

"Environmental Design" as an Ideal Design Methodology of the Japanese Model

-New Positioning of Environmental Design Education in Universities of Japan

Taketo KUROKAWA

Kanazawa College of Art 5-11-1 Kodatsuno Kanazawa-shi Ishikawa 920-8656 JAPAN

kurokawa@kanazawa-bidai.ac.jp

Abstract: This study investigates abstracts concerning "environmental design departments", many of which have been established in Japanese universities recently, and gives a new positioning to its significance. The investigations were mainly through Internet references, accessing the URL of each university to ascertain its purpose and goals in setting up these departments, as well as their curriculums. First I selected 53 universities that have department names that include the word "design", and examined what kind of department was established in what kind of faculty.

Next, I reduced the number to 19 universities that have the phrase "environmental design department" or similar in a department name, and examined their establishment purpose and curriculums. With that in mind, I classified each department according to their affiliation, such as humanities or science, collected key words from the establishment purposes of each department, and then examined the contents of the departments.

From the result, it was clear that there was a distinct difference between the various departmental affiliations.

Furthermore, after comparing all 19 universities, I was able to ascertain that they all shared certain similarities in departments that had the name "environmental design". There are many departments that included previously unseen specialist areas such as landscapes, cities, and architecture, and fuse these normally disparate subjects into one: environmental design. As an example, I have found several departmental structures that cross over the old boundaries of, say, engineering and social science, as well as their emergence in areas that previously would have no connection to the subject, which shows a new direction that is no bound by previous ideology.

Moreover, from the way that these new design departments act as a starting point to question the older ideas of strictly delineated and separate fields of study, I believe that "environmental design" has the ability to evolve into an area that could be described as "ideal Japanese design".

Key words: *Environmental Design, Design Education in University, Traditional Japanese Method of Design*

1. Introduction

In the 21st Century the world of Japanese design began to require a new methodology and ideology appropriate for the new century. Since the late 1960s numerous design ideologies have been proposed in an effort to escape from the various contradictions inherent in industrialized society, and new frames and ideologies were apparent in university education. I believe that "art engineering" and "environmental design" are representative of these new directions.

In particular, environmental design appears to have grown in response to social pressures, increasing its impact.

I have been involved in design education at an art college for 35 years. In the college we reorganized the industrial art department that had previously been responsible for design education in 1996, and we separated it into the industrial arts department and the design department; and then we added the environmental design to the previous two conventional specialties, product design and visual design, giving us three specialties.

In this study, I investigated similar specialties in all over Japan and, based on my experience over the past seven years in teaching and research in environmental design, I was able to sort and analyse the various ideologies.

There was a common current to all the departments: to cover the weak point of industrialized society and modern design by taking the position of considering what an ideal human environment should be, and what design should do in order to help achieve that ideal. From the above, I have come to consider “environmental design” as one ideal design method for a Japanese model.

2. The History and Background of Environmental Design Department Establishment in University Education

Now I will give a survey of the development of environmental design in Japan. It was in 1973 [1] that a department related to environmental design first appeared in a university curriculum in Japan, with the establishment of the environmental design course at Tsukuba University Science of Arts Group.

In other national universities, an environmental art design lecture was established by the art school design department of Tokyo National University of Fine Arts and Music, and, in art engineering systems, a design department was established in Kyushu Institute of Design when it opened in 1968, predating the above universities by several years.

As this was the first example of an art engineering faculty, I will now look more closely at its ideology.

The reason for its establishment is as follows, quoted from the English-language home page of the faculty.

“Art was born from the human desire to express the human spirit thoroughly, and technology in modern society has been born from the application of science to life.

Therefore, technology should be based on a combination of art and science so that we may make use of it completely. To study and develop technology, designers in modern society must have a good sense of art and a sufficient knowledge of not only natural sciences but also the humanities and social sciences.”

(http://www.kyushu-id.ac.jp/KID/English/index_e.html)

Then similar faculties were established in Hokkaido Tokai University and three others, for a total of five universities as of 2002.

On the other hand, departments related to environmental design are continuing to increase and presently there are some thirty universities which give instruction in the subject at the course level.

At around the same time as the above faculties were being founded, we can see a different approach by some universities.

The Department of Science of Design in Musashino Art University was established in 1967, a year before the opening of the Kyushu Institute of Design.

The purpose was to "create a new type of talented persons who can pursue the various problems of design, such as in planning or design research, by being open to the possibilities that come from encompassing many relevant domains rather than the previous method of education by isolated fields". [2]

While it had no effect on other universities as a department concept, the idea spread with the founding of the

Society for the Science of Design in 1998.

These movements have as their common ideology the concept of “connection between art and science”, or “the fusion of related fields”.

From this, it is now possible to view environmental design as one concrete example of this fusion of related fields.

3.What is environmental design?

A few of the main environmental design theories are noted below.

I shall use the example of Tsukuba University, which was the earliest to establish an environmental design course as an art system department (education group).

“History and Philosophy of Art, Fine Art, Constructive Art, Design/

The school was established in 1975 to add uniqueness to the university as the fields of specialized education, which is different from other specialized art colleges, and to produce active art specialists with wide perspective and flexibility.

The school includes many art fields as the plastic arts. Each specialized education is considered to have uniqueness and relevance to each other.

Graduates of Construction in Design Major and Environmental Design can obtain qualification for the examinations of the First Class Architect if they experience practical business on architecture for two years.”

From their home page, it can be seen that they view environmental design as follows:

“Humans are a product of ‘environment’ yet environment is a ‘product’ of humans.

We make clear the inter-dependence between humanity and the environment, and aim to learn about ‘design’ and ‘planning’ of the environment thus is adapted.”

(<http://www.geijutsu.tsukuba.ac.jp/school/course/ed.html>)

The reason is explained as follows:

“The ‘place’ where we live, or our surroundings, while there may be differences of scale, can all be described as ‘environments’. However, previous design practice and academic thinking has been based on the division of ‘place’. This left us with the different fields of interior design, architectural design, urban design, landscape design, and so on. However, with the development of science and technology, the spread of information, and the changes in industrial structure that have brought such dramatic changes to modern society, leaving these fields as disparate and isolated gives rise to the concern that we will lose sight of the general picture of the varied and complex organization that is our ‘living space’ [...] in order to achieve this realization, our course begins with the interior, and covers roads, open spaces, parks, districts (urban blocks), cities, and regions (including natural features such as mountains, wetlands, and rivers), looking at ‘space’ at every scale.

In other words, ‘environmental design’ is a wide-ranging field that covers both environmental creation and space creation in order to achieve ‘human recovery’.” This clearly shows a desire to reunite the various disparate fields of design.

According to Inaji Toshiro, who established the environmental art design course at Tokyo National University of Fine Arts and Music in 1977, “environmental design is based on the interrelations – the “correlations” – of the many elements that constitute an environment. That is to say, environment is a complex matrix of architectural design, outdoor design, industrial design, and so on.

The significance of environmental design is found in the “unity” that it gives to these disparate elements by linking them under one ordering paradigm.” [3] Inaji’s ideas are thus very similar, but he puts the emphasis more on the “correlations” between the various elements.

Specifically, with the catch-phrase of “people-objects-places”, the "correlation nature of people-tools-housing" is thus used as a central research point.

Senda Mitsuru, one of the earliest pioneers in the field of “environmental design” in architecture, established an environmental design office in 1968, and preached the necessity of a design domain crossing each separate design domain. He practised this philosophy mainly in the design of children’s play areas. [4]

The common factor in all the above points is the idea of the environment as that which human-connected, and the synthesis of the various elements in it, as well as the importance placed on their correlation; specifically, a design ethos that covers all the different fields of design.

4. Investigation Methods

First I used the Internet [5] to search Japanese universities and listed the subjects that had “design” in their names. As a result, 45 course in 43 universities became the subjects of my investigation.

I then narrowed the list down to 19 universities which had established courses in “environmental design” (or similar), and investigated their purpose and structure.

The investigation was primarily conducted from the information available at the relevant URLs, although published material was referred to as well.

I would next like to look at the “environmental design courses” (or similar) according to the affiliation (arts or sciences) of each university or faculty.

5. Results

5.1. Environmental Design Courses

Internet searches reveal fifteen "environmental design departments” that are established in Japan at present, as well as two universities that have courses that are based on similar concepts that were found by adding “space” or “engineering” to the search parameters, for a total of 17 schools.

To this, I added one school each in the fields of “living environment design” and “housing environment design” which seemed to fit a specialised aspect of environmental design, making the total 19.

There was one course that specialised in urban design; however I have elected not to discuss that in this paper.

Furthermore, while seven schools were found through a search under “art and design courses”, it was found that of these seven, six were cross-linked from engineering faculties, leaving only one school in that was purely arts and design.

While environmental design is of course by its nature rather hard to restrict to just one field, in this report I have followed the classifications of the schools or faculties to which each course belongs.

The phrases bounded by < > are the catch-phrases of each course, and I have used other quotations as needed in order to illustrate their particular attributes.

5.1.1 Art Institutes

Art Universities and Colleges show a desire to create an ideal design education environment, as they cover previously neglected areas such as landscape gardening, urban and architectural design, and so on.

(1) Tsukuba University Art Specialized Study Group Environmental Design

[...] Experienced Staff in the fields of Urban Planning and Design, Landscape Gardening, Architecture, Production Design and so on provide education based on a new and comprehensive outlook as above [5]

There is also a separate section for architectural design.

Practical and training classes are held in conjunction with three adjacent courses, including production design, until the second year.

(2) Tama University of Arts Art College Environmental Design Department

<We define "environment" as "the range of human perceptions that I can share with others">.

There are three courses: an interior design course, an architectural design course, and a landscape design course.

(3) Nagaoka Institute of Design Environmental Design Department

<Development in tune with People and Environment, Progress and Conservation>

Three courses, in Interior Design, Architectural Design, Landscape Design.

Adding the Environmental Protection courses of Historical Buildings Preservation and Historical Sites/Gardens Preservation, there are five total courses.

(4) Kyoto Formative Arts University Science of Arts College Environmental Design Department

<Now more than ever, Japanese cities need to regain their “spiritual wealth”. To that end, the three areas of environmental design treat the total environment, covering many genres, to create an environmental philosophy for the new age.>

In order to learn about environmental design comprehensively, the courses are divided from the third year into architectural design, landscape design, and regional design.

5.1.2 Art-Engineering Institutes

Originally designed to fuse art and engineering, in practise they tend to have a strong engineering influence and appear less flexible than pure art-orientated places. While Japanese phrase “geijutsu-kogaku” is used by all the universities, in English each place has its own translation.

(1) Tohoku Art College of Engineering Design Department of Engineering Environmental Design Department

<Creation of wide-ranging design ability to cope with multiple environments>

Architectural Design / Environmental Planning

The environmental design we strive for is based on the fields of architecture, civil engineering, city planning, and landscape gardening. [...] In order to meet the increasingly complex and high-level needs of society, these traditional techniques are fused and developed into a single area.

(2) Kobe Design University Environmental Design Department

In the Department of Environmental Design, students study a wide range of subjects relating to human living environments, indoor, towns and cities, regions and natural environments. The curriculum is designed to create designers with good combination of techniques, knowledge and methods of expressions.

To manage good techniques and knowledge through the varied subjects students can study from the history and ideas of architecture and town planning.

(3) Kyushu Institute of Design Environment Design Department

<[...] Basing our education on the most general and practical activity of “design”, we aim for fusion of wide-ranging knowledge of people and environment, as well as continual experience of complex living environments in the field to give us the ability to quickly and concisely gain insight into the various problems connected with “environment”, and allow us to create people with rich creative ability.>

(4) Nagoya City University School of Design and Architecture

<What is Art-Engineering?

It is the creation of designers who are able to balance sensitivity towards a fusion of art and engineering, technique, and human understanding.

From the tool level of furniture or wheelchairs to the architecture level, we learn about the design of the complete living environment, and aim to create people who can interconnect people and living environments in order to design and plan comfortable environments.

The two courses are made up of pre-architectural design, at the tool level, and meta-architectural design, at the architectural level.

The School of Design and Architecture with an emphasis on harmonization between arts and technology, [...] it consists of two departments in visual and urban design, and human environmental design [...]

The Department of Visual and Urban Design, whose conceptual goal concerns the urban landscape, offers three majors in visual-arts design, image information design, and urban design.

The Department of Human environmental design, whose conceptual goal concerns health-care, offers two majors in smaller and larger environmental systems design.

5.1.3 Science / Engineering Institutes

Science and Engineering institutes are increasingly using expressions such as "fusion of natural and social science" or “environmental harmony between nature and humanity” in order to escape from their previous rigid image.

They specialise in “environmental problems”, but only university (2) could be said to offer anything close to art-orientated institutes.

(1) Hokkaido Institute of Technology College of Engineering Environmental Design Department

<[...] This course has been established to create a new that fuses the natural and social sciences in order to respond accurately to the various environmental problems facing us today.

We learn technical knowledge in order to be able to realise rich life while at the same time remembering the importance of regional nature, based on the four pillars or fields of: natural environment evaluation (air and water evaluation, plant and animal environment analysis), natural environment planning (quasi-natural river-form planning, forest and biotope creation), social environment evaluation (community, children and senior environment analysis), and living environment planning (visual amenity creation, neighbourhood creation).>

(2) Osaka Sangyo University Faculty of Engineering Environmental Design Department

There are three courses: Civic Design, focusing on outdoor environments such as urban and regional, Architecture and Interior Design, focusing on general mastery of the techniques in architecture and interior design, and Craft Design, focusing on ceramics, weaving, metalwork, lighting and so on. Each course teaches environmental design that is based on the relationship between Man and Objects.

(3) Okayama University Faculty of Environmental Science and Technology, Department of Environmental and

Civil Engineering

The environment, which surrounds us, consists of various areas of human society and nature, and provides a base for human activities. In order to create a pleasant and affluent environment in cities and other areas of living, it is necessary to examine the present condition of the environment and to improve its quality over the long term. The department provides students with comprehensive instructions in environmental planning and design as well as in civil engineering. The education and research field is divided into three major divisions, and each division includes four research areas.

It consists of three major divisions: environmental evaluation studies, environmental planning studies, and environmental design studies.

(4) Kitakyushu Municipal University International Environmental Engineering Faculty Environment and Space Design

<In the Environment and Space Design course we teach energy systems, resource circulation systems, and environmental protection engineering. We also give students the ability to design architecture and urban space that is considerate of its environment and in harmony with the ecological balance.>

5.1.4 Domestic Science Institutes

It is a characteristic of domestic science courses that such close-to-home keywords such as “clothing”, “food”, and “apparel” are commonly seen.

Three universities feature in my study.

(1) Kyoto Prefectural University Human Environment Faculty Environmental Design Department

<[...] The Environment is all that which surrounds us.

Large and small, from clothing, food, utensils, furniture, electronics, to interior space, architecture, roads, and cities. All these make up the environment.

There are also systems invisible to the eye, like lifestyles and education systems that help form the environment.

[...] The art of improving the environment as a whole is called “design”.>

(2) Kinjo Academy University Living Environment Faculty Environmental Design Department

<We pursue the three areas of “apparel”, “living”, and “ecology” in order to create an environment kind to all people.>

We seek universal design in the following three areas:

Apparel Design Course, Living and Interior Course, and the Ecological Design Course.

(3) Yamaguchi Prefectural University Home Economics Faculty Environmental Design Department

<We train the ability to create a new philosophy and style of design while acknowledging form, productivity, and society.>

Courses in environmental design, architectural design, urban design, product, visual, costume, formative art, and topology.

5.1.5 Other Departmental Systems

All of these were established relatively recently, and their concepts are along the lines of “enviro-symbiotic architecture”, “environmental information” and so on, showing a distinctly different approach to conventional approaches.

(1) Tottori Environment University Environment Information Faculty Environmental Design Department
<Acquire specialist knowledge and techniques for interior design and architecture or urban and regional planning that is in harmony with nature and has minimal environmental impact.>

[...] In this department we pursue appropriate design for, and investigate construction techniques and human activity environments such as housing and architecture, urban and regional areas, interior and furnishings, and exterior and gardening.

We chiefly conduct research and education on the theme of human housing and the environment, with such topics as structure and building methods of wooden architecture, restoration and re-use of historical buildings, furniture and interior amenities, circulatory regional structures and so on, allowing us to create people who have mastered environmental design in wide-ranging fields such as regional development, execution and control, design and planning for naturally harmonious and pleasant living environments.

(2) Hiroshima Industrial University Environmental Faculty Environmental Design Course

<We train the ability to create living environments from an “environmental” viewpoint.>

Environmental Design is the creation of living environments that have minimal impact on the natural environment and are desirable dwellings, by taking another look at interiors, buildings, and cities from an “environmental” viewpoint.

While based on the course in “living environments”, the curriculum adds courses in “environmental information” and “environment science” such as in the natural environment and other complimentary fields.

We seek to create coordinators, planners, and designers mainly in the field of architecture.

(3) Hiroshima International University Social Environmental Science Faculty, House Environment Design Department

<We learn about the various environmental problems of the present day and the making of comfortable living environments of the next generation.>

We look at numerous and wide-ranging fields to enable us to understand environmental problems such as living environments that are in harmony with nature, living environments and interior design, barrier-free environments for the elderly, environmental hormones problems and the sick-building syndrome, and defence techniques against natural disasters.

The curriculum [...] is organised around the six fields of living environment, environment design, environment planning, welfare environment, environment information, and architectural and construction, as well related fields and specialist courses in living environment design fieldwork.

5.2. Design Courses (and similar environmental design-related majors)

In the area of Art Institutes, there are five schools (including two public ones) that have separate majors or courses with the name “environmental design”.

One of these, Kanazawa College of Arts, divides its courses from the moment of entrance, and these can be seen more as departments.

In the Science / Engineering Institutes, I found three schools, including one national one, that included engineering faculty courses on environmental design. Engineering faculties normally have separate architecture courses, and these are usually quite distinct.

In other major areas, only one school has an environmental design course; the environmental space course in the

design department of the media arts faculty. Media Art is a new faculty that reflects the times, and so I feel that for such a faculty to set up a course similar to environmental design says something.

In addition to the above, nine universities have courses in space design, essentially similar to environmental design in certain ways.

Of these, four have their environmental design departments in the same faculty, so perhaps space design and environmental design should be thought of as separate.

6. Conclusions

As noted above, I have examined the establishment and contents of environmental design in a number of universities throughout Japan, and would like to summarise my findings and analysis below.

- (1) All seek to correct the division of knowledge that modernisation and industrialization has brought, and most to restore a more humanistic environment.
- (2) Specifically, emphasised points are “totality”, “correlation = integrated fields”, the “historicality” and “regionality” ideas that have been swept aside in the rush to modernize, and “nature-friendly”.
- (3) In the art-orientated institutes, previously neglected areas such as landscapes, cities, and architecture have been added in most cases, making environment design the fusion or synthesis of these diverse fields.

In fact I believe that the above is actually the traditional Japanese method of creation. In other words, the central idea behind “environment design” is something that Japan has had for many centuries, and to make it viable in the present age as well.

7. References and Notes

- 1) The actual opening date was in 1975.
- 2) MUKAI Shutaro, “Thirty-Five Years of Basic Design – Design Ideas and Formation” (foreword) Musashino Art University Faculty of Design Department of Basic Design, 2003.
- 3) IAJI Toshiro, "History Prospects of Environmental Design", Sankaido, 1996
- 4) SENDA Mitsuru, “Design for Playground Environments” Kajima Publishing, 1998
- 5) <http://www.lion-kikaku.co.jp/top.html>