

EXPERIENCE OF THE MONGOLIAN EDUCATION REFORM AND MAIN ISSUES

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Abstract

Mongolia is one of the countries in the world with the largest number of pastoralists. However, many pastoralists still face many challenges (Fratkin & Meir, 2005; Stolpe, 2016). On the other hand, since the post-Soviet market economic reforms of 1990, significant socio-economic changes have taken place in Mongolia, which have had a strong impact on the equality of the education sector (Ahearn & Bumochir, 2016; Steiner-Khamisi & Gerelmaa, 2008; Stolpe, 2016; Batkhuyag & Dondogdulam, 2018). However, we know that greater equality in education is not only beneficial to society, but also a way to increase economic growth (Hanushek and Woessmann, 2010). To overcome these difficulties, the education system has been reformed several times and borrowed or localized internationally used education system models to meet international standards. Unfortunately, the education sector does not have adequate schooling for children with disabilities, ethnic minorities, rural and remote herders, and the gap in academic achievement between these students has intensified in recent years. Therefore, this study aims to assess the current state of the education system and identify the causes of the biggest problems based on statistical and literature reviews. Student achievement levels vary, with student achievement declining year after year for unknown reasons, such as children living in low-income, remote rural areas, ethnic minorities, and children in dormitories. In the future, there is a need to further study the factors influencing this key issue in line with Mongolia's nomadic style and to further improve the education system.

Keywords: Education system, Disadvantaged students, Dropout in school, Student achievement.
JEL Codes: A20.

Citation : Khurelbaatar, S. (2020). Experience of the Mongolian Education Reform and Main Issues, *Review of Socio- Economic Perspectives, Vol 5(4)*, 121-140.

Article Type: Research / Original Article
Application Date: 10.08.2020 & **Admission Date:** 20.11.2020
DOI: 10.19275/RSEP100

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1. Introduction

Mongolia has one of the largest number of pastoralists in the world. Territorially vast, with a population of just over 3 million, the population is scattered and nomadic. More than 60 percent of the population lives in remote rural areas. Eighty-two percent of the country's population is Khalkh, with the rest being Kazakhs, Durvuds, Bayads, and Buryats, and 0.6 percent are foreigners from China, Russia, and Korea. The official and main language is Mongolian and some ethnic languages are spoken, for example, Kazakhs speak Kazakh. The climate is dry and harsh, with temperatures of -40 degrees Celsius in winter and +40 degrees Celsius in summer, and four seasons of a year.. Mongolia is an independent parliamentary republic with a sparse population, administratively divided into the capital city and 21 provinces (aimags), the capital city into 9 districts, and the provinces into sub-provinces (soums) and sub-soums (bags). The dominant religion is Buddhism.

The social reform taken in the 1990s resulted in significant changes in Mongolia's political, social, and economic sectors (Steiner-Khamsi & Stolpe, 2006, 2008; ADB, 2008). Consequently, the transition period has had a strong impact on the country's education system (e.g. dropout, student achievement, enrollment, lack of school instruction, dormitories, minority background, male-female discrepancy, teachers discrimination), requiring more focus on education equality (Aassve& Altankhuyag, 2002; Weidman & Yoder, 2010; Sukhbaatar, 2014). In particular, “a young person born in a household living out of \$1 a day has a ceteris paribus probability about 4 times greater of dropping out of school” (Pastore, 2012b.17.).

The Government of Mongolia has performed a number of systemic changes in line with international standards and new developments and approaches and made its 10-year secondary education system the current 12-year. Unfortunately, Mongolia's Human Development Index is 0.73 or 92nd compared to other countries, and the poverty rate decreased slightly from 29.6 percent in 2016 to 28.4 percent in 2018, but 15 percent of the population is below the national poverty rate with one in three herder households (NSO, 2020). Women aged 25-29 often have a university degree but are not employed in a better-paying job (Caroleo, Gianneli, & Pastore, 2010; WB, 26, May 2020). Primary and secondary education enrollment is 98.5 percent in 2018, but preschool enrollment is 70 percent among children aged 3-5 (NSO, 2020). However the enrollment rates are relatively high, children from households below the poverty rate, and from herders, and disabled parents, and from ethnic minorities have limited access to kindergartens and schools, and their drop-out statistics vary (MECS, ADB, & JFPR, 2019).

The Educational Evaluation Report 2012 released by the Educational Evaluation Center of Mongolia suggests that the level of quality assessment was different in urban and rural areas and that the national performance average was lower than the international average performance and this is still the case in the 2018 survey, and the exact socio-psychological reasons for its impact have not been identified. As of 2018, the education sector spends 5 percent of GDP or 15.3 percent of the country's budget, but most of them are day-to-day expenditures, so teaching materials and school buildings have not been fully renovated. These issues are directly related to the quality of education focus on disadvantaged students (WB, 26, May 2020). From these statistics, it is doubtful whether the equality of the education system can be achieved. So how has the current education system developed, how does the current education system work, why has the model of the international

education system been chosen and implemented, what are the challenges in this education system, and which is the most important issue? In the first instance, we aim to identify the most pressing issues in order to provide advice on how to overcome them. This research work consists of 4 main chapters, a conclusion, and references.

2. Literature review and development hypothesis

Why educational equity in Mongolia is interesting for readers from a different country? First of all, Mongolia is one of the countries in the world with the largest number of pastoralists. Territorially vast, with a population of just over 3 million, the population is scattered and nomadic. More than 60 percent of the population lives in remote rural areas. However, many pastoralists still face many challenges (Fratkin & Meir, 2005; Stolpe, 2016). Second, since the post-Soviet market economic reforms of 1990, significant socio-economic changes have taken place in Mongolia, which have had a strong impact on the equality of the education sector. For example, children of remote herders in rural areas, people with disabilities, ethnic minorities, migration, etc. (Steiner-Khamsi & Gerelmaa, 2008; Stolpe, 2016; Ahearn & Bumochir, 2016; Batkhuyag & Dondogdulam, 2018; Sukhbaatar & Tarko, 2018). Third, creating greater equality in education is not only socially beneficial, but also a way to increase economic growth (Hanushek and Woessmann, 2010). The current education system aims to provide every student with an equal opportunity to succeed (OECD, 2020) and everyone shouldn't be left out of school. On the one hand, it is important to create a citizen who is able to overcome any obstacles. On the other hand, it is time for education leaders to focus on the equality of education and the groups that make it up. This is because focusing on the target group of students is of great socio-economic importance. Therefore, it is important to identify the situation in the education system and the students who are affected by it. It is within occurrences and events and our awareness that the concept of resilience has gained prominence. It is reasonable that interest in resilience or the ability to thrive in the face of adversity would increase as awareness of challenges increases and as we recall the capacity of humans to survive and come times thrive in the face of adversity (Prince- Embury & Saklofske, 2014). It is obvious that we will create such a citizen through the education sector. Resilience has been the measure subject of study in psychology and education disciplines (OECD, 2011). In terms of educational attitudes, resilience is a group of "disadvantaged students" who are academically successful despite their disadvantaged background (OECD, 2011; Agasisti & Longobardi, 2014; Ebru, Maria, Saida, Sharlyn, & Teresa, 2015). Often many studies use relative outcomes on achievement tests to identify resilient students.

3. Research Methodology

The search for studies that include an analysis of the association between parent participation (disadvantaged students) and academic achievement was conducted using the main bibliographic databases of the scientific literature in these platforms and resources (ERIC, Psych Info, EBSCOhost, Science Direct, Organization of cross-national educational research of PISA, TIMSS, Sociological Abstracts, and statistic data). The keywords (taken from the corresponding thesauri) used in the initial exploration were

«resilience», «equity», «dropout», «achievement». After that the data were analyzed and summarized by answering the following questions: *Why the Mongolian Government has done a radical reform in the education system? What is the new system like? Why this structure was chosen?, How the changes were made? Analyzing the new system: is there a rule/law/anything to solve the problem? How does the new system work? What are the big problems which have no solution now?* After the initial search, in which more than 5000 studies of different types were filtered (books, doctoral theses, articles, research reports, etc.), approximately 60 studies were selected for their apparent association with the research object of this study.

4. Findings and Discussion

What is the new system like?

Current Education System of Mongolia

To address the challenges in this education sector, the Government of Mongolia has repeatedly reformed the education system. In 1992, full secondary education was provided in three levels –primary, lower and upper secondary education on a 3 + 5 + 2- year basis, and until 2004 on a 4 + 4 + 2-year basis. In accordance with the Master Plan for Development of Education in Mongolia 2006-2015, in order to bring Mongolia’s primary and secondary education system in line with international standards, the schooling duration was changed into a 12-year system from 2008, and primary school starting age was changed to the age of 6 (Table 1).

Table 1. Change of education system in Mongolia

Academic year	To 2006	2006-2008	Since 2008
Grade level	10	11	12
Primary education	4	5	5
Lower secondary	4	4	4
Upper secondary	2	2	3
Start age	8	7	6

Source: Sukhbaatar (2014)

The current 12-year secondary education system of Mongolia provides in three levels-primary, lower secondary, upper secondary (5+4+3), and includes preschool, vocational, and tertiary education in accordance with the International Standard Classification of Education (Model 1).

Model 1. Structure of Mongolian formal education system, according to the International Standard Classification of Education (ISCED, 2011)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
General Secondary education																				5B	5B	5B	5B	
0	0	0	0	1	1	1	1	1	1	1	2A	2A	2A	3A	3A	3A	5A	5A	5A	5A	5A	6	6	
																	3B	3B	3B	4	4			

Source: UNESCO- Institute for Statistics (UNESCO-UIS, 2012)

- 0- Kindergarten
- 1- Primary education
- 2A- Lower secondary education
- 3A- Upper secondary education
- 3B- Upper secondary education with vocational track
- 4- Vocational school
- 5B- Colleges with 4 years degree programmers
- 5A- University Degree Programmers: Bachelor's/Master's Degree
- 6- Doctorate 3 years

Why this structure was chosen?

The studies of Steiner-Khamsi and Stolpe (2008), Steiner-Khamsi (2012) found that a world-class, highly efficient education system is internationally more widely available because it removes barriers to the education and skills of Mongolian youth. An effective neoliberal model of the education system should be adopted. In other words, whether voluntary, random, or systematic, and whether the results of the reforms are good or bad, countries directly choose the model of a neoliberal international education system. This study compares examples of countries' education system reforms by a brief overview of comparative methodology. The key question in global research is whether the education system is moving away from the unique cultural concept of "good education" or "effective schooling" and gradually moving towards an international education model. Steiner-Khamsi and Stolpe (2006) defined previously that the school reform is novel to systematically apply an epidemiological model to explain the reason to reform a plethora of school reforms, only a few appear in different corners of the world. This figure epidemiological model assumes a Lazy-S- curve (see the Epidemiological Model of Global Dissemination, Steiner-Khamsi, and Stolpe, 2006, p.10). Explain this model, before the reform of the education system, a few education systems are "infected" by certain epidemics. At this stage, the first countries to reform and reform their education systems adopt international practices, especially the internationally accepted model. As a result, there will be no transnational policy borrowing. Such borrowed education system reforms prevent countries from developing a model of the education system that is appropriate to their country's geography, culture, and environment. In this way, countries can choose to borrow an effective and well-implemented model of an international education system and localize it to their own specifics to build herd immunity, ending the epidemic or spreading it around the world. However, countries that are reforming their education systems later use models that have already been imported. In other words, the best education system models that benefit the industry are borrowed from secondhand of other late adopters and do not receive education system loans like early countries. Also, researchers such as Weidman and Yoder (2010) provide that countries may mimic or borrow international education systems in order to increase foreign investment in education. In other words, the process of education reform in each country reflects the political situation in each country. In addition to the transnational interest in the education

policy phase, Phillips and Ochs (2003) previously discussed the borrowing process: Impulses and Externalizing decision, implementation, internalization, and indigenization (see figure, Phillips & Ochs, 2003.p.452). In other words, these stages are greatly influenced by the economic and political situation in the country, which then re-evaluates the model of their education system and takes all possible measures, such as changing teaching methods. For example, success in German vocational education has attracted the attention of British policymakers, who have seen the successful German model and used it as a model for experimenting with reforming their education systems, as Phillips and Ochs (2003) say that implementation is preconditioned to major education reform. It is also important to examine whether the model is truly in line with the culture, customs and development of the nation. Thus, the decision to reform the education system should be part of the policy reform, and overall strategy of the educational institution, and finally, the process and policy implementation should be evaluated and the country should adopt another country's education system model.

How the changes were made? is there a rule/law/anything to solve the problem?

At the same time, the education sector of Mongolia has gone through three development stages: a reforming stage at which it reformed its education sector and newly defined the sector's development policies and strategies (1995-2004), a strengthening stage at which curricula and teaching methods were integrated into, and the education system that values each student's development was built up (2005-2015), and the beginning of new strategic planning for making education sector in line with global trends (since 2016) (MECSS, EEC, & UNESCO, 2019). According to Article 4 of the Law on Education (2002), the general purpose of education as follows: "The purpose of education is to provide the citizen with appropriate intellectual, moral and physically capable, and develop respect to the principles of humanism and ability to learn, work and live independently, and free public education by the state. In response to it, the post-1990 education reform began with the establishment of schools and kindergartens in remote areas to suit the nomadic style (Steiner-Khamsi, & Stolpe, 2008), and the adoption of official documents such as the Mongolian Education Law and the Master Plan to Develop Education of Mongolia 2006-2015 (Weidman & Yoder, 2010). In addition, the Government of Mongolia has defined a development policy for the education sector and planned to develop an equitable and inclusive education for all to strengthen the quality of life through the quality education in its "Education Sector Medium-Term Master Plan for 2021-2030", and to be included in PISA in 2021 (Ministry of Education, Culture, Science [MECS], ADB, & The Japan Fund for Poverty Reduction [JFPR], 2019).

How the new system works?

Current situation of preschool education

In the 2017-2018 academic year, a total of 1,416 kindergartens are operating of which 878 or 62.0 percent are public, 538 or 38.0 percent are private (Table 4.) and 434 or 80.7 percent are in the capital city of Ulaanbaatar (NSO, 2018).

Table 2. Preschool education institutions by number, 2013-2018

Academic year	Number of Kindergartens	of Public	Private
2013-2014	1067	764	303
2014-2015	1177	777	394
2015-2016	1288	826	462
2016-2017	1354	854	500
2017-2018	1416	878	538

Source: NSO (2018)

A total of 256,720 children were enrolled in pre-school education, of which 233,015 or 90.3 percent were enrolled in kindergartens and 23,705 or 9.7 percent were enrolled in alternative education (Table 3).

Table 3. Number of children enrolled in preschool education, by numbers between 2013-2018

Academic year	Number of Children Kindergarten	Alternative
2013-2014	193,672	25,794
2014-2015	206,636	23,679
2015-2016	225,388	23,554
2016-2017	243,432	23,621
2017-2018	256,720	23,705

Source: NSO (2018)

The number of children in preschool education and kindergartens has been increasing year by year. The kindergarten enrollment was a total of 7,808 groups with an average of 32.9 children in basic kindergarten groups 37.0 children in the public sector and 23.1 children in the private sector during the 2017-2018 academic year. The number of children enrolled in basic kindergarten education was as follows: 2,674 (1.1%) in the nursery group, 46,950 (20.2%) in the junior group, 53,957 (23.2%) in the middle group, 59,061 (25.3%) in the senior group, and 59,268 (25.4%) in the preparatory group the mixed group covered 11,105 (4.8%). The gross enrollment in preschool education is 82.8 percent. The enrollment rate for pre-school 5-year-olds is 92.1. According to the residential areas, the kindergarten enrollment in urban areas is 81.4 percent and 58.2 percent in rural areas. Of the total number of children enrolled in preschool education the number of 29,493 or 11.5 percent are from herder family, 1,599 or 0.6 percent are disabled children, 2,070 or 0.8 percent are children in social welfare and 152 or 0.1 percent are orphans. The number of the 23,705 or 9.2 percent of the children attended alternative education of which 4,636 attended pre-school education in shift groups, 16,291 in nomadic groups (“Ger” kindergartens), and 2,778 attended pre-school education through mobile teacher services.

Challenges and issues

Although the enrollment in pre-school education is raising, the enrollment percent of children from poor and migrants families in urban areas, children with disabilities, and children from herder families, are still lower. Child development indicates varies in urban, rural, public and alternative education. It influenced by these factors such as the location of the kindergarten, the parents’ education level (the child's mother must be educated), and

living standard. Children from low-income families attend three times less in preschool than middle-income families. Investments in the preschool sector do not fully provide training materials. According to the school readiness assessment, children from remote or herder households get the lowest results. There are insufficient statistical data on out-of-kindergarten children and local data vary (WB, 2016; MECSS, EEC, & UNESCO, 2019; MECS, ADB, & JFPR, 2019; MECSS, Global Partnership for Education [GPE], & WB, 2020). There are some challenges with “Ger” kindergarten such as clean drinking water, toilets, and fires (Rosario, Battsetseg, Bolormaa, Dorjnamjin, Tumendelger, Tsetsenbileg, & Enkhbold, 2005).

Current situation of primary and secondary education

Total numbers of 798 schools are operating nationwide of which 81.7 percents are public and 18.3 percent are private (Table 4).

Table 4. Number of secondary education schools, by types of ownership, 2013-2018

Academic year	Number of schools	Public	Private
2013-2014	756	628	128
2014-2015	762	628	134
2015-2016	768	638	132
2016-2017	778	645	133
2017-2018	798	652	146

Source: NSO (2018)

74 (9.3%) of total schools are primary schools, 116 (14.5%) are lower secondary schools, 562 (70.4%) are upper secondary schools, 46 (5.8%) are complex schools and as a location 557 or 69.8 percent are in rural areas and 241 or 30.2 percent are in the capital city of Ulaanbaatar. 705 or 88.3 percent of total school are in regular, 16 or 2.0 percent in professional, 63 or 7.9 percent in intensive, 6 or 0.8 percent in special, and 8 or 1.0 percent in the international curriculum. In the 2017-2018 academic years, a total number of 20,211 groups were trained, of which 12,705 were trained in the first shift, 7,320 in the second shift, and 186 in the third shift. 3 of the 25 schools enrolled in the third shift are in rural areas 22 of them are in Ulaanbaatar. The average class size is 28.3 students and the average class size in 35 schools in the capital city and 5 schools in the aimags is between 37.0-53.7. The number of students in general education schools has been increasing year by year and totally 581.2 thousand children enrolled in schools in 2017-2018 academic year, 572,752 of them have studied full-time, 111 of them studied in the evening classes, 350 of them studied as part-time and 7,947 of them studied for equivalent programs (Lifelong Learning Center) (Table 5).

Table 5. The number of students in primary and secondary school

Academic year	Number of students	Full-time	Evening	Part-time	Equivalent
2013-2014	510,203	497,022	588	973	11,620
2014-2015	517,878	506,816	315	680	10,067
2015-2016	546,215	535,055	244	723	10,193
2016-2017	561,693	551,953	177	447	9,116
2017-2018	581,160	572,752	111	350	7,947

Source: NSO (2018)

94.2 percent attended in public schools and 5.8 percent attended in private schools of all full-time students. 0.07 percent of full-time students enrolled earlier than school age, 53.8 percent were 6-10 years old, 29.2 percent were 11-14 years old, 16.4 percent were 15-17 years old and 0.5 percent were 18 years old or older. 687 are ex-pats, 2,050 are orphans, 193 are re-enrolled, 7,279 are disabled and 109,396 are from herders family of all students. 67,974 new students entered the first grade and 64,148 of them entered in public and 3,826 of them entered in private schools. A number of 43,932 and 64.6 percent were enrolled in pre-school education which is 99.6 percent of the total number of children eligible for school enrollment. Secondary school enrollment declined rapidly during the Mongolian political transition period of 1990 (ADB, 2008) and increased gradually and steadily since 2013. During the 2017-2018 academic year, the primary school enrollment rate was 97.1, the lower secondary school enrollment rate was 95.1 and the upper secondary school enrollment rate was 100.3. The national average class size is 31.5 (number of students in one class) in urban areas and 26.1 in rural areas (30.7 in province centers, 24.5 in sub-province, and 18.2 in baghs, khorroos, and villages). The pupil-teacher ratio is 19.6, of which 32.3 in primary school and 13.4 in middle and high school.

Challenges and issues

Despite the percent of school enrollment students is high, the school enrollment percent of disadvantaged students is very low. A classroom in Ulaanbaatar is crowd while students in rural areas especially in soums schools are not using its capacity full. Due to the lack of teachers in remote areas and soums (sub-district of the province), several subjects are taught by one teacher limits the opportunities for teachers' professional development and increases the workload, and affects the quality of education negatively. Although school enrollment is 95% during the 2017-2018 academic years, there are 682 children aged 6-14 who are out-of-school and most of them are male students. Migration from rural areas to provinces and the capital city and from the suburbs of the capital city to the city center have been differentiated the average class size in both urban and rural areas and it affects negatively the quality of education and the outcomes of educational services. There is a need to redistribute the school structure among location and enrollment district taking account of scientifically based economical, socio-cultural, and other factors such as duration of school attendance, barriers, and conditions to travel to school. Although the core curriculum was developed and implemented in stages between 1998-2019, curricula and textbooks have been being constantly changed due to inadequate preparation, textbook supply issues are not fully addressed and teachers weren't trained well. Schools need to increase the investment of laboratories in the learning environment and learning materials to make students aware of the information they find (Save the Children [SCH] &

Independent Research Institute of Mongolia [IRIM], 2018; MECSS, EEC, & UNESCO, 2019; MECS, ADB, & JFPR, 2019; MECSS, GPE, & WB, 2020).

Drop out of school

According to the Ministry of Education, dropout of school is "The children between the ages of 6-14 dropped out of school and never enrolled to school" (NSO, 2018). School dropout dimensions vary and research reports are different as we see from these various definitions (SCH, IRIM, 2018). The dropout rate increased sharply during Mongolia's political and socio-economic reforms in the 1990s and has declined sharply since then. According to our data, the dropout rate increased double from 4,4 percent to 8,1 percent in 1988-1992. In recent years dropout rates in general education levels are decreasing successively from the academic year of 2008-2009. However, statistics and researchers say there are many reasons for dropping out. These include:

Poverty and socio-economic condition

According to Rosaria and his/her colleagues' research (2005), many school-age children who are expected to be in school look after livestock, sell cigarettes and candy, wash cars, sell TV program guides, carry loads, and work as bus conductors to help and support their families, earn a living in 2005. However, the number of children working on the streets has decreased 10 years later that, poverty has not decreased steadily especially in suburban households and single mothers are affected by poverty. The poverty rate in Ulaanbaatar was 24.8 percent, and one-third of the population was migrants more vulnerable to poverty according to the 2016 poverty survey. These poor families are unable to send their children to school because they cannot afford to pay for their children's school expenses such as uniforms, school supplies, savings, holidays, and books (MECSS, EEC, & UNESCO, 2019). On the other hand, Pastore (2012) made an interesting argument that parents with either uneducated or lower education levels are more likely to fall into poverty and might be a child born to a household with a daily income of one dollar is four times more likely to drop out of school.

Migration and nomadic style

The transition of Mongolia in the 1990s created so much unemployment and poverty that people in remote areas began to move to urban areas to improve their livelihoods (National University of Mongolia, Childhood Poverty Research and Policy Centre [CHIP], 2005). In other words, migration is the movement of persons from rural to urban cities in search of greener pasture, significant numbers of children never enrolled in school in places where are large areas and nomadic children, or children with special needs in remote communities. The shift of people from the countryside to the capital has been increasing year by year. As a result, the number of seats in secondary schools in the capital has increased while the number of schools in rural areas has decreased, resulting in a hidden shortage of professional teachers. Between 2007 and 2017, 184 new school buildings were opened but the number of schools with three shifts still remained (MECSS, EEC, & UNESCO, 2019). For example, Pastore (2012) found that the number of immigrant students was three times higher than urban students because immigrants did not have time to register or did not register and city schools did not accept stateless students are dropping out of school. On the other hand, Mongolia has a nomadic culture and more than 40 percent of the population has a nomadic lifestyle herding livestock and grazing all four seasons of

the year have greatly contributed to school dropouts (Rosario et al., 2005; Steiner-Khamsi & Gerelmaa, 2007; Tony, 2008; ADB, 2008; Walters, Marshal & Nixon, 2012). Mongolia winters are very cold and down to -40 degrees, Celsius and herders often move to shelter and pasture to cope with severe winter.

Households (nomadic families) that live 35-50 km away from the soum's (sub-province) center and away from each other. If children live more than 10 km away from the school: most children used to walk to school, other children used to go by car, by riding a horse or camel or by motorcycle. As a result, some parents drop their children out of school because of transport and distance between home and school, because of the winter cold or because they don't have warm clothes or because they don't have enough manpower to take children to school. The farthest area some of them come from was 130 km along the Gobi desert sands. Also, students are dropping out of school due to parents may place their children in a dormitory alone or the father may take care of the animals and the mothers move to the soum center with the child to school. These conditions may affect divorce, sometimes the children stay with relatives or friends. Because of these issues, some parents postpone children to school enrollment until they get 7 or 8 years old instead of enrolling at the age of 6 (MECS, ADB, & JFPR, 2019; MECSS, EEC, & UNESCO, 2019). The Education Law in 2016 was amended to accept parents' requests that are unable to enroll in school from the age of 6 can be accepted at the request of their parents when they're 7 or 8. In addition, due to insufficient dormitory capacity, herder children who apply are forced to drop out of school because they are not able to stay in dormitories. For example, 27,945 herder children applied to stay in dormitories, of which 25,705 lived in dormitories and it covers 92.0 percent of herder students who applied for staying dormitories in the 2017-2018 academic years.

Lack of dormitories

There were a total of 532 (522 public, 10 private) dormitories nationwide, most of which or 516 were located in rural areas in the 2017-2018 academic year. 35,196 students lived in dormitories totally (NSO, 2018). These dormitories accompanying schools in these soum centers (sub-province) and baghs (rural area) play an important role in educating children from remote rural areas and herders households. Unfortunately, secondary school facilities are outdated often dilapidated and do not have adequate budgets for renovations, especially in dormitories which are very cold and need to be renovated and insulated (Tony, 2008). (MECSS, EEC, & UNESCO, 2019) reported that dormitories were affected in poor health and had poor access to drinking water and sanitation. As a result, the personal hygiene of dormitory students is inadequate. In addition, it was noted that these conditions have a serious impact on the health of students as well as teachers and staff. In particular, the poor health of dormitories in rural schools has led to dropouts and poor academic performance and many parents are reluctant to send their children to schools without adequate sanitation. In addition, there has a very disadvantaged condition such as child unfriendly, bullying (Steiner-Khamsi & Gerelmaa, 2007, 2009), giving nicknames, and defamation because of depending on their appearance, dress, socio-economic status, and academic performance (MECS, ADB, & JPFD, 2019). Also, there is inequality of food service due to the lack of fixed and normative cost for the number of students living in dormitories. Steiner-Khamsi and Stolpe (2008) and Rosario et al. (2005) studies show that herder children living in dormitories often drop out of school because they miss their

parents, suffer from colds (poor infrastructure building) uncomfortable condition to study, and hunger.

Ethnic minority

The 2020 population census recorded 16 ethnic groups represented in Mongolia, the Kalkh are the majority accounting for around 95 percent of the population. Kazakhs represented approximately 4 percent and all other ethnic minorities accounted for just 1.6 percent of the total population. 88.7 percent of Kazakh ethnic are living in Bayan-Ulgii province which is in the western part of Mongolia, 11.5 percent of the Kazakh population lives in Hovd province which is in the northwest part of Mongolia (NSO, 2018). The reason for the emphasis on the Kazakh ethnic group is that they have a bilingual Kazakh-Mongolian language and are traditionally very different, therefore Kazakh students are dropping out of school because they do not speak Mongolian well (Sandra, 2005; Tony, 2008; Weichieh, 2011). In Bayan-Ulgii aimag, dropout rates are three times higher than the national average (MECSS, EEC, & UNESCO, 2019). Therefore, the Ministry of Education pays special attention to the development of special textbooks and programs for them. In addition, the lifelong education program uses radio and printed materials to educate Tuvan immigrants (migrates to the mountains) through mobile teachers. However, these programs are often implemented with the funding of international donors and the education process is disrupted when funding ceases (MECSS, EEC, & UNESCO, 2019).

Gender equality

The sex ratio index of all secondary school students is 1.00 in the 2017-2018 academic year, but in primary education (100 men, 96 women), basic education (100 men, 98 women), and upper secondary education (100 men, 119 women) respectively (MECSS, EEC, & UNESCO, 2019). According to the available statistics dropout rate is higher among boys than girls and increases. (Steiner-Khamsi & Gerelmaa, 2007, 2009; Pastore, 2012). In particular, more boys are dropout because they are doing the kind of work the livestock, selling goods, working in mining for gold and coal to earn money to support their families. For example, in the case of 15-year-old Otgonmurun, a herder's son dropped out of school at the age of 7 to herd livestock. Because his family has 300 sheep, cattle, and horses. But her sister goes to school (Cengel, 3, Jan 2018). The number of uneducated young people is twice higher as uneducated young woman (Pastore, 2012). However, the girls often drop out of school due to someone's illness in her family, helping their mother with household chores, taking care of their siblings, or being abused or pregnant (Rosario et al, 2005).

Student achievement

The Government Action Plan for 2016-2020 states that "it will be possible to assess the quality and effectiveness of educational services at all levels and create a standard-based education system" (Appendix to Resolution No. 45 of the State Great Hural of Mongolia). According to this, a lot of work has been done on preschool education, primary and secondary education curricula, principles of assessment, and methodologies to establish a system for evaluating the quality of education and to update the evaluation method. Such as:

In the field of preschool education

Preschool education standards were revised in 2003, 2011, and 2015 and significant conceptual changes were their measurements changes (Table 6).

Table 6. Preschool education standards, measurement, since 2003

Standards	Measurements
Preschool Education Standards (2003)	Quality of service, content, methodology, evaluation, requirements for the child development environment, development fear, content, and ability to master
Early Childhood Development Standards (2011)	Comprehensive Child Development: Physical, Mental and Social Development, Combined Development of Congenital and Acquired Development, and Adult Support
Core curriculum (2015)	Assess the child's skills, fill out a detailed structured observation sheet, conduct a free observation, and create a personal file

Source: MECSS, EEC, & UNESCO. (2019.p.228)

The Education Evaluation Center examined and assessing up to 10 percent of all children within the sample of under 3 years of age (29 questions) and 3 to 6 years of age (115 questions) randomly using a detailed structure of observation sheet in order to set the national average, norms, and standards for preschool development, assess each child's development, determine progress and support the effective organization of learning activities based on the core curriculum of preschool education since 2015 (MECSS, EEC, & UNESCO, 2019). A total of 22968 children from 6348 groups of 1332 kindergartens (3 years old-5231, 3-6 years old 17737, 51.5 percent from Ulaanbaatar and 48.5 percent from the countryside) were involved in the study in 2018. An official report of the data is not available to the public yet. The World Bank examined the quality of kindergarten services using the Early Childhood Environmental Monitoring Instrument (ECEMI). The survey covered a total of 327 groups of children from public and private kindergartens covering the capital city and 8 aimags in 2015. The study found significant differences in access and service of education between state-owned urban kindergartens and rural state-owned kindergartens, aimag center kindergartens and soum center kindergartens and Ulaanbaatar suburban kindergartens and city center kindergartens in the quality. For example, sub-indicators (space, communication, training, activities, reading and writing environment, mathematics) are different from each other, in the rural, remote areas and Ger kindergartens received relatively lower scores (WB, 2016). In other words, the cognitive, language, and socio-psychological skills of preschool children in rural areas, low-income families, and ethnic minorities are lower than in urban areas. In addition, rural children are less prepared for school readiness than urban children and there is a lack of school readiness for 5-year-olds nationwide. These issues are due to poor training materials such as the supply of toys and materials, and inadequate group room organization (MECSS, GPE, & WB, 2020).

Challenges and issues

The quality of pre-school education for children in remote rural areas especially Ger kindergartens is lower than in central areas. There is a lack of official reports and data information on the current state of preschool education, implementation of standards, quality assessment indicators, and child development. There is a need to establish a methodology and system for a comprehensive assessment of early childhood development (MECSS, EEC, & UNESCO, 2019).

In the field of primary and secondary education

Related to both new standards based on comprehensive competencies in primary and secondary education and its implementation the curriculums were developed such as “The Right Mongolian Child” National Curriculum (Appendix to Government Resolution No. 295 of 2013), and the Core Curriculum (Appendix 1 to Order No. A / 302 of the MECSS of July 10, 2015) by Ministry of Education. In this regard, the training plan was changed by 21 decisions in 2004-2008 years. There have been significant changes to the procedures for assessing students' knowledge, skills, and attitudes (1998, 2010, 2013, and 2018). Students are assessed by three assessments: diagnostic, formative, and summative in accordance with the updated procedure of general education students and training quality assessment in 2018 (Order No. A / 425 of the MECSS of 2018).

The Educational Evaluation center aims to determine the students' knowledge, skills and attitudes and their application skills and conducting the study covering ten percent of all students involving these subjects such as Mongolian language, mathematics, science in primary education (5th grade), Mongolian language, mathematics, science and social sciences in basic education and a combination of the Mongolian language, literature, mathematics, selective course and foreign languages in secondary education to determine the implementation and quality of primary, basic and secondary education (9th, 12th grades) programs at the national level (10 percent of all pupils) in accordance with the “Procedure for Assessing Secondary School Students and Education Quality” since 2013 (EEC, 2008; MECSS, EEC, & UNESCO, 2019). Educational quality assessment research methods are being developed with the support of international consulting services and local researchers. For example, the Education Evaluation Center has received consulting services from the Cambridge International Examinations Center on the development of assignments, revision, evaluation, and reporting of examination materials for three years. Students, parents, teachers, and school administrators conducted an online questionnaire of the survey in Mongolian context is used in the 2016 PISA and TIMSS surveys to identify factors that affect the quality of education (Khurelbaatar, 2017; Khurelbaatar & Jozsef, 2017a; Khurelbaatar, 2018b). Prior to this, some studies have been conducted using internationally accepted methods. Within its functions, the EEC carried out series of studies on assessment such as National Assessment of Primary Mathematics and Reading-Grade 5 (2008), TIMSS, PIRLS International Experimental Research (2011)- Grades 4 and 8, Implementation of Primary and Basic Education Standards and external audits (2012)- Grades 7 and 10 (MECSS, EEC, & UNESCO, 2019). According to the survey results, the average math test performance decreased to 45.4 percent in 2008, 38.8 percent in 2011, and 39.1 percent in 2012. Between 2016 and 2018, the level of academic achievement decreased in primary education by 52.6-41.7 percent, basic education by 40.3-37.1 percent, and complete secondary education by 34.7-39.9 percent or slightly

increased. In other words, recent education quality assessment reports show that students' knowledge and skills are very low, performances are below 60 percent and the proportion of low-scoring students especially basic and upper secondary school students is lower than in primary education. In addition, the quality of education of children from ethnic minorities living in remote rural areas, herders, and dormitories is still lower than that of central children. Also, the mother tongue of Mongolian children living in Kazakhstan, Tuva, and abroad affects a negative impact on their learning (see "Medium-term development plan for the education sector 2021-2030 by MECS", 2019; "Mongolian Basic Education Report", 2019). Subsequently, in order to assess the effectiveness of the country's education system, share experiences, define the country's level and determine policy recommendations for the future, the Ministry of Education in Mongolia is planned to be covered in the PISA Evaluation of Economic Cooperation in 2021 (Government Resolution No. 19 of 2016). These weaknesses and differences in the quality of education are due to the lack of teacher evaluation methods, knowledge-based traditional not focused on skill-based assessment, inability to effectively use progress assessment in training, lack of books and manuals to assess students' knowledge, skills, attitudes, and insufficient teaching materials and textbooks. Such issues are strongly influenced by the fact that the curriculum is constantly changing (MECSS, EEC, & UNESCO, 2019). Also, due to the growing number of migrants from the countryside to the capital city, the workload of the capital city's secondary schools has increased to 40-50 students' class size. However, a sharp decline in the number of students in schools in remote areas has led to a hidden shortage of professional teachers, which has distorted academic achievement. In other words, due to the fact that the construction of new schools is not coordinated with population growth and needs, some schools are below capacity, and some are operating in two or even three shifts which had a negative impact on students' performance (MECSS, GPE, & WB, 2020).

Challenges and issues

Although Mongolia is experimenting, implementing, and planning internationally used methods to improve the quality of education, it should be noted that learning differences in academic achievement persist. In particular, there is an urgent need to address the issues of being assessed lower in remote rural areas students such as herders, people with disabilities, dormitories, and ethnic minorities. On the other hand, it is necessary to differentiate the assessment methods for assessing academic achievement according to the age, psychological and mental characteristics of the students and to study the methods used in the international education quality assessment.

5. Conclusion

What are the big problems which have no solution now?

Primary and secondary education enrollment is 98.5 percent in 2018, but preschool enrollment is 70 percent among children aged 3-5 (NSO, 2018). However the enrollment rates are relatively high, children from households below the poverty rate, and from herders, and disabled parents, and ethnic minorities have limited access to kindergartens and schools, and their drop-out statistics vary (MECS, ADB, & JFPR, 2019). Preschool, primary, and secondary education curricula have been significantly reformed in line with

education reforms. As a result, teaching assessment methods, methodologies, and textbooks have changed many times. Unfortunately, the learning environment, classrooms, and laboratories are not prepared as well as teachers and students for these reforms and academic achievement are still unsatisfactory every year. However, Mongolia has made many signs of progresses in assessing the quality of education at the international level it was not yet fully introduced the best methodology for international research but has assessed it by its reference tasks. Student achievement is lower than international standards and some indicators have declined over the years especially those in remote rural areas, ethnic minorities, people with disabilities, and those living in dormitories. The factors and causes that affect it are not clear yet. The quality of education has slowed down the development of the sector (MECSS, GPE, & WB, 2020). So, the issues have been on focus; the equality of the education system is not provided, in fact, who should we focus on, and what detailed measures should be taken to improve the quality of education, and is the methodology for evaluating the quality of education effective, and what can we update and improve based on the causes and factors identified, and in particular, what socio-economic and cultural factors have the greatest impact on the educational achievement of Mongolian students? Therefore, there is an urgent need to develop an assessment methodology to assess the quality of education in line with international standards and to expand research and analysis in this area.

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