including: (i) the objectives and basics of standardization; (ii) how to set up a standard (including mandatory and voluntary standards and the conformity assessment system); (iii) types and content of standards (basic standards, test method standards, product standards, process standards) using case examples of screws, AKB48, etc. The concept, definition, objective, role, classification and major benefits of standardization will be explained. Based on an understanding of the common use of standards in familiar products around us and various aspects of a standard, among other things, students will be given the basic knowledge necessary to think about the business implications of standards.

- **Week 2: Theme: “Use of Product Standards in Business”**

There are the examples to be considered: (i) business effect of product standards (network externality and switching costs); (ii) advantages of product standards (cost reductions, market expansion and limitation of competitive territories); (iii) disadvantages of product standards (price competition and lock-in effect); with the foregoing topics explained using case examples of automobiles, DVDs, etc. Students will study the business implications of standardization and regulation based on various case examples. Finally, students will understand that standardization essentially provides a tool for cost reduction, market expansion and product differentiation.

- **Week 3: Theme: “Use of Interface Standards”**

This session will deal with: (i) implications of standardization for the supply chain; (ii) business effects of interface standards; (iii) implications of modularization for securing profits; and (iv) upgrading interface standards, with the foregoing topics explained using case examples of a portable gas stove, digital camera, Intel as a company, etc. Given that effective use of product standards in business essentially involves the effective use of interface standards and establishment of a strategy for the use of interface standards, students will learn why the strategy for the downstream market should be different from that for the upstream market.

- **Week 4: Theme: “Differentiation with the Use of Standardization”**

This session will deal with: (i) what the term “differentiation with the use of product standards” means; (ii) differentiation with the use of the open-and-close Strategy; (iii) appropriate use of standards and patents; with the foregoing topics explained using case examples of Shimano bicycle parts, Hatsune Miku as a virtual singer, QR codes, etc. Students will understand what it means to differentiate one's products from the competition and the basic concept underlying the idea. After that, students will learn about the relationship between standards and patents and consider a strategy for their appropriate use.

- **Week 5: Theme: “Use of Test Method Standards”**

This session will deal with: (i) the essence of test method standards; (ii) the essence of differentiation with the use of test method standards; (iii) test method standards and classification standard; (iv) the method of using test method standards to prevent technology leaks, with the foregoing topics explained using case studies involving a liquid crystal panel, refrigerator/air-conditioner, sunscreen cream, etc. In some cases, test method standards can have business effects that are quite different from those of product standards. In other cases, they can have the same business effects as product standards. Students will learn the use of test method standards in business mainly from case studies on differentiated products using test method standards.

- **Week 6: Theme: “Use of Certification in Business”**

This session will deal with: (i) types and implications of certification; (ii) use of certification in business (branding and market development); (iii) establishment and operation of private certification systems, with the foregoing topics explained using case studies of antibacterial plastic, Imabari towels, designated health foods, etc. Certification business operated integrally with standardization will be covered by a study of formulating a

business strategy in terms of market development, firm value creation and branding. In this session, students will gain an organized understanding of the basic effects of the certification business, how to use it and businesses' efforts to use it.

- **Week 7: Theme: “Place and Scope of Standardization and Group Formation”**

This session will deal with: (i) appropriate use of de jure standards, de facto standards and forum standards; (ii) forming groups for standardization; and (iii) establishment and control of the standards of the academic community, with the foregoing topics explained using case studies of IC cards, cellular phones, etc. Given that the place and effects of standardization vary from one case to another, appropriate choice or use thereof constitutes business know-how. Students will study how to use standardization in forming groups and ecosystems which are indispensable in modern business.

- **Week 8: Theme: “Implications of Standardization for Innovation and Semester Final Examination”**

This session will deal with: (i) Implications of standardization for innovation; (ii) importance of timing the implementation of standardization as a part of an MOT strategy; and (iii) recap on the study of the business implications of standardization, with the foregoing topics explained using case studies of electric bicycles, etc. Standardization is usually used as a tool in the context of a developing a technology/management strategy and only makes sense if it is used in that context. To wrap up the last class sessions, students will acquire skills in timing the use of standardization in the context of developing an MOT strategy and the ability to formulate a technology/management strategy. Finally, students will take the semester final examination.

#### **4. Overview of special courses in the Faculty with examples**

The Faculty of Global and Science Studies, of which the author is a member, was inaugurated in 2015. As Japanese university offer a four-year course, currently, there are only seniors and third graders, without fourth graders. The fact that a study-abroad program is included in the curriculum illustrates that the faculty emphasizes the teaching of English. Prospective graduates must meet the requirements to obtain a TOEIC score of 730 and above. As a humanities/sciences-combined faculty, the Faculty provides a wide range of subjects including information processing, law, psychology, history, local culture, etc. A design science course is provided to coordinate these subjects. Obviously, knowledge of and skills in intellectual property form an integral part of the basis for value proposition and problem resolution, and so the Faculty provides a structured set of specialized IP courses, including: (i) “IP Basics I” and “IP seminar I,” both for first-year students; (ii) “IP Basics II” and “IP seminar II,” both for second-year students; (iii) “IP and Management of Technology,” with the preceding courses being compulsory, and “Intellectual Property Law,” with this and subsequent courses being optional, both for third-year students; and (iv) “International IP Strategic Theory” for third-year students. Students will take these courses in a sequential order. It is important to note that the above study-abroad program will extend for a one-year period and will be held from the latter half of the second school year to the first half of the third school year. We have been experimenting with experimental workshops at the Faculty, particularly in faculty-level IP courses, to identify to what extent we can develop course content in terms of practical applicability. A brief description will be given of some practical examples of these efforts.

##### **4.1 Example of practical teaching combined with creating inventions designed for undergraduate**

In the session titled “IP seminar II” for second-year students, the number of hours equivalent to half of the total number of teaching hours involved in the eight-class sessions is allocated to experimental workshops combined with creating inventions which will be described below, with the rest allocated to practical businesses dealing with music copyright.

Experimental workshops combined with creating inventions proceed in the following the steps: (1) retrieve and analyze prior art information; (2) search for problems identified in prior art; (3) develop a solution to the problem; (4) construct a prototype; (5) think about the inventive concept underlying the prototype; (6) prepare presentation materials and give a presentation; and (7) consider possible improvements. Students are required to include a video of the prototype they use in their presentation materials. In 2016, this workshop session was held on the theme of developing a coffee dripper pack for one person, and in 2017, on the theme of developing a confectionery package. An example of the work produced is given below.

【The following is an excerpt from a student's slide presentation of developing a coffee dripper pack for one person.】

◆ Problems to be solved by the invention (disadvantages):

1. It is difficult to adjust the volume of hot water being poured into the dripper pack.
2. An opening at the top reduces the space available for holding hot water.
3. Prior art shows that coffee dripper packs use a lot of paper, which increases the cost.

Factors contributing to the disadvantages:

1. The whole surface of the filter is covered with a paper sheet.
2. An opening at the top carries part of the paper sheet.
3. The rectangular cross section of the dripper pack provides too much hot water at the same time.

◆ Means of solving the problems

Solutions:

1. An opening should be provided on the side to allow the user to visually check the level of hot water held in the dripper filter.
2. Redundant areas of the paper sheet should be eliminated, and the paper sheet should be formed into a triangular pyramid, which will reduce the amount of ground coffee required.
3. The paper sheet should be eliminated to widen the opening of the dripper pack.

Improvements:

1. The filter pack has a large opening on the side.
2. The triangular-pyramid-shape of the paper sheet helps the flow of hot water to run in the center of the filter pack.
3. The opening was enlarged.

Important constituent elements:

1. Triangular-pyramid shape
2. The whole filter pack can be built from one sheet of paper.

Fig. 21 Brief overview of the prototype

## ● Brief Overview of a Prototype

### • Drawing and photographing the prototype and making a video of the prototype in use

#### Effects of the prototype coffee dripper pack

1. Use of a structure in which placing the dripper pack on a coffee cup enhanced its stability.
2. The user can check the volume of hot water provided from the opening on the side.
3. Footing provided in the prototype serves as a stopper.
4. The triangular-pyramid-shape of the dripper pack allows for a larger quantity of coffee to be extracted from a smaller amount of ground coffee.
5. The coffee dripper pack is designed to keep the ground coffee from being soaked in hot water and hence, prevents the coffee from being too strong.

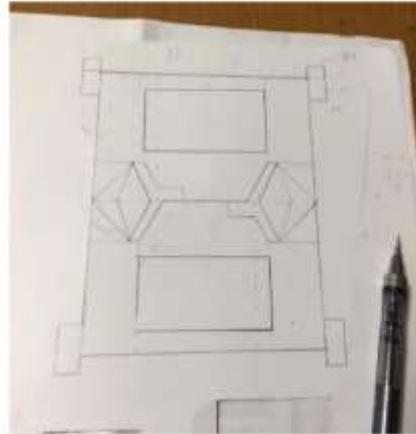


Fig. 22 Photograph of the prototype and effects of the claimed invention

## ● Effects of a Claimed Invention

(Note) You are required to describe the effects and functions available from the improved structure/constituent features.

#### Effects of the Claimed Invention

1. The triangular-pyramid-shape of the dripper pack allows the user to make rich coffee with a smaller amount of ground coffee by adjusting the flow of hot water.
2. An opening on the side of the dripper pack prevents the user's face from being exposed to steam by eliminating the need to peer down from above to check the level of hot water held in the dripping filter.
3. There is more stability in the footed structure of the dripper pack.
4. The dripper pack is designed to be bent into a space structure, thereby providing a larger opening to be provided. This make it easier for the user to pour hot water.



In this workshop session, students had experience training in a consistent course of IP practice, though in a simplified form, involving information analysis as required prior to creating the invention and identifying the inventive concept, followed by improvement proposals.

## **4.2 Example of Teaching in a Workshop on Developing a Technology Strategy and Negotiating an IP License Designed for Undergraduates**

In the session titled “IP and MOT” for third-year students, the number of hours equivalent to the total teaching hours involved in five of the eight sessions is allocated to a workshop on developing a technology strategy and negotiating an IP license, which are described below, with the rest allocated to developing a content strategy and administrative work involved in executing an agreement. In technology strategy courses, we use educational materials developed by the National Center for Industrial Property Information and Training. These materials, known as “Educational Materials for Cultivation of Human Resources for Global Management of Intellectual Property” (July 28, 2017) ([http://www.inpit.go.jp/jinzai/global/global\\_material.html](http://www.inpit.go.jp/jinzai/global/global_material.html)), are available as a complete set comprising a booklet, a collection of case studies, textbooks for use in training, a collection of business case studies, teaching notes, checklists and worksheets. In the workshop session, we used part of a case study. A case is based on a set of facts. Using the case, students addressed the question of whether a company that has expanded its business overseas because it obtained an international patent should file a lawsuit on the discovery of counterfeit products, from a comprehensive perspective of the nature of the product and the development cycle of the relevant technology. Third-year students participated in the workshop session immediately after they returned from a study-abroad program. They discussed the issue by sharing information on actual countermeasures against overseas counterfeits. After gaining an understanding through case discussions of the implications of technology strategy for corporate positioning, the importance of licensing negotiations and reality-based approaches adoptable in view of legal costs, students addressed the topic of licensing negotiations. In the workshop session dealing with licensing negotiations, we again use educational materials developed by the National Center for Industrial Property Information and Training. These materials, known as “The Basics of Patent Licensing Negotiations to Keep in Mind” ([http://www.inpit.go.jp/blob/katsuyo/pdf/info/tebiki\\_1009.pdf](http://www.inpit.go.jp/blob/katsuyo/pdf/info/tebiki_1009.pdf)) include all the points on licensing negotiation and are easy to use. Figure 23 shows a worksheet handed out to students when setting them the task of determining reasonable royalties in intellectual property negotiations.

**Fig. 23 Task of determining reasonable royalties in intellectual property licensing negotiations according to the 25% rule**

### Determination of Reasonable Royalties and Drawing up of a Licensing Agreement

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- Initial royalties **and** running royalties
- Calculate the royalties on the terms and conditions stated below.
  - Product sales price: 1,000 yen/unit
  - Sales in volume: 40,000 pcs. per year
  - Terms of license: Non-exclusive license (Note: In some cases, the term of license can involve the right to use the protected industrial property subject matter while the licensor retains all the rights deriving from the title of protection, including the right to grant licenses to third parties (an ordinary non-exclusive license); Assume that this is not true in this case.)
  - Term of the license agreement: 10 years
  - Profit ratio: 15%
  - Question 3. Calculate the royalties based on the premise that the full amount of license fee will be received as a running royalty.
  - Question 4. Calculate the royalties based on the premise that an amount of ten million yen will be received as the initial royalty and the rest as a running royalty.
  - Question 5. Set the **terms and conditions** that the patentee should offer.
- Draw up a licensing agreement on the **terms and conditions** stated above and submit it through the learning support system (**by today**).
  - Patentee: X      Licensee: Y

Following the task illustrated above, students addressed an expanded task involving drawing up a licensing agreement with the practically determined royalties specified therein and on the premise that terms and conditions of the licensing involve the right to use the protected industrial property subject matter while the licensor retains all the rights deriving from the title of protection, including the right to grant licenses to third parties (an ordinary non-exclusive license).

### 4.3 Example of a Study of Business Practice Dealing with Contents IP Designed for Undergraduates

A study of business practice dealing with Contents IP in the session titled “IP and MOT” for third-year students is illustrated below. The session deals with contents strategy formulation and licensing negotiations. Given that students have learned rudimentary business skills for dealing with music copyrights in “IP Basics II” and “IP seminar II,” both designed for second-year students, this session deals with a higher level of expertise.

An example of assigned work is given below. Students are instructed to draw up a copyright assignment agreement for a series of animated TV programs. Prior to that, they are supposed to determine what business domains the copyright could cover, such as character-based business, right to name an amusement facility, etc.

- ◆ Question: Consider the terms and conditions on which the first party would assign its copyright to the animated TV programs stated below to the second party.

First party: Higashizaki Production

Yoshito Higashizaki, Representative Director and President

Object of assignment: A 21-part series of animated TV programs titled “Facts about Students at the Faculty of Global and Science Studies,” each part forming a 30-minute program, with 25 minutes allocated to the main program and 5 minutes to a commercial message

Second party: Seihokushinsha Corporation

Kojiro Uemura

- ◆ Write the contract clause referring to the contract agreement formats available on the Internet, keeping the following in mind (from the perspective of the second party).
  1. You need to consider what to do with a sequel to the series and possible expansion of use of the copyright into neighboring businesses. Based on these considerations, you need to consider bundle of rights and the moral rights of the authors.
  2. Inclusion of a clause stipulating nonuse of the moral rights of the authors  
You need to consider including a clause reflecting the provisions of Article 27 and Article 28 of the Copyright Act.
  3. Proper calculation of profit allocation  
You need to consider the timing and way of allocating profits that would motivate the parties concerned.

Figure 24 shows a worksheet filled out by a student.

Fig. 24 Worksheet filled out by a student

■設問 乙の立場で検討せよ。(2が上記T-X合社番組の著作権の譲渡を受けての前提)

1. 続編、周辺ビジネスの対応  
(著作権人格権)

2. 乙が本著作物の内容、表現に変更を加えた場合は、あらかじめ、甲の承諾を必要とする。

3. 本件譲渡契約によれば、乙が甲に対し譲渡した権利は、「対象作品に対し著作物及び対象作品の全部又は一部の全部利用を可能にする一切の権利」に限られる。

3. 著作権人格権は、著作人の一身に専属し、譲渡はできない。

二次的著作物の対応  
続編の制作の場合  
→乙は本著作物を利用したため、乙、以下のとおり著作人の表示、クレジットは「T-X合社」  
(株)東崎プロダクション 7254..

2. 不行使合意条項、27・28条対応  
- 不行使合意条項 : 創作した作品の所有権、知財権は甲に帰属せしめ、27条・28条を含む著作物権に關し原著作人の権利を含む全権利は乙に帰属せしめ、甲の利益を害しない。

第27条と第28条  
続編やグッズの制作などにおける、二次的著作物の、原著作物の著作権は、当該二次的著作物の利用に關し、この条に規定した権利で当該二次的著作物の著作権者が有するその月一の種類別の権利を享有する。

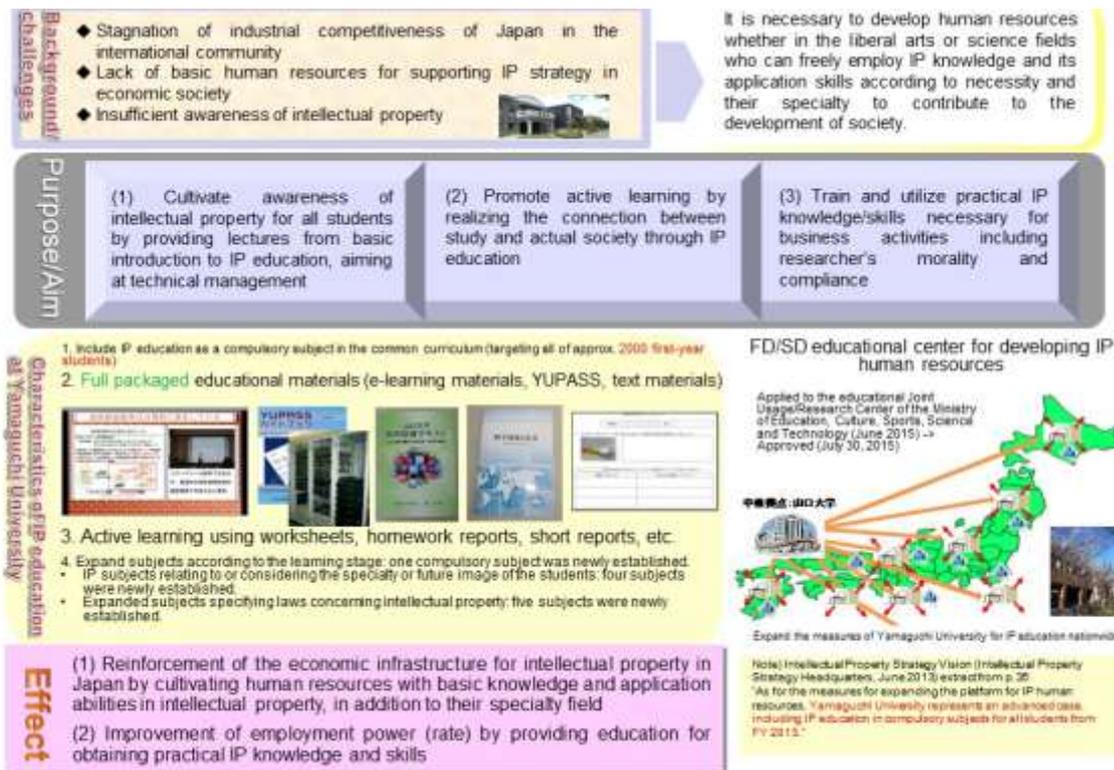
→ 乙が甲に対し、著作権法27条および28条を含むT-X合社の著作権の譲渡を受けた。  
(例) T-X番組のグッズ、脚色、映画化、続編を以て権利を譲渡する権利。

In the sessions illustrated above, students tunneled their way through adversity to find the best answer. As a general rule, intellectual property education in the curriculum for higher education proceeds in steps suited to the students' stage of learning. However, it would increase students' desire to learn if an opportunity to take on a difficult challenge is provided based on their degree of understanding.

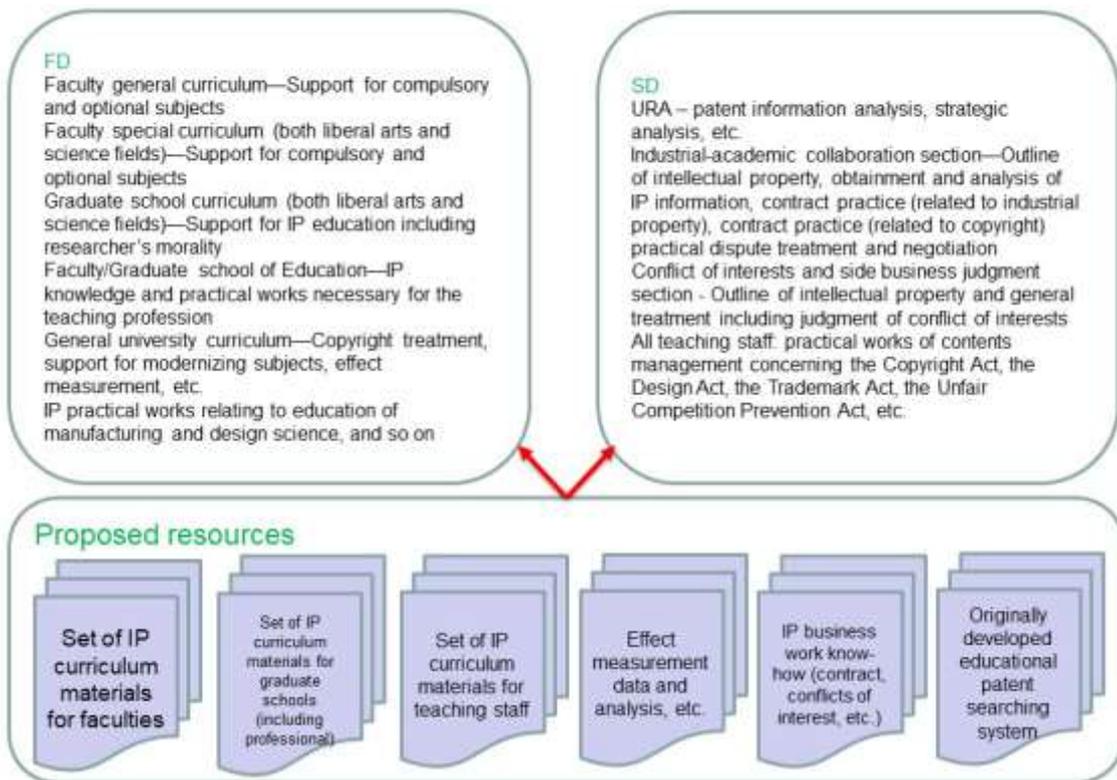
## 5. Center for Intellectual Property Education

As mentioned earlier, Yamaguchi University has the personnel distribution for intellectual property education as shown in Fig. 3. Given the broad spectrum of intellectual property ranging from industrial property rights to copyrights, combined with the necessity to cover the technological/management implications of intellectual property, educational activities could be challenging. Individual universities could develop an educational program on their own. However, a scheme in which educational programs developed by this particular center for IP education are available for shared use would be effective. The Ministry of Education, Culture, Sports, Science and Technology of Japan has in place a scheme in which the Minister grants certification as a shared center for education and research. Yamaguchi University uses this system to pass on its know-how to other universities. In addition, the educational institution has used other schemes available on the initiative of the relevant government ministries. Setting up these schemes around the world would accelerate the pace of human resources development.

Fig. 25 Shared Center for Education and Research on Intellectual Property



**Fig. 26 Examples of agenda for FD and SD**



## 6. Conclusion

This chapter has given a brief description of the curriculum design system in place at Yamaguchi University and the Yamaguchi University model designed to further the universalization of intellectual property education and the university's basic policy on the cultivation of IP human resources. If a curriculum built around these ideas would ideally incorporate a structured set of the followings in a sequential order according to the level of the course: (i) compulsory IP basic courses for all undergraduates, (ii) IP courses to build on those IP basic courses, (iii) higher-level courses in law, (iv) IP strategy courses. Alternatively, universities may take a realistic approach by providing some of the courses designed for that stage. This paper has presented the facts on IP education activities at Yamaguchi University. The author hopes that it will give IP education personnel a foundation for developing IP educational programs.

# Chapter 3

## <Ability Test System>

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Kanazawa Institute of Technology

## 1. Relationship between the Ability Test System and Public Awareness Activities

From a general point of view, there may appear to be no direct connection between test systems and public awareness activities.

Actually, the two are intricately linked. In particular, there is a clear relationship between a national ability test system and political public awareness activities, as will be explained in detail below.

Where an ability test examination system exists, examinees are usually required to acquire “specific knowledge” or learn the relevant subjects as preparation to pass the ability test examination. The existence of a new ability test system gives rise to new “learning” efforts on the part of examinees therefor.

A public awareness activity is equivalent to providing “specific knowledge” to people.

In other words, it can be said that the relationship that exists therein is: [A new ability test system is founded] → [New learning is motivated] (= Prospective examinees obtain specific knowledge = Public awareness).

The foregoing discussion represents the viewpoint of the sponsor of an examination system. Looking from the viewpoint of an examinee, there are various benefits to taking an ability test examination. First of all, an ability test examination is an effective means to objectively confirm whether specific knowledge that is required has been successfully learned. In addition, by providing the goal of passing the test, the ability test motivates examinees to acquire specific knowledge and often helps with maintaining their motivation.

A famous anecdote concerning George Mallory, the British climber, describes his simple answer to the question of why he wanted to climb Mount Everest: “Because it is there.” If we replace “Mount Everest” with “ability test,” the answer “Because it is there” would imply that the mere existence of an ability test examination motivates certain people to want to pass it, or to acquire the specific knowledge required (and consequently initiates a trend toward public awareness).

This is how ability test examination systems and public awareness activities are deeply interconnected. When a national government wishes to implement a policy to raise public awareness toward certain specific knowledge, one of the effective policy options is to create a new national ability test system.<sup>1</sup>

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<sup>1</sup> For reference, see Kazunari Sugimitsu “Creation of a National Examination Can Be a Solution to Public Awareness Policy: Case Study on the Creation of a National Examination in the ‘Intellectual Property-based Nation’ Policy,” University of Tokyo policy vision research center (<http://pari.u-tokyo.ac.jp/archives/publication/column14.html>) Accessed on December 22, 2017)

## 2. History of IP Ability test System in Japan

The first ability test system related to intellectual property (sometimes simply called “IP”) in Japan<sup>2</sup> was a private ability test called “Examination of Proficiency in Intellectual Property,” created in 2004. This system underwent several changes as shown in the table below, before being fully shifted to a national examination in 2008.

<Shift from the Examination of Proficiency in Intellectual Property to the Intellectual Property Management Skills Test>

Examination of Proficiency in Intellectual Property (private ability test)	March 2004	The 1st Examination of Proficiency in Intellectual Property is conducted (Grade 2 only)
	November 2004	Grade 1 (Patent) starts in the 3rd Test.
	March 2008	The 12th Examination of Proficiency in Intellectual Property (final) is conducted.
Intellectual Property Management Skills Test (national examination)	July 2008	The 1st Intellectual Property Management Skills Test is conducted.
	November 2010	Grade 1 (media content-specialized operations) starts in the 7th Test.

(1) Birth, background and overview of a private ability test related to intellectual property (2004 to 2008)

The system of the Examination of Proficiency in Intellectual Property (hereinafter simply, the “Proficiency Exam”) was a private ability test examination conducted from 2004 to 2008. This examination became the basis for the national examination known as the Intellectual Property Management Skills Test (“IPMST”).

### ① Background of the birth of the Proficiency Exam

In 2002, Japan declared itself to be a Nation Built on Intellectual Property, and two years later in 2004, the 1st Proficiency Exam was conducted. In this sense, the foundation of the Proficiency Exam was in line with the government’s policy, although it was an activity of the private sector.

In fact, in FY2004, soon after the start of the test, the government stated in its Intellectual Property Strategic Program 2004, “In order to enhance the motivation of IP-related resources and meet the needs of entities seeking such resources, the private sector is encouraged to make efforts

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<sup>2</sup> The patent attorney examination is not included in the system because it is a vocational examination.

that contribute to the development of IP-related resources through assessing the proficiency of working-level personnel, translators, etc. engaged in IP-related services. (Ministry of Economy, Trade and Industry and relevant ministries).” This statement can be said to reflect the government’s evaluation that efforts such as founding a private ability test contribute to the realization of an Intellectual Property-based Nation.

The Proficiency Exam is considered to be the world’s first<sup>3</sup> of its kind in the sense that it is an IP test examination that targets the general public.

## ② Relationship with the Japan Patent Attorneys Association

The Proficiency Exam obtained formal permission from the Japan Patent Attorneys Association to list its name as a sponsor, as reported by the morning edition of the Yomiuri Newspaper on April 3, 2004, immediately after the start of the first ability test examination.

Since the qualification of patent attorney is an IP-related vocational qualification with a long history dating back to 1899, acquisition of the sponsorship name from the organization of qualified persons is considered to have significantly contributed to raising trust in the Proficiency Exam.

## ③ Overview of the Proficiency Exam

The design concepts of the Proficiency Exam as an examination system<sup>4</sup> consist of the following four points:

(i) capable of obtaining objective data by measuring IP-related skills quantitatively (progressively); (ii) capable of measuring skills (business ability) required to work for corporations, organizations, or research institutes; (iii) promotes setting a personal learning goal, enhancing self-motivation, and encouraging voluntary learning of necessary skills; and (iv) useful for corporations, organizations, research institutes, etc. to grasp the current situation and assess educational performance in

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<sup>3</sup> In April 2009, the author, who developed the basic concept and framework of the Proficiency Exam and worked toward its realization, was awarded the IP Distinguished Service Award (commended by the Director-General of the Patent Office). The reasons for the award were: (i) the awardee invented the world’s first intellectual property ability test system and founded the middle-natured corporation with limited liability (currently the general incorporated association) Association of Intellectual Property Education; (ii) the awardee, as the first secretary general of the association, contributed to raising public awareness toward the industrial property right system by implementing and conducting the ability test and through other activities; and (iii) in 2008, the awardee promoted the Proficiency Exam to the national examination Intellectual Property Management Skills Test, thereby contributing to further expanding utilization of the intellectual property right system and to raising public awareness toward such a system.

<sup>4</sup> An ability test aims at objectively measuring and evaluating specific knowledge and skills, and thus can be regarded as a type of measuring tool. Therefore, design concepts must first be developed before creating an examination system. Source: Kazunari Sugimitsu (2006) “Research on the Development and Application of a Skill Measuring Tool for Cultivation of IP Human Resources,” doctoral dissertation, Tohoku University)

planning human resources development.

The goals of this ability test system can be organized into the following three points:

(i) elevate the IP mind of students and workers; (ii) elevate the IP mind of researchers (engineers); and (iii) create an index for competence assessment for IP (or legal) staff.

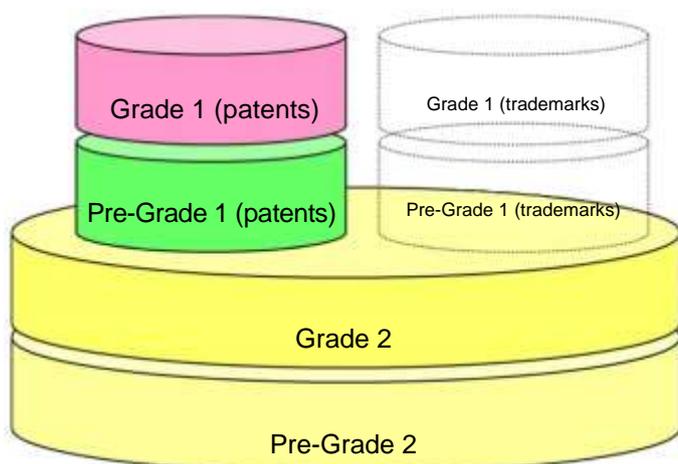
(\* “Elevate the IP mind” refers to raising interest and awareness toward intellectual property.)

Categories in the Proficiency Exam were as follows.

Grade 1 tests consisted of the following three types: (1) Grade 1 (Patent), (2) Grade 1 (trademark), and (3) Grade 1 (copyright) (these tests were planned but discontinued without being conducted as private sector tests).

Grade 2 tests consisted of the following four types: (1) Grade 2, (2) Grade 2 Academic Subject [Grade 2 (Patent)], (3) Grade 2 Academic Subject [Grade 2 (Design and trademark)], and (4) Grade 2 Academic Subject [Grade 2 (Copyright, Unfair Competition, Anti-monopoly, etc.)].

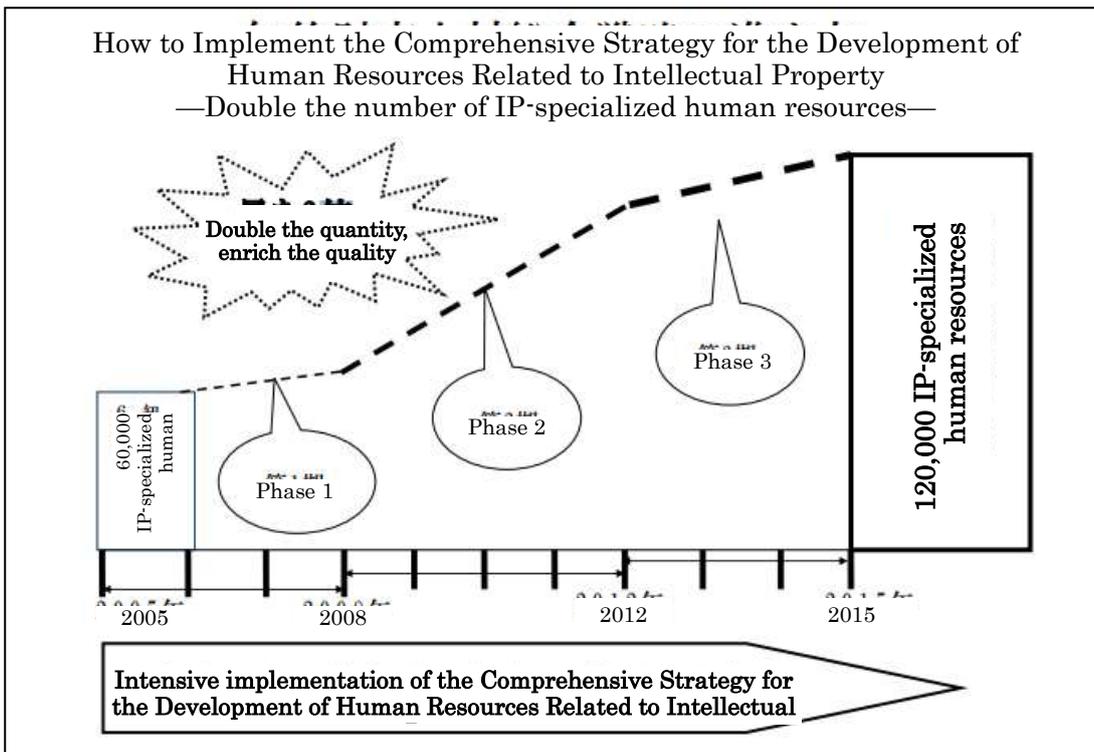
Multi-level hierarchy diagram of the former Proficiency Exam



(2) Birth and background of a national ability test related to intellectual property (2008 to date)

Four years later in 2008, the Proficiency Exam, the private sector ability test examination described in (1) above, was discontinued and promoted to a national examination.

One of the background factors that enabled the promotion to a national qualification was that a goal of doubling the number of IP-specialized human resources was set in the Comprehensive Strategy for the Development of Human Resources Related to Intellectual Property released on January 30, 2006.



“Comprehensive Strategy for the Development of Human Resources Related to Intellectual Property” by the Task Force on Intellectual Creation Cycle (January 30, 2006) p.11

<https://www.kantei.go.jp/jp/singi/titeki2/tyousakai/cycle/senryaku.pdf>

(Accessed on December 22, 2017)

The Intellectual Property Strategic Plan 2007 stated as shown below made it a predetermined policy to promote the Proficiency Exam to a national qualification.

- (8) Endeavor to enhance the evaluation index related to intellectual property
- i) In order to enhance recognition of IP-specialized human resources and raise their status, take all necessary measures, including adding IP-specialized job categories to the trade skill tests system under the Human Resources Development Promotion Act, during FY2007.

### 3. National ability test “Intellectual Property Management Skills Test (IPMST)”

#### (1) Legal basis and trade skill test

The legal basis for this national ability test is the Human Resources Development Promotion Act, under the jurisdiction of the Education, Science and Technology Ministry. The national ability test is being conducted as one of the trade skill tests under the said Act (Article 44).

## Human Resources Development Promotion Act

(under the jurisdiction of the Ministry of Health, Labour and Welfare)

- Article 1 The purpose of this Act, together with the Employment Countermeasures Act (Act No. 132 of 1966), is **to promote the development and improvement of the abilities workers need for their jobs** by way of comprehensively and systematically taking measures for enriching and smoothly carrying out vocational training and vocational ability tests and measures to ensure that there are opportunities for workers to receive educational training on the job or vocational ability tests voluntarily, and thereby to **ensure security of employment and improvement of the status of workers**, as well as **to contribute to the development of the economy and society as a whole**.
- Article 44 (1) The Minister of Health, Labour and Welfare shall carry out trade skill tests by classifying grades specified by an Ordinance of the Minister of Health, Labour and Welfare for each of the job categories specified by a Cabinet Order (hereinafter referred to as "job categories to be tested" in this Article); provided, however, that with regard to job categories to be tested that are specified by an Ordinance of the Ministry of Health, Labour and Welfare as not being appropriate for classification into grades, trade skill tests may be carried out without such classification.
- (2) **The skills necessary to pass the trade skill tests** set forth in the preceding paragraph (hereinafter referred to as "trade skill tests" in this Chapter) **and the levels of knowledge thereon shall be specified by an Ordinance of the Ministry of Health, Labour and Welfare for each of the job categories to be tested**.
- (3) Trade skill tests **shall consist of practical and theoretical examinations**.

Trade skill tests are a national ability test system implemented in 1959, under which worker skills are tested in accordance with certain criteria and the successful examinees are certified by the national government. These tests are conducted for the purpose of raising the evaluation of trade skills by the general public, thereby improving the worker skills and status.

As of December 21, 2017, trade skill tests for 126 job categories existed, with tests for 111 job categories conducted by the prefectural Vocational Ability Development Associations, and for the remaining 15 job categories by designated testing agencies in the private sector. "Intellectual property management" is one of the 15 job categories tested by designated testing agencies in the private sector.

A trade skill test consists of a written and practical examination, both of which must be passed by examinees in order for them to become certified. Examinees who pass only one of the examinations are re-examined with regard to the failed examination only in subsequent tests and, if successful, will become certified skilled workers.

### (2) Relationship with the Intellectual Property Strategic Plan of the Japanese Government's Intellectual Property Policy Headquarters

Since its promotion to a national examination, the IPMST is often referred to in the government's Intellectual Property Strategic Plan.

For example, in the Intellectual Property Strategic Plan 2008, the following references were made:

“(3) Endeavor to enhance the evaluation index for IP human resources

#### 1. Endeavor to disseminate the IPMST

In October 2007, the IPMST was founded as a national ability test for measuring competence

in intellectual property management. From FY2008, efforts were made to expand the IPMST so that it would be utilized by more companies and individuals.

In particular, from FY2008, application for the IPMST was encouraged at seminars, etc. attended by instructors and teachers who provide education in intellectual property so as to expand opportunities for them to increase knowledge related to intellectual property.” (Ministry of Education, Culture, Sports, Science and Technology, Ministry of Economy, Trade and Industry and relevant ministries) (p.116)”

The Intellectual Property Strategic Plan 2017 is comprised of three pillars: (1) building an IP system that will be the foundation of the 4th industrial revolution (Society 5.0), (2) promotion of re-vitalization of local societies and innovation by making use of the potential power of intellectual property, (3) enhancement of content power has the potential of brightening Japan in 2020 and onward. Of these pillars, in the discussion regarding (2), the use of the IPMST was recommended in the description of the measures to be addressed in the future to “promote the utilization of intellectual property by medium- and small-sized local companies and the industry-university cooperation,” as follows:

**“Encourage acquisition of the qualification of Certified Specialist of Intellectual Property Management** in order to promote appropriate approaches to intellectual property by raising awareness of intellectual property among medium- and small-sized local companies and their supporters. (p.46)”

Furthermore, acquisition of the qualification of Certified Specialist of Intellectual Property Management is encouraged in the description of measures to be addressed in the future as part of the effort of “promoting education in intellectual property and development of IP human resources toward the goal of making “every Japanese person an IP human resource,” as follows:

“In order to improve public understanding of intellectual property, promote educational activities and **encourage the acquisition of qualifications related to intellectual property, for example, by taking IPMST examinations.** “ (p.5)

### (3) Relationship with the Intellectual Property Skill Standards

The Intellectual Property Skill Standards (the “IP Skill Standards”) are an index established by clarifying and systematizing practical skills related to intellectual property that are required of individuals to fulfill various functions related to the creation, protection and utilization of intellectual property at companies, with the aim of serving as a useful yardstick in developing IP human resources.

The IP Skill Standards were developed in 2007 by the Ministry of Economy, Trade and Industry,

partly in response to proposals made in the Intellectual Property Strategic Plan 2005 and the Intellectual Property Strategic Plan 2006 to clarify the skills of IP human resources and develop standards, etc. for such skills.<sup>5</sup> The IP Skill Standards are comprised of criteria for strategic skills and those for execution skills, and are usually customized by user companies according to their needs.

The first version was issued in 2007, and a revised version was released after almost ten years in FY2016.

The level and scope of the Proficiency Exam were changed when it shifted to a national examination to attain conformity to these IP Skill Standards. “Conformity” herein does not mean full conformity, but is limited to particularly important functions and areas in which measurement through examination is possible.

#### (4) Responsible entity and skill evaluators

The entity responsible for conducting the Proficiency Exam was the Association of Intellectual Property Education, which continued to conduct examinations as a designated testing agency after the Proficiency Exam shifted to a national examination.

On April 1, 2016, the general incorporated association, the Association of Intellectual Property Education and the general incorporated association Institute of Intellectual Property merged and became a new organization called the general incorporated association Foundation for Intellectual Property.

The current responsible entity is therefore the Foundation for Intellectual Property, which succeeded the status of the designated testing agency.

Examination questions are prepared by an organization put together by designated testing agencies, called the “Skill Certification Committee,” whose members are appointed from a pool of those with specialized skills or a technological or academic background.

The Committee members are served by officers specializing in intellectual property at the relevant ministries and agencies (i.e. Patent Office, Ministry of Economy, Trade and Industry (Intellectual Property Policy Office, Economic and Industrial Policy Bureau), Ministry of Economy, Trade and Industry (Office for Intellectual Property Right Infringement, Manufacturing Industries Bureau), Agency for Cultural Affairs (Copyright Division, Commissioner's Secretariat), Ministry of Finance (Customs Clearance Division, Custom and Tariff Bureau), Ministry of Agriculture, Forestry and Fisheries (Intellectual Property Division, Food Industry Affairs Bureau), Ministry of Foreign Affairs (Intellectual Property Affairs Division, International Trade Division of the Economic Affairs Bureau), National Police Agency (Community Safety Bureau), Ministry of Internal Affairs and Communications (2nd Telecommunications Consumer Policy Division,

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<sup>5</sup> For the earliest basic concept of the IP Skill Standards, refer to Kazunari Sugimitsu “Necessity of IP Skills Standards for the Development of IP Human Resources” (FY2005 Research Presentation of the Intellectual Property Association of Japan, May 28, 2005).

Telecommunications Business Department, Telecommunication Bureau)), as well as by university professors and those recommended by industrial communities, the Japan Federation of Bar Associations, the Japan Patent Attorneys Association, etc.

#### (5) Contents of the examination system 1 (general structure)

The IPMST is classified into three grades: Grade 1, Grade 2 and Grade 3

Written and practical examinations are conducted for each grade, and an examinee who passes both tests may refer to him/herself as a Certified Skilled Worker (national qualification, name monopoly qualification).

The IPMST consists of Grade 1 (patent-specialized operations and media content-specialized operations), Grade 2 (management operations), and Grade 3 (management operations). Each grade includes written and practical examinations, and an examinee who passes both tests is qualified as a Certified Specialist of Intellectual Property Management (commonly called an “IP Specialist”). The section below outlines the tests for each grade and introduces the abilities and personality expected of an IP Specialist for each grade.

##### ① Abilities and personality expected and name of acquirable qualification

###### Grade 1 (patent-specialized operations)

An individual certified in this category has specialized abilities related to patents, in particular in the intellectual property area.

More specifically, the individual is recognized to have deep specialized knowledge and the ability to take the initiative in identifying and solving business challenges at a company, etc., with respect to issues related to patents, including strategies, legal affairs, risk management, information/investigation, acquisition of rights in Japan, acquisition of rights in foreign countries, contracts, enforcement (exercise of rights), value estimation and funding.

###### Grade 1 (Media content-specialized operations)

An individual certified in this category has specialized abilities related to media content, in particular in the intellectual property area.

More specifically, the individual is recognized to have deep specialized knowledge and the ability to take the initiative in identifying and solving business challenges at a company, etc. with respect to issues related to media content, including risk management, contracts, enforcement, funding, value estimation, relevant laws and regulations and content-related services (content development strategies, content creation assistance, content protection, content-related laws and regulations), as a “Content Business Specialist” with skills in both the business and contractual/legal area, such as content producers, personnel responsible for rights affairs and personnel responsible for contractual/legal affairs who engage in business.

###### Grade 1 (brand-specialized operations)

An individual certified in this category has specialized abilities related to brands in particular in the intellectual property area.

More specifically, the individual is recognized to have deep specialized knowledge and the ability to take the initiative in identifying and solving business challenges at a company, etc. with respect to issues related to procedures to acquire brand-related rights in Japan and overseas countries, licensing and countermeasures against counterfeits, etc., as a “Content Business Specialist,” such as brand managers, heads of trademark/design groups, heads of publicity/advertising departments, marketing managers and personnel responsible for corporate planning at a company, etc.

#### Grade 2 (management operations)

An individual certified in this category has basic abilities in management in general areas of intellectual property (patents, trademarks, copyright, etc.)

More specifically, the individual is recognized to have broad basic knowledge and the ability to identify business challenges and solve parts of them independently at a company, organization, etc., with respect to issues related to intellectual property, including strategies, legal affairs, risk management, investigation, brand protection, technology protection, content protection, contracts and enforcement (exercise of rights).

#### Grade 3 (management operations)

An individual certified in this category has elementary management abilities in areas pertaining to intellectual property.

More specifically, the individual is recognized to have elementary knowledge and the ability to identify challenges and solve them under certain conditions at a company or an organization (e.g. schools and public offices), with respect to issues related to intellectual property—in particular, brand protection, technology protection, content protection, contracts and enforcement (exercise of rights).

<b>Grade</b>	<b>Selected operation</b>	<b>National qualification granted</b>
Grade 1	Patent-specialized operations	Grade 1 Certified Specialist of Intellectual Property Management (patent-specialized operations)
	Media content-specialized operations	Grade 1 Certified Specialist of Intellectual Property Management (media content-specialized operations)
	Brand-specialized operations	Grade 1 Certified Specialist of Intellectual Property Management (brand-specialized operations)
Grade 2	Management operations	Grade 2 Certified Specialist of Intellectual Property Management (management operations)
Grade 3	Management operations	Grade 3 Certified Specialist of Intellectual Property Management (management operations)

(6) Scope

The scope of the examination for each grade and selected operation is as follows. The contents of the examinations conform to the IP Skill Standards, as stated above.

**Grade 1 (patent-specialized operations)**

Academic Subject	Practical examination
1. Risk management 2. Contracts 3. Enforcement 4. Funding 5. Value estimation 6. Relevant laws and regulations 7. Patent-specialized operations (1) Patent strategies (2) Legal affairs (3) Information/investigation (4) Acquisition of rights in Japan (5) Acquisition of rights in foreign countries (6) Patent-related laws and regulations	1. Patent-specialized operations (1) Patent strategies (2) Legal affairs (3) Risk management (4) Information/investigation (5) Acquisition of rights in Japan (6) Acquisition of rights in foreign countries (7) Contracts (8) Enforcement (9) Funding (10) Value estimation

**Grade 1 (media content-specialized operations)**

Academic Subject	Practical examination
1. Risk management 2. Contracts 3. Enforcement 4. Funding 5. Value estimation 6. Relevant laws and regulations 7. Content-specialized operations 8. Media content-specialized operations (1) Content development strategies (2) Content creation assistance (3) Content protection (4) Content-related laws and regulations	1. Media content-specialized operations (1) Content development strategies (2) Risk management (3) Content creation assistance (4) Content protection (5) Contracts (6) Enforcement (7) Funding (8) Value estimation

**Grade 1 (brand-specialized operations)**

Academic Subject	Practical examination
<ol style="list-style-type: none"> <li>1. Risk management</li> <li>2. Contracts</li> <li>3. Enforcement</li> <li>4. Funding</li> <li>5. Value estimation</li> <li>6. Relevant laws and regulations</li> <li>7. Brand-specialized operations</li> </ol> <ol style="list-style-type: none"> <li>(1) Brand strategies</li> <li>(2) Information/investigation</li> <li>(3) Acquisition of rights in Japan</li> <li>(4) Acquisition of rights in foreign countries</li> <li>(5) Brand-related laws and regulations</li> </ol>	<ol style="list-style-type: none"> <li>1. Brand-specialized operations</li> <li>(1) Brand strategies</li> <li>(2) Risk management</li> <li>(3) Information/investigation</li> <li>(4) Acquisition of rights in Japan</li> <li>(5) Acquisition of rights in foreign countries</li> <li>(6) Contracts</li> <li>(7) Enforcement</li> <li>(8) Funding</li> <li>(9) Value estimation</li> </ol>

**Grade 3 (management operations)**

Academic Subject	Practical examination
<ol style="list-style-type: none"> <li>1. Strategies</li> <li>2. Legal affairs</li> <li>3. Risk management</li> <li>4. Investigation</li> <li>5. Brand protection</li> <li>6. Technology protection</li> <li>7. Content protection</li> <li>8. Design protection</li> <li>9. Contracts</li> <li>10. Enforcement</li> <li>11. Relevant laws and regulations</li> </ol>	<ol style="list-style-type: none"> <li>1. Strategies</li> <li>2. Legal affairs</li> <li>3. Risk management</li> <li>4. Examination</li> <li>5. Brand protection</li> <li>6. Technology protection</li> <li>7. Content protection</li> <li>8. Design protection</li> <li>9. Contract</li> <li>10. Enforcement</li> </ol>

**Grade 3 (management operations)**

Academic Subject	Practical examination
<ol style="list-style-type: none"> <li>1. Brand protection</li> <li>2. Technology protection</li> <li>3. Content protection</li> <li>4. Design protection</li> <li>5. Contracts</li> <li>6. Enforcement</li> <li>7. Relevant laws and regulations</li> </ol>	<ol style="list-style-type: none"> <li>1. Brand protection</li> <li>2. Technology protection</li> <li>3. Content protection</li> <li>4. Design protection</li> <li>5. Contracts</li> <li>6. Enforcement</li> </ol>

**Grade 1 (patent-specialized operations)**

Academic Subject	Practical examination
<ol style="list-style-type: none"> <li>1. Risk management</li> <li>2. Contracts</li> <li>3. Enforcement</li> <li>4. Funding</li> <li>5. Value estimation</li> <li>6. Relevant laws and regulations</li> <li>7. Patent-specialized operations</li> </ol> <ol style="list-style-type: none"> <li>(1) Patent strategies</li> <li>(2) Legal affairs</li> <li>(3) Information/investigation</li> <li>(4) Acquisition of rights in Japan</li> <li>(5) Acquisition of rights in foreign countries</li> <li>(6) Patent-related laws and regulations</li> </ol>	<ol style="list-style-type: none"> <li>1. Patent-specialized operations</li> </ol> <ol style="list-style-type: none"> <li>(1) Patent strategies</li> <li>(2) Legal affairs</li> <li>(3) Risk management</li> <li>(4) Information/investigation</li> <li>(5) Acquisition of rights in Japan</li> <li>(6) Acquisition of rights in foreign countries</li> <li>(7) Contracts</li> <li>(8) Enforcement</li> <li>(9) Funding</li> <li>(10) Value estimation</li> </ol>

**Grade 1 (media content-specialized operations)**

Academic Subject	Practical examination
<ol style="list-style-type: none"> <li>1. Risk management</li> <li>2. Contracts</li> <li>3. Enforcement</li> <li>4. Funding</li> <li>5. Value estimation</li> <li>6. Relevant laws and regulations</li> <li>7. Media content-specialized operations</li> </ol> <ol style="list-style-type: none"> <li>(1) Content development strategies</li> <li>(2) Content creation assistance</li> <li>(3) Content protection</li> <li>(4) Content-related laws and regulations</li> </ol>	<ol style="list-style-type: none"> <li>1. Media content-specialized operations</li> </ol> <ol style="list-style-type: none"> <li>(1) Content development strategies</li> <li>(2) Risk management</li> <li>(3) Content creation assistance</li> <li>(4) Content protection</li> <li>(5) Contracts</li> <li>(6) Enforcement</li> <li>(7) Funding</li> <li>(8) Value estimation</li> </ol>

**Grade 1 (brand-specialized operations)**

Academic Subject	Practical examination
<ol style="list-style-type: none"> <li>1. Risk management</li> <li>2. Contracts</li> <li>3. Enforcement</li> <li>4. Funding</li> <li>5. Value estimation</li> <li>6. Relevant laws and regulations</li> <li>7. Expert in Brands</li> </ol> <ol style="list-style-type: none"> <li>(1) Brand strategies</li> <li>(2) Information/investigation</li> <li>(3) Acquisition of rights in Japan</li> <li>(4) Acquisition of rights in foreign countries</li> <li>(5) Brand-related laws and regulations</li> </ol>	<ol style="list-style-type: none"> <li>1. Brand-specialized operations</li> </ol> <ol style="list-style-type: none"> <li>(1) Brand strategies</li> <li>(2) Risk management</li> <li>(3) Information/investigation</li> <li>(4) Acquisition of rights in Japan</li> <li>(5) Acquisition of rights in foreign countries</li> <li>(6) Contracts</li> <li>(7) Enforcement</li> <li>(8) Funding</li> <li>(9) Value estimation</li> </ol>

**Grade 2 (management operations)**

<b>Academic Subject</b>	<b>Practical examination</b>
1. Strategies	1. Strategies
2. Legal affairs	2. Legal affairs
3. Risk management	3. Risk management
4. Examination	4. Examination
5. Brand protection	5. Brand protection
6. Technology protection	6. Technology protection
7. Content protection	7. Content protection
8. Design protection	8. Design protection
9. Contracts	9. Contracts
10. Enforcement	10. Enforcement
11. Relevant laws and regulations	

**Grade 3 (management operations)**

<b>Academic Subject</b>	<b>Practical examination</b>
1. Brand protection	1. Brand protection
2. Technology protection	2. Technology protection
3. Content protection	3. Content protection
4. Design protection	4. Design protection
5. Contracts	5. Contracts
6. Enforcement	6. Enforcement
7. Relevant laws and regulations	

(7) Styles regarding IPMST

Grade	Category	Test style	No. of questions	Time period
Grade 1	Academic Subject	Written test (mark-sheet type – choose 1 from 4 options*)	45	100 min.
	Skill Test	Written test and oral examination	5	Approx. 30 min.
Grade 2	Academic Subject	Written test (answer sheet – choose 1 from 4 options*)	40	60 min.
	Skill Test	Written test (description style)	40	60 min.
Grade 3	Academic Subject	Written test (mark-sheet type – choose 1 from 3 options*)	30	45 min.
	Skill Test	Written test (descriptive style)	30	45 min.

\* Some questions are of the “choose 1 from 3 options” type.

\* For the scope and details of the examination contents for each grade, please refer to the IPMST website at:

[http://www.kentei-info-IP-edu.org/eXAm\\_kAmoku](http://www.kentei-info-IP-edu.org/eXAm_kAmoku)

## (8) Eligibility

The IPMST examination is conducted by the Ministry of Health, Labour and Welfare Ministry. Partly due to this fact, it targets people who are already engaged in the subject job categories and thus, in principle, requires that examinees have work experience related to intellectual property rights. Exceptionally, Grade 3 eligibility includes people who intend to gain employment in or change careers to the intellectual property field, thereby widening their opportunities.

Grade	Category	Selected operation	Eligibility
Grade 1	Academic Subject	Patent-specialized operations/ media content-specialized operations	Individuals with four or more years work experience in jobs related to intellectual property
			Successful examinees of Grade 2 (*1) with one or more years work experience in jobs related to intellectual property
			Successful Grade 3 (*1) examinees with two or more years work experience in jobs related to intellectual property
			Individuals who have taken 10 credits or more of <a href="#">検定職種（1級）に関する科目</a> at a university or graduate school as defined under the School Education Act and have one or more years work experience in jobs related to intellectual property
			Successful examinees of the Advanced Grade of <a href="#">ビジネス著作権検定</a> with one or more years work experience in jobs related to intellectual property
	Skill Test	Patent-specialized operations	Successful examinees of the Academic Subject of Grade 1 IPMST (patent-specialized operations) (*1)
			Grade 1 Certified Specialist of Intellectual Property Management (media content-specialized operations)
		Media content-specialized operations	Successful examinees of the Academic Subject of Grade 1 IPMST (media content-specialized operations) (*1)
		Grade 1 Certified Specialist of Intellectual Property Management (patent-specialized operations)	
Grade 2	Academic Subject/ Skill Test	Management operations	Individuals with four or more years work experience in jobs related to intellectual property
			Successful examinees of Grade 3 IPMST (*1)
			Individuals who have taken 10 credits or more of <a href="#">Subjects pertaining to tested job categories (Grade 1)</a> at universities or graduate schools as defined under the School Education Act
			Successful examinees of Advanced Grade of <a href="#">The Examination of Copyright Proficiency for Practical Business</a> (*2)

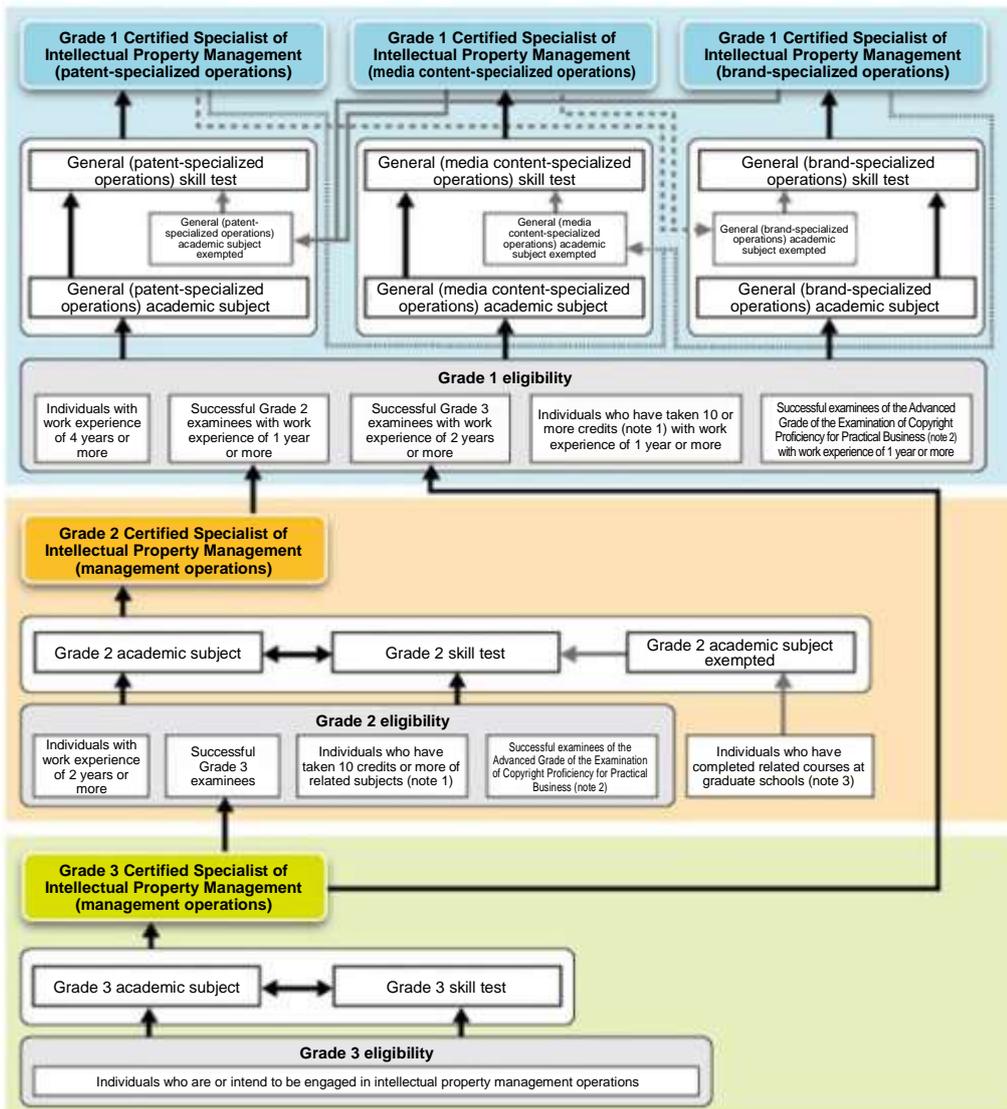
			<a href="#">Partially successful examinees</a> of Grade 2 IPMST (successful Academic Subject or Skill Test examinees) (*3)
Grade 3	Academic Subject/Skill Test	Management operations	Individuals engaged or intending to engage in jobs related to intellectual property
			<a href="#">Partially successful examinees</a> of Grade 3 IPMST (successful Academic Subject or Skill Test examinees) (*3)

\*1 The date of successful exam completion shall fall in the fiscal year of the current examination, the fiscal year one year preceding the current examination, or the fiscal year two years preceding the current examination.

\*2 The Examination of Copyright Proficiency for Practical Business refers to that conducted by Certify's Copyright Test Committee. The date of successful exam completion shall fall in the fiscal year of the current examination, the fiscal year one year preceding the current examination, or the fiscal year two years preceding the current examination.

\*3 Applicable examinees are eligible for the examination conducted two years (at the latest) after the fiscal year in which the date of the successfully completed Academic Subject or Skill Test, as applicable, falls.

## Test system and eligibility (Chart)



(8) Samples of examination questions

For reference, past examinations questions are shown below:

**Q22** (13th (conducted on November 11 (Sun.), 2012) Grade 1 (patent-specialized operations)  
Academic Subject)

Manager A and Staff Member B at Company X's Intellectual Property Department are talking about an agent regarding intellectual property matters. Compare conversations (a) through (d) and choose the most appropriate answer given by Staff Member B to Manager A.

**(a) A:** "Company Y is infringing on the patent rights of our company, so we sent a warning to them. Since Company Y has not responded, commence with a lawsuit."

**B:** "A patent-infringement lawsuit can be instituted solely by a patent attorney who is granted the supplementary note registration. I will promptly contact Patent Attorney C, who is our patent application agent."

**(b) A:** "Company Y contacted us to inform us that they would like to use our patent by paying a license fee and enter into a patent license agreement for that purpose. It asks the contact information for the person responsible for negotiation. The patent in question is not very important for our company, so I think there is no problem in entering into an agreement. Are there any staff members to whom I can assign this duty?"

**B:** "At present, the staff member responsible for contracts is handling too many cases and cannot accept a new one. I think it would be a good idea to request Patent Attorney C, who is our patent application agent, to act as our agent for executing the agreement."

**(c) A:** "It was found that articles infringing on our patent rights have been imported from China. Can we enforce an injunction on import at customs?"

**B:** "No staff members are familiar with this kind of procedure. I understand that only a lawyer can be involved as an agent in the procedure for filing a claim for an injunction on imports. I will promptly contact Corporate Lawyer D."

**(c) A:** "We are in trouble with Company Y regarding the copyright of our company's computer program. Negotiations cannot help, so I am considering filing the issue before an arbitration organization to settle it through an alternative dispute resolution procedure. Are there any staff members who are familiar with arbitration procedures?"

**B:** "I am afraid there are not. Only a lawyer can act as an agent to conduct procedures with an arbitration organization, so I think it is better to have Corporate Lawyer D act as our agent to proceed with the appropriate procedure."

**Answer: (b)**

**Q20** (13th (conducted on November 11 (Sun.), 2012) Grade 2 Skill Test)

Engineer A at Automobile Manufacturer X developed a new product, Bicycle A', with improvements made to its handles and tires.

Staff Member B at Manufacturer X's Intellectual Property Department was consulted by Engineer A regarding the filing of a patent application for Bicycle A'. Compare conversations (a) through (d) and choose the most appropriate statement made by Staff Member B. Indicate the corresponding symbol in the answer sheet.

(a) "The inventions of both the handle and the tire are both arts related to the same bicycle, so they can be included in one patent application and be described in separate claims."

(b) "The handle is unique in its design, so I recommend that you file a design registration application. On the other hand, the tire is unique with regard to the composition of its rubber part, so a patent application would be more appropriate."

(c) "Both the handle and the tire are novel and have never been described. Both items are distinctly different from competitors' products. Therefore, to reduce costs, rather than filing a patent application, it's better to seek protection under the Unfair Competition Prevention Act."

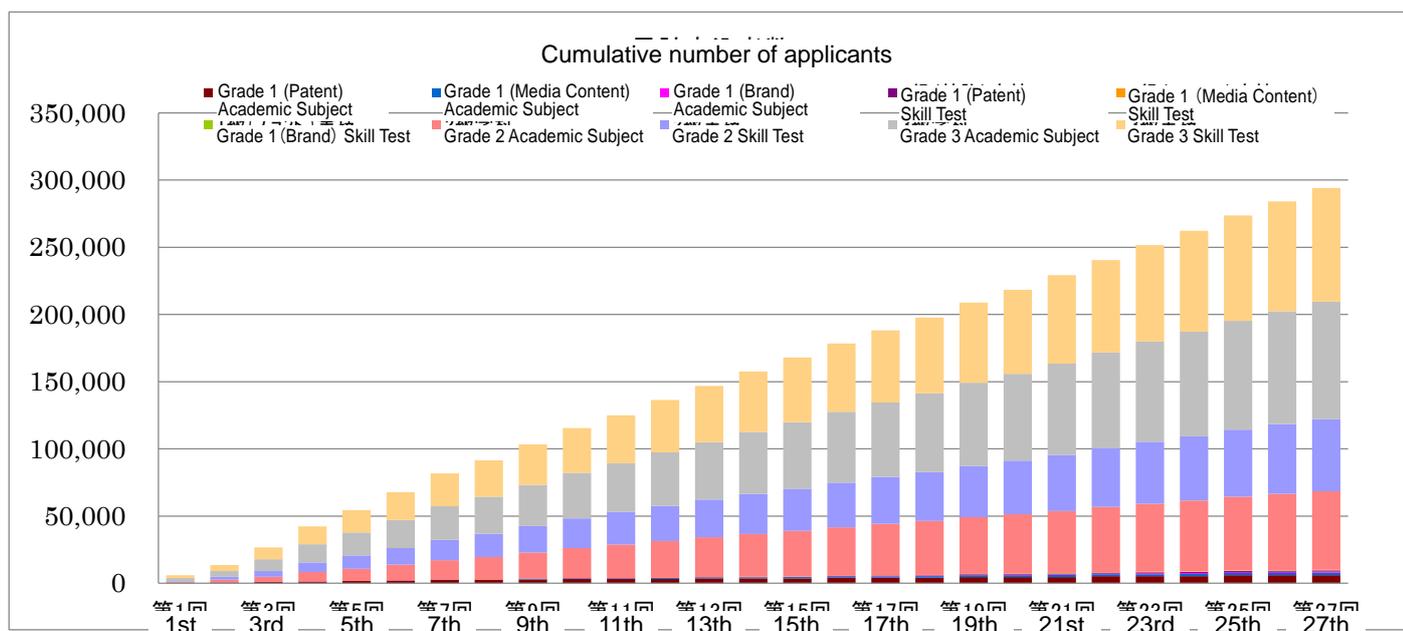
(d) "In the case of Bicycle A', it is more appropriate to obtain a utility model registration than a design registration because the rights duration for the former is longer than the latter. So, let us file a utility model registration application."

**Answer: (b)**

(9) Relevant data

The IPMST, which commenced in 2008, has attracted a cumulative total of 294,124 examinees, (approx. 300,000) from the 1st through the 27th IPMST in July 2017, of which 84,154 examinees were successful. Examinees come from wide-ranging industries and job categories, demonstrating that knowledge and skills regarding intellectual property are becoming accepted as fundamental skills.

(i) Number of examinees



\* Grade 1 (Content) Academic Subject began in the 7th IPMST and its Skill Test began in the 8th IPMST.

\* Grade 1 (Brand) Academic Subject began in the 17th IPMST and its Skill Test began in the 18th IPMST.

· Number of successful examinees (Number of Certified Specialists of Intellectual Property Management) from the 1st through the 27 IPMST

Grade	Number of persons
Grade 1 (patent-specialized operations)	1,701
Grade 1 (media content-specialized operations)	277
Grade 1 (brand-specialized operations)	181
Grade 2 (management operations)	29,634
Grade 3 (management operations)	52,361
Total	84,154

• 27th IPMST: composition by age group and sex (%)

Age group	Grade 1 (Patent)	Grade 1 (Media Content)	Grade 1 (Brand)	Grade 2	Grade 3
20 or less	-			1.8	13.1
21 - 25	-	1.6		9.8	20.7
26 - 30	-	5.2	11.8	15.9	14.7
31 - 35	-	12.4	17.6	15.8	13.3
36 - 40	-	10.4	11.8	13.9	11.0
41 - 45	-	22.8	23.5	13.6	9.9
46 - 50	-	17.6	8.8	12.0	7.5
51 - 55	-	14.5	20.6	8.8	5.5
56 - 60	-	11.4	5.9	5.7	2.9
61 - 65	-	3.1		1.8	0.9
66 or older	-	1.0		0.8	0.4
Average (years)	-	45.2	42.5	38.8	33.2
Male-female ratio	-	75.1%/24.9 %	76.5%/23. 5%	68.4%/31. 6%	66.2%/33. 8%

\* In the 26th IPMST, Grade 1 (Brand) Skill Test, Grade 1 (Patent) Academic Subject and Grade 1 (Media Content) Academic Subject and Skill Test were not conducted.

② Utilization by companies

• Top 50 companies based on the number of examinees (based on the questionnaires conducted on IPMST examinees from March 2015 through November 2016)

Hitachi Systems, Ltd.	Daiwa House Industry Co., Ltd.	FUJITSU Advanced Technologies Limited	Nippon Soda Co., Ltd.	Bridgestone Corporation
Mitsubishi Materials Corporation	East Japan Railway Company	Dai Nippon Printing Co., Ltd.	Canon Inc.	Nippon Telegraph And Telephone East Corporation
ROHM Co., Ltd.	Panasonic Corporation	Japan Patent Office	Kandenko Co., Ltd.	Ohmiya Paper Corporation
Mitsubishi Electric Engineering Company Limited	The Chugoku Electric Power Co., Inc.	KDDI Corporation	NTT Data Corporation	Aron Kasei Co., Ltd.
Shinko Technomist Co.	Mitsubishi Electric Corporation	DAIICHI SHOKAI Co., Ltd.	Murata Manufacturing Company, Ltd.	Sapporo Breweries Limited
Seiko Epson Corporation	The Senshu Ikeda Bank, Ltd.	Fuji Electric Co., Ltd.	Tokyo Customs	Tokyo Electric Power Company
Sharp Corporation	NTT DATA i CORPORATION	Sony Corporation	Glory Ltd.	Universal Can Corporation
Osaka University	NEC Corporation	Fukushima Industries Corp.	AX-ON Inc.	Ricoh Company Ltd.
Soken Chemical & Engineering CO., Ltd.	Sintokogio, Ltd.	National Institute of Advanced Industrial Science and Technology	TechnoPro, Inc.	NEC Solution Innovators, Ltd.
Fujitsu Limited	Hitachi, Ltd.	Mitsubishi Heavy Industries, Ltd.	Denso Corporation	Sekisui Chemical Co., Ltd.

③ Industries of the examinees (based on voluntary questionnaires conducted on IPMST examinees from March 2015 through November 2016)

Industry	Ratio	Industry	Ratio
Manufacturing	39.2%	Medical care and welfare	1.7%
Information and communications	13.8%	Electricity, gas, heat supply and water	1.7%
Services that are not categorized into any other industry	10.6%	Compound services	1.5%
Government services that are not categorized into any other industry	5.5%	Transport	1.1%
Wholesale and retail trades	4.4%	Real estate	0.7%
Education and learning support	4.1%	Agriculture, forestry, fisheries and mining	0.5%
Construction	3.6%	Dining & drinking and accommodations services	0.2%
Finance and insurance	3.3%	Others	8.2%

\* The information and communications industry includes communications, broadcasting, information services, Internet services and production of video, audio and text information.

\* The data above exclude examinees who are students or unemployed.

④ Job categories of the examinees (based on voluntary questionnaires conducted on IPMST examinees from March 2015 through November 2016)

Job category	Ratio	Job category	Ratio	Job category	Ratio
Corporate management and corporate planning	2.9%	Production and engineer	9.2%	Student	18.4%
Intellectual property and legal	18.0%	Business planning and producer	1.6%	Clerical	10.2%
Finance and accounting	1.6%	Sales and marketing	6.9%	Services	2.1%
General affairs and publicity	2.4%	Editing and production	1.2%	Others	9.0%
Human Resources and education	0.8%	Writer, designer and creator	1.2%	* The data exclude examinees who are unemployed.	
Research and development	13.8%	Teacher and lecturer	0.8%		

(v) Fifty major companies that are encouraging their employees to take IPMST (based on questionnaires conducted on IPMST examinees from March 2015 through November 2016)

LIXIL Corporation	Shinwa Agency Co., Ltd.	Aron Kasei Co., Ltd.	Universal Can Corporation	Ohmiya Paper Corporation
NTT Data Corporation	Shinko Technomist Co.	KAGOME Co., Ltd.	ROHM Co., Ltd.	Dai Nippon Printing Co., Ltd.
NTT DATA i CORPORATION	DAIICHI SHOKAI Co., Ltd.	Kewpie Corporation	Sakai Chemical Industry Co., Ltd.	Daiwa House Industry Co., Ltd.
Engineer Inc.	The Senshu Ikeda Bank, Ltd.	Sharp Corporation	Mitsubishi Materials Corporation	Tokyo Electric Power Company
Onda Mfg. Co., Ltd.	AX-ON Inc.	Stanley Electric Co., Ltd.	Mitsubishi Shindo Co., Ltd.	Nippon Telegraph And Telephone East Corporation
Tsumura & Co.	Hitachi Systems, Ltd.	Seiko Epson Corporation	Mitsubishi Electric Engineering Company Limited	Nippon Securities Technology Co., Ltd.
DOCOMO CS, Inc.	Hitachi Information & Telecommunication Engineering, Ltd.	Central Security Patrols Co., Ltd.	Mitsubishi Hitachi Tool Engineering, Ltd.	Fujitsu Limited
Fujikura Ltd.	Hitachi, Ltd.	Tempearl Industrial Co., Ltd	Shikoku Instrumentation Co., Ltd.	FUJITSU Advanced Technologies Limited
Bridgestone Corporation	KDDI Corporation	NICHIAS Corporation	Sinkokogio, Ltd.	Fuji Electric Co., Ltd.
Kandenko Co., Ltd.	Asahi Group Foods, Ltd.	MAXCOM, Inc.	Soken Chemical & Engineering CO., Ltd.	Fukushima Industries Corp.

(vi) Fifty major companies that use IPMST as a requirement for promotion and employee evaluation (based on questionnaires conducted on IPMST examinees from March 2015 through November 2016)

oneA Co., Ltd.	Shinwa Agency Co., Ltd.	NTN Corporation	ROHM Co., Ltd.	Ohmiya Paper Corporation
SKB Co., Ltd.	Shinko Technomist Co.	TOTO Ltd.	Kaga Electronics Co., Ltd.	Daito Trust Construction Co., Ltd.
USEN Corporation	The Saikyo Bank Ltd.	YKK Corporation	Takasago Thermal Engineering Co., Ltd.	Daiwa House Industry Co., Ltd.
Engineer Inc.	DAIICHI SHOKAI Co., Ltd.	KAGOME Co., Ltd.	Mitsubishi Materials Corporation	East Japan Railway Company
Computer Engineering & Consulting, Ltd.	The Senshu Ikeda Bank, Ltd.	Kewpie Corporation	Mitsubishi Heavy Industries, Ltd.	Nippon Soda Co., Ltd.
C-TECH Corporation	AX-ON Inc.	<i>Glory Ltd.</i>	Mitsubishi Electric Engineering Company Limited	NGK Spark Plug Co., Ltd.
Tomei Corporation	Hitachi Systems, Ltd.	Sato Restaurant Systems, Co., Ltd.	Kajima Corporation	NEC Corporation
Fujikura Ltd.	The Fukuho Bank Ltd.	Stanley Electric Co., Ltd.	Sumitomo Chemicals Seika Company Limited	FUJITSU Advanced Technologies Limited
Bridgestone Corporation	KDDI Corporation	Seiko Epson Corporation	SWCC Business Solutions Co., Ltd.	Fukushima Industries Corp.
Kandenko Co., Ltd.	NEC Solution Innovators, Ltd.	Panasonic System Networks Co., Ltd.	Sinkokogio, Ltd.	Howa Textile Industry Co., Ltd.

(vii) Utilization by students

· Ratios of successful examinees (based on voluntary questionnaires conducted on IPMST examinees from November 2014 through March 2015)

	Grade 2 Academic Subject	Grade 2 Skill Test	Grade 3 Academic Subject	Grade 3 Skill Test
Elementary, junior high and high school students	-	54%	36%	39%
Vocational school and specialized training college students	35%	22%	39%	31%
University and graduate school students	39%	51%	60%	61%
Company employees	38%	50%	66%	69%
Overall	39%	51%	64%	66%

(viii) Top 50 universities and schools based on the number of examinees (based on questionnaires conducted on IPMST examinees from March 2015 through November 2016)

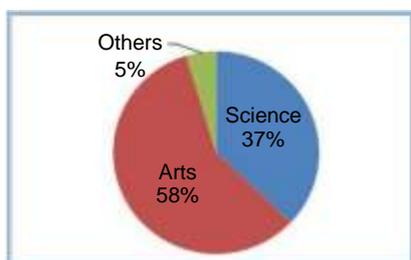
Toyo University	Kindai University	Tokyo University Of Agriculture	Nagoya Zokei University	Hokkaido University
Chiba Institute of Technology	Meiji University	Osaka High Technology College	Tokai University	SHOBI College of Music
Osaka Institute of Technology	Tokyo University of Science	Doshisha University	The University of Tokyo	Okayama University
Nihon University	Taisho University	Kurashiki University of Science and The Arts	Osaka University of Arts	Sophia University
Kyoto Prefectural High School of Technology	Keio University	SANNO Institute of Management	University of Tsukuba	Kyushu University
Kokugakuin University	Tokyo College of Medico-Pharmaco Technology	Tokoha University	Rikkyo University	Aoyama Gakuin University
Tokushima University	Tokyo University of Agriculture and Technology	Kitasato University	Hosei University	Kyoto University
Kokushikan University	Osaka University	Kansai University	Oita High School of Technology	Kyoto Sangyo University
WASEDA University	Ritsumeikan University	Kanazawa Institute of Technology	Shibaura Institute of Technology	National Institute of Technology, Ibaraki College
Chuo University	Shobi University	Osaka University of Economics	Senshu University	Kobe University

(ix) Faculties of examinees (universities and graduate schools) (based on questionnaires conducted on IPMST examinees from March 2015 through November 2016)

Faculty (science)	Ratio
Electricity	4.9%
Chemistry	6.1%
IT	5.7%
Mechanical engineering	5.1%
Physics	1.9%
Agriculture	2.0%
Biology	3.4%
Medicine, dentistry, pharmaceutical science	1.6%
Architecture	1.1%
Others of science	5.3%
Total for science	37.0%

Faculty (arts)	Ratio
Law	35.4%
Economics, business administration	8.7%
Literature	2.1%
Political science	0.7%
Education	0.3%
Arts	3.8%
Others in the arts	7.3%
Total for arts	58.2%

Faculty (others)	Ratio
General, multidisciplinary	0.8%
Others	3.9%
Total for others	4.7%



#### 4. Conclusion

I have explained the outline of the transition from the Examination of Proficiency in Intellectual Property (Proficiency Exam), which was created as a private sector examination, to Intellectual Property Management (IPMST), which was created by promoting the Proficiency Exam to a national examination.

Partly due to the fact that both the Proficiency Exam and the IPMST were ability test systems that were quite new to the world, they attracted considerable attention in various countries (including China, Korea, the United States, Germany and Taiwan), leading to many inquiries, visits and lecture invitations.

As stated in the beginning, when viewed from the standpoint of developing IP human resources, an ability test is likely to induce voluntary learning because it helps examinees to set goals and maintain motivation for learning. This in turn means that, from the standpoint of the National Government, an ability test can become an effective tool to raise public awareness and disseminate knowledge concerning intellectual property.

Furthermore, from the standpoint of developing human resources at companies, an ability test can be used as a type of objective skill measuring tool for evaluating PDCA activities as a part of human resource development efforts. In fact, an increasing number of companies are actually requiring the acquisition of IPMST qualifications as a precondition for being promoted to section chief. In addition, many companies recruit IP human resources by specifying IPMST qualifications as a requirement for employment in their recruitment advertisements.

2018 will see the 10th anniversary of the creation of the IPMST as a national examination. It is my wish that the IPMST will continue to contribute to the realization Japan's declaration as a Nation Built on Intellectual Property.

# Chapter 4

## < Except for the Testing System >

Mr. Chikashi TAMURA  
Patent Attorney  
SUGIMURA, TAMURA & PARTNERS.  
International Patent & Trade Mark Office

## Enhancing awareness of intellectual property (except for the testing system)

Main bodies providing activities to raise national awareness of the intellectual property system, other than the intellectual property testing system, include administrative organs such as the Japan Patent Office, which is responsible for the intellectual property right system, and organizations or institutions performing works relating to the intellectual property system such as the Japan Patent Attorneys Association and Japan Institute for Promoting Invention and Innovation. In recent years, some local governments including the Tokyo Metropolitan Intellectual Property Center, and Chambers of Commerce and Industry in local areas, as well as the Organization for Small & Medium Enterprises and Regional Innovation, Japan, have played leading roles in providing activities for enhancing awareness of intellectual property.

The main purposes of awareness activities are to deepen understanding of the intellectual property system and encourage its use. In order to utilize the intellectual property system, it is not sufficient to just study the system and its mechanism. Accordingly, awareness activities for cultivating creativity and granting incentives are also provided because a critical part of the intellectual property system is to enhance individuals' creativity ability, such as the creation of inventions themselves.

Awareness activities are provided for a wide variety of targets, from personnel who are involved in intellectual property on a daily basis such as company employees in charge of intellectual property or IP (intellectual property) specialists, managers of SMEs, research institutes including universities, as well as students and the general public. Various methods are used for awareness activities, with the content of explanations and instructions tailored to each target in various ways. The following sections describe the core projects for promoting the intellectual property system, which are conducted mainly by the Japan Patent Office (including National Center for Industrial Property Information and Training (INPIT)), Japan Patent Attorneys Association, and Japan Institute for Promoting Invention and Innovation.

### 1. Awareness activities by Japan Patent Office (including INPIT)

#### (1) Intellectual property system explanatory meeting

Administrative organs including the Japan Patent Office (JPO) frequently hold meetings nationwide to explain the system and widely inform the details of revisions whenever the system is revised, such as revisions to laws and changes of operating criteria.

Initially, the main awareness activities for the intellectual property system conducted by the JPO were meetings to explain system revisions to people involved in the system, such as private companies and patent attorneys. Later, the JPO started to hold meetings to explain legal revisions not only for specialists but also for beginners, to widely enhance people's awareness of the intellectual property system and to develop skilled specialists.

Meetings to explain the intellectual property system

Explanatory meetings for beginners			
Year	Contents of lectures	Number of meetings held	Participants
2015	<ul style="list-style-type: none"> <li>- Overview of the intellectual property system</li> <li>- What are patent, design, and trademark?</li> <li>- Utilization of information about industrial property rights</li> <li>- Utilization of industrial property rights and measures against infringement</li> <li>- Overview of various support measures</li> <li>- Introduction of support measures by local governments</li> </ul>	57	8,121
2016	<ul style="list-style-type: none"> <li>- What is intellectual property?</li> <li>- Overview of patent, utility model, design, and trademark systems</li> <li>- Unfair Competition Prevention Act</li> <li>- Support measures relating to intellectual property</li> <li>- Introduction of system and support measures by customs and intellectual property comprehensive support desks, etc.</li> </ul>	63	8,709

Explanatory meetings for specialists			
Year	Contents of lectures	Number of meetings held	Participants
2015	<ul style="list-style-type: none"> <li>- Examination criteria for patent, design, and trademark, and operation of examinations</li> <li>- Procedures for international applications (PCT, Madrid Protocol)</li> <li>- Overview of international patent classification, etc. (IPC, F-term)</li> <li>- Operation of the trial system</li> <li>- Various systems necessary to manage intellectual property in companies (trade secrets, etc.)</li> </ul>	62	13,500
2016	<ul style="list-style-type: none"> <li>- Examination criteria for patent, design, and trademark, and operation of examinations</li> <li>- Procedures for international applications (PCT, Madrid Protocol)</li> <li>- Overview of international patent classification, etc. (IPC, F-term)</li> <li>- Operation of the trial system</li> <li>- Unfair Competition Prevention Act and proper management of trade secrets</li> <li>- How to obtain a patent for business-related inventions</li> </ul>	62	12,155

Explanatory meetings for revision of laws			
Year	Contents of lectures	Number of meetings held	Participants
2015	<ul style="list-style-type: none"> <li>- Revision of employee's invention system</li> <li>- Revision of patent fees</li> <li>- Improvement of provisions for joining the Patent Law Treaty and Singapore Treaty on the Law of Trademarks</li> </ul>	26	6,481
2016	No lectures held	—	—

From JPO Annual Report

## (2) Traveling Patent Office

The Japan Patent Office has been holding a “traveling patent office” several times annually in local areas (except for the Kanto Region) since 2015. The main purpose is to improve convenience for system users including applicants in local areas and to enhance awareness of intellectual property among companies that are underutilizing it. In the Traveling Patent Office, “visiting interview examinations (traveling examinations)” are mainly provided by JPO examiners who visit local areas to carry out examinations. Various other events including seminars and symposiums on intellectual property and free consultation desks are also held according to the characteristics of each local area. The events are held intensively ranging from a few days to one week in collaboration with intellectual property sections such as the local economy and industry bureau, local SME support institutes, and INPIT.

The event was held in three places (Kinki Region, Okinawa Prefecture, and Chubu Region) in FY 2015, and four places (Chubu Region, Hiroshima Prefecture, Kinki Region and Kyushu Region) in FY 2016.

### Example of Traveling Patent Office

- Traveling JPO in Kansai (Place: Osaka Prefecture, etc. Period: July 2-10, 2015)
- Visiting examinations (technological fields of life science, electricity, housing environment, etc.)
  - Opinion exchange (Osaka Chamber of Commerce and Industry)
  - Traveling JPO symposium
    - “Measures for local SMEs utilizing intellectual property,” Commissioner of Japan Patent Office
    - “Lectures by global companies based in the Kansai Region,” Nitto Denko, Rohm
    - “Examination policies of the JPO,” Director of Patent Examination Department (Chemistry, Life Science, and Material Science)
  - Intellectual property financial symposium
    - “Meaning of intellectual property business valuation report,” etc.
  - System explanatory meetings and workshops
    - Intellectual property system explanatory meetings (for beginners: Osaka, Kyoto)
    - Lectures on using overseas intellectual property (trade secrets, IP strategic seminars), INPIT
    - Workshops for J-PlatPat beginners, INPIT
  - Establishment of consultation desks
    - Intellectual property comprehensive support desks
    - Individual consultation desk on application procedures, INPIT
    - Overseas IP development support desk / trade secret consultation desk, INPIT

From JPO Annual Report

### (3) Consultation project

As a part of intellectual property awareness activities, the explanatory meetings including seminars are an effective way of providing information because they can directly deliver information to the general public. However, the information provision is always one-way, making it difficult to know when and how the information is used. On the other hand, in the consultation project, a specialist can directly give advice for solving a specific case, benefiting a particular limited target unlike in the case of explanatory meetings. However, it is still an important approach for awareness activities because the person needing the consultation can gain a deeper understanding of the intellectual property system by solving the problem of an actual case.

Conventionally, consultations were mainly related to administrative procedures concerning obtaining rights, such as how to obtain a patent right. Thus, the JPO, Japan Patent Attorneys Association, and Japan Institute for Promoting Invention and Innovation set up consultation desks for particular matters.

In recent years, there have been various consultations such as those relating to intellectual property rights in general including copyright and unfair competition acts, and those relating to intellectual property strategy as private companies engage in new business and business overseas, in addition to patent rights, with matters becoming more complex. Therefore, various consultation desks have been established, as follows.

#### (a) Intellectual property comprehensive support desks

The “intellectual property comprehensive support desks” have been established since FY 2011 in every prefecture to provide one-stop assistance and give solutions for various matters concerning intellectual property. Specialists including patent attorneys and lawyers are regularly stationed to respond to specific matters. These desks have handled various matters concerning intellectual property as listed below.

There were 79,164 consultations in FY 2015, rising to 86,135 in FY 2016, and the number has been increasing year by year.

The main responsibility for the intellectual property comprehensive support desks was transferred from the JPO to INPIT in 2016 to start collaborating with the trade secret and intellectual property strategy consultation desks and overseas business intellectual property support desks that had been provided by INPIT.

#### Consultation cases at intellectual property comprehensive support desks

1. Support for intellectual property strategy
2. Support for procedures including patent applications (including electronic application support)
3. Support for investigation relating to prior art documents, etc.
4. Support for license agreements and technology transfers
5. Support for countermeasures against imitations and infringements
6. Support for overseas business development
7. Support for design and branding strategy
8. Support for the introduction of regulations on employees' inventions
9. Discovery of SMEs not utilizing intellectual property and support for developing awareness of intellectual property activities
10. Introduction of support institutes and various support measures relating to intellectual property

From JPO Annual Report

(b) Consultation relating to application procedures and industrial property rights

The consultations concerning obtaining rights which had been provided by the JPO are now provided by INPIT through “industrial property right consultation desks.” Consultations are available through dedicated desks at the JPO, via telephone and e-mail, etc. In FY 2015 there were 25,307 consultations, and 28,249 in FY 2016.

In addition, an industrial property consultation/support portal site has been set up on the Internet to provide basic information relating to industrial property rights and necessary information on the procedures from application and registration to trial, in FAQ format. Various application forms (form samples) and entry examples, etc. can be downloaded from the site, and there are also explanatory videos such as basic lectures on trademark applications on the site. The site attracted 321,769 hits in FY 2015 and 387,497 in FY 2016.

(c) Other consultation desks

In addition to the above, INPIT established the following consultation desks for respective subjects:

- Consultation on trade secrets and intellectual property strategy (450 consultations in 2016)
- Consultation on overseas business
- Consultation on intellectual property concerning agriculture, forestry, and fishery (Geographical Indication (GI) protection system, variety registration system)
- Consultation on patent information platform (J-PlatPat)
- Consultation on electronic applications (9,418 consultations in 2016)

(4) Support provided by specialists

When implementing various awareness activities, it is necessary to secure special human resources for supporting projects. For utilizing such human resources, there is a project for sending specialists to directly support SMEs and universities, etc. The following section explains the special human resources posted in the JPO and INPIT.

(a) Industrial property right specialists

Industrial property right specialists are comprehensive specialists in the JPO for assisting SMEs. They visit SMEs (262 companies in 2016), and hold seminars and workshops for SMEs, financial institutions, local governments, and support institutes (107 times in 2016). Highly experienced employees of the JPO are assigned as industrial property right specialists.

(b) Intellectual property strategic advisors

Working also as consultants on the trade secret and intellectual property strategy consultation desk, intellectual property strategic advisors visit SMEs, hold small seminars for several employees including corporate management, and give specific advice by inspecting the actual sites. (290 support visits in 2016)

Experienced personnel working for the intellectual property section in private companies are assigned as intellectual property strategic advisors.

(c) Overseas intellectual property producers

Staff who have experienced living abroad and who are working for the intellectual property section in private companies have been assigned as overseas intellectual property producers since 2011. These staff give advice to medium- and small-sized companies which are planning to expand abroad on various intellectual property risks by

type of business, help them obtain intellectual property rights in line with business development, and give advice on how to make profit from obtained rights (319 companies supported and 94 lectures given in 2016). Since FY 2016, they have also joined the “New Export Majors Consortium” conducted by the JETRO secretariat to collaborate with other member organizations.

(d) Intellectual property producers

Intellectual property producers are sent to public research institutes and universities which are conducting R&D projects supported by public funds, to help establish strategies for using the achievements and supporting intellectual property management from the viewpoint of intellectual property (39 projects in 2016). Staff with experience of handling intellectual property in private companies are assigned as intellectual property producers.

(e) Intellectual property advisors for academic-industrial collaboration

Intellectual property advisors for academic-industrial collaboration are sent to universities which are collaborating with industry with the aim of setting up businesses. It includes the project supporting type, which supports industrialization for small- and medium-sized universities, and the project design support type, which provides support for designing the project aiming to create business for universities that are promoting collaboration activities, including networking with plural universities (7 universities for the project supporting type and 4 universities for the project design support type in 2016).

(f) Project producers

Project producers are sent to help stimulate the creation of new projects in local areas. In particular, the producers formulate a project by discovering potential needs and seeds through building and utilizing local networks including financial institutions, and assist in laying the groundwork for projects, from matching needs and seeds, to fund raising and identification of distribution channels. The dispatch period is a maximum of 3 years. Project producers were sent to three organizations in 2016.

(5) Development of intellectual property specialists

Staff for intellectual property specialists are also nurtured because they are essential for the intellectual property system. Patent attorneys are especially important, so the JPO operates the qualification test, as a result of which over 11,000 patent attorneys are currently registered.

INPIT provides the following training for various types of intellectual property experts other than patent attorneys.

List of training for intellectual property experts in the private sector

Training name	Main targets	Outline of the training	No. of participants in FY 2016
Training for search experts (advanced level)	Personnel engaging in prior art investigation	Training for personnel having adequate knowledge of the Patent Act, to develop human resources who can contribute to proper operation of the application and request for examination by improving their ability to investigate prior art	108
Training for search experts (design)	Personnel engaging in prior design investigation	Training for personnel having adequate knowledge of the Design Act, to develop human resources who can properly comprehend the effective protection of product design through the design rights and scope of rights after licensing	18
Training for patent investigation practice	Intellectual property personnel in private companies	Training to develop human resources who can judge patentability based on the patent examination criteria necessary from patent pre-application and patent obtainment, to utilization of the right, and who can properly conduct effective patent investigations	19
Training on using intellectual property (utilization examination course)	Intellectual property personnel in SMEs and venture companies	Training to develop the ability to judge the usability of intellectual property in company management by introducing various successful and unsuccessful cases in obtaining and utilizing intellectual property rights for SMEs and venture companies and examining the cases with the participants	33
Training on using intellectual property (search course)	Intellectual property personnel in SMEs and venture companies and university researchers	Training to develop human resources who can properly conduct investigations for judging the necessity of patent application and request for examination and those for determining the theme and direction of research by using patent information	39
Training on intellectual property rights (Basic level)	Workers in research institutes including government-related institutes, etc.	Training for personnel having relatively little experience in intellectual property works to learn basic knowledge about the intellectual property necessary to perform the work	125

Training on intellectual property rights (Academia-industry-government collaboration)	Personnel in SMEs, venture companies, local governments, and government-related institutes, etc.	Training for personnel having an overview knowledge of the intellectual property right system to improve their knowledge and ability to perform the work	33
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From JPO Annual Report

In addition, INPIT provides legal training (Act on Special Provisions for Procedures related to Industrial Property Right, Article 37) to develop investigating personnel in registered investigation bodies contracted by the JPO for pre-search works in prior art document search (530 personnel in FY 2016).

(6) Human resource development for students

The following awareness projects are provided for students from high school to university, to cultivate creativity in manufacturing while enhancing their understanding of intellectual property.

(a) Project for developing creativity, practical skills, and ability to utilize intellectual property

The JPO and INPIT support measures to cultivate intellectual creativity at professional high schools (engineering, commerce, agriculture, fisheries) and technical colleges which are implementing such measures in actual practice including manufacturing and product development, etc. The project aims to cultivate students' creativity to design and propose new things and mechanisms, practical skills for materializing such designs and proposals within the rules of society, and ability to utilize the materialized ideas and devices in society, through processes for turning such ideas into intellectual property and preparing a sample application document. In FY 2016, 89 schools were designated for support.

(b) Patent Contest and Design Patent Contest

The Patent Contest and Design Patent Contest for selecting and awarding superior inventions and designs created by students are cosponsored by the Ministry of Education, Culture, Sports, Science, and Technology, JPO, Japan Patent Attorneys Association, and INPIT. Superior inventions and designs gain the opportunity to experience the process from applying to obtaining a right with support from the sponsors. In the Patent Contest in FY 2017, 29 of 525 entries were selected for the Award of Excellence (support for application). In the Design Patent Contest, 32 cases were selected for the Award of Excellence (support for application) out of 506 entries.

#### (7) Commendation system

Every year on Invention Day (to commemorate April 15, 1885, when “Patent Ordinance,” Japan’s original patent system, was published), the JPO commends contributors to the intellectual property right (IPR) system who have contributed to the development, awareness, and promotion of the IPR system. In addition, the Minister of Economy, Trade, and Industry Award and the JPO Commissioner Award are given to commend superior companies utilizing the IPR system and contributing to the smooth operation and development of the IPR system through effective utilization.

These commendation systems provide a great incentive for personnel involved in the IPR system and companies utilizing the system.

#### (8) Measures against counterfeits

In recent years, counterfeit goods and pirate labels have spread worldwide alongside globalization. The flood of counterfeit goods and pirate labels can cause serious damage, including health problems by counterfeit pharmaceuticals, safety problems in products, and a supply of funds for organized crime, in addition to the economic effects of lost potential sales in the market and degradation of brand images among consumers.

Thus, the Japanese government and the JPO are taking measures against counterfeits by collaborating with industry and other countries’ governments and supporting the development of human resources in regulatory agencies.

The flood of counterfeit goods and pirate labels is also a moral problem of those consumers who purchase such products. The JPO has therefore been conducting since 2003 a propaganda campaign called “Anti-counterfeit/pirate goods campaign,” to enhance consumers’ awareness of the protection of intellectual property. As part of the activities, genuine and counterfeit products are compared and displayed in exhibitions, and campaign videos are broadcasted on TV, etc. (<http://www.jpo.go.jp/mohouhin/29fy/campaign/>)

## 2. Awareness enhancement activities by Japan Patent Attorneys Association

The Japan Patent Attorneys Association is a nationwide organization of patent attorneys who are the main intellectual property specialists. Thus, enhancing awareness of the intellectual property system is an important project being conducted by the Japan Patent Attorneys Association to contribute to society.

As with the JPO, the targets for developing awareness are diverse, from elementary, junior-high, high schools, and universities, to SMEs and the general public. In particular, the activities focus on students and SMEs. Specifically, the Japan Patent Attorneys Association works with local governments and technical colleges to provide support in line with their respective needs. In the seminars for SMEs, contents based on real experiences of applicants and attorneys are introduced to provide a different approach to the projects of the JPO and INPIT.

### (1) Support for intellectual property education in elementary, junior-high, and high schools

As for intellectual property education in elementary, junior-high, and high schools, the government course guidelines established by the Ministry of Education, Culture, Sports, Science, and Technology mentions “understanding the significance of intellectual property” in the subjects of technical arts and home economics (technical field), music, and arts in junior-high schools, and the subjects of arts (music, art, craft, calligraphy), engineering, and commerce in high schools. However, the current school curriculum has little space for introducing an intellectual property curriculum. Thus, the Japan Patent Attorneys Association organizes visiting classes, whereby it sends a patent attorney to a school to give a lecture, and provides educational materials for an intellectual property curriculum that can be used by school teachers.

The visiting class has been conducted since 2002, and the Japan Patent Attorneys Association is actively promoting the project as a social contribution activity, because Intellectual Property Promotion Plan 2004 clearly states that “Education necessary to cultivate an intellectual property mindset, such as the creation of and respect for intellectual property, shall be promoted in every stage from the early stage of elementary school.”

The Japan Patent Attorneys Association has established the objectives of each stage as follows:

- Elementary school: Respect people’s creativity and understand that people are protected by various systems. Cultivate a basic understanding including an esthetic sense such as the wonder and joy of creating something.
- Junior-high school: Cultivate the understanding that intellectual property rights are indispensable for corporate economic activities, and learn about the types and mechanisms of the IPR system.
- High school: In technical and commercial high schools, cultivate a practical understanding of the patent and trademark registration systems which are useful in society. In general high school, cultivate a comprehensive understanding of the system.
- University: Cultivate a practical understanding, such as a basic interpretation of the rights and roles of intellectual property, which may be required in society.

The Japan Patent Attorneys Association has nine branch offices (Hokkaido, Tohoku, Hokuriku, Kanto, Tokai, Kinki, Chugoku, Shikoku, Kyushu). Of these, branch offices having many members (Kanto 7,523, Kinki 2,335, Tokai 799, as of the end of 2017) are taking the initiative in conducting the visiting classes. In other regions, the Intellectual Property Support Center established under the main body of the Japan Patent Attorneys Association conducts the class in cooperation with respective branch offices.

(a) Visiting classes

The types of visiting classes include: 1) a class using a scripted play, 2) a class using an electronic picture story, 3) a class for inventions and devices, and 4) a workshop class. These are conducted according to the needs of the school (annually for almost 100 schools).

1) Class using a scripted play: Attorneys act out a short play to show the social mechanism for protecting ideas. Students can join in.

2) Class using an electronic picture story: Educational materials using animations are used mainly in elementary and junior-high schools to explain intellectual property rights. The students can serve as voice actors in the class to stimulate their interest in intellectual property by enhancing the feeling of joining the class.

Class using a scripted play



(Provided by JPAA)

Example of electronic picture story



(Provided by JPAA)

3) Class for inventions and devices: This class does not teach how to make anything, but focuses on the fun experience of inventing something by proposing a problem and making a device, to learn that there is always another way, and that failure teaches success. The students can experience the difficulty of coming up with an idea and imagine the feeling if the idea is easily copied, and thus can understand the significance of intellectual property rights.

4) Workshop class: The class for actually examining product development (concept work, coming up with and summarizing ideas, naming, etc.). Prior art investigation for a new product idea can be experienced in the class, if necessary.

Invention and device class



(Provided by JPAA)

Workshop class



(Provided by JPAA)

(b) Preparation and provision of educational materials for the intellectual property curriculum

The Japan Patent Attorneys Association prepares and provides educational materials for intellectual property curricula, and mainly for the visiting classes conducted by patent attorneys. However, some materials are prepared that can easily be used by school teachers without a patent attorney present. They also prepare a brochure listing the available educational materials and distribute it to the board of education and principal's meeting, etc. (<http://www.jpaa.or.jp/activity/teaching/>)

IP educational materials available (as of January 2016)

Types	Number of contents
Class using electronic picture story (elementary school students or higher, animation characters)	10
Class using electronic picture story (junior-high school students or higher, drama/documentary type)	8
Class using electronic picture story (high school students or higher, drama type, scripted play)	12
Class for inventions and devices	4
Materials freely usable by teachers (episode collection relating to intellectual property)	5

A poster-size wall newspaper carrying articles relating to intellectual property, “Happyon News,” has been prepared and distributed since 2002. In total, almost 37,000 copies have been distributed to elementary schools (20,000), junior-high schools (10,000), high schools (5,200), and educational institutes (1,800) across the nation.

Brochure



(Provided by JPAA)

Happyon News



(Provided by JPAA)

(2) Support to technical colleges and universities

(a) Support projects for national technical colleges

The Japan Patent Attorneys Association concluded an agreement concerning cooperation for the improvement of intellectual property education and utilization of intellectual property with the National Institute of Technology in March 2013 to support the curricula in technical colleges systematically nationwide that had been separately provided before. In FY 2016, seminars were held in 21 colleges in total, and 51 colleges at their request. There are three levels of seminar: beginner, intermediate, and advanced. The beginner’s level is a patent entertainment seminar including a scripted play for beginners, the intermediate level is a seminar for training on the invention process (story), and the advanced level is a seminar explaining the concept of the scope of patent right and infringement using a scripted play.

(b) Support for universities

Lecturers are mainly sent to courses relating to intellectual property held in universities, etc. to assist them. To date, lecturers have been sent to Keio University, Chuo University, Tokyo University of Science, Waseda University, National Graduate Institute for Policy Studies, and Tokyo University of Agriculture and Technology. In FY 2016, lecturers were sent to the Faculty of Agriculture of Tokyo University of Agriculture and Technology, School of Engineering in Tohoku University, the life science university intellectual property management network (Sagami Women’s University, Otsuma Women’s University), and IP Strategy Course, Graduate School of Innovation Studies in Tokyo University of Science. In 2016, a team for discovering new universities, etc. for support was set up in the Intellectual Property Support Center to help the supported universities to improve.

(3) Local government support project

The Japan Patent Attorneys Association has concluded intellectual property support agreements with local governments for consultation projects and support for cultivating human resources and IP education to smoothly enhance awareness of intellectual property rights across the nation, as follows. The first agreement was concluded with Shimane Prefecture, Shimane University, and the National Institute of Technology, Matsue College in February 2001.

Intellectual property support agreements concluded with local governments

Local government	Date concluded	Expiration
Hokkaido	June 6, 2005	Expired on March 31, 2011
Aomori Pref.	April 16, 2009	
Akita Pref.	March 3, 2008	
Iwate Pref.	June 1, 2005	
Yamagata Pref.	October 23, 2006	Expired on March 31, 2012
Miyagi Pref.	June 26, 2006	
Fukushima Pref.	July 6, 2005	
Ishikawa Pref.	July 7, 2006	
Tochigi Pref.	June 27, 2005	Expired on March 31, 2012
Kawasaki City	March 26, 2007	
Yokohama City	October 29, 2009	
Nagano Pref.	November 21, 2007	
Fujinomiya City, Fujinomiya Chamber of Commerce and Industry	June 1, 2007	
Tottori Pref.	May 11, 2006	Expired on March 31, 2011
Shimane Prefecture, Shimane University, and National Institute of Technology, Matsue College	February 7, 2001	Expired on March 31, 2008
Tokushima Pref.	July 14, 2015	
Ehime Pref.	October 4, 2007	
Kochi Pref.	May 19, 2003	
Tosa City	January 16, 2012	
Fukuoka Pref.	May 19, 2006	
Kumamoto Pref.	July 4, 2011	
Oita Pref.	June 12, 2006	

#### (4) Support for SMEs

##### (a) Free patent consultations

Each branch of the Japan Patent Attorneys Association holds free patent consultation desks on a daily basis. At the desk, a patent attorney on duty is stationed to give advice on the application procedures for patent, utility model, design and trademark, investigation, judgment, appeal, and lawsuits, as well as the international system and general matters concerning intellectual property rights. Almost 3,000 consultations are made annually; for example, the Kanto Branch Office had 1,443 consultations (1,014 cases at desk, 429 cases by telephone) in FY 2016.

Almost 60% of consultations are about procedures for applications, etc.; others are mainly about general matters concerning intellectual property rights, judgment, and implementation.

##### (b) Seminars

Each branch of the Japan Patent Attorneys Association takes the initiative to conduct various seminars for SMEs and venture companies. The contents of the seminars are selected from basic matters regarding the IPR system to practical matters including actual cases in line with the needs and conditions in the local areas. In recent years, the seminars have explained the public subsidy system and grant system provided by national and local governments to financially support technological development and obtain rights. In FY 2016, 23 seminars were held in the Kanto Branch Office.

### 3. Awareness enhancement activities by the Japan Institute for Promoting Invention and Innovation

The Japan Institute for Promoting Invention and Innovation (JIPII) is a public corporation established in May 1904 as the Institute for Protecting Industrial Property Right. The organization aims to contribute to the advancement of science technology and the development of Japan's industrial economy by encouraging inventions, cultivating the next generation of human resources, and enhancing awareness of intellectual property rights. They conduct projects for encouraging inventions such as the imperial invention encouragement project, and national and regional invention commendations. They also conduct projects for developing young people's creativity such as the National Exhibition for Young Inventors, Children's Art for the Science of Tomorrow, and Young Inventor's Club.

#### (1) National invention commendation and regional invention commendation

The national invention commendation started in 1919 to contribute to the advancement of science technology and the development of industries. The Imperial Invention Award and the Prime Minister's Award are given to inventions having superior inventiveness in science technology and producing remarkable effects of practice.

The regional invention commendation was started in 1921 to commend engineers and researchers who created superior inventions, utility models, and designs in practice. In 2017, 1,282 inventors were commended throughout the nation.

## (2) National Exhibition for Young Inventors

The National Exhibition for Young Inventors is held to foster creative individuals by commending superior works of inventions and devices through experiencing the joy of creating something and the excitement of inventing and devising something. In 2017, 761 works were recommended by or submitted to each prefectural JIPII, and 155 works were awarded, including one Imperial Memorable Award.



75th (2017) National Exhibition for  
Young Inventors (2017)  
Imperial Memorable Award  
“Ganbare Nippon”  
Work by Yosuke Koishikawa

(Provided by JIPII)

## (3) Children’s Art for the Science of Tomorrow

This picture exhibition is held to enhance the spirit of scientific inquiry and imagination of the next generation of children by drawing a picture of future scientific dreams using their free imagination. In 2017, 9,460 works were submitted (7,601 from elementary and junior-high schools, 1,720 from kindergartens, and 139 from international schools), and 193 works were awarded.



39th Children’s Art for the Science of  
Tomorrow (2017)  
Minister of Education, Culture, Sports,  
Science, and Technology Award  
“DNA clay”  
Work by Yuuka Matsunaga

(Provided by JIPII)

#### (4) Young Inventor's Club

Young Inventor's Club is a project started in 1974 as a part of JIPII's 70th anniversary project. Currently, almost 9,000 children and 2,800 instructors are active in 214 clubs in all 47 prefectures of Japan. The foundation of the Club was inspired by Mr. Masaru Ibuka, the founder of Sony and former chairman of JIPII, who advocated "It is important to prepare an environment for young people who will lead the next generation to closely experience 'inventing something' and to develop human resources who engage in inventing things, for the purpose of achieving the continuous future development of Japan as a nation based on scientific innovation."

The Young Inventor's Club is an after-school activity which children join voluntarily; children wanting to make something or invent something can do activities for fun while actively learning and gaining inspiration.

The activities of the club are supported by mostly volunteer instructors. Engineers of local companies, school teachers, retired engineers, retired teachers, and student volunteers support the club as instructors.

The places for the activities differ by local areas, and are typically in schools, science museums, community centers, children's centers, and other public facilities. The materials used for the activities such as wood and electronic parts are provided by local companies, supporting the growth of such children with the whole local town.

Additional Materials

JPO Cooperation in Human Resource Development

Public Awareness Texts

Prepared by Trainees

# **LEARNING ABOUT INVENTIONS AND PATENTS**

**Do you have an awesome idea?**

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**Japanese High School Student 2016 Edition**

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Understanding IP is key in being innovative. Being innovative helps produce great ideas and inventions that in turn will help improve the nation’s economy and total well-being. Building a strong workforce can be achieved by increasing IP awareness. “Learning about Inventions and Patents” is a teaching material educating senior high school students on inventions and patents.

The first part of this book is designed to provide information using a question and answer format about **discovery and invention**. It is desired that the answers to the questions can help students to discover new things and be inspired to invent new products and processes and contribute to the growth and development of society.

The second part of this book is designed to provide information using a question and answer format about **patent**, how and why is patent important for an inventor to obtain a patent and how important is patenting an invention in the economic growth and development of society.

“[Learning about Inventions and Patents - Do you have an awesome idea? 2016 Edition](#)” improved on the previous work of the Batch 2015 Patent Team. The improved 2016 Edition is the collective output of the Batch 2016 Patent Team organized during the JPO/IPR Training Course for IP Trainers (June 15 – June 29, 2016) funded by the JPO, and in cooperation o with JIPII, APIC and HIDA. Below are the teams and members who worked on this book:

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 Ms. Bongkot Booppha (Thailand)  
 Mr. Nguyen Huu Xuyen (Vietnam)

# WHAT CAN BE LEARNED FROM THIS BOOK?

1. The student should be able to comprehend and explain the concept of discovery and invention and how these terms concepts relate to each other, the process of invention through stories about how globally known products came to be and some good examples of inventions.
2. The student should be able to understand what a patent is, how an inventor obtain a patent and why is patenting an invention important for the economic growth and development of society.
3. The student should be able to get insights and inspirations from real life stories about some modern inventors and their inventions.
4. The student should be able to appreciate how inventors and their inventions can create a better and sustainable world.

# WHAT IS DISCOVERY?

**DISCOVERY** is recognizing something that already exist for the first time, that nobody has found before.



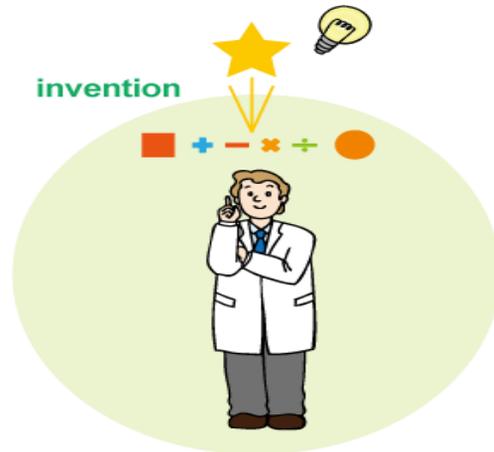
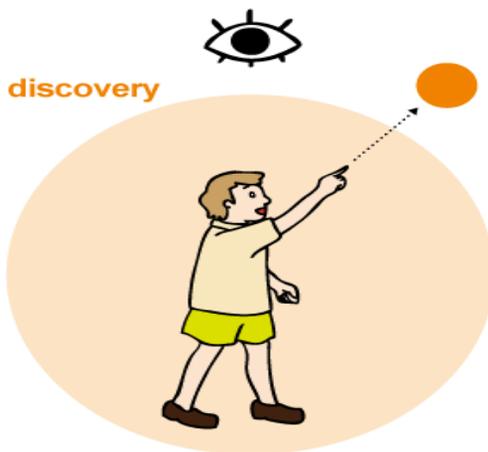
While sitting under an Apple Tree, an apple fell on the head of Isaac Newton and rolled down the hill. This made Isaac Newton think and analyze what happened which made him in the process to discover the Law of Gravity.

# WHAT IS AN INVENTION?



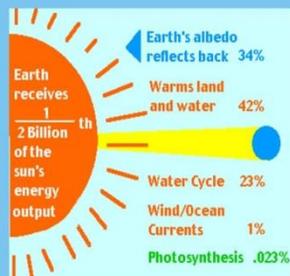
**INVENTION** is creating something (new product or process) totally new with one's ideas and development.

# HOW DO DISCOVERY & INVENTION RELATE TO EACH OTHER?



## Energy From the Sun

- The sun gives off huge amounts of electromagnetic radiation which can be used for energy.
- How does the sun produce energy?
  - In the central region by the fusion of hydrogen nuclei into helium nuclei.



# HOW DID "AJINOMOTO" COME TO BE?



Invented by Dr. Kikunae Ikeda from Tokyo Imperial University in 1908



He studied about a delicious (umai) flavor from kombu (a type of seaweed).

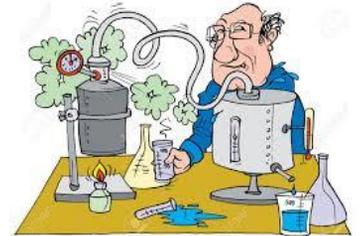


He discovered that the delicious (umai) flavor came from monosodium glutamate.

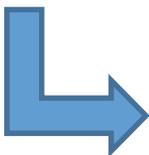


From the invention of Dr. Ikeda, Mr. Saburotsuke Suzuki commercialized the production of the monosodium glutamate and branded the product "Ajinomoto".

From his discovery, he invented a method of obtaining the crystalline monosodium glutamate (the purest form of the flavor).



Source: Google Images



Become popular as a seasoning in Japan and worldwide.

# HOW WAS VELCRO® INVENTED?



One day in 1941, Swiss Engineer **George de Maestral** took his dog for a walk in the Swiss Mountains. By the time they returned home, his clothes and his dog were covered with cocklebur seeds. Curious about what had made these seeds stick to fabric, George decided to examine them under a microscope. He found that the seeds had tiny hooks that had stuck to the loops of the fabric. George decided to use the same principle of tiny hooks and loops to develop a new and better fastener than the zippers available at that time.



After many experiments he developed two nylon tapes (one covered with tiny loops and the other with tiny hooks) which stuck together when pressed. The VELCRO® brand fastener was patented in 1951 and is now used in many products including shoes, jackets and bags.

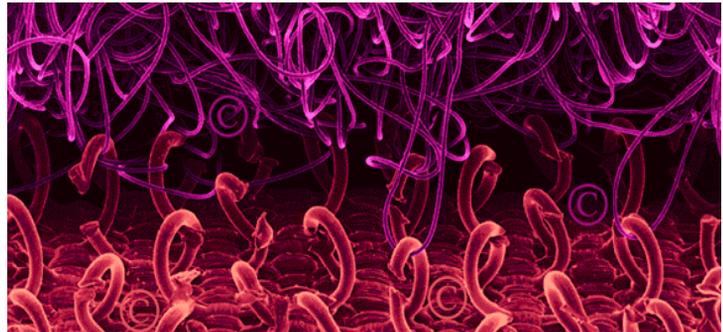
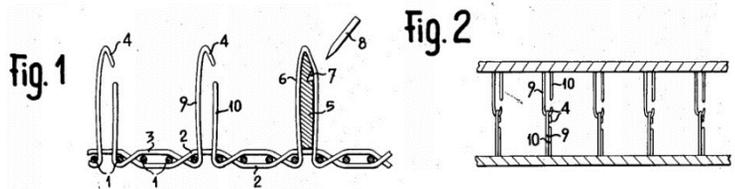
Sept. 13, 1955

G. DE MESTRAL

2,717,437

VELVET TYPE FABRIC AND METHOD OF PRODUCING SAME

Filed Oct. 15, 1952



Colorized scanning electron micrographic image of joined VELCRO®. © Dee Breger, Drexel University

# UNDERSTANDING DISCOVERY & INVENTION MADE SIMPLE

## DISCOVERY

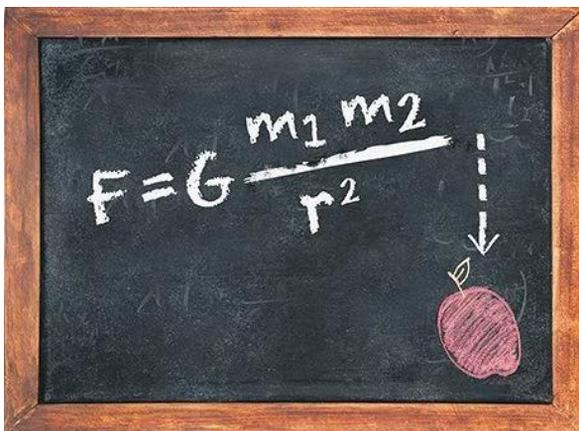
The story of Isaac Newton and the Law of Gravity was a **DISCOVERY**

Isaac Newton did not create a “new thing” but he was just the first one to know about an “existing thing” **DISCOVERY**

## INVENTION

The story of Sakichi Toyoda and the wooden handlooms was about **INVENTION**

Sakichi Toyoda created a “new thing” that was never before seen nor used. This is an **INVENTION**



Source: Google images

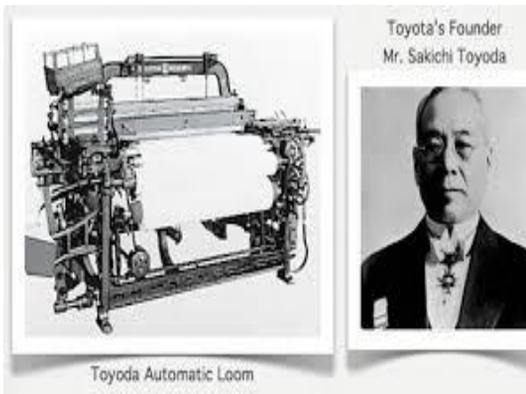
# SOME EXAMPLES OF INVENTIONS



Mr. Hideo Shima

The Bullet Train (Shinkansen) was invented in 1964 by Mr. Hideo Shima from Tokyo, Japan.

*Source: Google images*



invented



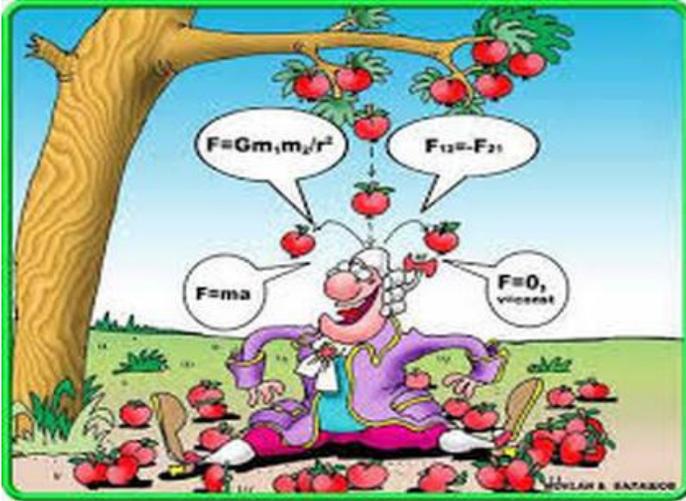
Toyota – World Famous Japanese Car

Mr. Sakichi Toyoda invented the Toyota Automatic Power Loom and is known to be the King of Japanese Inventors. Among the famous inventions he made is the Japanese Car

*Source: Google images*



## DISCOVERY



Isaac Newton discovered the Law of Gravity



From time to time, new varieties and species of animals and plants are discovered.



## INVENTIONS



Invent a new machine (electronic gadget/robot)



Invent a new medicine / chemical



*Source: Google images*

# PATENT : QUESTIONS AND ANSWERS?



**What if someone copied my invention?**

**What if someone stole my idea and made it his/her own?**

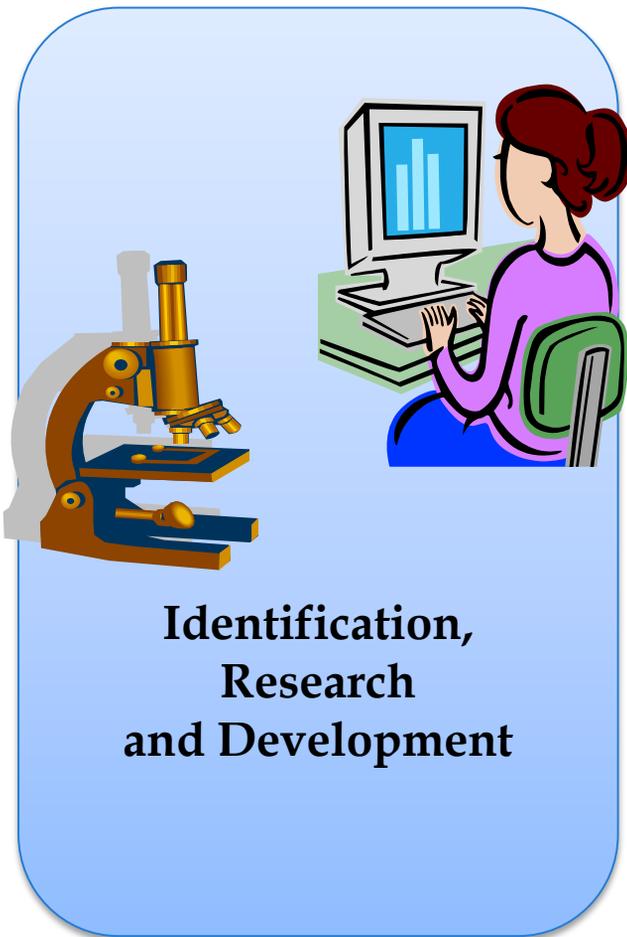
**What if I invented something awesome and they didn't recognized me for my effort?**

**What is someone sold my invention?**



# THERE IS AN ANSWER FOR THESE QUESTIONS

## PATENT!!

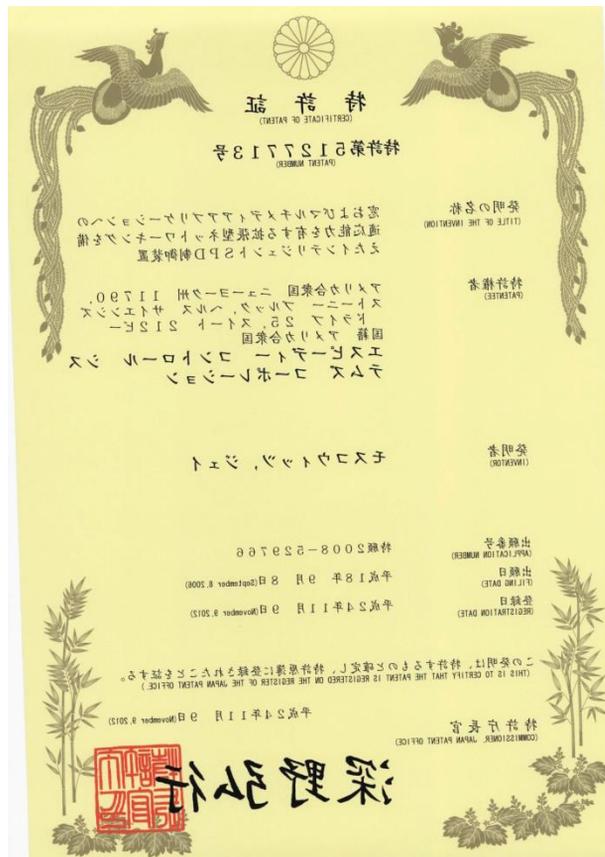


**Certificate of Patent**

*Source: Google images*

# WHAT IS A PATENT?

A patent is an **exclusive right** granted for an invention for a **certain period of time**, which is a **product or a process** that provides a **new technical solution** to a problem that **can be used in industry**.



Source: Google Images

# HOW DOES AN INVENTOR OBTAIN A PATENT?

Inventors shall file **a patent application** that contains the **detailed information** about the invention and its **drawing**, to the **Patent Office**.

- The invention must have an element of :
  - ✚ **Novelty**: must be *new*;
  - ✚ **Inventive step**: invention cannot be thought of a person with an average knowledge of the technical;
  - ✚ **Industrial applicable**: invention can be produced or used in industry.

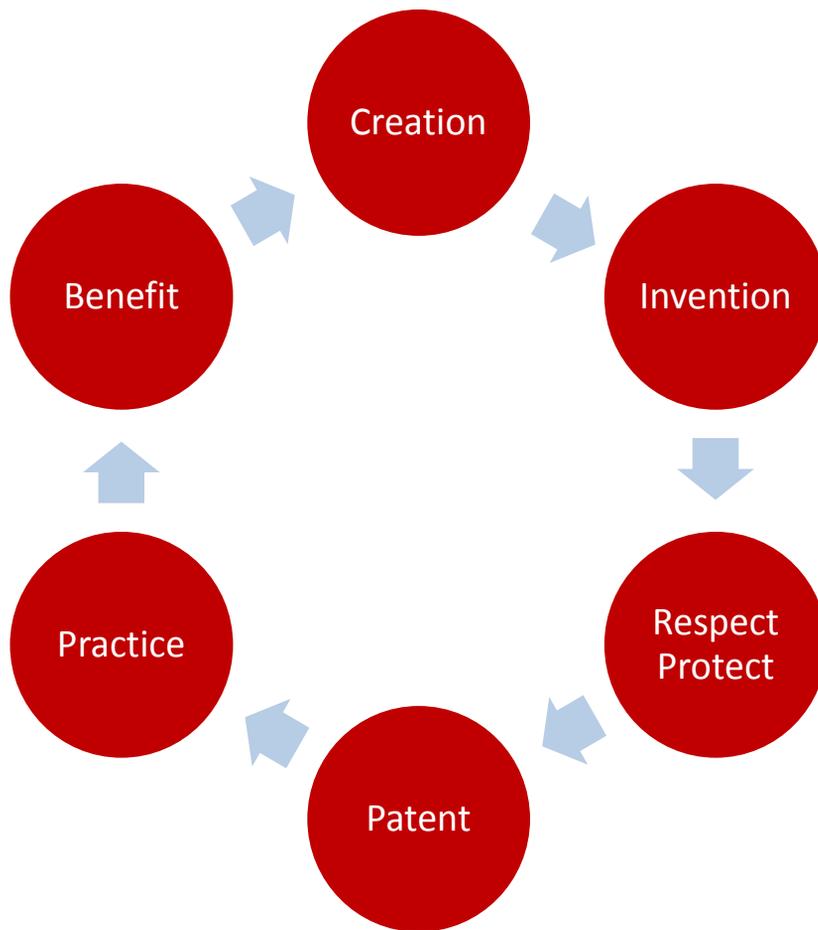


- Invention must have new characteristics, and should not be available to the public earlier.
- Must not be copied from anywhere, but it can be an improvement to the existing technology.

# WHY IS A PATENT IMPORTANT?

Patent is important as it is the result of an innovative mind!

It also provides rewards and protection for inventors and at the same time benefits the society.



# REAL LIFE STORY: THE KARAOKE MACHINE

“Japanese businessman **Daisuke Inoue** made money from playing drums in a backing band which let bar goers take the microphone and have a go at singing. One time when he couldn't make a gig he put the backing music on tape instead and later made 11 Karaoke (empty orchestra) machines which he leased out. He didn't patent his invention and barely made a yen.” – [bbc.co.uk](http://bbc.co.uk)



*Source: Google Images*

# **REAL LIFE STORY: THE MAN WITH THE MOST PATENTS**

**DR. NakaMats (Yoshiro Nakamatsu)** is a Japanese inventor (born June 26, 1928) who has become a minor celebrity for his inventions.

He holds the world record for number of inventions with over 4,000 patents and because of the strategy in patenting his inventions, he gained recognition and financial benefit out of the patents.

One of his famous invention is the "**PyonPyon**" jumping shoes with leaf springs on their soles

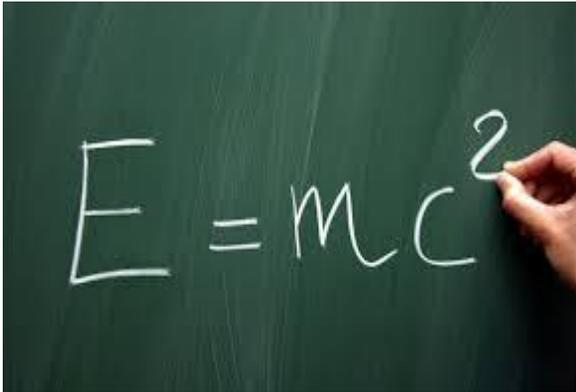


*Source: Google Images*

# EXERCISES

## TIME TO TEST YOUR UNDERSTANDING!

Please identify if the picture or description is an invention or discovery:



Theory of relativity



ASIMO



Nintendo Wii



Periodical Table

# EXERCISES

## SOME INVENTIONS FROM THOUSANDS OF YEARS AGO ARE STILL IN USE TODAY.

Do you know the origins of these ancient inventions?



Skis=Russia, Lighthouse=Egypt, Boomerang=Australia

# EXERCISES

## MATCH THE INVENTOR WITH THEIR PATENT/INVENTION

Jokichi Takamine

A



Yoshiro Nakamatsu

B



Ken Kutaragi

C



Momofuku Ando

D



Tanio Kobayashi

E



Tanio Kobayashi=E, Momofuku Ando=C, Ken Kutaragi=B  
Yoshiro Nakamatsu=A, Jokichi Takamine=D



## LET'S THINK ABOUT IT...

### Inventions improve our lives!

Inventions improve our lives in many ways. They make our tasks easier, entertain us, improve our knowledge of the world, and even save lives.

Make a list of inventions that make your life easier, better or simply more fun. Below are a few examples to get you started.

Inventions that make our lives easier: Cars,-----,-----

Inventions that entertain us: Televisions,-----,-----

Inventions that save lives: Fire extinguishers,-----

Source: Google Images



# REFERENCES...

- <http://bbc.co.uk>
- <http://99designs.com>
- [www.techdirt.com](http://www.techdirt.com)
- [www.wipo.int/portal/en/](http://www.wipo.int/portal/en/)
- [www.jpo.go.jp](http://www.jpo.go.jp)
- [www.upd.edu.ph](http://www.upd.edu.ph)
- Google images
- Cover page characters Yoshihiro  
Togashi, ©Yu Yu Hakusho.

# HOW CAN WE CREATE A BETTER WORLD?

**“LIVE POSITIVE**  
*Creativity*

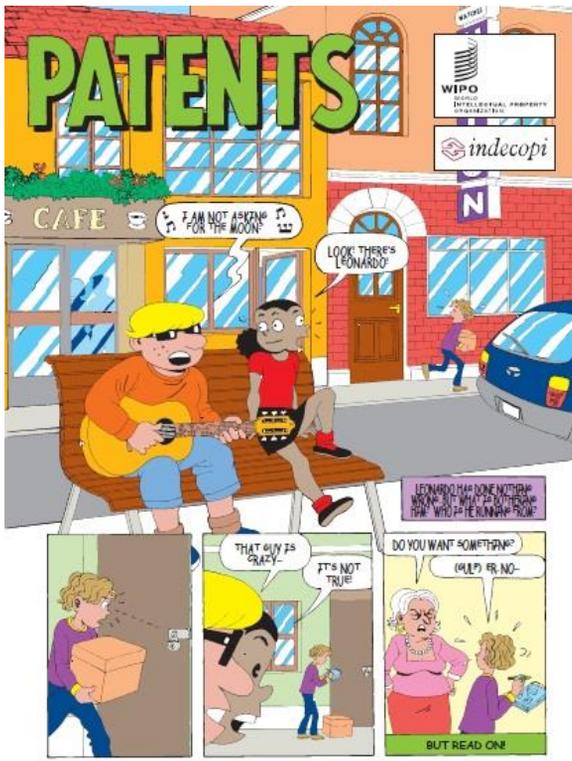
**DISCOVER YOUR VALUE**  
*Originality*

**ENVISION A DREAM”**  
*Vision*

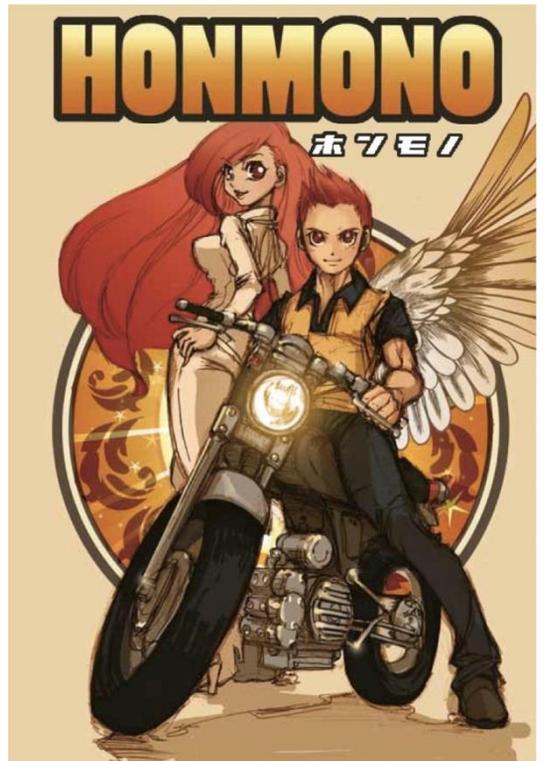
Dr. Takao Ogiya  
(Patent Attorney and Innovation Advocate)

# FURTHER READINGS

The following free booklets published by WIPO provide further information about patents and other forms of intellectual property. You can download them at [www.wipo.int/publications](http://www.wipo.int/publications). You can also request a paper copy by sending an e-mail to [publications.mail@wipo.int](mailto:publications.mail@wipo.int)



Pub. 485



Honmono Manga

# FINAL CREDITS

For assistance and more information on Inventions and Patents, you may contact these following offices;

- Japan Patent Office ([www.jpo.go.jp](http://www.jpo.go.jp))
- Japan Institute for Promoting Invention and Innovation ([www.jiii.or.jp](http://www.jiii.or.jp))
- Asia Pacific Industrial Property Center ([www.jiii.or.jp/apic/](http://www.jiii.or.jp/apic/))

**Happy Learning!!!**

## BATCH 2016 PATENT TEAM MEMBERS

**Front row: seated:**

**Mr. Edimilson Junqueria Braga (Brazil)**

**Standing: left to right:**

**Ms. Bongkot Booppha  
(Thailand)**

**Mr. Nguyen Huu Xuyen  
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**Mr. Isagani Geraldoy Tan Jr.  
(Philippines)**

**Mr. Budiman Nauli Dustira Sinaga  
(Indonesia)**

**Ms. Ny Sokunpidor  
(Cambodia)**



# LEARNING ABOUT UTILITY MODEL



*Disclaimer: For JPO/IPR Training Course for IP Trainer Purposes*

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# LEARNING OUTCOMES



# LEARNING OUTCOMES



- A) The student should understand the concept of Utility Model and its difference with Patent;
- B) The students should know how to protect Utility Model; and
- C) The students should know the importance of protecting Utility Model.



**PRE-TEST  
QUESTIONS**



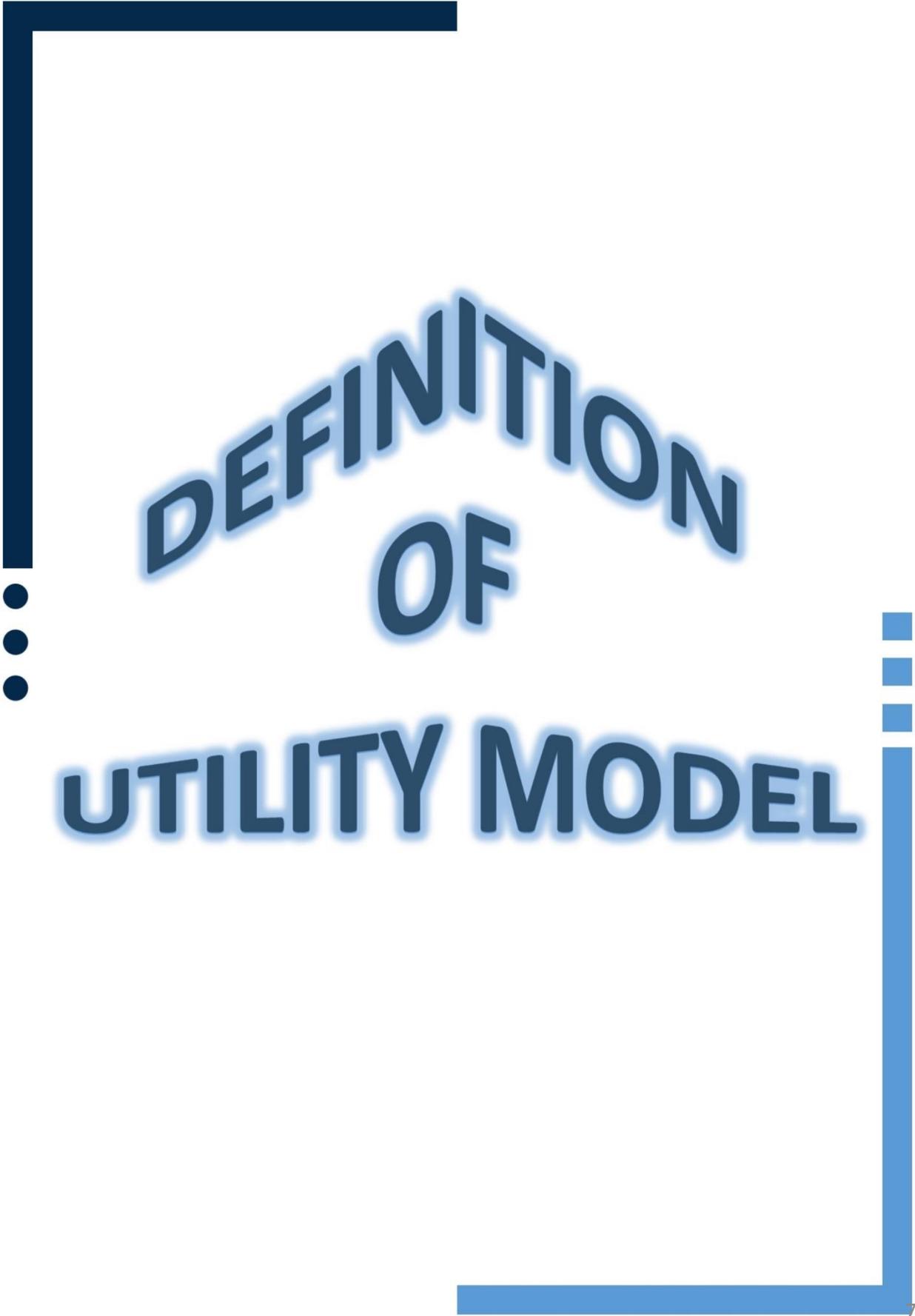
# PRE-TEST QUESTIONS

## INSTRUCTIONS

Please CIRCLE the questions below with either Yes or No within 1 minute.

Have you created any invention in your life before?	YES / NO
Have you ever heard of Utility Model?	YES / NO
Is Utility Model important for you?	YES / NO
Should you keep the invention secret prior to protection?	YES / NO
Is Utility Model similar to Patent?	YES / NO





**DEFINITION  
OF  
UTILITY MODEL**



# BRAINSTORMING

## Instructions to Students:

The teacher will begin the class by asking the students to brainstorm about the definition of Utility Model.

1. Divide the class into 4 small groups
2. Ask the students about their understanding about Utility Model (Keywords – Novel, Small, Creative, etc.)



# DEFINITION

We just begin this lesson comprehending the concept of utility model by understanding, at first, what is Industrial property. It is the set of rights on patents of invention, utility model, industrial design, the trademarks or trade, service marks, trade names, indications of source or appellations of origin, and the repression of unfair competition and false geographical indications.



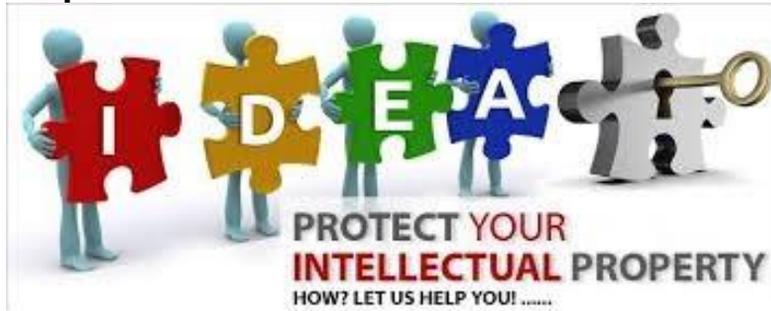
A patent is a temporary ownership title to an invention or **utility model**, granted by the State to inventors or authors or other individuals or legal persons holding rights over creation.



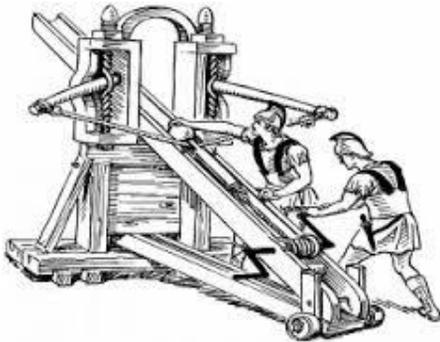
In contrast, the inventor is obligated to disclose in detail all the technical content of the matter protected by the patent.



Utility model – U.M. patent is a mode that is designed to protect innovations ...



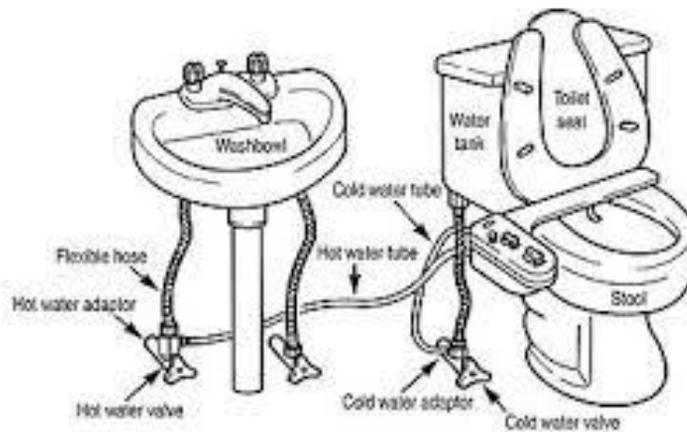
...with less inventive load, usually resulting from the worker or artisan activity.



Some countries grant U.M. such rights, such as Brazil, Japan and Germany. The TRIPS Agreement does not require the granting of such a mode, which allows it to be given protection for shorter periods.



Utility model is susceptible object of practical use of industrial application as a new format that results better conditions of use or manufacturing.



There is not exactly an invention, but an increase in the use of a tool, working tool or utensil, the share of aggregate partial novelty. It is also called the small invention.



# Creation

## DEFINITION

**Practical use object, or part thereof, capable of application industrial, presents a new shape or arrangement and involves an inventive act that results in functional improvement in its use or manufacture.**

This object must be three-dimensional (*as tools, utensils and tools*) and susceptible of industrial application.



You can also have creations of form or arrangement classified as Invention, if a new functional technical effect of the object.



**DEFINITION**

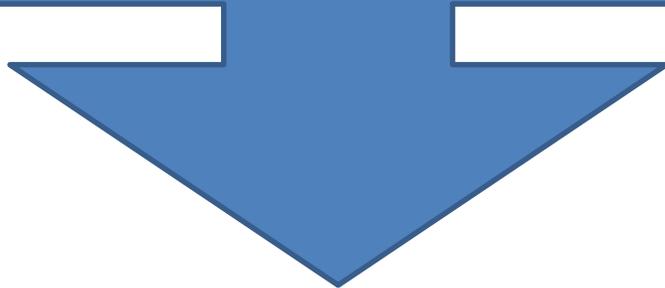
**Differentiating Patent Invention and Utility Model Patent is of paramount importance for those who want to protect their creation.**

# DEFINITION

**To determine the correct definition of the nature, it is necessary to assess whether there is an improvement or feature protective case as Utility Model Patent or a new technical and functional done Protective case as Patent.**



**The inventor can better identify the nature (Invention or Utility Model) of its creation from the prior knowledge of the prior art in order to properly apply for protection.**



**Presents a new shape or arrangement and involves an inventive act that results in functional improvement in its use or manufacture.**

**Registration rules of the utility models are governed by each country law.**

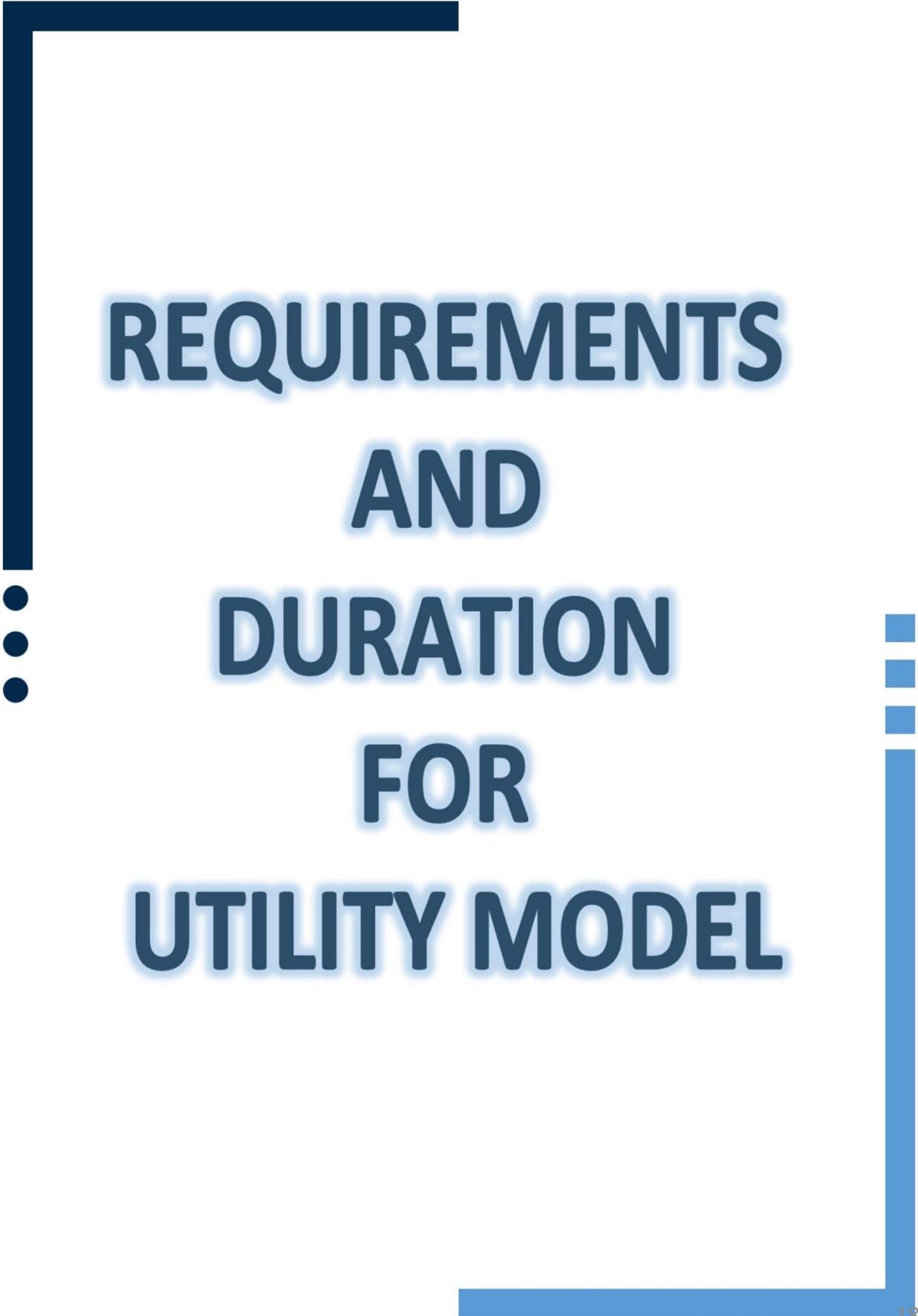


# DEFINITION

Also known as petty patent, is device that is related to the shape or structure of an article or combination of articles, industrially applicable and characterized by creativity technology concepts based on natural laws of nature



It is a “minor”, but important, improvement or adaptation of existing products. Like a patent, a utility model is an exclusive right granted for an invention regulated by a country law.



**REQUIREMENTS  
AND  
DURATION  
FOR  
UTILITY MODEL**

# REQUIREMENTS FOR UTILITY MODEL

Requirement  
for Innovation  
Patent

- Novelty
- Inventiveness
- Industrial application

Requirements  
for UM/Petty  
Patent

- LESS STRINGENT

# LESS STRINGENT REQUIREMENTS FOR UM REGISTRATION

## Novelty

- Before the date of filing, **NO IDENTICAL** invention or utility model has been publicly disclosed in publications or has been publicly used or made known to the public anywhere in the world

## Industrial Application

- **Mass manufacture or production** (products or repeated application of the process that is the subject matter of the invention)
- **Stable results**

## Inventiveness

- N/A
- Lower level of inventive steps/technical improvements

# WHICH COUNTRIES REQUIRES INVENTIVENESS REQUIREMENTS FOR UM?

Inventiveness

- China
- Thailand
- Chile

NO  
Inventiveness

- Vietnam
- Myanmar
- Philippines
- Malaysia

# REQUIREMENTS FOR UM REGISTRATION

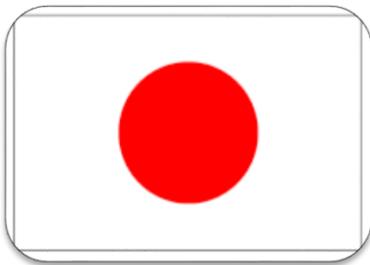
In many cases, protection may be obtained without the need for the examination of requirements

In countries that require examination, requirements for UM are LESS stringent than Innovation Patent requirements



# EXERCISE 1

Instruction : CIRCLE the countries that have examination for UM registration?



Japan



China



The US



Vietnam



European

# DURATION OF PROTECTION FOR UM

- Shorter than for patents
- Vary from country to country

- 7-10 years
- without the possibility of extension or renewal.

## Protection period of Utility Model

Number	Countries	Protection Duration
1	Japan	10
2	Indonesia	5
3	Philippines	7
4	Russia	8
5	Mexico	10
6	Thailand	10
7	Vietnam	10



## EXERCISE 2

**Instruction : Match the CORRECT answer. How long is the Protection duration of Utility Model in the following countries?**



7 years

8 years

5 years

10 years



# Homework



Students need to find information to make 2 pages of report to answer the question

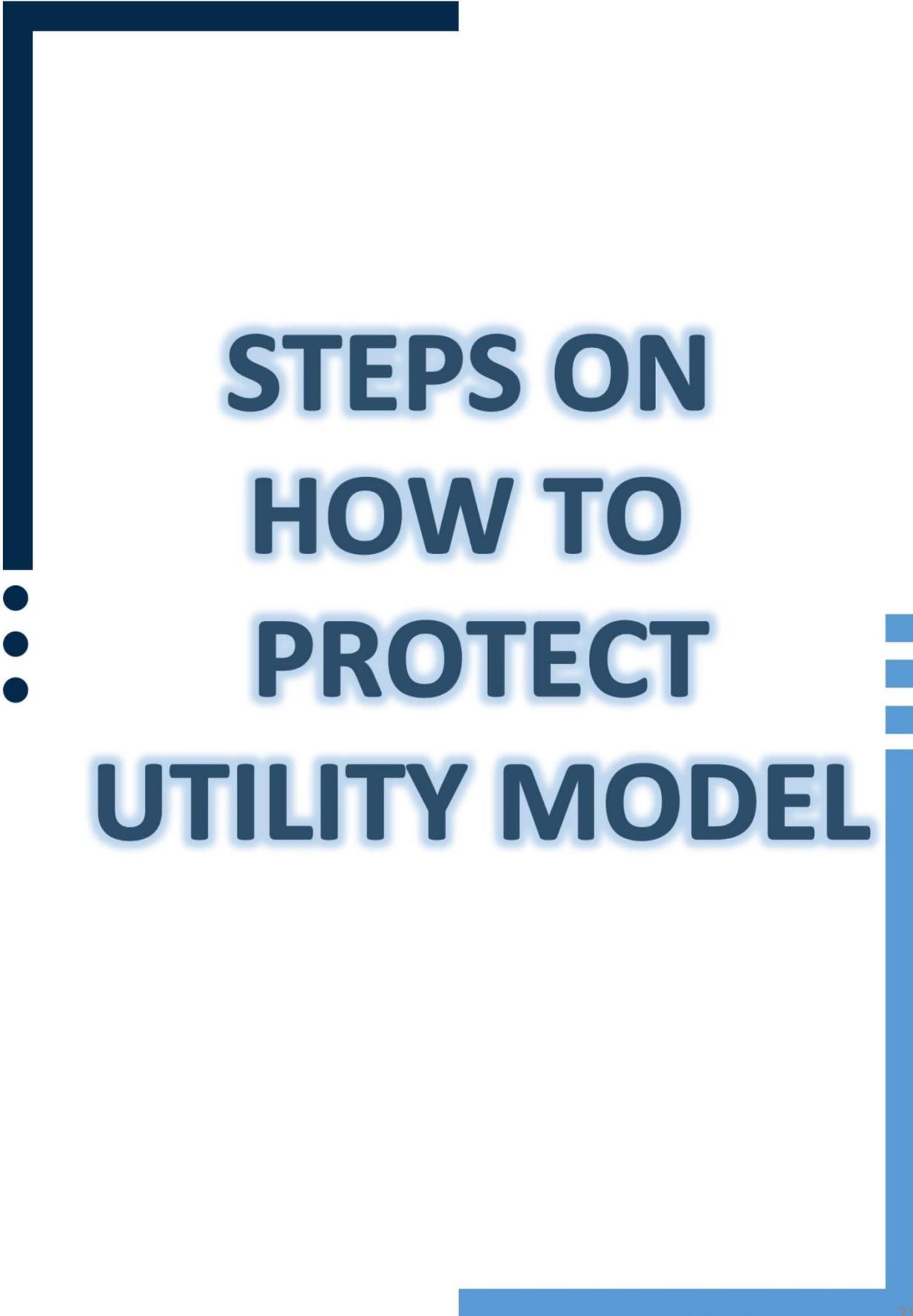


Some countries have Inventiveness requirement for UM registration, others do not have. So, why don't those countries have Inventiveness Requirement?



noip.gov.vn  
jpo.go.jp  
noip.gov.vn





**STEPS ON  
HOW TO  
PROTECT  
UTILITY MODEL**

# Steps on How to Protect Utility Model

## STEP 1 – Keep your Invention Secret!



Telling or sharing your invention to anyone before filing the application for protection would destroy the **NOVELTY** of your invention.

**REMEMBER:** **Novelty** (new) of your invention is one of the requirements to qualify for protection. The other requirement is that your invention should also be **useful or industrially applicable**. Meaning, it can be produced in any area or industry.

# Steps on How to Protect Utility Model

## STEP 2 – Conduct prior-art search

**Conduct world search about your utility model** using **patent databases** to know if there is no similar invention or technology existing before your invention.

This world search is called **“prior art”**.



As a beginner, you may start doing the **“prior art” search** by using Google patent search.

# Steps on How to Protect Utility Model

## STEP 3 – Use other free patent databases in conducting prior art search

Once you have familiarized yourself with conducting prior art search using google patents, explore on other search facilities of various Patent Office databases which you can find through online for **FREE** as shown below.

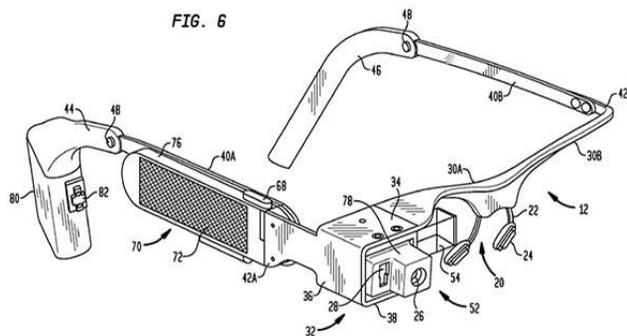


Exploring patent databases will broaden your knowledge on various interesting technologies.

# Steps on How to Protect Utility Model

## STEP 4 - Enjoy reading patent documents!

Don't be scared of reading the patent documents! It is written in a universal language so that any country can understand the description of the invention.



After reading few patent documents and get used to it, you will find it fun and enjoyable! Through reading patent documents, you will know whether your technology has no existing prior art.

# Steps on How to Protect Utility Model

## STEP 5 – File an Application for a Utility Model

Once you find out that your work has **no existing prior art**, you can **file a request for a “Utility Model” protection** in your home Patent Office.



The protection of the utility model is a temporary monopoly of right, which means that only you can use or allow others to use it within the prescribed period allowed by your country.

Also, the right to a utility model belongs to the **first person or applicant who filed the application.**

**Remember:** Utility model follows the **“first-to-file”** rule.

# Steps on How to Protect Utility Model

## STEP 6 – Start making business by using your utility model

You can start business at the moment you filed the application at the Patent Office while waiting for the release of your Certificate of Registration.



*Utility Model can  
make you rich!*

# Steps on How to Protect Utility Model

## STEP 7 – Get your Certificate of Registration for your Utility Model

A Certificate of Registration is issued by the Patent Office if the Utility Model is considered to be **novel** or **new** and **useful** or **industrially applicable**.

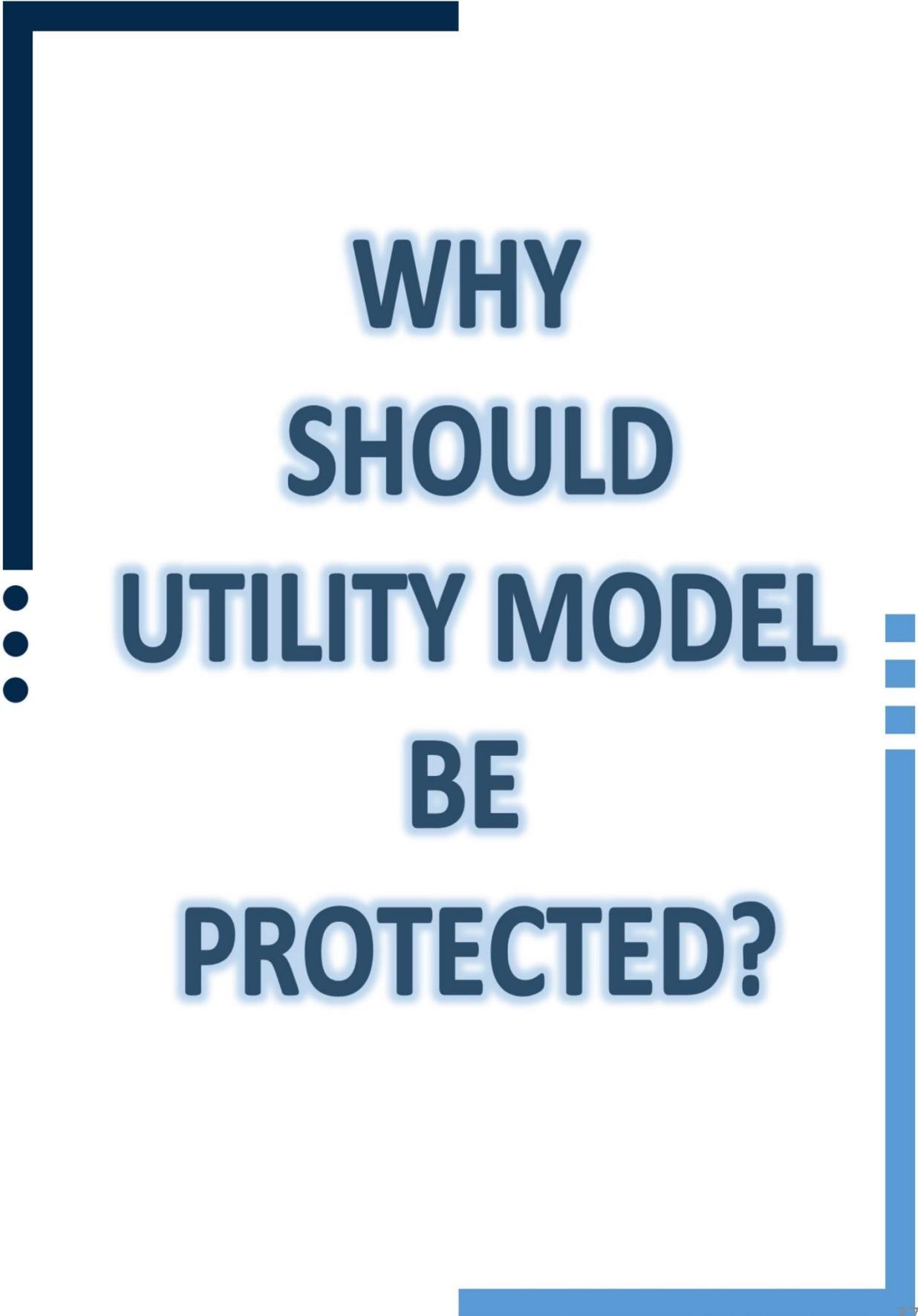




## EXERCISE 3

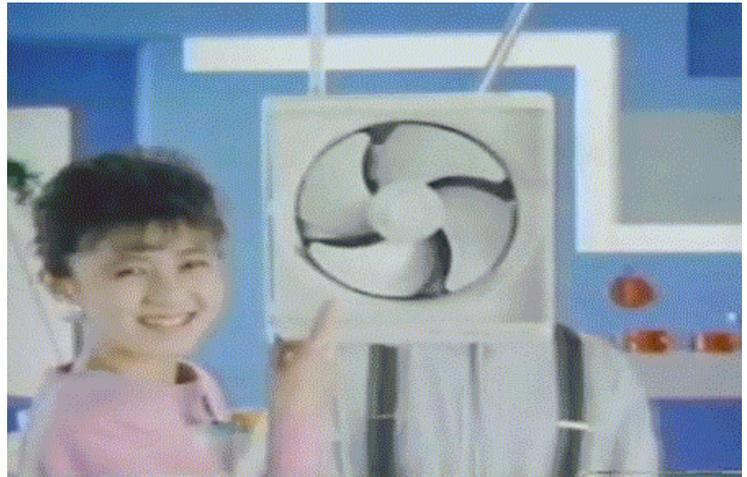
**Please answer the following questions with TRUE or FALSE:**

1. Utility Model, before protection, should be shared to everyone. \_\_\_\_\_
2. Prior-art search should be conducted to know if your utility model has no similar invention or technology existing. \_\_\_\_\_
3. There are no existing FREE patent databases available online that can be used for searching prior-art. \_\_\_\_\_
4. Filing an application for Utility Model follows the “first-to-invent” rule. \_\_\_\_\_
5. Certificate of Registration for Utility Model is issued by the Patent Office \_\_\_\_\_



**WHY  
SHOULD  
UTILITY MODEL  
BE  
PROTECTED?**

# WHY SHOULD U.S. INVENTIONS BE PROTECTED?



- Prevent competitors from copying or closely imitating products.
- Encourage inventors to develop new technology.
- Encourage entrepreneurial mindset among inventors.
- Have access to new markets.

# WHY SHOULD UM BE PROTECTED?

- Utility Model products do offer some benefits, especially when the products provide improvements that otherwise would not occur.
- In a world where intellectual property rights holders are sometimes reluctant to undertake innovation, Utility Model products may provide the much-needed work around to advance technological developments.
- Utility Model products, indeed, may provide an efficient means for Asian countries to catch up with their more developed trading partners.



# WHY SHOULD UM BE PROTECTED?

- Utility models are an important alternative in countries where they are available for the domestic market, and they may be a key catalyst to economic growth because they encourage less advanced but locally useful innovations.
- Utility models are normally meant to encourage innovation for residents of particular jurisdictions and may not need to have universal novelty.

ECONOMIC  
GROWTH 





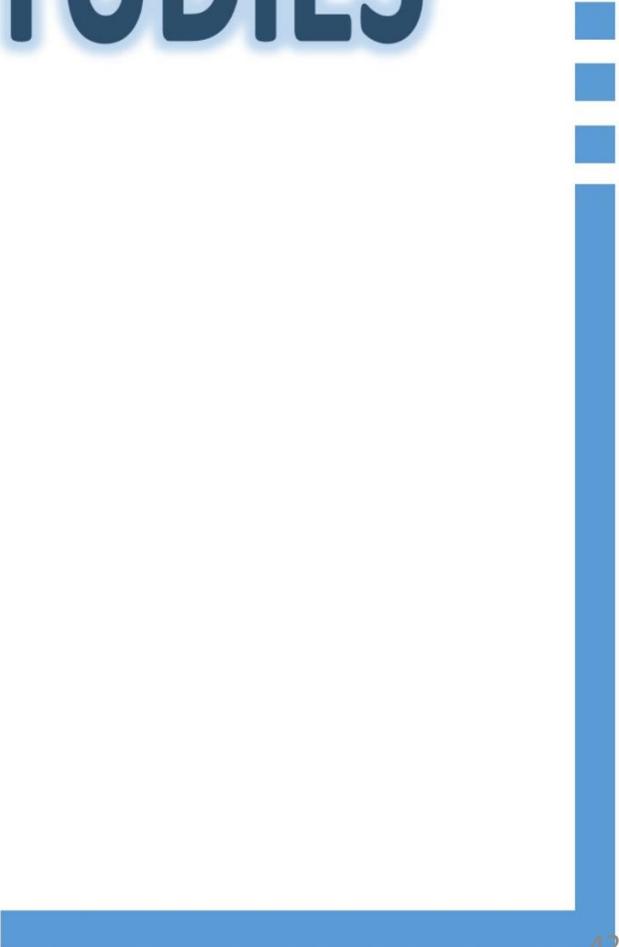
## EXERCISE 4

Why should we prevent competitors from copying our UM? (To mention your idea)

What is the benefit of protecting your UM? (To mention your idea)



# CASE STUDIES



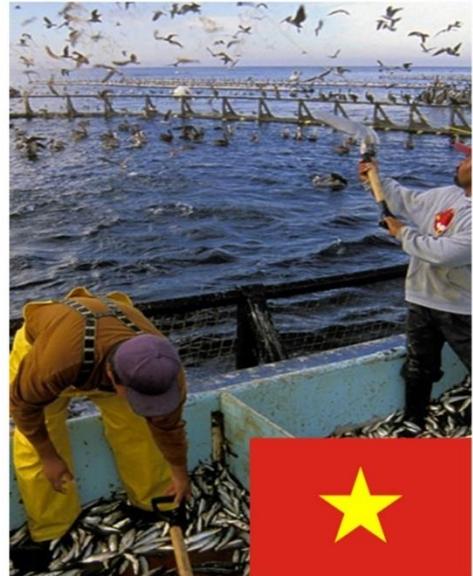


# CASE STUDIES



## MALAYSIA

Malaysia is well-known for its raw material especially rubber. One of the industry in latex product has produced new technology that is a nylon-fiber glass for latex industries. Since it is much need in Malaysia, the company decided to protect this invention under Utility Model. They fought in a case and won.



## VIETNAM

A team of researchers at Hanoi University of Technology (HUT), led by Dr. Hoang Trong Yem launched a research and development (R&D) program to domestically develop a zeolite material. Dr. Yem and his research team submitted patent applications to IP Office for their invented technologies and processes related to zeolite materials developed from domestically mined kaolin. This is for aquaculture in purifying water for seafood products such as shrimps.



## JAPAN

The first Utility Model registered is a Pottery Moulding Machine in July 7, 1905 by Mr Tsutajiro Hayashi.



# CASE STUDIES



## BRAZIL

Founded in 1999 by Fernando Kreutz, a medical doctor with a Ph.D. in biotechnology, FK Biotecnologia S.A. (FKB) has spearheaded the development of immunological tests in Brazil. KB has developed a new and experimental vaccine composed of cancer cells, which act as medical treatment as they are capable of stimulating the immunological system to fight cancer. FKB believes that patent application has played a crucial role in motivating investors, governmental entities and venture capitalists to invest in FKB, and the exclusive rights granted by patents has been the basis for more investment in the development of the new vaccine and other technologies.



## PHILIPPINE

In Philippines, after successfully scientifically identifying the medicinal properties of few plants, NIRPROMP developed a lagundi leaves-derived formula for a clinically proven cough and asthma medicine in tablet and syrup form. In order to protect the IP behind lagundi cough syrup formula and promote commercialization, in 1999 DOST therefore applied for a utility model with the Intellectual Property Office of the Philippines (IP Philippines) for an herbal pharmaceutical composition that is based on lagundi. The utility model was approved and issued in February 2001.



## EXERCISE 5

**Question :** Please match the correct COUNTRY.

1.Improving immune system for  
Cancer



2.Cultivating shrimp for human  
being.



3.Action taken against offender  
who tries to infringe the latex  
industry.



4.Herbal pharmaceutical for  
cough and asthma based on la-  
gundi leaves.



5.Pottery Moulding Machine.





# POST-TEST QUESTIONS



# POST-TEST QUESTIONS

## INSTRUCTIONS

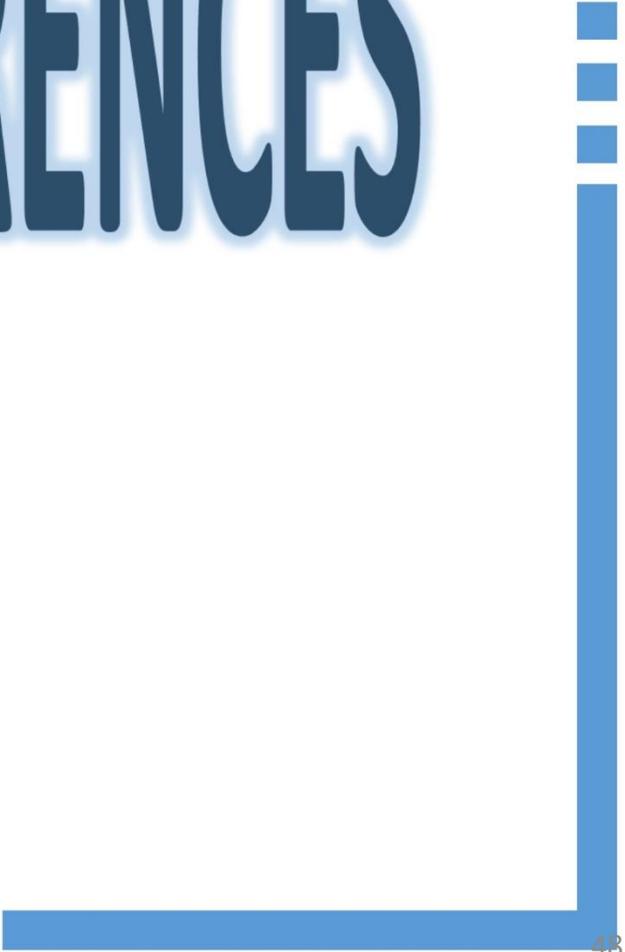
Please CIRCLE the questions below with either Yes or No within 1 minute.

Have you created any invention in your life before?	YES / NO
Have you ever heard of Utility Model?	YES / NO
Is Utility Model important for you?	YES / NO
Should you keep the invention secret prior to protection?	YES / NO
Is Utility Model similar to Patent?	YES / NO



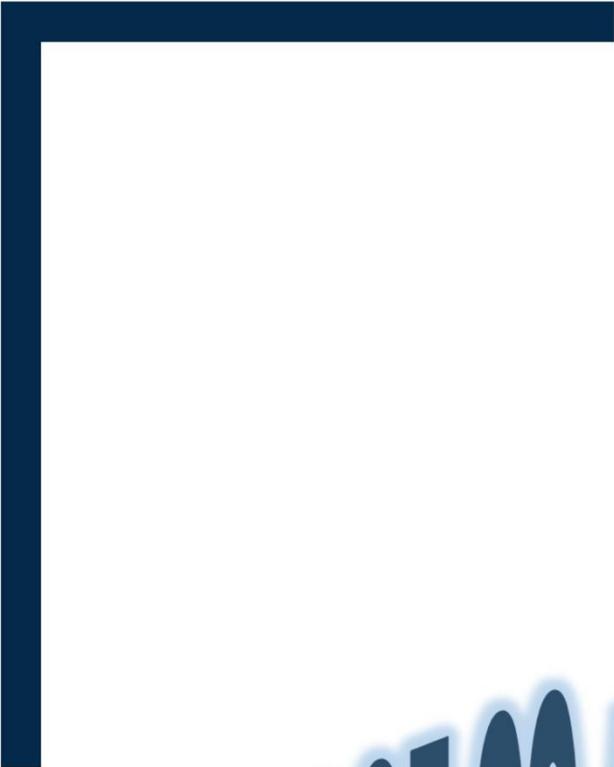


# REFERENCES



# REFERENCES

- WIPO: Utility Model Case Studies
- The WIPO Journal: ANALYSIS OF INTELLECTUAL PROPERTY ISSUES, 2012 VOLUME 3 ISSUE 2
- Google Image



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# INDUSTRIAL DESIGN



JPO/IPR Training Course for IP Trainers

2016

# What's Inside?

Course Objectives	3	
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What is Design?		5
What is Industrial Design?	6	
Requirements		7
Terms of Protection	8	
Why protect ?		8
Exercise	9	
Famous IDs		10

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Ms. Sida Youtrichanthachak (Laos)

Ms. Ma Winelma Meneses Garcia (Philippines)

Ms. Nitchaya Suebsook (Thailand)

# Course Objectives

Hi! My name is Kawai. Me and my friends, Kasumi and Hida, are going to learn together with you about Industrial Design. After finishing this textbook, we would be able to answer the questions like:

What is Industrial Design (ID)?



Kawai

What can be protected and cannot be protected as ID? How long does the Term of Protection for ID lasts in different countries?



Kasumi

And, What are the benefits of protecting Industrial Designs?



Hida

# Introduction

In Today's world, Industrial Designs play an important part in everyone's life.

All the choices you make from the pattern of clothes you choose to go out to the shape of mobile phone you use to talk to your friends, are somehow influenced by their shape, color, size and overall looks, which suits best to your personality and outlook.

Yes! I really like to choose clothes with specific style!



I was wondering to change the model of my cellphone because of the size.



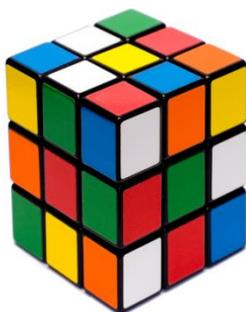


## First of all, What is Design?

The appearance of the whole or a part of a product resulting from the features of in particular, the ...



lines



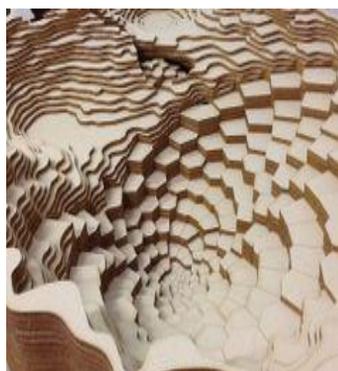
colours



shape



texture



contours



materials



ornamentation

## And what is Industrial Design?



- **Industrial Design** is a shape, configuration, ornamental design and colour of combination of thereof applied to any article whether in two or three dimensional by any industrial process or means, whether manual or mechanical or both.
- It covers wide variety of products such as textile, jewellery, automobile, electrical, electronics, medical, dental, toy, furniture, handicrafts & other luxury items.
- As industrial design has such an important role in our life, it is natural that the **CREATIVITY** of those who dedicated their time to develop unique & new designs needs to be protected to give them unique selling right as design right holder.
- Industrial Designs are considered important Industrial assets and their protection is granted by National Patent & Design Offices. After the grant of Design right, nobody can use it without your permission (Industrial Property – IP).
- Industrial design can be licensed or assigned to concerned companies/third parties to exploit markets and can be a very good source of income.

So, It should  
be  
something  
*New and  
Creative .*





Just like these?



Yes, but Industrial Designs does not include the functional aspect of the products or any mode or principle of construction



Functionality

Eye Catching Design

## And how long does the ID protection lasts?

Industrial Design protection term varies from country to country:

Brazil: 25 Years	Japan: 20 Years	India: 15 Years
Indonesia: 10 Years	Laos: 15 Years	Myanmar: 15 Years
Philippines: 15 Years	Thailand: 10 Years	Vietnam: 15 Years

## But, Why Protect?

- Industrial designs make a product **attractive** and **appealing**; hence, they add **commercial value** to a product and **increase its marketability**.
- When an industrial design is protected, this helps to ensure a fair return on investment.
- An effective system of protection also benefits **consumers and the public at large**, by promoting fair competition and honest trade practices.
- Protecting industrial designs helps **economic development**, by encouraging **creativity** in the industrial and manufacturing sectors and contributes to the expansion of commercial activities and the export of national products.





Let me check, so which among these are Industrial Designs?  
Can you help me?



a. Plant

b. US Capitol Building

c. Water Fountain

d. Fireworks

e. The Great Buddha of Kamakura

f. Mt. Fuji

# Famous IDs

## Thailand



Anon.Pairot.Design.Studio

## Laos



Laos Textile Co.

## Indonesia



Prof.Dr.Ing. BJ Habibie  
Air craft design N250,N2130, R80

## Phillipines



Kenneth Cobonpue

## Brazil



Havaianas™ sandals



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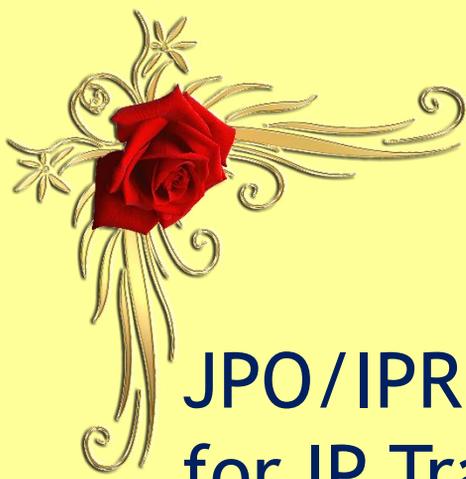
GROUP 2



2016 DESIGN  
TEAM

*“When companies are competing at equal price & functionality,  
**DESIGN** is the only differential that matters”*

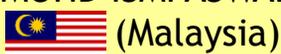
– Mark Dziersk, Renowned Industrial Designer quoted in TIME Magazine



# JPO/IPR Training Course for IP Trainers



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(Malaysia)

MARIA ELENA VILLAFUERTE TAMAYO



(Mexico)

PAOLA GUERRERO ANDREU



(Chile)

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PANRAVEE KABINLAPAT



(Thailand)



<b>1 Introduction</b>	<b>1 - 2</b>
<b>2 Trademark Definition</b>	<b>3 - 4</b>
<b>3 Nice Classification</b>	<b>5 - 8</b>
<b>4 Trademark Registration</b>	<b>9 - 11</b>
<b>5 Trademark Rights</b>	<b>12 - 14</b>
<b>6 Trademark Infringement</b>	<b>15 - 16</b>
<b>7 Let's Play!</b>	<b>17 - 19</b>

# Introduction

Can you imagine a product without any label ???



VS



A label provides many details to user :

- brand >>> trademark  
*a reputable brand should register for a protection from any infringement*
- manufacturer details  
*to know the origin of the product*
- ingredients / formulations / nutrition facts  
*health-related info for specific-ingredient concern consumer*
- date of expiry  
*ensure consumer for a fresh and safe product*
- use instruction  
*help consumer to handle product in correct and safe manner*

# What could trademarks do ???

- ▶ Origin - identify the source and those responsible for the products and services sold in the market.
- ▶ Choice - enables consumers to choose goods and services with ease while shopping.
- ▶ Quality - consumers choose a particular trademark for its known quality.



trademark  
protect  
a brand



Trademark:

# TM

Registered Trademark:



Some examples of a well-known registered trademark brand...



# Trademarks Definition

*“any sign, or any combination of signs, capable of distinguishing the goods or services of one undertaking from those of other undertaking, shall be capable of constituting a trademark”*

(Article 15(1) of agreement on trade-related aspects of intellectual property rights or TRIPS agreement)

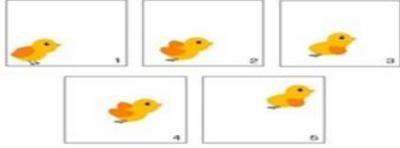
Per above definition, one indispensable character of trademark is “distinctiveness”, meaning the capacity to tell the differences between one good/service and another.

Although TRIPS agreement only refers trademark to any sign or combination of sign, many countries are now recognizing new types of marks such as: position mark, holographic mark, motion mark, sound mark among others, which are commonly named “non-traditional trademarks”.

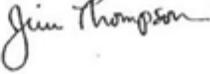
(1) WORDS 	(2) PERSONAL NAME 
(3) LETTER 	(4) NUMERAL 
(5) SYMBOL 	(6) 3D SHAPE 
(7) COLOR 	(8) COLLECTIVE 

*conventional types of mark*

# Trademarks Definition

<p>(1) POSITION MARK</p> 
<p>(2) MOTION MARK</p> 
<p>(3) HOLOGRAPHIC MARK</p> 
<p>(4) SOUND MARK</p> 

*new types of mark*

Non-Registrable	Registrable
Red Bull	
Gucci	
KFC CP M	
35 3 50	
	
IBM Co., Ltd.	
Jim Thompson	

# Nice Classification

## CLASS 1

**Chemicals** used in industry, science and photography, as well as in agriculture, horticulture and forestry; unprocessed artificial resins, unprocessed plastics; manures; fire extinguishing compositions; tempering and soldering preparations; chemical substances for preserving foodstuffs; tanning substances; adhesives used in industry

## CLASS 2

**Paints, varnishes, lacquers;** preservatives against rust and against deterioration of wood; colorants; mordants; raw natural resins; metals in foil and powder form for painters, decorators, printers and artists

## CLASS 3

**Bleaching preparations** and other substances for laundry use; cleaning, polishing, scouring and abrasive preparations; soaps; perfumery, essential oils, cosmetics, hair lotions; dentifrices

## CLASS 4

**Industrial oils and greases;** lubricants; dust absorbing, wetting and binding compositions; fuels (including motor spirit) and illuminants; candles and wicks for lighting

## CLASS 5

**Pharmaceutical and veterinary preparations;** sanitary preparations for medical purposes; dietetic food and substances adapted for medical or veterinary use, food for babies; dietary supplements for humans and animals; plasters, materials for dressings; material for stopping teeth, dental wax; disinfectants; preparations for destroying vermin; fungicides, herbicides

## CLASS 6

**Common metals and their alloys; metal building materials;** transportable buildings of metal; materials of metal for railway tracks; non-electric cables and wires of common metal; ironmongery, small items of metal hardware; pipes and tubes of metal; safes; goods of common metal not included in other classes; ores

## CLASS 7

**Machines and machine tools;** motors and engines (except for land vehicles); machine coupling and transmission components (except for land vehicles); agricultural implements other than hand-operated; incubators for eggs; automatic vending machines

## CLASS 8

**Hand tools and implements (hand-operated);** cutlery; side arms; razors

## CLASS 9

**Scientific, nautical, surveying, photographic, cinematographic, optical, weighing, measuring, signalling, checking (supervision), life-saving and teaching apparatus and instruments;** apparatus and instruments for conducting, switching, transforming, accumulating, regulating or controlling electricity; apparatus for recording, transmission or reproduction of sound or images; magnetic data carriers, recording discs; compact discs, DVDs and other digital recording media; mechanisms for coin-operated apparatus; cash registers, calculating machines, data processing equipment, computers; computer software; fire-extinguishing apparatus

## CLASS 10

**Surgical, medical, dental and veterinary apparatus and instruments, artificial limbs, eyes and teeth;** orthopaedic articles; suture materials

# Nice Classification

## CLASS 11

Apparatus for lighting, heating, steam generating, cooking, refrigerating, drying, ventilating, water supply and sanitary purposes

## CLASS 12

Vehicles; apparatus for locomotion by land, air or water

## CLASS 13

Firearms; ammunition and projectiles; explosives; fireworks

## CLASS 14

Precious metals and their alloys and goods in precious metals or coated therewith, not included in other classes; jewellery, precious stones; horological and chronometric instruments

## CLASS 15

Musical instruments

## CLASS 16

Paper, cardboard and goods made from these materials, not included in other classes; printed matter; bookbinding material; photographs; stationery; adhesives for stationery or household purposes; artists' materials; paint brushes; typewriters and office requisites (except furniture); instructional and teaching material (except apparatus); plastic materials for packaging (not included in other classes); printers' type; printing blocks

## CLASS 17

Rubber, gutta-percha, gum, asbestos, mica and goods made from these materials and not included in other classes; plastics in extruded form for use in manufacture; packing, stopping and insulating materials; flexible pipes, not of metal

## CLASS 18

Leather and imitations of leather, and goods made of these materials and not included in other classes; animal skins, hides; trunks and travelling bags; umbrellas and parasols; walking sticks; whips, harness and saddlery

## CLASS 19

Building materials (non-metallic); non-metallic rigid pipes for building; asphalt, pitch and bitumen; non-metallic transportable buildings; monuments, not of metal

## CLASS 20

Furniture, mirrors, picture frames; goods (not included in other classes) of wood, cork, reed, cane, wicker, horn, bone, ivory, whalebone, shell, amber, mother-of-pearl, meerschaum and substitutes for all these materials, or of plastics

## CLASS 21

Household or kitchen utensils and containers; combs and sponges; brushes (except paint brushes); brush-making materials; articles for cleaning purposes; steelwool; unworked or semi-worked glass (except glass used in building); glassware, porcelain and earthenware not included in other classes

## CLASS 22

Ropes, string, nets, tents, awnings, tarpaulins, sails, sacks and bags (not included in other classes); padding and stuffing materials (except of rubber or plastics); raw fibrous textile materials

# Nice Classification

**CLASS 23**  
Yarns and threads, for textile use

**CLASS 24**  
Textiles and textile goods, not included in other classes; bed and table covers

**CLASS 25**  
Clothing, footwear, headgear

**CLASS 26**  
Lace and embroidery, ribbons and braid; buttons, hooks and eyes, pins and needles; artificial flowers

**CLASS 27**  
Carpets, rugs, mats and matting, linoleum and other materials for covering existing floors; wall hangings (non-textile)

**CLASS 28**  
Games and playthings; gymnastic and sporting articles not included in other classes; decorations for Christmas trees

**CLASS 29**  
Meat, fish, poultry and game; meat extracts; preserved, frozen, dried and cooked fruits and vegetables; jellies, jams, compotes; eggs, milk and milk products; edible oils and fats

**CLASS 30**  
Coffee, tea, cocoa and artificial coffee; rice; tapioca and sago; flour and preparations made from cereals; bread, pastry and confectionery; ices; sugar, honey, treacle; yeast, baking-powder; salt; mustard; vinegar, sauces (condiments); spices; ice

**CLASS 31**  
Grains and agricultural, horticultural and forestry products not included in other classes; live animals; fresh fruits and vegetables; seeds; natural plants and flowers; foodstuffs for animals; malt

**CLASS 32**  
Beers; mineral and aerated waters and other non-alcoholic beverages; fruit beverages and fruit juices; syrups and other preparations for making beverages

**CLASS 33**  
Alcoholic beverages (except beers)

**CLASS 34**  
Tobacco; smokers' articles; matches

**CLASS 35**  
Advertising; business management; business administration; office functions

**CLASS 36**  
Insurance; financial affairs; monetary affairs; real estate affairs

**CLASS 37**  
Building construction; repair; installation services

**CLASS 38**  
Telecommunications

**CLASS 39**  
Transport; packaging and storage of goods; travel arrangement

**CLASS 40**  
Treatment of materials

**CLASS 41**  
Education; providing of training; entertainment; sporting and cultural activities

**CLASS 42**  
Scientific and technological services and research and design relating thereto; industrial analysis and research services; design and development of computer hardware and software

# Nice Classification

## CLASS 43

Services for providing food and drink; temporary accommodation

## CLASS 44

Medical services; veterinary services; hygienic and beauty care for human beings or animals; agriculture, horticulture and forestry services

## CLASS 45

Legal services; security services for the protection of property and individuals; personal and social services rendered by others to meet the needs of individuals

The Nice Classification (NCL), established by the Nice Agreement(1957), is an international classification of goods and services applied for the registration of trademarks. This classification contains 45 classes (1-34 for products; 35-45 for services). The 2016 version of the tenth edition of the NCL came into force on January 1, 2016.

# Trademark Registration

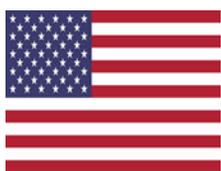
At the national/regional level, trademark protection can be obtained through registration, by filing an application for registration with the national/regional trademark office and paying the required fees.

It is important to highlight that not everything can be registered as trademark and the procedure of registration varies from one country to another and normally contains four steps: application and pay fee, examination, registration and publication.

A trademark that can be registered must meet the following requirements:

- a) Being visible or perceptible
- b) Being distinctive
- c) Not being identical with confusingly similar to protect trademarks (including well known or famous trademarks)
- d) Not being prohibit by law

Examples of commonly non-registrable trademarks...



national  
flags



state  
emblems



# Trademark Registration

## Procedure Flow Chart



# Explanation

A mark is registered in relation of goods or services and must to be distinctive from other similar ones.

Examples:

- Signs
- Words (including personal names)
- Phrases
- Logos
- Figurative elements
- Combination of colours

Any organization, individual, business entity or government can register a trademark.

There are some exceptions for trademark registration, TRIPS agreement establish that the countries can provide different exceptions. It is important to consider different rules for each country.

Initial registration or each renewal shall be no less than 7 years (TRIPS agreement).

It is recommended that before applying for the registration, search in trademark database is conducted in order to find out whether there are similar or identical marks for same products or services to avoid infringement.

Fill an application and pay the fees at intellectual property office for the registration.

Some organizations establish an opposition period before the registration is made.

# Trademarks Rights

A trademark registration confer an exclusive right to the use of the registered trademark. This implies that the trademark can be exclusively used by its owner, or licensed to another party for use in return for payment. Registration provides legal certainty and reinforces the position of the right holder.

(1) The right holder must at least be able to stop the use of similar signs on similar products in the market, which would lead to confusion among consumers as to whether those products originate from the right holder's undertaking.

## a. "exclusive right to prevent"

The owner of a registered trademark must have the exclusive right - i.e. he/she must be the only person authorized - to refuse or permit the use of his/her trademark or signs confusingly similar to it on similar or identical products.



b. "from using in the course of trade"

The registered trademark must be protected against confusing use in the course of trade. The trademark only has to be protected in commercial dealings rather than in a private context - used by affixing a mark to goods (or packages of goods or use by affixing a mark to articles to be used in the course of providing services).



*use in the advertisement*

c. "where such use would result in the likelihood of confusion"

Only the use of a sign similar or identical to that registered as a trademark, on products similar or identical to those in respect of which the trademark is registered, that is likely to confuse the relevant group of consumers, falls under the exclusive right of the trademark owner (for the more extensive protection of well-known mark)



*use in the internet*



## (2) Right to license

A trademark license is an agreement between a trademark owner (“licensor”) and another party (“licensee”) in which the licensor permits the licensee to use its trademark in commerce. Usually, a trademark license is expressed in a written contract specifying the scope of the license.



## (3) Right to assignment

A trademark assignment is a transfer of an owner’s rights, title and interest in a trademark or service mark. The transferring party (“assignor”) transfers to the receiving party (“assignee”) its property rights in the mark. An assignment differs from a license, which is a grant of permission to use a mark in some manner but does not transfer any property rights of ownership in the mark.



# Trademarks Infringement

The following actions are considered as trademark infringement:

- (1) using protected trademark of other persons without their permission
- (2) using a mark that is confusingly similar to other person's protected mark
- (3) using a well-known mark for any classes of products/services



\* If any of the above happens, trademark right holder can:

- (1) prohibit and ask to stop production and taking off these products from the market
- (2) seek injunction
- (3) claim damages
- (4) seek credibility restoration

However, it is important to note that law only grants trademark owner the right to use and exclude others from using the protected trademarks in the course of trade.

As a result, using other person's protected trademark not in the course of trade, like this textbook is doing, is not considered as trademark infringement.

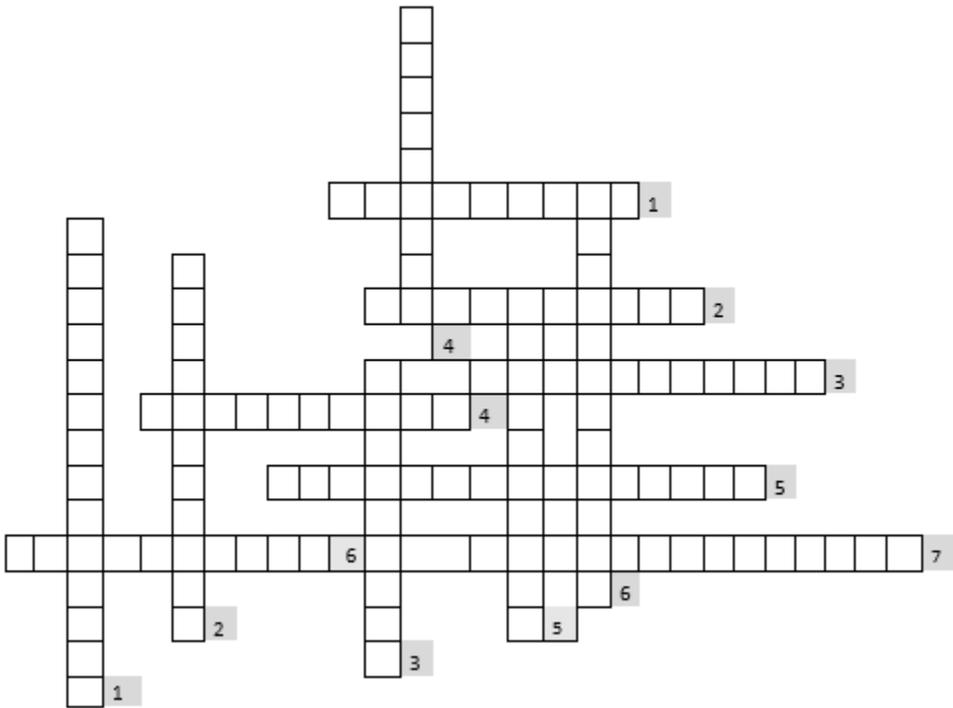
# Let's Play!

## Class Matching

Tick ✓ or ✗ for each of product/service based on class number.

Product/Service	Class Number		
<p>1. Sunglasses</p> 	Class 9 <input type="checkbox"/>	Class 25 <input type="checkbox"/>	Class 11 <input type="checkbox"/>
<p>2. Service of restaurants</p> 	Class 35 <input type="checkbox"/>	Class 45 <input type="checkbox"/>	Class 43 <input type="checkbox"/>
<p>3. Beer</p> 	Class 33 <input type="checkbox"/>	Class 11 <input type="checkbox"/>	Class 32 <input type="checkbox"/>
<p>4. Educational services</p> 	Class 41 <input type="checkbox"/>	Class 45 <input type="checkbox"/>	Class 35 <input type="checkbox"/>
<p>5. Cosmetics</p> 	Class 3 <input type="checkbox"/>	Class 5 <input type="checkbox"/>	Class 1 <input type="checkbox"/>

## Puzzle Game



### HORIZONTAL

1. Sign or a combination of signs that is used to distinguish goods or services
2. Kind of distinctive sign composed by word, phrase, personal name, etc.
3. Ability to distinguish product of one enterprise from those of others
4. Category of trademark compose by symbol
5. Category of trademark which can be a bottle
6. If someone (person B) use the trademark of other person (A) without permission
7. One of the international system for registration

### VERTICAL

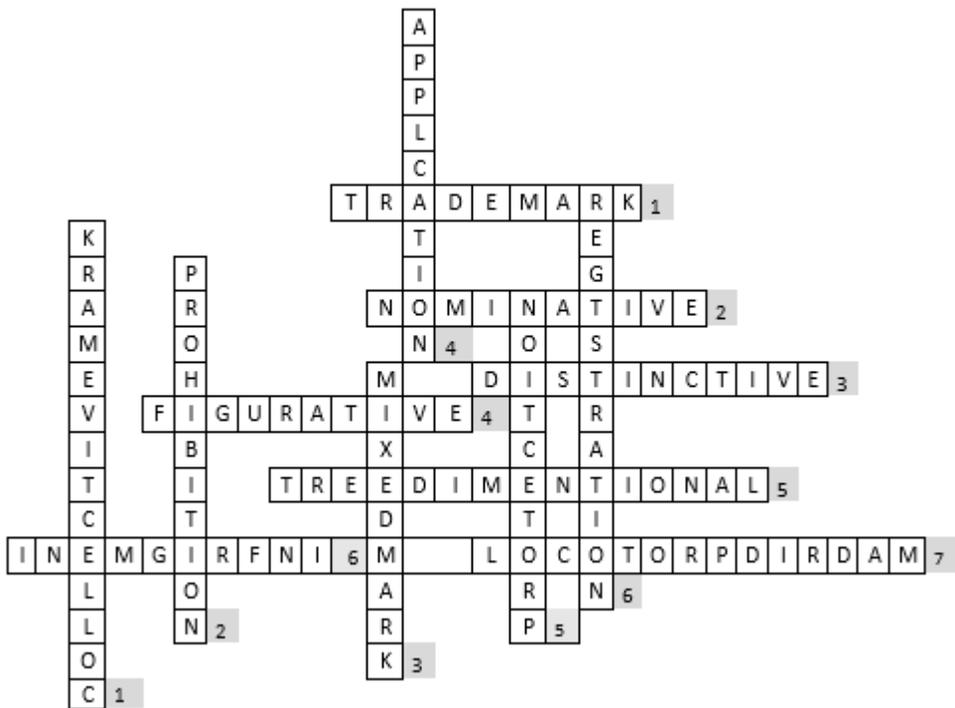
1. Usually defined as signs which distinguish the geographical origin, material, mode of manufacture. The owner may be either an association.
2. When You are not allowed to use a trademark
3. Category of trademark with combination of sign and name
4. When you file a document for a trademark registration
5. Each national or regional office maintains a Register of Trademarks which contains full application information on all registrations. Synonym of defence.
6. When you get a trademark right

# Answers

## Class Matching

1. Class 9
2. Class 43
3. Class 32
4. Class 41
5. Class 3

## Puzzle Game



JAPAN

# Copyright

*Group 5  
IPO/IPR TRAINING COURSE FOR IP TRAINERS  
June 17 - JULY 01 2015*

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# Definition

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Copyright refers to the right for cultural creations. It is the legal protection for cultural creations provided by the copyright law.

These cultural creations are the works of expressions of thoughts or sentiments , for example, authors work in the form of artistic and musical work, as literary work.

For example, books, manga (comic books), photographs, etc.



Chapter 2

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# Works Protected by Copyrights

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# Introduction

*“The superior man, when resting in safety, does not forget that danger may come. When in a state of security he does not forget the possibility of ruin. When all is orderly, he does not forget that disorder may come. Thus his person is not endangered, and his States and all their clans are preserved.”*

*- Confucius*

There are several works which are protected by copyright. As Copyright is a kind of Intellectual Property, it requires the person seeking the protection under copyright Act to show the creativity and originality in the work. If the work lacks the required creativity, copyright will not be conferred.

Copyright is for cultural creations. No formality is required to get the copyright i.e. there has to be creative and original work for obtaining the copyright notwithstanding its artistic or literary merit.

Unlike laws in other nations where doctrine of fixation is a rule, in Japan no fixation is required as a pre-requisite for obtaining the copyright.

Let us see the works protected by the copyright with the examples on the next page.

# Original Creation

## CREATIVE EXPRESSIONS OF ORIGINAL

### 1. Literary Work



### 2. Musical work



© Can Stock Photo - csp7166330

### 3. Cinematographic Work



### 4. Artistic Work



## 5. Architectural Work



## 7. Photographic Work



## 6. Choreographic Work



## 8. Map and Figurative Work



## 9. Program / Computer Work



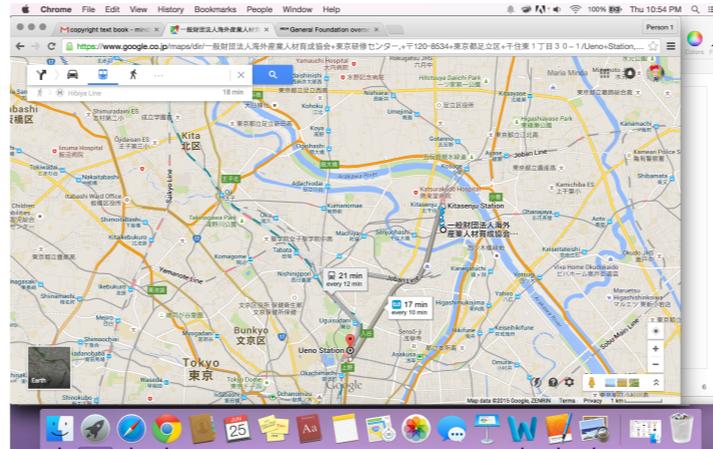
# Additional Works Protected by Copyright

1. Derivative Work
2. Compilations
3. Database

Derivative works are the works created or developed from original works.

Examples of the derivative works are as follows:

- Works of translation
- Musical arrangement of the existing work e.g cover version etc
- Compilations such as newspaper, journals etc
- Database such as data to be read with the aid of computer.

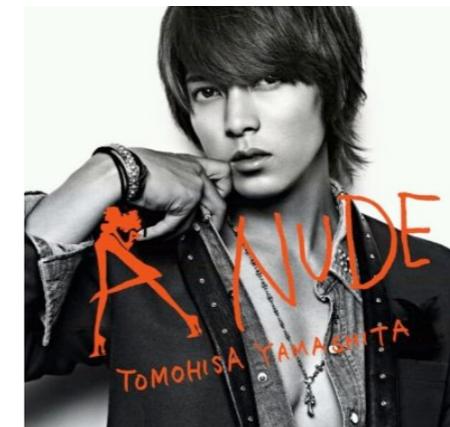
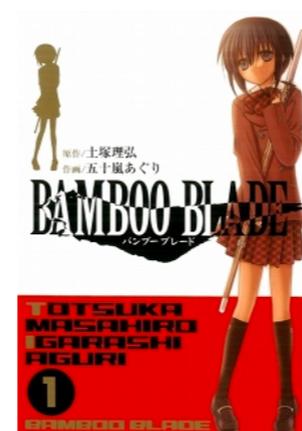
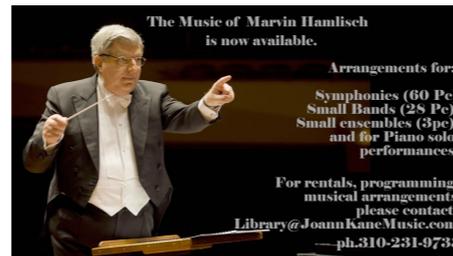


## Section 3

# Exercise 1: Kinds of Copyright

IDENTIFY THE KINDS OF COPYRIGHT FOR EACH ILLUSTRATIONS BY WRITING A LINE FROM COLUMN A BELOW TO COLUMN B ON THE RIGHT SIDE:

1. Literary Work
2. Choreographic Work
3. Photographic Work
4. Artistic Work
5. Architectural Work
6. Program/Computer Work
7. Musical Work
8. Map and Figurative Work
9. Works of Translation or Derivative Work
10. Compilations of Copyrighted Works
11. Uploaded data in the Computer
12. Musical arrangement
13. Cinematographic Work

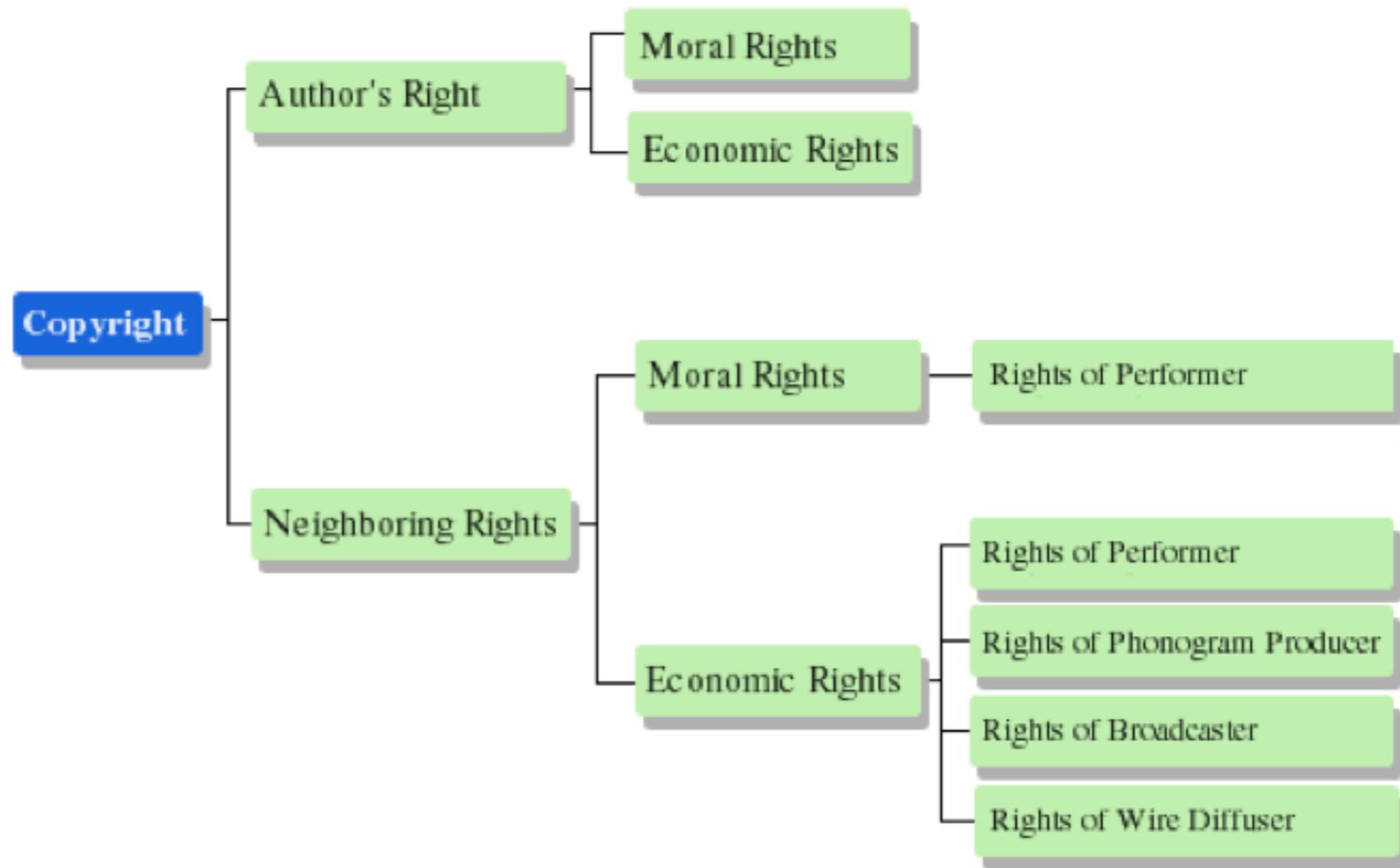


# PROTECTED RIGHTS / RIGHTS CONFERRED BY COPYRIGHT

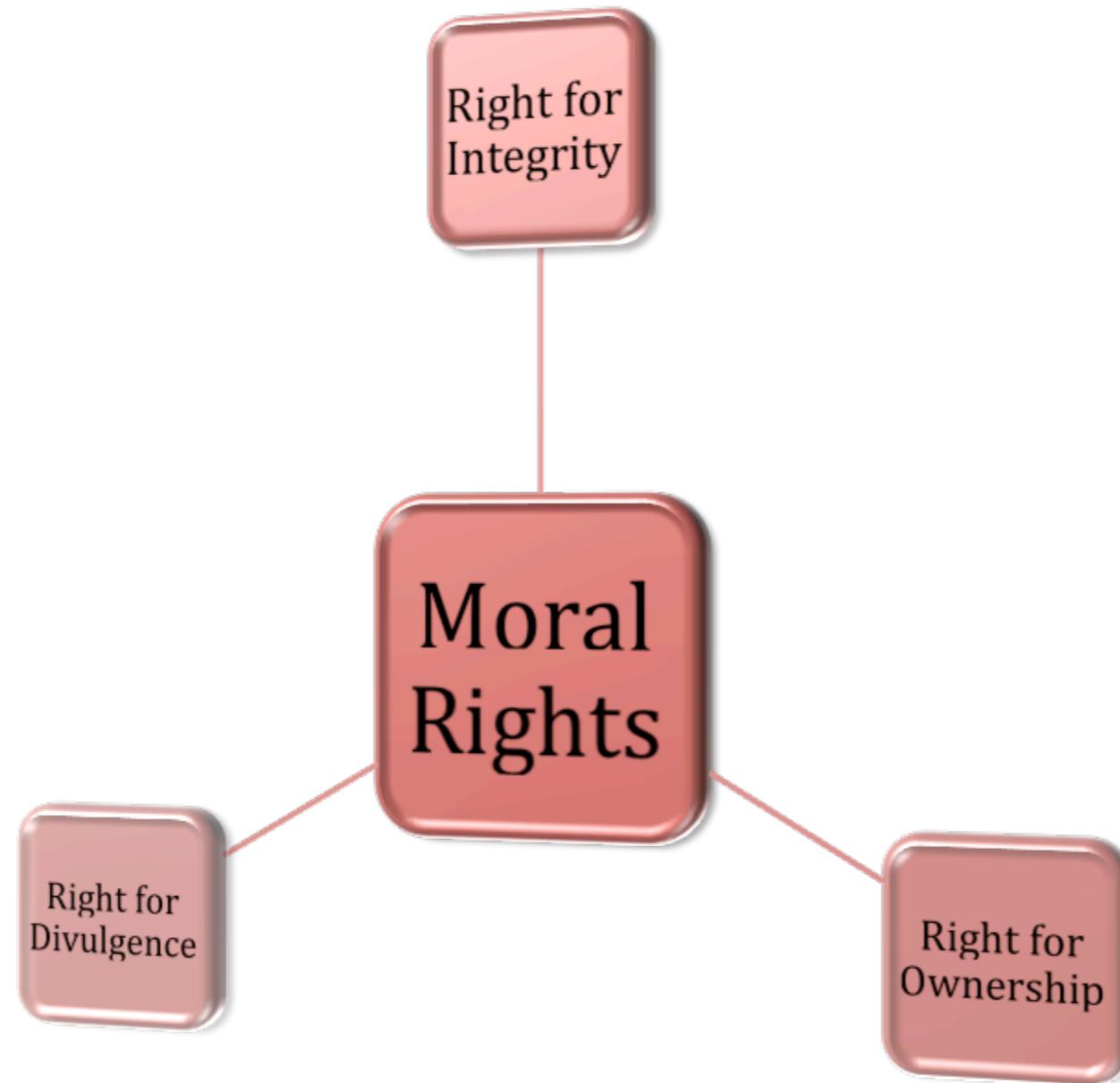
## 2 KINDS OF RIGHTS

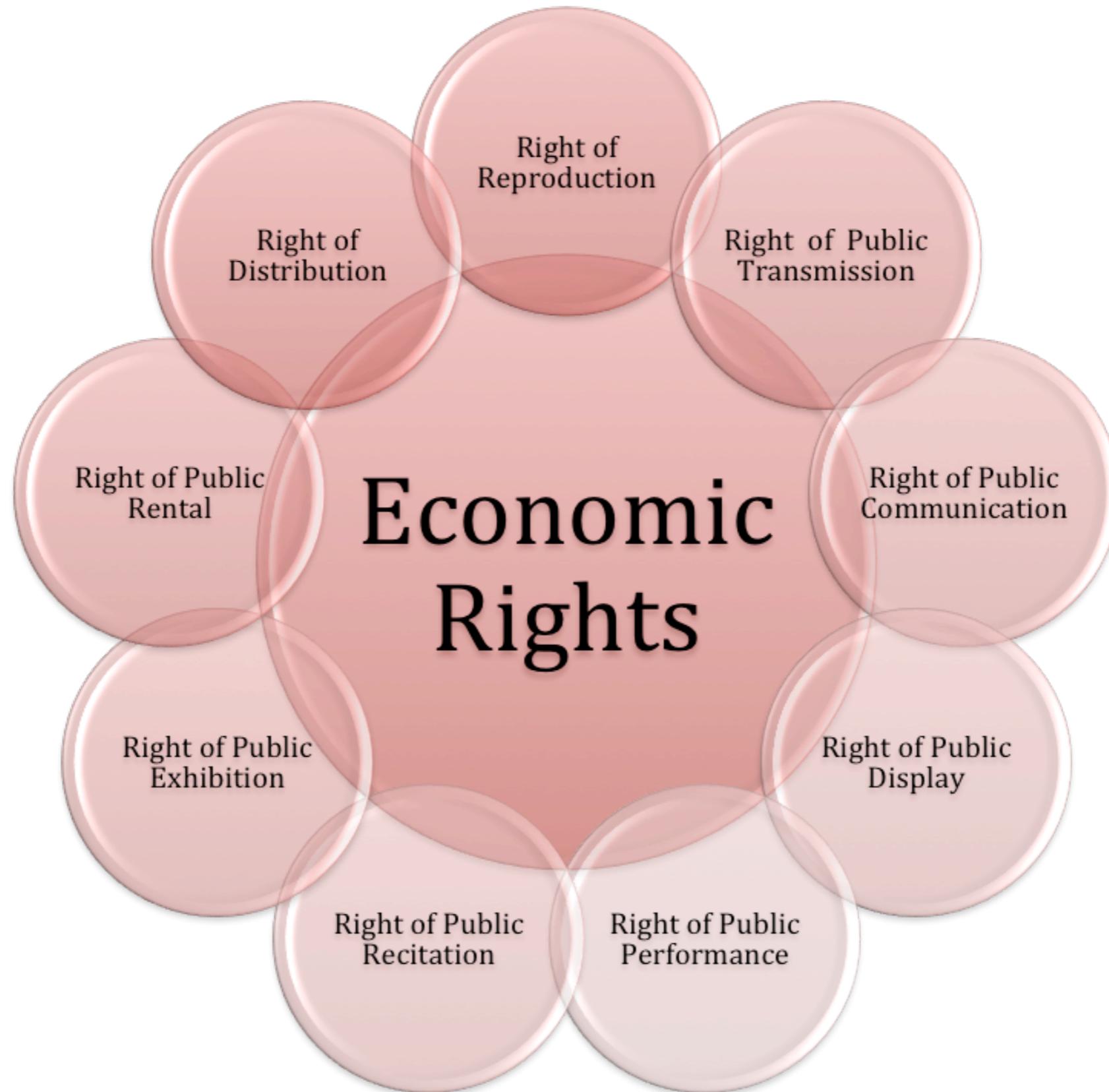
1. Moral Rights

2. Economic Rights



# The Author / Creator





# Exercise 2: Examples of Copyrights

**GIVE 10 EXAMPLES OF THE ECONOMIC RIGHTS AS DISCUSSED ON PAGE 10**

---

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

Provide 10 examples of famous and well-known copyrights that were used as economic rights by a third party:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.

# What constitutes the Infringement?

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# Infringement

1. As copyright is a right given to the creator of a work. If some other person without the authorization of the owner/author of the work uses the work of the author/owner then it tantamounts to infringement of the copyright.
2. Also, such acts as modifying the contents and/or title of a work, indicating the true name of the author who wants to hide his name, etc. constitute infringements on copyright (moral rights), too.
3. Furthermore, such acts as distributing (distribution: transfer of ownership and lending of copies of a work to the public, whether with or without payment) unauthorized copies knowingly, possessing such copies knowingly for the purpose of distribution, modifying rights management information intentionally, etc. are deemed to constitute infringements.

# Exceptions of Infringement

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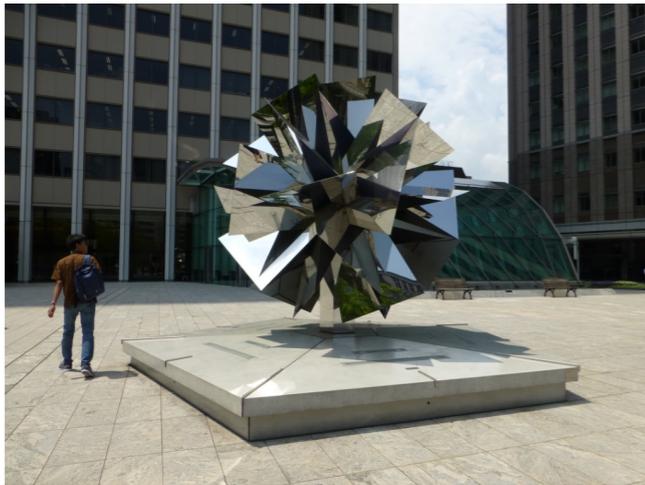
Limitations allow the use of copyrighted works without the author's permission while defending the same offenses



# Coverage of Infringement Exception

- **Artistic works**

Artistic works located in public places can be reproduced freely by photograph, film, etc. However, except for architecture, the author's permission must be obtained before publicly exhibiting their work, and commercial reproductions of artistic works are not permitted without the author's permission.



- **News**

Unless a newspaper or [wire service](#) article specifically states that it cannot be reproduced, free reproduction is permitted. Normally, copyrighted materials can also be reproduced to the extent necessary for reporting of current events (this extends to printed matter, film, and photographs).



- **Non-profit performance**

Works can be performed or exhibited freely if the performer is not remunerated, and the audience is not charged an admission fee.

- **Political speeches**

Political speeches and government proceedings can be freely reproduced, except when the intent of the reproduction is to create an anthology of the author's works.

- **Publication for the blind**

Braille and audio versions of printed materials may be reproduced for the purpose of lending, but not for commercial use.

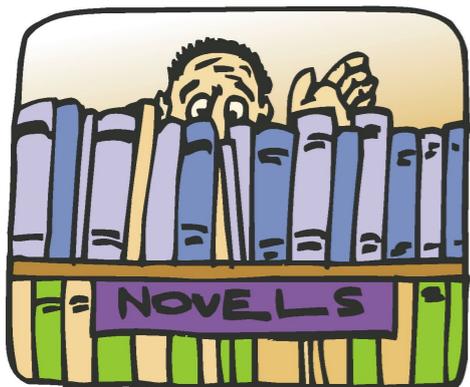
- **Quotation**

Works may be quoted freely, as long as the quotation does not exceed what is justified for its purpose.

- **Educational use**

Teachers at non-profit educational institutions are permitted to reproduce copyrighted works for the purpose of teaching, as long as such reproduction does not infringe on the interests of the author. For example, a teacher may duplicate a television program or audio recording, but may not distribute copies of educational software without express permission. Works can also be reproduced in

examinations at educational institutions, but the author must be remunerated if the exam is performed *for-profit*.





- **Software**

Software can be reproduced for personal use. If one of the above exceptions to reproduce a work publicly is used, the person reproducing the work must cite its source.

In 2009 Japanese copyright law was updated to allow the following digitally focused limitations and exceptions:

- **Copying by search engines**

Copying on servers of in-copyright works in order to provide search engine-type services.

- **Orphan works**

The use of an orphan work, an in-copyright work whose owner cannot be found, on the internet, subject to approval from the Japanese Ministry of Culture.

- **Use of artistic works on the internet**

Reflecting the popularity of online auction websites like eBay, the use of an image of an in-copyright work, on the internet when advertising something for sale.

- **Text and data mining**

The analysis of in-copyright works using computers (Art.47 *septies*) in order to extract statistics and information, and come up with new ideas. Japan was the first country in the world to introduce an exception for text mining as well as data mining.



- **Temporary copying**

Caching, storing, copying etc.



## Exercise 3: Flow Chart of Copyright Infringement Exceptions

CREATE A FLOW CHART THAT WILL SHOW COPYRIGHT INFRINGEMENT EXCEPTION, CHOOSE ONE FROM SUBJECTS BELOW:

---

1. Artistic work
2. Educational Use
3. News
4. Non-profit performance
5. Temporary Copying
6. Text and Data Mining
7. Quotation

# Term of Protection

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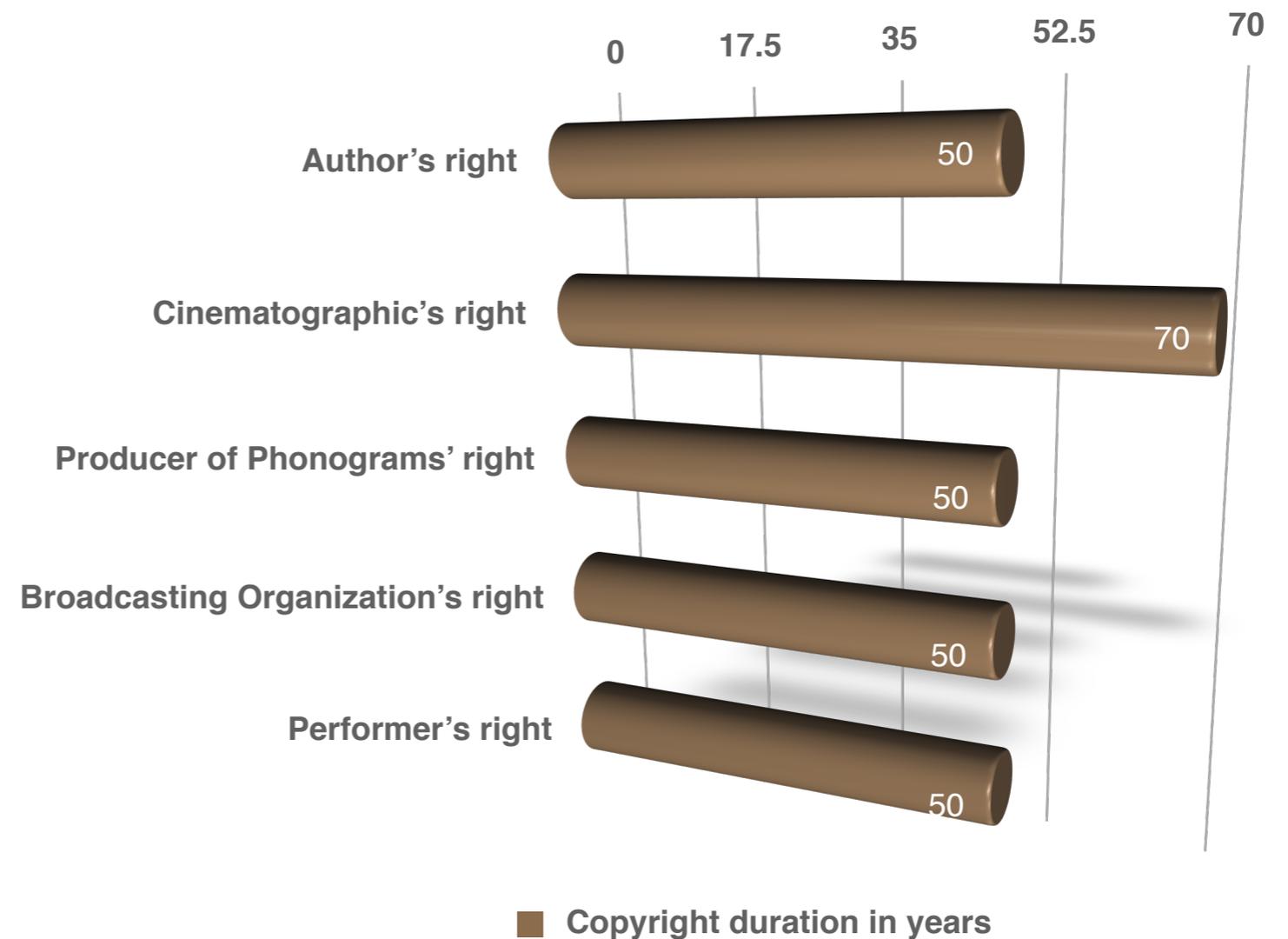
A copyright owner need not be a professional artist or author to be covered with the protection provided by Japan government or the International Law on copyright.



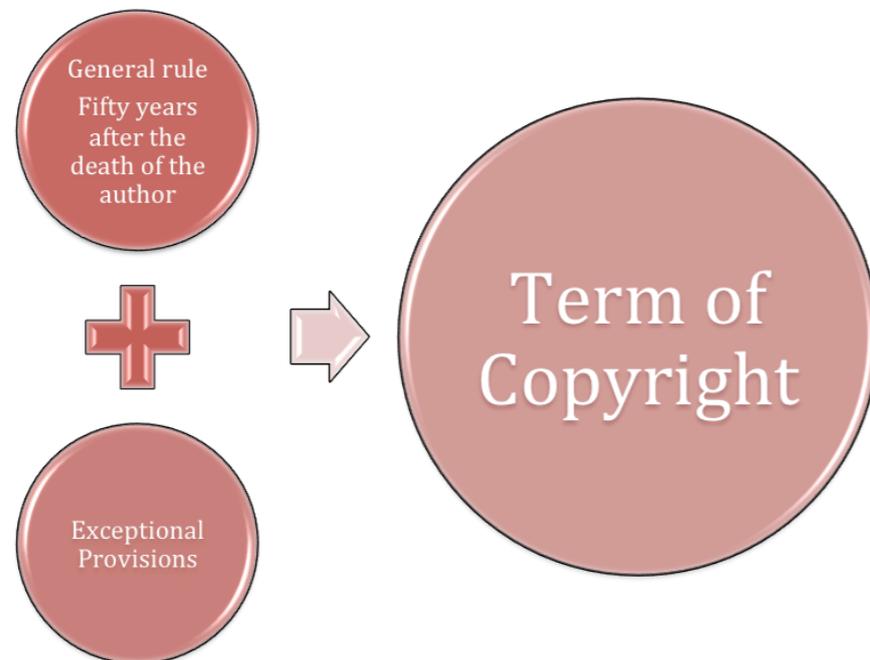
# Japan Copyright Protection Term

## DURATION OF PROTECTION

1. Copyright duration begins with the creation of work;
2. Cinematographic duration begins when the work is made public;
3. Neighboring rights begin as follows:
  - when the performance took place, for performances;
  - when the first fixation of sounds was made, for phonograms;
  - when the broadcast took place, for broadcast;
  - when the wire diffusion took place, for wire diffusions;
4. Moral rights of author cease to exist by death. However, no person may release the author's work in public that will be prejudicial to author's moral rights.



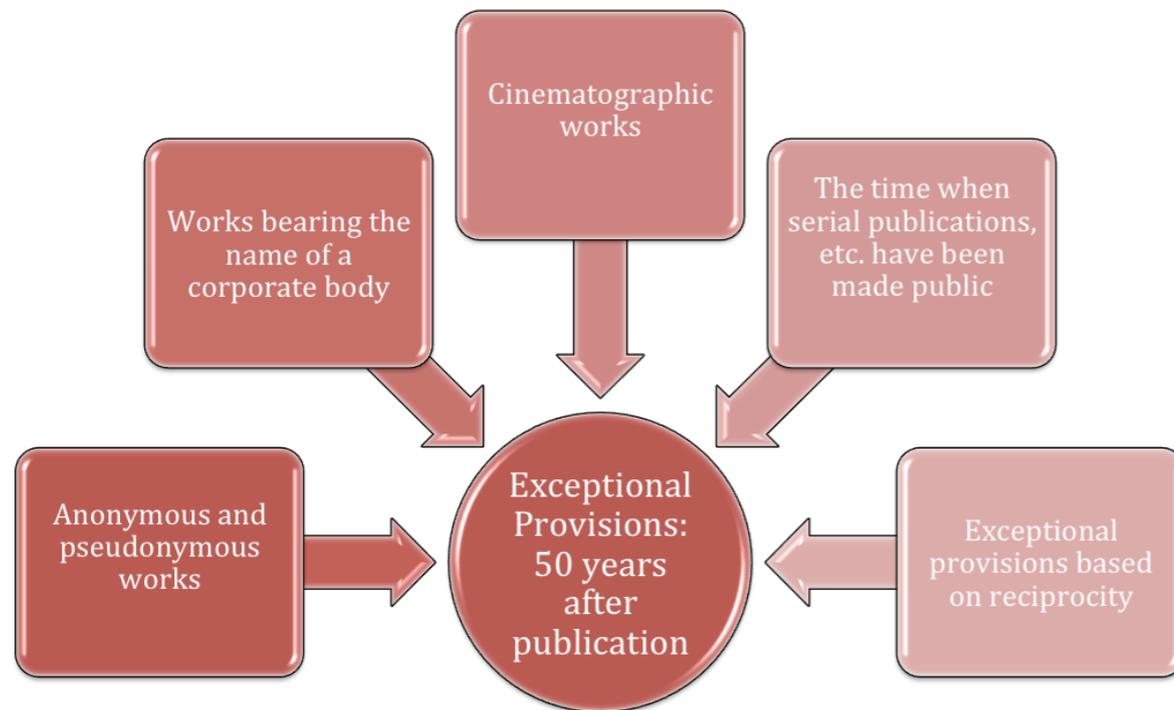
## 2 System Calculation of Copyright in General



### Important notes on general copyright protection

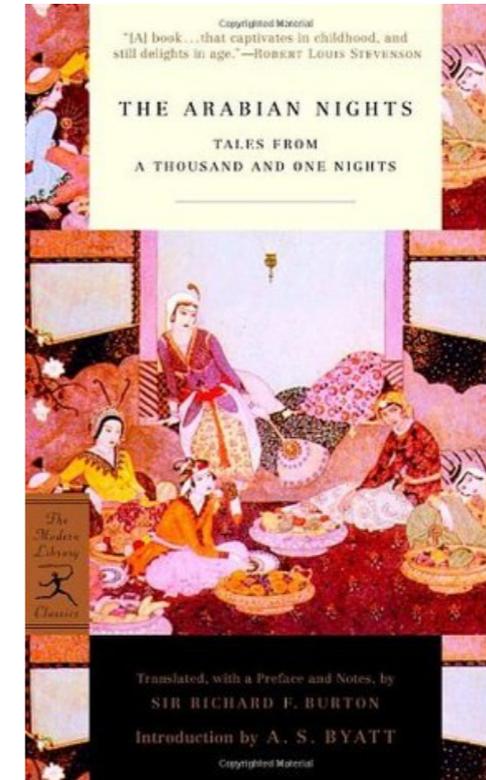
- does not apply to an author's moral rights
- the moral rights expire with the death of the author. However, acts that infringe on an author's moral rights are prohibited even after the death of the author
- protection shall be fifty years after the death of the author (in the case of a joint work, fifty years after the death of the last surviving co-author) in principle
- copyright goes into effect at the point when the author creates the work, continuing fifty years after the death of the author
- the amended law will apply to cinematographic works existing under the old law as of the date of implementation of amended Law while cinematographic works of which copyright has ceased to exist under the old Law as of the date of implementation of amended Law will be treated as under the old Law

## Copyrights under Exceptional Provisions:



## Sample illustrations:

### 1. Anonymous and Pseudonymous works - The Arabian Nights



2. Works bearing the name of a Corporate Body - TOSHIBA DIGITAL MEDIA ENGINEERING WWW Server provides a variety of information concerning products, information service, technical service and the like ("Documents"). TOSHIBA DIGITAL MEDIA ENGINEERING and/or its affiliated companies own copyrights in these Documents, unless otherwise expressly stated. source: internet

3. Cinematographic works - Tokyo Story by Kurosawa



5. Reciprocity - Mickey Mouse protected under the U.S. Sonny Bono Act



4. The time when serial publications have been made public - Pinky Magazine 2007 Edition



# International Treaties/Agreements on Copyright Protection

### JAPANESE ACCESSION TO COPYRIGHT INTERNATIONAL TREATIES

1. Berne Convention: 1899, 1910, 1915, 1931, 1974, 1975
2. Universal Copyright Convention: 1976
3. The Convention for Protection of Performers: 1989
4. The Phonogram Protection Convention: 1978
5. The Marrakech Agreement under the World Trade Organization - TRIPS: 1996
6. WIPO Copyright Treaty: 2002



Works are the cultural products of human beings, and it is ideal that everyone be able to enjoy profits yielded by them.

For this purpose, it is necessary to establish a framework in which the works are appropriately protected and can be distributed easily.

Accordingly, today, it is necessary to harmonize each country's legal systems concerning copyright, and achieve an international harmonization of copyright systems so that copyrights are appropriately protected in each of these countries. Since modern international exchanges in economic, social, and cultural fields have become very active, international harmonization is a common challenge facing all countries.

source: Outline of the Japanese Copyright Law by APIC



# Exercise 3: Writing a diagram of Copyright

CREATE A DIAGRAM OF A COPYRIGHTED WORK SHOWING THE FOLLOWING COPYRIGHTS WITH ITS TERM OF PROTECTION AND THE CONNECTION TO THE CREATED WORK BY AN AUTHOR:

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1. Original copyright
2. Moral right
3. Neighboring right
4. Exceptional Provision

# Registration System

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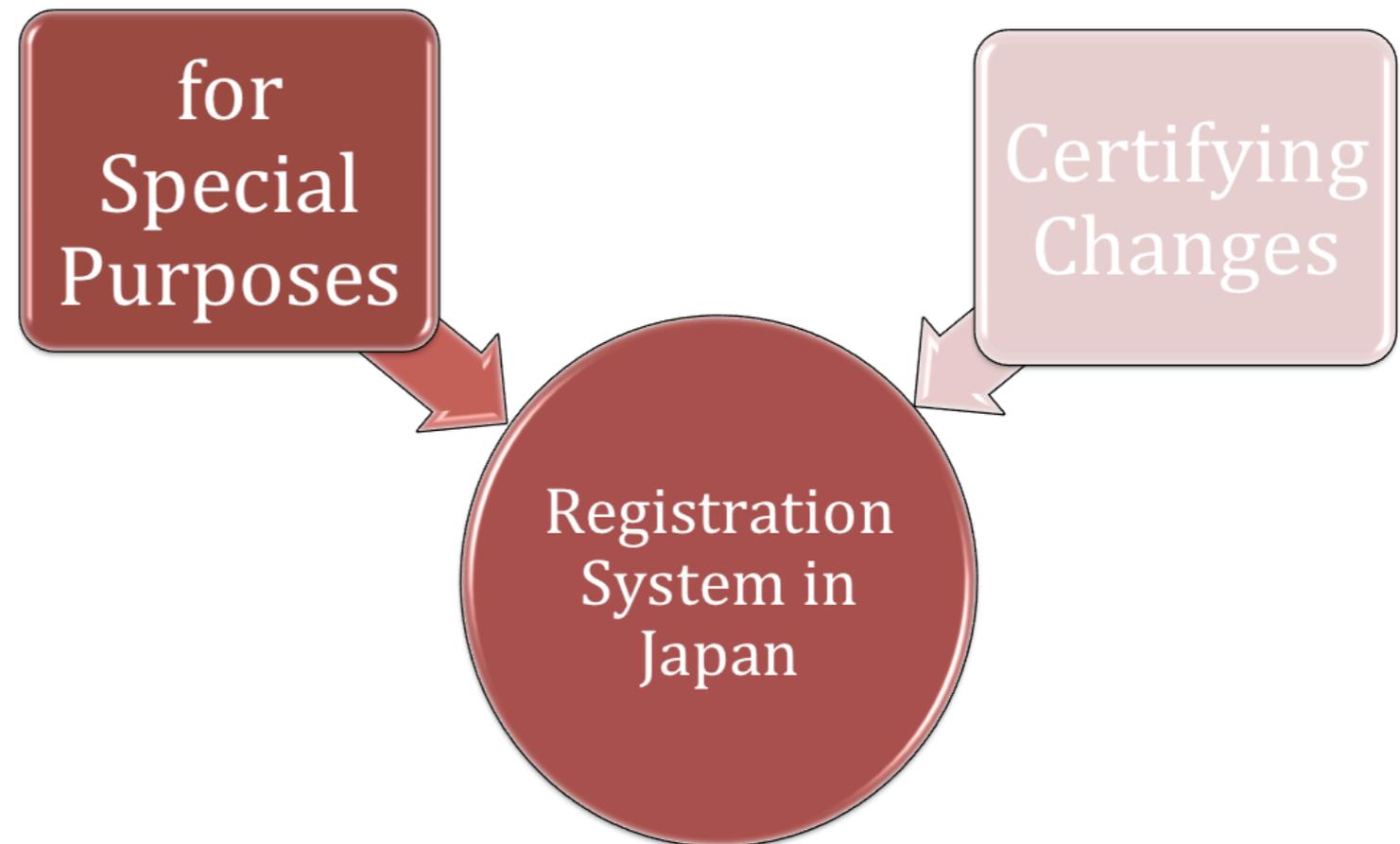
Copyright Law adopts a non-formality system for establishing copyrights.

Therefore, registration is not a requisite for acquiring a copyright. Hence, the Copyright Law applies a registration system for various reasons.



# Required Registrations of Copyright

- 1. Neighboring Rights:** Performers, producers of phonograms, broadcasting, and wire diffusion organizations
- 2. When there is a Transfer or restrictions on its distribution**
- 3. Exceptional provisions of copyright:** Publication and distribution of the original work by a third party under Neighboring Rights



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**Group 5 IPTR June-July 2015**

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