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The Historical Study of Distance Education in Japan: The University of the Air

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Preface

We are standing on the threshold of XXI century and it is no a secret, that the process of mutual understanding and rapprochement is growing. This process could be referred to as a process of internationalization and globalization. It has also an impact on the education system and is characterized by the development of alternative systems for delivering education. So called "Distance education" becomes one such new and alternative system, which allows the exchange of information and experience effectively and simplifies the procedure of delivering education. Teaching and learning processes in Distance Education are carried out through means of printed materials, audio and video tapes, computer networks, satellite communication, etc.

Why has the study of Distance Education become so important and crucial? Why was this topic chosen? To answer these questions, there is a need to outline the main problems existing in the education system of present Mongolia. For 70 years, since the victory of democratic revolution for independency in 1921, the Republic of Mongolia (former People's Republic of Mongolia) has been considered a second socialist country. Before the revolution Mongolia was an underdeveloped country with archaic forms of nomadic cattle-breeding and with a predominantly nomadic population. When one thinks about the education system from today's point of view, it is difficult to classify the prerevolutionary system in Mongolia as an organized system of teaching and learning, in which everybody was actively involved. There were unstructured and uncoordinated forms of delivering education, such as private tutoring for children from prosperous sectors of the population, religious schools attached to Buddhist temples. In such schools the main emphasis was on religious canons and ceremonies, from which females were excluded. So, in pre-revolutionary Mongolia, processes of teaching and learning were fragmentary and it is not suprising that when the socialist state was founded in 1924 only 1% of the population were literate.⁽¹⁾ However, this unpleasant situation was completely changed by 1991. As a result of various campaigns and by guidance from the new model of education system, over 90% of the population were not only literate, but also had a relatively high level of education. (Compulsory education consists of 8 years of schooling). According to statistics, in 1994 about 25% of the population were involved in schooling at different levels and 16% of the work force had an university-degree education.⁽²⁾ Since the 1990's, the democratic reforms have been put into practice and now Mongolia is on a difficult and often frustrating process of transition from totalitarianism to parliament democracy; from a centrally-planned economic system to a market-oriented one.

This transition process had and continues to have a great impact on different sectors, including the education system. The reduction of budget funds on education has had a negative impact on school conditions, particularly on boarding-schools. The existence of boarding-schools is a peculiarity of the Mongolian education system. These schools are built mostly in the countryside for children of those who have livestock and who continue to follow nomadic way of life (40% of total population), and are open throughout the entire academic year. Furthermore, changes in socio-political and economic sectors have led to a change in the moral values of youth and children. As a result of the aforementioned statements, the number of drop-outs from secondary education is increasing constantly. For Mongolia, with a population of 2,2 million people, it would definitely have negatively-characterized consequences.

Therefore, the development of Distance Education system in Mongolia becomes increasingly more important and urgent, when one takes into consideration not only the processes of internationalization and globalization taking place all over the world, in which Mongolia, undoubtedly, is involved, but also from that point of view, that we have to overcome the present difficulties and find out appropriate methods of solving the various problems connected with the development of a new system of delivering education for out-of-school children, and for those who want to continue their education (continuing education, life-long education).

What is Distance Education?

Distance Education is a process of teaching and learning through various communications methods, for example, printed materials, radio and TV lessons, computer and satellite communication, which allow students to overcome different obstacles occurred during traditional face-to-face education. Distance Education is characterized by a principle of openness. This principle was used primarily in direct, study based correspondence between student and teacher. So, correspondence study could be considered as a pre-form and primary model of distance education. There are a lot of definitions of distance learning, developed by educators. They reflect the different backgrounds and experiences of the researchers concerned and are built on their practice. One such example is presented by Holmberg (1983) and is based on contemporary practices of a limited number of institutions:-

“Distance Education comprises one-way traffic by means of printed, broadcast and/or recorded presentations of learning matter and two-way traffic between students and their supporting organizations. The one-way presentation of learning matter occurs either through self-contained courses or through study guides to prescribed or recommended reading. Most of the two-way traffic usually occurs in writing, on the telephone or by other media and, usually only secondarily or as a supplement, face-to-face.”⁽³⁾

Another popular scholar Keegan (1986) defines Distance Education as:-

"Distance Education is a generic term that includes the range of teaching/learning strategies referred to as 'correspondence education' or 'correspondence study' at further education level in the United Kingdom; as 'home study' at further education level and 'independent study' at higher education level in the United States; as 'external studies' in Australia; and as 'distance teaching' or 'teaching at a distance' by the Open University of the United Kingdom. In French it is referred as 'télé-enseignement'; 'Fernstudium/Fernunterricht' in German; 'educación a distancia' in Spanish and 'teleducacao in Portuguese.'"⁽⁴⁾

And he continues, that "Distance Education is a form of education characterized by:-

- the quasi-permanent separation of teacher and learner throughout the length of the learning process; this distinguishes it from face-to-face education.
- the influence of an educational organization both in the planning and preparation of learning materials and in the provision of student support services; this distinguishes it from private study and teach-yourself programmes.
- the use of technical media; print, audio, video or computer, to unite teacher and learner and carry the content of the course.
- the provision of two-way communication so that the student may benefit from or even initiate dialogue; this distinguishes it from other uses of technology in education.
- the quasi-permanent absence of the learning group throughout the length of the learning process so that people are usually taught as individuals and not in groups, with the possibility of occasional meetings for both didactic and socialization purposes."⁽⁵⁾

Worldwide historiography of distance education

If one looks at the last two decades it is clear that research on this topic is becoming more widespread. Generally, all the literature on Distance Education can be classified into the following groups:-

1) *Bibliographic and Historiographic.* The bibliographic literature relating to Distance Education was developed by Keith Harry from the International Centre for Distance Education at the United Nations University, under the title, 'Distance Education in Western Europe: Selective annotated bibliography of current literature'.⁽⁶⁾ Although this bibliography is systematically written the author intentionally disregards the list of literature referring to materials and documents produced by institutions specializing on distance teaching and periodical publications relating to Distance Education. Harry tries to make reference to as many foreign sources as possible, concerning Distance Education but he was restricted,

therefore, the annotation of these works represents only a small portion of all available literature in each language. Another bibliographic work belongs to Holmberg and is entitled, 'Status and Trends of Distance Education'.⁽⁷⁾ Although he mentions many works he does not include a detailed annotation of each work.

2) *General and Theoretical*. Many authors, for instance, Bååth, Holmberg, Harrison have tried to accurately define Distance Education, and to outline the main ideas for future prospects. Keegan's article on Distance Education comes under this classification. Comments on this article were made in Bååth's 'On the nature of distance education'.⁽⁸⁾ Keegan also published an article headed 'Six distance education theorists' in 1983⁽⁹⁾. Also included in this group is the work of Robert Bell and Malcolm Tight, 'Open Universities: A British Tradition?' R. Bell and M. Tight⁽¹⁰⁾ widely researched and analysed problems and aspects of open and distance education. One of the most recent publications is by Terry Evans and Daryl Nation 'Opening Education: Policies and practices from open and distance education'.⁽¹¹⁾

3) *International Data*. These articles are aimed at offering detailed insight into information and the current situation of Distance Education in various countries. Within this group we include the work of Ole Aabenhus and Brian Kenworthy which comes under the title, 'Distance Education in Mongolia's political and economic transition',⁽¹²⁾ which was a result of their findings on the development of Distance Education in Mongolia.

4) *Technological Approach to Distance Education*. These works underline various technological innovations and improvements offered as solutions to the problems connected with Distance Education, for example, use of computer technology and other communication means involved in teaching methods. Daniel Minoli's 'Distance Learning Technology and Applications' is an example of such works.

Japanese historiography on Distance Education

There are two researchers of Distance Education in Japan about whom it would be reasonable to refer to, Yasutaka Shimizu and Hiromitsu Muta. The former author is one of the leading researchers on Distance Education, and he devotes his works to distance education teaching methods. He has contributed to the development of Distance Education technology and is a specialist in the Tokyo Institute of Technology. Some aspects of his research include the wide range of technological problems, the solution of which will have serious impact on Distance Education as a whole. One important contribution of the Professor and his colleagues is connected to the creation of Optical Network System, which links University campuses and is aimed at making effective use of both time and resources. In practice this system is in effect at the Tokyo Institute of Technology. One advantage of this system is that it allows the Professors to conduct their lectures or seminars to all students in various

campuses at the same time. This method of teaching has been put to experimental use in the University of the Air in Japan, Open University in Great Britain, and also in the USA. In theory Yasutaka Shimizu proved that it was possible to create 'Universities without campuses' and 'lectures without classrooms'.⁽¹³⁾ Another area of his research deals with aspects of Refresher Education through the use of Communication Satellite. His research concentrates on specific technological problems, however, his contribution to this field, in general, was significant.

Hiromitsu Muta, in his book 'Equal distribution of universities and Distance Education'⁽¹⁴⁾ made economic analysis of the University of the Air, specifically concerning Distance Education.

The level of research in Japan concerning Distance Education is relatively restricted to certain issues. This is why it is necessary to expand into further areas of this topic. To obtain a fuller understanding of this subject as whole, one must place these authors' findings into correct historical context.

Distance Education and the University of the Air

The University of the Air of Japan is an institution specializing on the distance teaching and aims at providing various academic and cultural programs through TV and radio broadcast. That is why it was chosen for historical study. Main characteristics of the University of the Air are in accordance with the definition of Distance Education. In accordance with the classification accepted in the International Centre for Distance Learning at the Open University, all institutions of Distance Education could be divided into 3 categories:-

- "1. Institutions set up exclusively to provide distance education.
2. Dual mode institutions offering both distance and face-to-face education in a range of subjects.
3. Those institutions which provide a few distance education courses alongside their predominantly face-to-face education."⁽¹⁵⁾

Based on this classification, the University of the Air could be considered as an independent distance teaching institution, offering courses through use of various media, for example, print, audio and video tapes, broadcasts, etc.

Bibliographic literature about the University of the Air

All the literature on the University of the Air could be classified into the following groups:-

1. Various documents, bills, results of sociological surveys such as data sources ('Students of

the University of the Air: Basic statistics on the 1987 student survey'/National Institute of Multimedia Education).⁽¹⁶⁾

2. General and historical works. ('The University of the Air: 10-year history').⁽¹⁷⁾

3. Works on certain topics, for example, articles on technological innovations, different problems, etc. (What's happened in the University of the Air?-H.Usami and M.Hukaya, 1989).⁽¹⁸⁾

4. Memories of those, who took part in different activities concerning the University of the Air. ('Walking 10 years: 1984-1994' - The Society for the Promotion of the University of the Air, 1994).⁽¹⁹⁾

Chapter 1. Preliminary preparation for establishing the University of the Air.

1. *Concept of the University of the Air.*

In the period 1960 to 1965, the index on entrance to a higher level school has increased and by 1965 its index achieved 34%.⁽²⁰⁾ In connection with it, it was decided that the number of the higher level educational institutions would be increased. So, there was a need to find out the new alternative ways to solve this problem. It explains why the research on practical use of electrowaves, conducted that time in the Ministry of Posts and Telecommunications, has become the main and important point in the development of the conception of their new use with educational purposes. In November 1967, the Social Education Committee, set up by the Ministry of Education, Science, Sports and Culture held an inquiry into the use of television and FM radio for educational broadcasts, which allows the expansion of opportunities of the whole population to enhance their level of education. Then, on March 29th 1969, the Social Education Committee reported to the Minister of Education, Sports and Culture, its findings about the use of TV and FM radio broadcasting, where, it was suggested that to solve problems of increasing numbers of students, the need to improve the quality of teaching, etc. After several joint meetings of the Ministry of Education, Sports and Culture and the Ministry of Posts and Telecommunications and after setting up a special 'The University of the Air Survey and Preparation Committee' and 'The Survey and Research Board (concerning the establishment of the University of the Air)', in March 1974, an important document entitled "A Basic Concept for the University of the Air (tentative name)" was presented. In this document the following 5 aspects were reflected:-

1. The University of the Air is an institution, which meets demands and requirements of young workers and public officials in their need to receive a better education.
2. The University of the Air, as a specific educational institution, aims at developing its own concept for delivering education.

3. The University of the Air aims at the development of a broader educational system for delivering general knowledge.
4. The University of the Air is an institution, responsible for educational activities at the regional level through use of television, radio and printed materials.
5. The University of the Air's aim is to develop different methods of correspondence education and to develop the basic plan for the University of the Air.⁽²¹⁾

The aforementioned statements reflect the main concepts and ideas of the University of the Air.

2. Problems of the University of the Air.

Many problems arose as consequence of the establishment of the University of the Air. The University of the Air was a specific educational institution, so therefore, at the beginning it met with the problem of 'how to broadcast educational programs'. As a solution it was suggested that NHK channel be used, but this was not an acceptable solution, because of the contradiction to the principles of neutralism and also to existing acts on broadcasting, etc. Use of NHK meant strengthening control and supervision from the Government. It would lead to losing autonomy and independency of the University of the Air. It was mentioned during an interview with people concerned that even now the University of the Air has a special agreement with NHK, according to which the University of the Air continues to be assisted. It should be noted here that there was not only this problem in the establishment of the University of the Air. Before the establishment of this University, there was a need to solve many problems. So, before the Law permitting the establishment of the University of the Air Foundation was enacted, there was a long discussion in Parliament from 1979 to June 1981, which took 133 hours of debates. This was not suprising as it was necessary to decide on solutions to the following problems:-

1. The proper legal regulation of the relations between Government and the University of the Air. It was decided that control and supervision from the Government would be limited by financial problems. In staff policy the rights of the University would be respected.
2. The need to define clearly the role of the University of the Air.
3. The problem of academic freedom. Expressing one's own attitudes and thinking in broadcasting lectures might be in conflict with the necessity to keep loyalty and neutrality in such lectures.
4. The need to revise existing laws on broadcasting which would permit the University of the

Air to receive a license for its programs.

5. To expand the territory involved in broadcasting, with use of satellite communication in the future.

3. The Basic Plan for the University of the Air.

In December 1975, the second important document was issued by the Survey Commission, which dealt with preparations for establishing the University of the Air, entitled 'The Basic Plan for the University of the Air',⁽²²⁾ and which consisted of various components, some of which are as follows:-

1. Defining the potential number of students. Although the number of those who wished to study at this University reached 6,2 million people, the University of the Air was only able to accept 23,000 people every year.
2. Organizational plan on development of the curriculum; to establish the University of the Air as an educational institution with 1 faculty of Liberal Arts which offers a wide range of subjects, and which would be divided into 240 credit units. The 3 areas of study such as Science in Everyday Life, Industrial and Social Studies, Humanities and Natural Sciences with a total of 6 majors would be offered.
3. Development of teaching/learning materials; during the first 4 years it would comprise of 40 subjects, then the next semester 20 new subjects would be added. Based on practice, some subjects would be revised and renewed on the 3rd and 4th year of study.
4. Program of supporting information network; with the aim of reaching 80% of all territory, it was necessary to support educational broadcasting in 200 local areas.
5. Tutoring and supervision; at the Seminar Houses, seminars, practical lessons, interviews and consultations would be conducted. To bring this into effect, there was a need to involve local educational institutions.
6. Organizational structure and management; in the centre, besides the Faculty of Liberal Arts, the following 3 Departments would be set up - Department for General Affairs, Department for Academic Affairs and Broadcast Department, at local levels all problems would be decided in the Organizational Centres.

Besides the problems mentioned above, issues concerning the purpose for the first period activities and the financial framework for necessary expenses were also outlined.⁽²³⁾

Undoubtedly, this 'Basic Program' was a significant document, in which the main directions and the main components for establishing the University of the Air were reflected.

Chapter 2. Establishment of the University of the Air.

Primarily, the University of the Air rented a room from an Insurance Company, Yasuda Kasai, in the city of Oote with a small number of full-time staff. Later, the office moved into a reconstructed library building in Setagayaku Shimouma.

One of the problems was connected with defining the status of the new educational institution. After long discussions, it was decided that the University of the Air Foundation would be established, meaning that this Foundation would be on a more superior level than other institutions of higher education. So, the University of the Air Foundation was established in July, 1981. Seventeen months later, in January 1983, the Ministry of Education, Science and Sports gave permission for the establishment of the University of the Air. In April 1983, the University of the Air was established and 2 years later the first students were enrolled and broadcast lectures began. The specification of all activities linked with the establishment of this university were concluded in the necessity to receive permission from 2 Ministries for the commencement of this program. It means, that to start academic activities, there was a need to ask permission of the Ministry of Education, Science and Sports and to start educational broadcasts, permission from the Ministry of Posts and Telecommunications was also required. In October 1984, the University of the Air Foundation was granted a license for the Tokyo Transmission Station, then in December, for the Maebashi Transmission Station. As a principle live broadcasting was not used. Duration of those programs lasted 18 hours, from 6 a.m. until 12 a.m.

Organizational structure of the University of the Air is similar to that of other educational institutions with one exception, the existence and function of the Broadcast Department. All Departments listed in the 'Basic plan' were set up. Full-time staff consisted of 2000 people, together with 5 600 technicians.

The majority of the budget consists of Government grants, then from tuition and admission fees. Tuition fees vary depending upon the classification of students, for example, while entrance fee for the regular student is 15 000 yen, for short-term non-degree students it is from 3000 yen to 5 000 yen. More detailed research on financial problems will be conducted in the future, because of the need to study more accurately.

Chapter 3. Summary of the 10-year development.

1. System of study and students.

All the students can be classified into the following groups:-

1. Regular students.
2. One-year non-degree students.
3. One-semester non-degree students

4. Research students

5. Special audit students/students of other universities, taking the courses here, based on inter-university credit transfer agreement/.

From the time of the first enrollment the number of students, both regular students and short-term non-degree students, is increasing continuously. The total number of students has tripled from 1985 to 1996. According to the statistics, the majority of students are female/56%/against male/44%/, and are graduates from high school/44.9%/, public officials/30%/who are specializing mostly on subjects of Human Development and Education/23.1%/and of Living and Welfare/23%/.⁽²⁴⁾

Besides Japanese students, there are about 300 foreign students from South Korea, China, Brazil, etc.

The positive attributes of the training system of the University of the Air are in simple entrance procedures, in the opportunity to choose subjects by students themselves, in the availability of textbooks in bookstores, which widen the possibility to get higher education. Also, the transfer of credits, which is practiced in the University of the Air allows students of other universities, who are in remote parts of Japan to study with programs available through TV and radio as well as video tapes and to earn credits. (The University of the Air has Mutual Credit Transfer Agreement with 95 universities).

The system of study consists of the following forms of learning/teaching:-

1. Broadcast lectures: - 2 credit-courses have 15 broadcasted lectures, lasting 45 min. each transmitted once a week by TV or radio.
2. Studying on printed study materials: - all the courses offered through broadcasting are provided by textbooks. 2-credit courses have 100-120 page textbooks, written by the lecturers who teach these courses.
3. Instruction by correspondence: - this is conducted by mid-term tests, and those students, who pass these tests can take credit certification examinations at the end of the course.
4. Credit certification examinations: - after a 15-week course is completed, students are obliged to take an examination in order to get credit.
5. Research activities: - final-year regular students can conduct research under the supervision of teaching staff.
6. Face-to-face instruction: - this is carried out at all Study Centres and allows students to receive direct instruction from teaching staff and to make contact with other students. In

order to graduate, regular students must earn 20 credits through this sort of instruction and there is a special schedule for it.

2. Faculty and areas of study.

There are 2 types of teaching staff, full-time (at the time of establishment the estimated number was 40 professors and 35 associate professors) and part-time (guest professors or visiting faculty members). The main responsibilities and functions of teaching staff are not different from those of other university teachers, but generally they rarely make contact with students.

The 3 areas of study are divided into 6 majors, such as:-

1. Science in Everyday Life:-

- a. Living and Welfare - to deepen understanding in life sciences;
- b. Human Development and Education - to obtain general knowledge on child rearing and role of education in human life.

2. Industrial and Social Studies:-

- a. Social and Economic Studies - to offer a general understanding about socio-political and economic systems;
- b. Industry and Technology - to obtain general knowledge on industrial and technological trends.

3. Humanities and Natural Sciences:-

- a. Humanities - study of modern civilization;
- b. Natural Science - general knowledge of nature.⁽²⁵⁾

Chapter 4. Survey of the University of the Air students.

In 1987, within the framework of research projects a Survey on the Consciousness of University of the Air Students was conducted by research teams of the National Institute of Multimedia Education, in which students of other universities were involved, giving a comparative picture between various higher educational institutions. The necessity of this research was created by the need to improve the educational system of the University of the Air, which was limited by one-way flow of information from teacher to learner. By 1996, the total number of the students has been tripled since 1987, from 21063 to 62031 people.⁽²⁶⁾ There was no significant qualitative change in the social status or occupation of the students, as before the majority were public officials, including bank clerks: 30% in 1987 and 34.3% in 1996. In relation to educational background we can basically make the same comments - the majority of the students have secondary education: 61.7% in 1987 and 44.9% in 1996. Despite this, the important transformation must be mentioned here, i.e. in the education level of the

students. The proportion of students with a junior college education (12.2% in 1987 and 28.5% in 1996) and students with university undergraduate and graduate degrees (14.7% in 1987 and 24.7% in 1996) has doubled from 1987 to 1996. It means that the prestige of the University of the Air and students' expectations became higher. Another change, connected with the aforementioned statement, occurred in the status of the students. In 1987, 62.8% of all students were registered as regular ones and 37.2% as short-term students, but in 1996, the indices of the regular students decreased to 41.5% and of the short-term students to 58.5%. The students with university undergraduate and graduate degrees are motivated to take only the necessary subjects for study and are not stimulated to study for a degree in the University of the Air for a long period of time unlike regular students.

More detailed comparison and analysis can be implemented after conducting new surveys to define the present situation of student consciousness.

Chapter 5. The Future Trends of Distance Education Development in Japan.

Talking about the future trends of development of the University of the Air it is impossible not to mention problems relating to the further development of a system involving the whole country. Geographically, transmission of broadcast courses is made within the Kanto area in the central part of Japan. Therefore, for those territories outside the Kanto area the use of cable TV was suggested, but in remote areas it wouldn't give the same effect in picture and sound. They decided to use satellite communication technology which will allow image communications on a nationwide level. The University of the Air intends to start broadcast study programs using satellite networks from January 1998, but before this there is a need to decide resolutions to financial problems connected with this project and to launch a communication satellite. The concept of using a communication satellite in the study system of the University of the Air arose from the opportunity to transmit study programs all over the country and to link centres and remote places for conducting the joint teleconferences, seminars, etc. With the aim of practical implementation, the project 'Space Collaboration System'⁽²⁷⁾ was set up. The purposes of this project include:-

1. Development of new and alternative forms of higher education, meaning universities and colleges situated far from each other can receive at the same time the same image, which will allow them to conduct joint study activities.
2. Taking this into account, e.i. modern society is a highly informatic society, it is necessary to use methods of transmission of image, sound and text to remote places for the development of new methods of delivering information in higher education.⁽²⁸⁾

The main content of this activities is connected with the creation of inter-university network based on the use of satellite between national universities. The main activities will be planned and conducted in the National Institute of Multimedia Education, where the special departments will be set up as 'mother departments', and each university will include

the network of 'daughter departments'. These departments will be linked through VSAT System/Very Small Aperture Terminal/, which is a control system of satellite communication between these departments. In this system digital technology will be used. Creation of such a system expands the opportunities of universities in different matters and allows them to receive necessary information from specialists. Activities on realization of this system have started and presently, 24 universities, 3 professional high schools and 9 related organizations are involved.⁽²⁹⁾

Space Collaboration System will enhance many opportunities, not only for the University of the Air, but also for other universities.

Conclusion

As a whole, the main ideas of this work can be summarized as follows:-

1. The processes of internationalization and globalization promote development of new alternative methods for delivering education. Distance Education is one of these new systems and the main method of teaching is through the use of various media, which allows them to overcome obstacles occurred during traditional face-to-face instruction.
2. This topic was chosen partly because of contemporary problems in the education system of Mongolia.
3. Historical study of the University of the Air is useful for gaining an understanding of the nature of distance education and specific problems of distance education institutions.

Problems left for more detailed study include:-

1. More detailed and concrete study of problems and aspects regarding the process of establishment of the University of the Air.
2. Study of other systems of distance education, developed in various countries for comparative historical study with the University of the Air of Japan.
3. Conducting new sociological surveys on the consciousness of the University of the Air students and a comparative study of the results.
4. Problems of the international cooperation, etc.

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