

Development and Reform of Higher Education in Taiwan and Adaptable Experiences for Mongolia

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The current Mongolian education system is in crisis because of recent year education reform policies and strategies, which were aimed to be implemented in a short period without any basis of educational complex research and proper preparation but dominantly based on political decisions, and their management errors and disadvantages during the implementation process.

According to QS University Ranking, National Taiwan University ranks 66, National Tsing Hua University, National Cheng Kung University, National Chiao Tung University, National Taiwan University of Science and Technology, and National Yang Ming University are within the range of 300. The Mongolian first and biggest university namely, the National University of Mongolia, ranks 2800 according to WEBO ranking. This clearly remarks that many issues have to be solved as well as to be learned from the world leading universities.

In order to implement Mongolian higher education reform successfully and make universities rank the same as the best international universities, we consider that conducting a comparative research on the higher education system development history, developing concept of universities, reform processes, challenges and opportunities of Taiwan is significant for Mongolian universities which are implementing higher education reforms except for trends of international higher education development. Thus, we set a goal to analyze challenging issues of Mongolian higher education sector making reforms currently by comparing with achievements and challenges of Taiwanese higher education reform processes based on two aspects of the policy and its implementation of minimizing numbers of universities and institutes which are surpassing the market demand and the other policy and its implementation of developing the world rank universities.

1. General Trends of Modern International Higher Education Developments

Education is one of the prominent backbone institutions of society, which implements a wide range of socially significant functions and it is influenced by ongoing social transformations. A feature of education in the modern world is that it simultaneously acts as one of the most conservative institutions that preserve and reproduce traditional forms and relationships. On the other hand, it is increasingly becoming a center for the reproduction of the most significant innovations and advanced practices that determine the prospects for the development of society. The number of global trends in the development of modern education is determined by general world trends and it is influenced by world social problems.

Globalization of Education

Education is embedded in the process of global economic, political, cultural integration, and unification that has been unfolding throughout the world over the past decade. A manifestation of this is the general unification of knowledge, as a result of which national educational systems go beyond state borders, the internationalization of education, and the formation of a single world educational space and the market for educational services. The globalization of education is manifested in the harmonization of country education systems with each other, the unification of educational levels and qualifications frameworks, the openness and cross-border nature of education, the ability to receive it from anywhere in the world. The processes of global integration contribute to the formation of entire regions of unification of national education 4.0. A striking example of this is the standard European educational space, formed as a result of the implementation of the Bologna Process, which has been currently joined by countries not only in Europe, but also far beyond its borders. Recently, a new powerful impetus to the expansion of the globalization of education is given by information technologies and the digitalization of education, destroying the national boundaries of education in principle and allowing us to talk about the formation of a single world digital educational space that determines new competitive conditions for all players in the educational market. However, today the pandemic has made adjustments to the scale of globalization, especially at the higher education level, by limiting the possibilities of international academic mobility, which is one of the crucial mechanisms of this process, and by mobilizing national education systems for the increased demand from local students, who were previously focused on foreign universities. According to a survey of education experts at 170 US universities, 83% of respondents expect a significant, up to 25% decline in the number of new international students in the fall 2020 semester.¹ The consequences of this can be long-term and lead to a new balance of power between the national and global in education, as well as transform the export potential of the country's leading education systems.

Popularization of Education

The popularization of education has become a global trend in education in the past fifty years due to the expansion of the social functions of the state, which has provided access to it for the general population, which has led to the transformation of education from an elite into a mass one. Thus, the share of the population of OECD countries with at least a school education is about 90%. The percentage of people with higher education in the G20 countries approached the level of 40%, and in some countries, such as Canada, Japan, South Korea, Taiwan – it exceeded 55%. The digitalization of education is accelerating this process, so the question of what the next global idea will become a new driver for the development of education around the world for the next 50-100 years is on the global agenda? Most likely, the reverse side of the massification of education,

¹ COVID-19 Report: An Outlook for International Student Recruitment | Study portals

expressed in a decrease in its quality, a certain discrediting of education, especially at higher levels, can have an impact.

Democratization of Education

Democratization of education is one of the leading trends in the development of modern education, manifested in the implementation and expansion of the rights of every person to education, opportunities for self-organization and the right to choose teachers and students in the educational process, polyvariate methods of educational activities, a variety of educational systems and forms of education. An important manifestation of the democratization of education worldwide is the reduction of state functions in the regulation of education, the development of public administration, self-government and the autonomy of educational organizations. One of the modern forms of democratization of education was the emergence of the phenomenon of mass open educational courses, which were posted by the world's leading universities on open digital platforms for a comprehensive user without any restrictions. This allowed universities to overcome all institutional boundaries that existed in education, to advance themselves in the global educational space, and to make educational content as accessible as possible from anywhere in the world to any user. In all likelihood, further democratization of education, in addition to the organizational and managerial context, will be associated with the ever-increasing possibilities of digitalization of education.

Importance of Technology in Education

The technology of education, developed gradually in recent decades and resulted in a "digital revolution", has become a leading trend in the development of education. First, information technology, and now digital technologies have radically changed the educational landscape and configuration, contributed to the emergence of new entities in education. From an interpersonal communication process, it, in fact, has turned into a technological process dependent on the use of rapidly developing information technologies. Over the past few years, fundamentally new educational online projects have emerged, which experts compare to an "avalanche of innovation"²: the phenomenon of MOOC (massive open online courses), a joint project of Harvard, MIT and Berkeley - EdX, Udacity or Coursera, and many others. In just seven years of its existence, by 2018, massive open online courses covered more than 950 universities and attracted more than 180 million users from all over the world³. A number of promising projects and platform solutions have also emerged in areas such as learning management, assessment and certification of learning outcomes, social media for teachers and students, researchers and employers, etc. It turned out that specialized digital education startups are able to more effectively perform many of the traditional functions of schools and universities - teaching, evaluating results, building communities, and more.

² Michael Barber, Katelyn Donnelly, Saad Rizvi An avalanche is coming: Higher education and the revolution ahead.

³ <https://www.classcentral.com/report/mooc-stats-2020/>

*The Growing Importance of Education in the Development of Human Capital
as the Main Factor of Economic Growth*

Human capital, which is knowledge, skills and attitudes that allow a person to create income and other useful effects, became an important factor in the development of the economy and society back in the 20th century. By investing in it, you can achieve high rates of economic growth (3-4% growth per year or more), which is a necessary condition for strengthening the position of any country in global competition. The quality of human capital is primarily shaped by the education system. In this regard, education in the modern economy is seen not as an expensive area along with social assistance, the pension system, the state apparatus, defense and security, but as an investment area that determines the rate and quality of economic growth. The importance of human capital has increased even more in the 21st century in the context of the growing role of knowledge and innovation in the economy and increasing uncertainty. Therefore, in recent decades, intellectual capital, which is the ability to generate and master innovations, has become a key element of human capital. It is acquiring the character of a decisive factor for the modernization of the economy, the transition to new technological structures and for responding to the challenges of global competition. Despite the growing socioeconomic turbulence, investment in education has been growing in recent decades.⁹ Statistics for OECD countries show that investments in education on average account for about 6.3% of total GDP on average, OECD countries spend more than 13% on education. of total budgetary expenditures: Germany - 10.4%, Belgium - 12.9%, Denmark - 14.9%, Norway - 16%, Switzerland - 16.7%, Mexico - 20.6%, Korea - 15.8 %⁴. At the same time, the individual return on investment in education is not decreasing, as evidenced by the World Bank data. It is about 9% for one year of study (on average for all countries included in the sample of the study, and for all levels of the education system over the past 50 years). The global trend, when increased investments in human capital and, above all, in education are a key instrument for responding to the challenges of global competition, is becoming largely uncontested for the leading countries. It is the education sector that is most suitable for the role of a launching pad that launches transformation processes in other industries and in the economy as a whole. That is why in developed countries the question of a new qualitative level of education is being raised, capable of providing an increase in the scientific and technical potential of society. According to World Bank Statistics, although Mongolia ranks 99 out of 189 countries according to human development index (HDI 0,737) and takes 68th place⁵ by its population education index (EI 0,736), it has been observed that a proper application of skills in labor activities is lacking a lot. This actualizes the problem of the quality of human capital reproduced in the domestic education systems, and the establishment of mechanisms for its rational use in the economy. For universities

⁴ Psacharopoulos G., Patrinos H.A. Returns to investment in education: a decennial review of the global literature. The World Bank, 2018

⁵ World Bank. Human Capital Index 2020 Update. 2020

responsible for the professional resource of intellectual capital, this, first of all, means the need to turn to the position of centers of scientific and innovative development of society.

Lifelong Education

Among the global trends in education, one should especially highlight the rapid development of lifelong education (education throughout life). Education today and in the long term has acquired the character of a socially formalized process of supporting human development in all cycles of his life from birth to death. The need for this is due not only to the accelerated processes of technical, technological and informational progress, but also to the specifics of socio-economic and demographic development. Therefore, in a dynamically changing society, lifelong education is becoming an integral factor in its development. The institutionalization of continuing education is carried out in different forms and at different levels. Continuity of education is formed both in the vertical (education by levels throughout life) and in the horizontal (parallel learning on programs of different levels, self-education) planes. In various spheres of professional activity and segments of the labor market, the processes of building a system of lifelong education, implemented throughout life, find their forms of embodiment. But in any field of activity, a person today is permanently in the educational environment, which becomes for him a natural form of stay and development, and learning, carried out in a formal and informal way, is a constant lifelong process.

Increasing Competition for Talent

The global war for talent is becoming the main driver of competition and a priority for educational institutions, corporations and entire countries on a global scale. Increasing internationalization is common in both school and university education around the world. In terms of higher education, the number of international students in the world studying outside their home country exceeded 4 million in 2010 and, according to the most conservative estimates, it was projected to reach 8 million by 2025. As a rule, students from abroad are the most mobile young people, financially secure and possessing great abilities and talent, which allows them to enter the world's leading universities. In terms of higher education, the number of international students in the world studying outside their home country exceeded 4 million in 2010 and, according to the most conservative estimates, it was projected to reach 8 million by 2025. As a rule, students from abroad are the most mobile young people, financially secure and possessing great abilities and talent, which allows them to enter the world's leading universities.

2. Reforms and Challenges of Mongolian Higher Education Sector

The Development and Trend of Mongolian Higher Education

A base of Mongolian higher education was established in 1942 when NUM was first founded and other state universities and institutes started to be independent by separating from the first university. These universities and institutes began to prepare different higher educated professionals. Moreover, there is a tradition of preparing different higher educated professionals in Russia i.e., The Soviet Union and other socialist countries. There is a history of those professionals prepared in the domestic and foreign universities to become leaders in Mongolian political, economic, social, humanitarian, cultural, and industrial developments in different periods. In 1990, Mongolia began to transfer into the market economy and started to give permissions for establishing non-state universities. Therefore, many higher education institutions started to be established and the highest number of universities and institutes became 180 for a country which has a population of 3.3 million. Today that number decreased by two times and as of 2019 a total number of 157,625 students are studying and 12,633 employees, of whom 52.8% are full time teachers, are working at 94 higher education institutions. 32.7% of students are at universities, 52.1% of students are at institutes, 7.4% of students are at colleges and 3.2% of students are at international schools. In terms of the number of higher education institutions for per 100,000 people, Mongolia is less than Russia five times, Japan 5.4 times and Turkey 15 times. According to world competitiveness report 2016-2017, Mongolian engagement in higher education ranks 39 out of 138 countries and Mongolian quality of mathematics and science education ranks 40. Furthermore, an indicator named higher education and vocational training, which is one of the 12 indicators of competitiveness, decreased to 3.8-3.5 between 2007 and 2009 but it increased by 0.1-0.3 points annually from 2010 to 2016 and in 2017 it became 4.6.⁶

In Mongolia, altogether 94 universities, institutes and colleges are running their activities and 18 of them are state, 73 of them are private and 3 of them are international branches. Moreover, 5,435 full time teachers and 136,673 students are at 35 universities (state-14 and non-state-21), 1,215 full time teachers and 17,982 students are at 52 institutes (state-4 and non-state-48), 446 students are at 6 colleges (non-state-6), and 147 students are at 3 foreign university branches. (Ministry of Education, Cultures and Sciences, 2018)

As of 2017, the expenditure of the science sector is 0.2 % (47.6 billion MNT) in gross domestic product, the expenditure of education is 13.1% (1,204,209.2 million MNT) in the state total budget and the education expense for per person is 384.5 thousand MNT. (National Statistical Commission, 2018).

If we outline Mongolian higher education development starting from 1990s, it is developing from the number increase to the content, from the content to the quality and from the quality improvement to the confirmation according to the international trend. One of the biggest

⁶ Country Background Report of Mongolia, 2019

reforms in higher education is transferring to the higher education system which is in accordance with the American system measuring the content of higher education degree by credit hours from 1998. That reform started the beginning of a new educational concept of focusing on the learning outcome and learner centered approach. Moreover, between 2003 and 2013 a higher education standard of 130 professions was approved and implemented. These standards defined the graduate's knowledge, skills and attitudes. Thus, they became a core foundation of the current notion of "learning frame" and "learning outcome". For the first time in higher education sector in 1998 an organization accreditation, in 2004 a curriculum accreditation and in 2017 pre-curriculum accreditation were started to be implemented within educational sub sectors. Currently 72 universities and institutes and over 250 curricula were accredited by Mongolian National Council for Education Accreditation, 18 educational institutions and over 90 curricula were accredited by the international accreditation institution. These can be considered as a prominent result of the higher education quality development policy.

According to International Standard Classification of Education 2013 approved by UNESCO of UNO, professional fields and indexes were approved by Resolution 235 of the Minister of MOEAS in 2010. In accordance with the resolution, names of professions are not defined by MOEAS in order to provide academic freedom but only names and indexes of the curriculum are checked and approved legally. Before the resolution there were 417 professions in 24 sectors and approximately 400 professions in the additional appendix but after the resolution they were changed into 181 curricula in 24 fields. Thus, higher education institutions started to focus on preparing skillful professionals who are able to learn life long and having fewer curricula instead of too many.

Higher education reflected on the long term plan of sustainable development such as "Mongolian Education Development Master Plan for 2006-2015" approved by the Government, "Mongolian Science and Technology Development Master Plan for 2007-2020" approved by the Parliament, and "Mongolia's Comprehensive National Development Policy Based on the Millennium Development Goals", also respectively adopted and implemented "The Sub-program to support research, study and development work of the state university" and "The sub-program for training young researchers", this shows policy makers from the beginning of this generation in higher education sector pay more attention than ever before, but it is unclear whether the result assessment of these programs have been done.⁷ As routing higher education until 2015, the policy goal set "The Master Plan for the Development of Mongolian Education for 2006-2015" including 1) "to improve learning arrangement in accessibility of higher education", 2) "to compose favorable conditions for quality assurance in higher education", and 3) "to optimize the management, financial system and administration of higher education" and presented the targets which increase the number of engineer technologists, natural sciences, teachers and agricultural specialists, generate and implement standards for training, research work, and learning

⁷ Country Background Report of Mongolia, 2019

environment, and support initiative of establishing an open university. “Mongolian Science and Technology Development Master Plan for 2007-2020” states that “the state will support to implement the establishment of universities, specialized science districts and campuses”. However, the framework of this policy is a lack of real work the exception of the “1000 Engineers” program to train specialists in engineering and technology.

The Government Action Program for 2008-2012 states that “universities, vocational schools and their branches will be located in central and local cities” and “Campuses of higher and vocational schools for geology and mining will be established in Erdenet with the support of the private sector”, also approved respectively “Higher Education Reform Map 2010-2021” and “Development route of Universities as campus” in 2010. Nothing has been done yet under this policy. Although the Government Action Program for 2012-2016 reflected creating a legal environment for university campuses, approving feasibility studies/basis of technical-economic, general and partial plans, and starting construction of the initial phase of buildings and facilities, the work in this direction has stopped with the approval of the “University campus development general plan” in 2014. In 2006-2013, ADB's “Higher Education Reform for a Knowledge-Based Society” technical assistance project was implemented in associated with the objective of improving the efficiency of the higher education sector and bringing it up to international standards, the framework with a guidance of reform policy and formulated technical documents as 4 routes.

The project was completed ahead of schedule, but was included in the approved budget and the target result of project was conducted. Since 2010 Parliament and Government approved respectively policy documents such as “Education-National Program 2021”, “State Policy on Education 2015-2024”, “Sustainable Development Concept-2030”, “National Program on Education for Sustainable Development” also, In 2018, “Policy on Development of Result-Based Education” and “National Program for Research-Based University Development”.

The procedural policies and objectives of the higher education sector are implementing on these documents, which reflected the concept of sustainable development. In 2018, under the auspices of the Prime Minister, the 2nd National Conference on “Sustainable Development-Higher Education” was organized, all representatives of this sector discussed and summarized their goals, objectives, and activities, also, made recommendations to the Parliament, the Government, the Ministry of Education, Culture and Science, and higher education institution. The Ministry of Education, Culture and Science is working to develop an action plan for implementing this recommendation. For the purpose bring the quality and efficiency of higher education to the international level, it joined the Tokyo Convention on “the Mutual Recognition for academic degree of Higher Education in the Asia-Pacific Region” and began to take relevant measures in 2018.

Although successive policy documents set specific goals for higher education enrollment and the training of foreign and domestic professionals, their implementation is not cohered accurately labor market demand, national development policies, and priorities. While the first

tuition loans were granted from 1997, whereas learn as train professionally government officials, and policy makers in prestigious schools, regardless of any professions, we have been adhering mostly on training over 40 occupations, such as engineering, technology, and natural sciences, which have been proven to be needed in Mongolia in recent years. As a view of education level for the unemployed citizens according to the Mongolian Labor Force Survey-2018, Unemployed people with technical and vocational that level of certain profession, specialized secondary and higher education are 75.0 percent of the total unemployed, while the remaining 25.0 percent are complete secondary, low educated and uneducated people. In most developing countries, the low-educated or uneducated population haven't job, while in our country, the tendency for educated people to be more unemployed is the opposite view of the relation between unemployment and education. According to the survey results, 68.4% of university graduates are employed, of which 69.6% are employed in their profession. Among university graduates, the highest employment rate was 83.2 percent in architecture graduates, whereas the employment in graduates of occupations such as computer science, medicine, physics, chemistry, biology, geography, mathematical statistics, social sciences, economics, transportation, teaching, and education analysis is 70.9-76.5%.

In order to improve the governance, management and financing of the higher education sector, strengthen organizational capacity, develop human resources, provide research facilities and equipment, and provide consulting services as funding the Ministry of Education took a \$20 million soft loan from ADB between 2012 and 2018, The Government of Mongolia provided \$2.22 million, the reform project of higher education implemented but did not achieve any results, then a number of public schools were allocated a small amount of money to purchase textbooks and equipment with the project funding, and ended with a paper report, indicating a deep crisis in the education sector. Within the framework of this project, other universities leading NUM have been actively involved in sub-projects such as the liberal arts traditional transformation of the higher education system and the dissemination of project and research results, and gradually have initiated many transformations to reform higher education through the development of research-based universities.

Education Challenges

The Basic Information Report of Mongolian education in 2019 summarizes the challenges facing the Mongolian higher education sector as follows:

- Universities approved higher education standards in 130 specialties from 2003 to 2013, and they have been following the “General requirements for bachelor's programs” and “General requirements for master's and doctoral programs” since 2014. For the purpose creating more flexible system that can be continuously improved to conform the needs of society and individuals, after have maintained “professional standard” that comply unvaried in certain time based on the core content of the study rather than the outcome of the study for Higher Education Institutions, standard has been shifted “Education curriculum” from 2014, within the framework of their

academic status in educational institutions have begun to define the skills and content of their graduates based on their learning outcomes, and to develop and validate their curricula in accordance with the above general requirements. This has led to changes in the process of assessing, improving and validating the quality of education. However, due to the lack of a systematic capacity building process for university teachers, administrators and other stakeholders to implement these reforms, the reforms implemented differently every school and the result is slow to materialize. Therefore, it is necessary to conduct an in-depth study of the process and results of curriculum reform, which is an important tool to ensure the quality of higher education, and to use the research to validate achievements and correct shortcomings.

- Curriculum development cannot be achieved without assessing the compatibility between the International Standard Classification of Higher Education (ISCED) and national characteristics such as the structure of the Mongolian labor market and pastoralism, and developing and approving a national qualification framework.

- The needs of skilled workers and highly educated professionals, who are closely linked to the development needs of the country's hard and soft infrastructure, industry, economy, services and social sectors, need to be foresighted at the national level. It is important to develop your own and external systems to be continuously improved and accredited.

- There is an urgent need for improving teacher development and teacher professional skill teacher training, and teacher supply.

- Mongolia's education system is currently in crisis due to the education reform policies and strategies of recent years and their implementation management error and deficiency, which a comprehensive baseline study of education is dominated by political solutions that are not fully based, and aimed to implement in a short-term without adequate preparation. One of the signs of the crisis in the education system is the fact that relevant rules, regulations, and legal acts have been amended several times in a short period of time to focus on their phenomena rather than on the cause of the problem, and in fact to study and discuss the experience of different contexts since 2012, which seeks to improve educational standards, curricula, curricula, teaching rights, and their core functions and assessments, which reflect the concept of “learning” as the primary production of all levels of education.

The above-mentioned changes, which are made at any level of decision-making without the continuity of traditions, without the wisdom to take, without the vision of development, without the scientific basis, can be considered to have contributed to low academic achievement, could create confusion and complexity for schools and teachers and increase the workload of teachers and students. Therefore, in order to overcome this situation, a number of working groups have been set up by the State Great Hural (Parliament) to revise the entire Education Law and to carry out large-scale reforms at all levels of the education sector.

3. From Taiwan's Experience of Higher Education Reform

The following are some of the key milestones in Taiwan's higher education reform process over the past 40 years. For example:

- In 1984, general education curriculum was introduced in university curricula. This can be seen as a shift from a technocratic approach limited to one profession and one science to a higher education style in developed countries that trains interdisciplinary, student-selective, creative, responsible, and socially active citizens and professionals.
- In 1987, the transformation of nine teacher colleges into teacher training colleges marked the beginning of efforts to improve the quality of higher education, and was the first decision to further increase the number of higher education institutions in Taiwan. Later, in 1994, a number of decisions were made to increase the number of high schools and universities, and the number of universities increased dramatically.
- In 1994, the "University Law" was completely revised, major changes were made in the selection of the university director and the activities of the university assembly.
- Since 1994, universities have successfully experimented with the "recommended selection" form of enrollment, leading to changes such as the introduction of multiple admissions programs and separate enrollment and examinations.
- The fact that In 1995, the list of compulsory subjects in universities was considered unconstitutional is led to the universities have become completely independent in developing curricula.
In 2000, the Ministry of Education launched a four-year "University Academic Excellence Project" to create a mechanism to support competition among universities in the development of research. As launched the Development Plan for World Class Universities and Research Centers for Excellence in 2005, universities have created domestic competition for government funding to improve their research capacity and increase their international competitiveness.
- In 2005, the "University Law" was revised to include important provisions of the law related to university evaluation.
- Looking back there has been specially paid attention on result of project, and focus on research and ignore teaching in the higher education sector from 2017, the ministry of education developed Higher Education Sprout Project and selected on many indicators such as university performance, academic capacity, and number of students, and continued its competitive government financial support program in 2018.

Public policy, planning and implementation can be seen as an example of both the policy of reducing the number of overcrowded universities in Mongolia and Taiwan, and its implementation, as well as the policy and implementation of developing world-class universities

and aimed to analyze the achievements and challenges of Taiwan's higher education reform process in relation to the current challenges facing Mongolia's higher education sector.

(1) Policy and implementation to reduce the number of universities

The globalization of higher education, which began in the 20th century and provided popularization, has also become a reality in Taiwan.

From the mid-1980s onwards, the demand for higher education began to increase significantly because of the economy developed rapidly and society became more open. The higher education sector, which initially had more than 5,000 students in one university and three colleges in 1949, grew to 137 in 1996 and 162 in 2012, bringing the total number of students from 356,000 to 1,253,000. The number of university teachers increased from 37,000 to 50,000 in 1996. As of 2019, there are 110 universities in operation, of which 81 are universities, 13 are colleges and 16 are colleges. With the increase in university enrollment opportunities for high school graduates, university enrollment among 18-21 year olds has risen sharply from 15% in 1988 to 71% 20 years later by 2018. In 1995-2018, the number of private universities increased from 26 to 95, a 3.7-fold increase. However, the number of state-owned universities increased from 34 to 46 or 1.4 times. At the same time, the number of specialized colleges has dropped significantly since 1995, from 74 in 1995 to 12 in 2018. In other words, the increase in the number of Taiwanese universities is directly related to the establishment of a large number of private schools and the transformation of specialized colleges into universities.

Although higher education system supply needs of society, the sharp increase in the number of universities has led to a decline in the quality and competitiveness of higher education. The number of universities has also risen sharply in Mongolia. In 1990, a democratic society made transition into the market economy, and the private property was allowed to the public. During that time there were only more than 10 public universities, but within 10 years, in 2004 it had been increased to peaked 184 also more than 90,000 students used to study in it. With such a sharp increase in the number of universities, the number of private universities has been established in response to the social demand for higher education, similar to that in Taiwan.

It is also common for both countries to mechanically increase the number of universities by increasing the number of educational institutions. For example, it was common for colleges and vocational schools to become universities and colleges.

In Taiwan, the Ministry of Education had issued a number of documents to restructure high-performance vocational schools into technical colleges and technical colleges into universities of technology between 1995 and 1996. (「绩优专校改制技术学院附设专科部申请办法」, 「八十六学年度教育部遴选专科学校改制技术学院并核准附设专科部实施办法」, 「绩优技术学院改名技术大学」) In 2003, the government proposed a “one county-one university” decision, for example, to upgrade Yilan Technical University to Yilan State University of Technology and Taitung Teachers' Training College to Taidung State University. As a result of

these processes, many universities have been transformed into a series of universities, and the number of universities has increased by three times.

The number of public and private universities per 100,000 people is more than 5- and 15-times Russia, Japan especially in Turkey. Although Mongolia and Taiwan have different factors, such as socio-economic development, population size, and age structure, the number of universities per capita is clearly an overestimation for a sparsely populated Mongolia. Having too many universities has a negative impact on the quality of education, such as the loss of diplomas, rising unemployment for graduates, and declining student motivation. It is also an inefficient expenditure of capital, resources, finances, and the economy as a whole on society. If someone who has money wants to graduate university that person can buy any university degree in spite of not studying at university. (张国成, 2012). Despite the rapid growth in the number of universities, many Taiwanese researchers have concluded that many of them did not fully understand the nature of the university, the concept of university development, and its management. This is also the biggest fundamental problem in the Mongolian higher education system, and it is unfortunate that politically blind policies and decisions have a significant negative impact on the development of the university.

Since 2010 in Taiwan, due to the birth rates has decreased, the age of population had changed. It was called “child decline”. The declining birth rate has influenced directly enrollment of university, in that condition many universities need to be reformed or abolished.

According to some media reports, the Taiwanese government not only has been working to reduce the number of universities but also, they have been planning that by 2023 the number of public universities will have been become to 8-12 and the number of private universities will have been reached to 20-40 since 2008. The process of reducing the number of universities is being implemented in three main ways: mergers, the withdrawal of schools from the market, and the transformation of schools into new environments. Public schools are relatively more competitive than private schools, as they have received financial support from the government for many years. Therefore, there is a tendency for private schools to be squeezed out of the market, and for public schools to be transformed and merged. The process of withdrawal or liquidation is different from the voluntary liquidation of a school or the decision of a higher authority.

The government encourages the process of merging schools and provides financial assistance, which is implemented in two ways. These include:

- To merge comprehensive university with a specialized university, this integration allows students to study across branches of university. For example, in 2008, National Dong Hwa University merged with National Hualien University of Education to form National Dong Hwa University. In 2014, National Pingtung University of Education merged with National Pingtung Institute of Commerce to form National Pingtung University, and National Tsing Hua University merged with National Hsinchu University of Education to form National Tsing Hua University.

- One-way, geographically close schools with similar development policies and visions. This merger will eliminate duplication and redistribute resources efficiently, increasing the size and economic efficiency of the school. Thus, in 2018, the National Kaohsiung University of Applied Sciences, the National Kaohsiung First University of Science and Technology and the National Kaohsiung Marine University merged to form the National Kaohsiung University of Science and Technology.

Transformation of universities means restructuring in line with modern requirements, reorganizing cross-sectoral departments and research institutes, reforming curricula, introducing innovations, and developing artificial intelligence to improve competitiveness and efficiency.

As a result of the transformation, two schools in Tainan and one college in Pingtung were transformed into primary schools. For example, CTBC Business School and the University of Kang Ning have been restructured. Kao Fong College of Digital Contents was the first example of the liquidation of the private sector in 2014 due to financial difficulties in order not to cease operations in market conditions. later restructured in 2018, the university became a primary school and was the first example. In addition to the form of ownership, the geographical location of universities has a significant impact on the successful development of universities. However, two schools in Taiwan's second largest city, Kaohsiung, two in Pingtung, and one in Miaoli were closed.

In contrast to Taiwan, where the birth rate is declining and the population is aging, Mongolia is a young country, with half of the population aged 27.9. Based on the NSO's population growth forecast for 2030, the number of students in educational institutions is projected to increase to 179,695 in 2021, 189,079 in 2025, and 277,335 in 2030, compared to the 2018 baseline. According to the forecast, the number of middle and high school students is expected to increase by 56 percent by 2025 and by 71 percent by 2030. The number of young people aged 18-22 receiving higher education is expected to increase by 46 percent by 2030. Dozens of private universities have been established in Ulaanbaatar since 1990, following economic and social development, infrastructure, and population densities, with little or no investment. It is natural that about 90 schools were built in more than 10 years without overcoming market competition due to the small size of the schools.

In the case of Mongolia, there is a need to focus on the future existence of many surplus universities, the concept of school development and management. The government has not taken any action, leaving the fate of too many universities to be decided by the market in general. In recent years, however, the public administration has taken measures to stop the process if it does not meet the criteria for educational accreditation. Another feature is that Mongolia has a large number of private universities affiliated with politically influential people. The number of universities almost halved to 170 in 2006, 99 in 2012, and 94 in 2018. However, the total number of students was 142,411 in 2006, peaking in 2014 at 178,295, and declining in recent years to 157,625 in 2018. In 2010, the government merged state-owned schools, and in the case of non-

state-owned schools, enrollment in the market was naturally low and schools were forced out of the market.⁸

It is unclear how many issues, such as the loss of teachers and students' interests and the lack of resources, will be resolved, and the lack of government regulation will affect the interests of teachers and students, as well as the inefficient use of educational resources. In a similar situation, how Taiwan's government intervention has been an important experience for us.

At a time when the declining birth rate in the higher education sector is having a negative impact, the criteria for the dissolution (exit from the market) of the Taiwanese public administration are clearly set out in the legal framework. The Taiwanese Ministry of Education will be dissolved in accordance with Article 69 of the Law on Private Schools in the following cases: These include:

- In case of imbalance of school income and expenditure and debt exceeds assets (5 years in a row)
- In case of unpaid debts of teachers and staff (1 year)
- Lost teacher-student ratio (MUST less than 32: 1, Institute of Technology, college less than 35: 1, 5 years in a row)
- Decrease in procurement of training and research equipment by 10% annually (5 years in a row)
- In case of uncertainty of accounting and financial statements and violation of relevant laws (5 years in a row)

Although the evaluation process was overly documented, skimmed, annoying, and creating mistrust and misunderstanding between public and private schools, leaving education directly in the hands of the market could have the same effect as opening a Pandora's box later according to some researchers⁹.

The "Procedure for Transformation and Leaving the Private Universities" approved by the Executive Yuan of Taiwan in 2017 sets out the criteria for liquidation and change based on the following four key indicators. (1) the total number of students is less than 3,000 and the enrollment of new students is less than 60%; (2) the organization's valuation is low; (3) long-term non-payment of salaries to teachers and staff; (4) in case of violation of the law. The above provisions have a negative impact on small schools operating in remote areas, whether there is a fair and transparent assessment, and whether the number of students is justified. Article 17 of the regulation provides that legal entities that have already been liquidated will be compensated in accordance with the relevant law, and Article 19 provides for the payment of unpaid salaries, allowances and annual insurance gaps to the insured.

⁸ Country Background Report of Mongolia. 2019

⁹ 劉世閔. 大学退场机制——市场机制还是潘多拉盒? 臺灣教育評論月刊, 2019, 8 (4)

Taiwan's example illustrates how to effectively manage and allocate educational resources, and to organize the legal environment, policies, planning, and administration to reduce the number of low-quality universities that do not meet market demand.

(2) Taiwanese Experience on Developing the World's Best Universities

The Times Higher Education (THE), Quacquarelli Symonds (QS), Academic Ranking of World Universities (ARWU), and Webometrics Ranking of World Universities (WRWU) rank universities internationally. It focuses on a number of criteria, including the number of articles and citations published in professional journals, research projects, funding, number of students per teacher, proportion of foreign teachers and students, ratio of undergraduate and doctoral students, and share of research and innovation income. Countries around the world have highly focused on the development of science and advanced technology as a research university, with the development of science and knowledge economy as the main driving force. On the other hand, to develop the best world-class university means to develop a research-based university. The main activity of the research university is to focus on research and research work, which aims to create new scientific knowledge, provide more advanced training, and to develop self-developing, flexible and creative professionals.

In other words, a research university is not an institution that conducts mass training as it does in Mongolia, but an institution that conducts research and does elite training. The research university employs leading internationally recognized leading researchers and enrolls the most skillful students. In addition to conducting international theoretical research, professors conduct technological and applied research to determine social development and for the graduates, they are able to think creatively and critically, rather than verbally memorizing and following the teacher's example, and graduates have both self-improvement skills, flexibility and competitiveness. This is the main difference between a research university and today's Mongolian universities.

Countries that have developed their universities and defined their development policies based on them are more developed than others, as can be easily seen in the examples from the USA, Canada, most of the Western European countries and of many East Asian countries, such as Japan, Korea, Singapore, Hong Kong, Taiwan.

Establishing a world-class research university requires many years of consistent policy and significant funding from the government. In addition, fundamental factors such as highly intelligent faculty and students, adequate financial resources, good politics of academic independence apart from governance, are also important. The international experience of establishing a research university shows that each country has chosen a number of approaches depending on its specifics. For example, in some countries, special attention has been paid to the development of a university through legal, financial, investment, and governance policies.

Examples include Seoul National University in Korea, Moscow University in Russia and more. All of these schools have their own legal status and development policies. Other countries

have established new research universities. We can name some examples, the Hong Kong University of Science and Technology, founded in 1991, the University of Hong Kong, founded in 1994, and, Kazakhstan's L.N. LNGumilyov Eurasian National University founded in 1996 and the Abdullah Khan University of Saudi Arabia, founded in 2009. Some countries are establishing research universities by merging and strengthening several universities. Russian universities are an example of this. In some countries, research centers and advanced schools have been established and then expanded into research universities. Examples include Korea's Institute of Advanced Science and Technology, Guangzhou Institute of Science and Technology, and Pohang University of Science and Technology. All of these universities are ranked by international organizations and are among the world's leading universities. Until the mid-2000s, most German universities were evenly funded by the state. The 'Excellenzinitiative' program was launched in 2006 under the Chancellor Gerhard Schroeder's government. The best development concept has been developed, advanced training has been combined with research projects, and leading universities have been established by investing billions of extra-budgetary funds in the newly established high-level research cluster. This is an example of a research university being established by selecting and supporting the best universities. The program implemented in Germany is continuing as either 'Exzellenzstrategie' or 'Best Strategy' program from 2019.

There are several programs launched to support the best academic and research since 1998 in Taiwan. For example: for 4 years University Academic Excellence Project 「大學學術追求卓越發展計畫」 in 2000, "Promoting University General Education Program" (「提升大學基礎教育計畫」) in 2001, "Promoting University International Competitiveness Program" (「提升大學國際競爭力計畫」), "University Integration and Cross-University Research Center Program" (「大學整並及跨校性大學研究中心計畫」), "University Science and Technology Department Talent Cultivation Plan" (「大學科技系所人才培育計畫」), "Promoting Research University Infrastructure Plan" (「提升推動研究型大學基礎設施計畫」) in 2002 etc.

The Ministry of Education has only started "Promoting Research University Integration Project" (「推動研究型大學整合計畫」) since 2002. Within three years of the project, 10 billion budgets were formally selected to develop world-class research universities in four ways: "intra-school integration", "inter-school integration", "university system" and "merger". Seven universities of the country were officially chosen. These include: National Taiwan University, National Tsing Hua University, National Yang-Ming Chiao Tung University, 2021 National Yang-Ming University and National Chiao Tung University, National Cheng Kung University, National Central University, and National Sun Yat-Sen University. Moreover, in 2005, it is launched program "Development Plan for World Class Universities (「發展國際一流大學及頂尖研究中心計畫」) and Research Centers for Excellence" and a total of 163 world universities were selected to support the development of world-class universities with a budget of 50 billion dollars. The main objective of the project is to improve the academic and research levels of the internal universities and to rank the world's top universities in two stages until 2017 and second

stage of the project has been named the "Stepping towards Premier University Plan" (「邁向頂尖大學計畫」) since 2011. During the first stage of the project, which selected from 2006-2010 with 17 schools, from 2008-2010 with 15 schools, and 5 research centers, the project received more than 3 billion or more funding each year by 2009. it was the most budget from the project. National Taiwan University (NTU) concluded that this stage of the project had been successfully completed by ranking the world's top 100 universities, while NTU has set a goal of further ranking the top 50 schools of the world. (王維玲, 2010; 何卓飛, 2009). A total of 12 universities and 34 research centers were chosen and received financial support in the second stage of the project in 2011-2017.

Furthermore, the Ministry of Education launched a "University Teaching Excellence Project" (「獎勵大學教學卓越計畫」), in 2005 to increase competition between domestic universities, improve the quality of training, develop teacher qualifications and student learning motivation and outcomes, and improve curriculum evaluation and curriculum planning systems. Since 2013, a "Plan for Developing Technological University Paradigms" (「發展典範科技大學計劃」) aimed at research of Mongolian University of Science and Technology connects with manufacturing and training professionals with practical skills has been implemented.

The Ministry of Education concluded that the effectiveness of these projects was achieved by Taiwanese universities to establish global rank, improve international recognition and teaching skills, develop excellent talent, enrolling top foreign teachers, producing excellent academic results, and collaborating with industry and universities. innovate in manufacturing business, and advance in university internationalization and foreign cooperation, and top professionals.¹⁰

Despite such good results, the researchers believe there have been some worse effects in the application process for these programs and projects. For instance: Most schools has begun to raise academic and research performance by participating in the Stepping towards Premier University Plan to receive high-value funding instead of \$16 billion, a relatively small amount of funding. This trend of Focus on research and ignore teaching at universities is clear from the funding of these projects. For example, the stepping towards Premier University Plan, which emphasizes academic and research at universities, total funding was \$98.35 billion, while the total funding for the University Teaching Excellence Project was \$19.74 billion i.e. it was 5 times less. (劉秀曦等, 2020).

Another worse-effect is that some teachers were obsessed with publishing as many articles as possible, and the quality of research issues being abandoned. Many universities focus solely on increasing the number and performance of research, in 2017, the broke out about fake academic articles by academic researchers at the university began to erupt into society, demanding that

¹⁰劉國兆 (2014)。臺灣「邁向頂尖大學」政策之論述分析：後結構主義觀點。臺灣教育社會學研究 十四卷二期, 2014.12

educational institutions and universities take academic integrity and academic ethics seriously.¹¹ The overwhelming pursuit of research indicators has also begun to have negative consequences for many schools. There are functional overlapping and the elimination of their own characteristics and advantages. According to Professor Si-Chen Lee, director of NUT, said, "Because there is no mechanism for classifying universities in a normal way, they are all evolving into research universities. Also, he said that "140 universities of the country should be prioritized only by the principle of a pyramid." ¹²

One issue that the researchers present in their different positions is the scope of participation in these projects. Although schools are receiving project funding through competition, some university leadership has criticized the participation of public universities located in major cities are greater than small private universities. Moreover, there has also been a tendency to question the audit process of projects, its glass status, and its usage assessment. Under the condition, some university principals said that " universities which received and did not receive funding, diverse types of innovation, and the scientific sectors being developed by schools has widened in educational resources area.¹³ Whereas, the former minister of the Ministry of Education stated in the newspaper that it was wrong to provide funding to universities on the principle of equality, and instead of that , it was possible to develop real-world-class universities by supporting a few major schools, and projects should be directed to it. ¹⁴

Following the projects and programs which were implemented between 2005 and 2017, the first 10 years of the Top University and Excellent Research Center Project and the Program for Promoting Teaching Excellence Universities as well, Taiwan's Ministry of Education has launched a five-year Higher Education Sprout Project (abbreviated as HESP) 「高等教育深耕計劃」) to spur the enhancement of higher education in Taiwan from 2018, with NT\$ 86.85 billion (equivalent to approximately \$ 2.9 billion) investment. The project is code named "Sprout", which is the acronym of "Sustained *P*rogress and *R*ise of *U*niversities in *T*aiwan". In this project, words such as 'top university', 'research university' and 'excellence' are not used so it is possible to consider that a higher education development concept has begun to focus on the quality and changed into a trend of transferring from "aim high" to "aim deep." The project is divided into two parts, the first part aims to comprehensively enhance the quality of universities and promote the diversification of higher education so as to secure students' equal right to education. The second part, which aims to reinforce international competitiveness through facilitating universities to

¹¹劉源俊（2021）。高等教育之改革，路漫漫其長遠。台灣教育評論月刊， 10（1）

¹²鄭海音（2014）。大學如何分類？校長提建言。《評鑑雙月刊》第十一期

¹³王如哲等（2020）。高等教育在危機之中：臺灣重要高教政策推動之現況、問題與對策分析。教育研究月刊， 2020.06

¹⁴黃榮村（2018）。正需再踢臨門一腳時，反而蔓延高教虛無主義。
<https://www.thenewslens.com/article/99612>

achieve world-class status and developing cutting-edge research centers, will cooperate with the Ministry of Science and Technology together with funding support.

(1) The First Part: Reinforce Quality of Universities and Encourage Multi-faceted Development

The contents of the first part will focus on four categories (The amount of funding is 11,37 billion NT\$ and the following criteria have been specifically focused on):

- Taking teaching as the core, aims to raise the willingness of self-learning and lifelong education to cultivate students' abilities of critical thinking and cooperation for a) finding issues, b) analyzing problems and c) solving problems. For this, we (The Ministry of Education is stimulating) encourage university teachers to innovate teaching methods, establish faculty professional communities, and to conduct practical research on the improvement of instruction and pedagogy.
- Making resources more public, focuses on the productivity and effectiveness of the university development through both the establishment of Institutional Research (IR) to self-monitor school performance and accountability and the publication of the relevant information and data of university performance and management.
- Developing university features, encourages universities to identify their own advantageous areas and strengths so that the whole system of higher education in Taiwan will be of multiple characteristics. The flourish of various aspects, i.e., industry-academia collaboration, internationalization, academic-oriented research capacity, teaching-oriented capacity, or international competitiveness, would make the Taiwanese higher education system more sustainable.
- Fulfilling social responsibility, stresses universities' function as a social innovation facilitator and a nexus of regional industry-academia partnership. Universities are encouraged to take on their social responsibility on the aspects of local caring, and industrial and cultural innovation through teachers and students' communal involvement within the local development.

(2) The Second Part: Enhance International Competitiveness

The Second Part of the HESP aims to facilitate universities to the sphere of excellence and build leading research centers to reinforce international competitiveness, nurture and actively recruit outstanding talents to empower academic energy, and to promote economic growth, ultimately increasing overall international competitiveness. The Second Part of the HESP is composed of two programs: (1) the Whole-School Program and (2) the Specialized Areas Research Center Program. Both programs seek to encourage Taiwanese universities to increase the international competitiveness, foster international influence and make international contribution through outstanding research and teaching. According to the application requirement for eligible universities, those that meet the requirements could decide which project or both they wish to apply. The Whole-School Program, hereinafter focuses on assisting comprehensive universities

with versatile international competitiveness to continuously strengthen international academic influence and visibility from the past accumulated research capacity. Энд National Taiwan University, National Tsing Hua University, National Chiao Tung University, National Cheng Kung University хамрагдаж, нийт 4 тэрбум санхүүжилт олгоно. The Featured Areas Research Center Program aims to build leading research centers through each university's specialty and industry resource integration to establish global leading position, and to encourage universities to propose national development plan as the goal of research management and sixty-five research centers of twenty-four universities are included and the funding of 1,3 billion NT\$ is planned to be granted. (MOEAS, 2018). As of 2021, in the first part of the project thirty-three state universities, fifteen universities of science and technology, thirty-seven private universities and institutes and sixty-five universities of science and technology and technical colleges were funded and in Whole-School Program, which was mentioned in the second part, four universities and twenty-three university research institutions.

The content, implementation, and results of these projects, reform of higher education in Taiwan since 2005, can present that there are many lessons to be learned to address the many challenges facing Mongolia's higher education sector, which began in 2014. A review of projects undertaken since 2005 by Taiwan shows that the state policy on higher education has been well-planned and structured, such as audits, equality, justice assessments, utilization, outcome reporting, and transparency, which clearly specify the content of the projects, the duration of implementation, the amount of funding and benchmarks that have enabled the entire sector to be inclusive. Firstly, in Mongolia the government policy planning, financing, utilization, and control mechanisms has been developed very poorly. The example of NUM in planning and implementing policies for the development of research universities that are planned to be implemented within the framework of higher education reform:

According to the Mongolia's Government Program for Action 2016-2020 on developing a research university of Mongolia: In 3.2.18, "... to create conditions for implementing research-based policies and planning." In the policy document "Mongolian Concept for Sustainable Development 2030" approved by the FGM in 2016 reads: "... under 4 national universities will probably be ranked among Asia's top universities by 2025". Policy on Science and Technology in 4.2.6 "support funding and investment in the development of large research-based courses" approved by Mongolian Government. Furthermore, the government approved for four years "National Program for the Development of Research University" in 2018 but the program has not been implemented yet. Since 1990, the transition to a free democratic society with a market economy, government-provided funding has stalled, so universities have remained unchanged at all by multiplying their student numbers solely for the sake of existence. In 2019, authorities began to identify the possibility of ranking 500 to 1,000 universities around the world within the next 15 years by combining several Mongolian public property schools, forgetting their goal of ranking four national universities in Asia's top 100 schools. They believe that if they combine eight public property universities, they will grow up to be adults and will be highly valued for Global

Organization. It is indicating that inconstant and non-scientific idea of government policy of education sector. Within the framework of higher education reform, the government decided to combine the University of Ulaanbaatar and the University of Commerce into NUM in 2010. At the time, these schools had a lower rate of NUM at any rate. The two schools were separated back in 2015 by politicians' decision. Until now, both universities had not been able to become a better university, but as a result, the standard of NUM had fallen to a lesser extent, resulting in financial and reputational damage. In 2014, a major reform called a "creative change" was launched by NUM teachers, who felt it necessary to reform the university in order to keep on with international universities, academic researchers and the rapidly changing world. Accordance with the change, many innovations have increased in the work of NUM, and distorted advances have begun to emerge. For example, by eliminating, integrating, efficiently using and locating structures, and expanding 14 component schools, 94 departments to 6 schools and 33 departments, there was an opportunity to implement a unified policy of training, research, and financial investment. It can be considered as an example of the other Mongolian universities by introducing major system reforms, such as establishing a liberal back system, transforming information evaluation systems, improving research, selecting students, enabling students to study in pairs and vocational courses, and spending effectively on budgets. Within the framework of the research university and development strategy, teachers with professors and vice-presidents of NUM have taken important steps to support and develop research, such as providing annual research costs of 1-2 million MNT, granting three types of research, and supporting internal academic journals. As a result, 73 articles by NUM teachers were published in the Web of Science Index in 2018, and 1,025 quotes were presided over in Mongolia.¹⁵

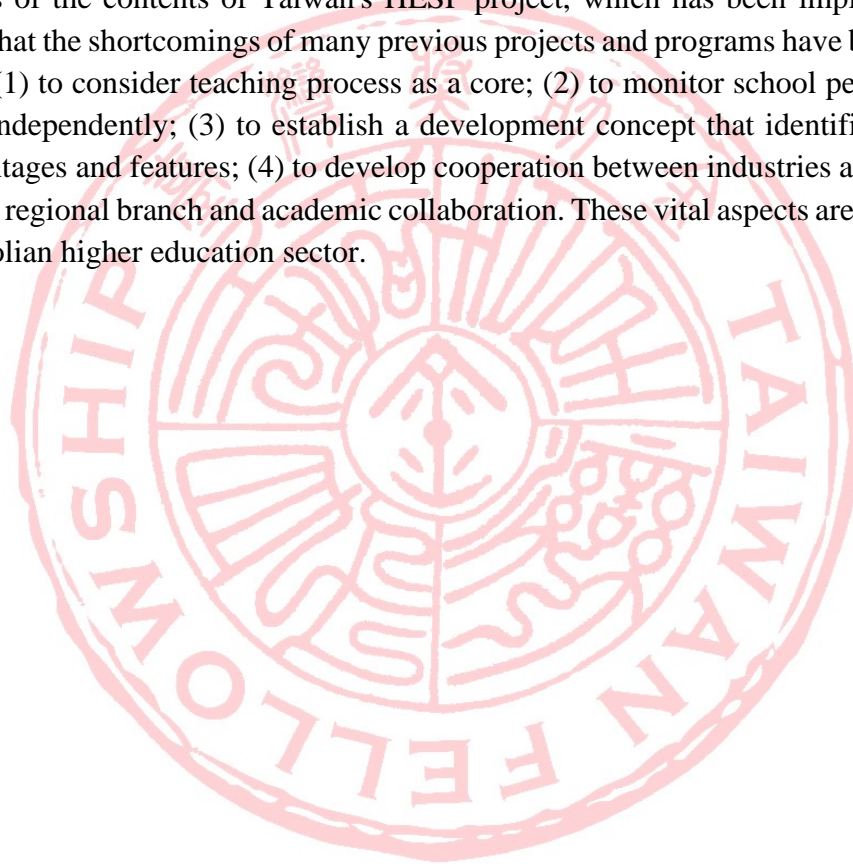
As a result of that change, many innovations have increased in the work of NUM, and distorted advances have begun to emerge, but the politicians have been hampered. Whether they had fired their director for a year or not, and the new political appointee sat down and stopped the entire reform process. Even though our government has not implemented a comprehensive policy on the development of universities, it has continued to be independent of its principal. The government is essential to the shape and stability of the research university. International researchers have developed a model that appropriately reflects government policies, public participation, and academic leadership in university administration. The whole university administration has to be independent of politics, because it's an academic institution. Early in 2016, the Education Package Act was amended to ensure that a university principal is elected independently of the state, or elected by his Governing Body. But after the election, the authorities rushed to change the law and took the university's principal to his former residence as a minister. Because it makes sense to anyone, and a lot of private universities are owned by politicians. Our ministers and leaderships say nothing about how to deal with low- quality private universities.

¹⁵ Galtbayar A., Otgonbayar M. (2019) Mongolian Higher Education Reform and Tendency (A Case Study of NUM) Mongolian Higher Education Development and Perspective, Scientific Conference Publication.

Therefore, there is imperative that the education package include relevant changes to the law and the higher education law.

On the other hand, Taiwan's experience shows that while there has been tremendous progress in developing research within the framework of the goal of developing it as a research university, there may be distortions such as numerous pursuits, fake works, and articles. For example, assessments of teacher performance require many indicators of research. Therefore, there are abandoning training and adverse effects on the quality of school in order to researchers and teachers tend to emphasize research.

Analysis of the contents of Taiwan's HESP project, which has been implemented since 2017, suggests that the shortcomings of many previous projects and programs have been corrected. These include: (1) to consider teaching process as a core; (2) to monitor school performance and accountability independently; (3) to establish a development concept that identifies universities with their advantages and features; (4) to develop cooperation between industries and schools and to emphasize on regional branch and academic collaboration. These vital aspects are also important issues in Mongolian higher education sector.



Conclusion

The following conclusion is drawn based on the analysis of considering the state policy, planning and implementation in terms of the two aspects namely, the policy and its implementation of minimizing numbers of universities and institutes which are surpassing the market demand and the other policy and its implementation of developing the world rank universities in Taiwan and Mongolia as well as integrating a number of achievements and challenges of Taiwanese higher education ongoing reform processes with the current challenging issues of Mongolian higher education sector which is engaged in the reform.

1. The Taiwanese successful education experience of ranking the world top 100 universities by developing research universities, devising the higher education development strategy and new planning for developing top universities which have the world standard, selecting and implementing the interrelated projects and programs among domestic universities and institutes, consolidating collaborative activities of research and industrial training and developing the new technology and innovation indicates that the state policy in the higher education sector has a proper mechanism of providing planning, administration, organization and implementation.
2. Creating the university development concept to focus on the world ranking and research was observed to have a negative influence on the teaching and its quality so it was corrected on time and a proper policy which states that taking teaching as the core, aims to raise the willingness of self-learning and lifelong education to cultivate students' abilities, encourage university teachers to innovate teaching methods started to be implemented. This experience can be considered to be significant for Mongolian universities which are starting to develop the policy documents of establishing research universities at present.
3. The Taiwanese experience clearly shows that it is important to define and implement the development concept of its advantages and characteristics by applying a proper policy of selecting the country's resource locations.

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