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## Some results of curriculum analysis in preschool education

Hari Sandugash<sup>1</sup> , Dorji Sarantuya<sup>2</sup> 

<sup>1</sup>General Department of Education of Mongolia, expert in pre-school education

Sukhbaatar duureg, Enkhtayvani orgon choloo, Ulaanbator

<sup>2</sup>National Institute of Educational Studies of Mongolia, researcher

Sukhbaatar duureg, Enkhtayvani orgon choloo, Ulaanbator

(E-mail: <sup>1</sup>khsandugash@gmail.com, <sup>2</sup>sarantuya@mier.mn)

**Abstract.** The article is dedicated to solving modern important problems in the field of preschool pedagogy. At the pre-school education level, learning is focused on specific content areas and the curriculum is designed to provide different skills and competencies through domains of learning. Required skills and competences have been developed in the Handbook of Preschool Education Curriculum and its implementation, based on the domains of learning in kindergartens. The competencies defined in the Measuring Early Learning Quality and Outcomes (MELQO) that required to be acquired by preschool children were reviewed and the competences included in the Mongolian curriculum were also analyzed in comparison with MELQO. Learning outcomes and competencies were defined in the preschool education curriculum in Mongolia, which are incorporated in domains of learning in kindergartens. Those learning outcomes and competences are found to be relatively consistent when compared with MELQO. However, the results of the analysis showed that some competence\skills, such as moral values and learning approaches need to be formulated, and implemented in the curriculum in accordance with the characteristics of the national culture, and heritage of the country. This study presents some results of competence analysis of the preschool curriculum of Mongolia compared to international competences.

**Key words:** curriculum, competences, skills, competency framework, lessons

## **Introduction**

Government of Mongolia adopted the Preschool Education Curriculum in 1985, under the name of “upbringing and training program for children in nurser and kindergartens”. Subsequently, the content of kindergarten curriculum was revised in 1991.

Since 2000, Ministry of Education and Science (MES) of Mongolia has been developed and implemented a series of policies, including the "Exemplary Core Curriculum" (2000), "Preschool Education-2" national program (2001), Preschool Education Standards (2006), “Curriculum for prep year and senior group children in kindergartens” (2011), "Preschool education core curriculum" (2015) and "Handbook of Preschool Education Curriculum and its implementation" (2019) as well (Сарантуяа.Д, 2017).

Preschool curriculum has the following components: background information, curriculum principles, goals, objectives, content, methodology, learning environment, assessment of child development, structure of the curriculum, support and participation of teachers, parents and guardians.

Required skills and competences have been developed in the Handbook of Preschool Education Curriculum and its implementation, based on the domains of learning in kindergartens (Ministry of Education, Culture and Science, 2019).

Skills and competences in the preschool curriculum are defined by domains of learning, including building blocks of physical and social development, as well as the basics of language, math, literacy, thinking and cognitive skills to support the development of preschool-aged children.

The preschool curriculum aims to assist the development of preschool children by determining the contents in 5 domains of learning and socialization within 45 competences, including 9 physical, 24 cognitive, and 12 social competencies.

## **Background**

Mongolians have the good ways to raise their children to become a well- mannered citizen, which stem from its traditional culture and customs. From an early age, parents have always had a role in educating and advising their children regarding the value of the precious human life, virtues and sins, the doctrine of karma, compassion and caring for others, the right way to protect with the environment, respecting for parents and elders, and remembering others’ assistances.

Paying more attention to the development of each child to become a good citizen with respect to this traditional culture and thinking is needed and required in today's society of Mongolia (Ministry of Education, Culture and Science, 2019). So, we expect that the results of this analysis will make a certain contribution to the reform of the preschool curriculum.

The Learning Metrics Task Force (LMTF) was a multistakeholder collaboration that included the representatives of national and regional governments, U.N. Education for All-convening agencies, regional political bodies, civil society and donor organizations and LMTF was led by the UNESCO Institute for Statistics and the Center for Universal Education at Brookings, which

worked to improve learning outcomes for children and youth worldwide. During the 18-month activities organized by the LMTF representatives, a report was prepared and it was concluded what learning skills are important for children and youth to master to be successful in their school and life.

Based on this report, actionable recommendations are provided to stakeholders in the global education community (UNESCO Institute for statistics, 2013).

One part of this report was to identify the areas and sub-areas of early childhood education and developed the skills and competences need to be acquired. We analyzed the skills and competences in comparison with those defined in the preschool curriculum in Mongolia.

### Competence analysis in the preschool curriculum

The "Core Curriculum for Preschool Education" has been implemented in all kindergartens in the country since 2015. This core curriculum has been revised based on the research of curriculum implementation and national level consultation organized by the Ministry of Education, Culture and Science in March 2019.

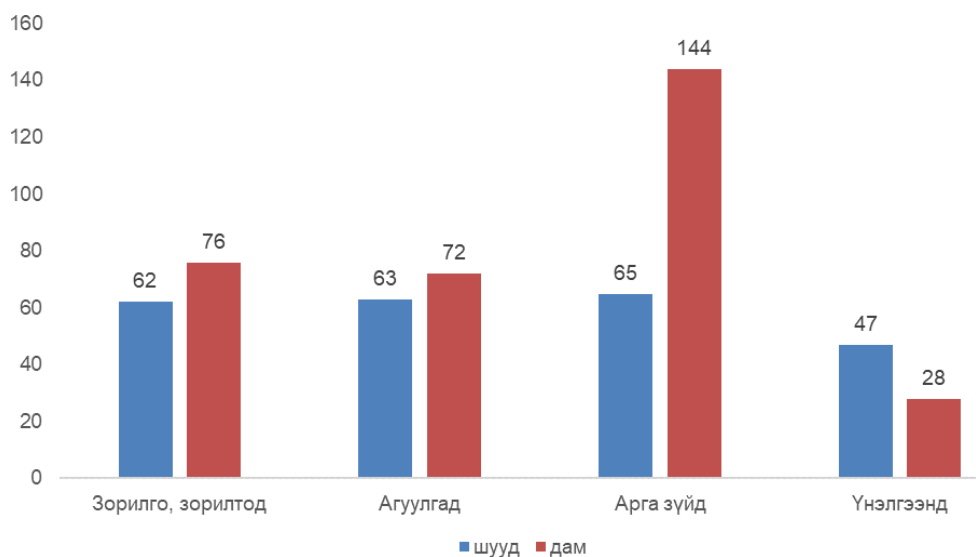
In supporting the development of children aged 2-5 through the preschool curriculum, kindergartens are tasked to organize lessons and learning activities that focus on the development of socialization according to 5 domains of learning: movement and health, simple mathematical concepts, language and speaking, natural and social environment, music and visual arts.

The goals and objectives of the preschool curriculum are formulated as follows.

Goal	Objectives
Every young child will be supported to grow up in good health, mind, and spirit and to acknowledge his/her own characteristics\ talent and creativity as well as to develop physical, cognitive, and social skills.	<ol style="list-style-type: none"> <li>1. The child aims to maintain good health, actively participate in any physical activity, prevent from possible accidents, and acquire healthy living habits;</li> <li>2. Children recognize and understand their own and other people's emotions and behavior, positively regulate their emotions, behaviors, actions, and relationships and communicate respectfully with other people;</li> <li>3. Child should be self-confident, positive, persistent and interested in learning;</li> <li>4. Children like to listen to people, talk to them and exchange information with them, express their thoughts, feelings, knowledge and assumption through language and speaking;</li> <li>5. Children should learn simple mathematical concepts based on real life, be interested in them (simple mathematical concepts) and use them daily; To be interested in the natural surroundings and social environment, to recognize their reasons and interrelationships through everyday life, to be able to treat the milieu appropriately;</li> </ol> <p>Children should be interested and attracted to visual arts and music, be involved in an imaginative and creative manner.</p>

**Chart 1. Goals and objectives of curriculum at preschool education level**

When analyzing the socialization of preschool education curriculum and 45 competences in 5 domains of learning, 62 skills and competences were directly incorporated in the goals and objectives, 76 were implicitly reflected, 63 precisely incorporated in the content, 72 skills and competences were implicitly reflected in the content section, 65 were directly incorporated in the methodology section, 144 were also implicitly reflected in the methodology as well. 47 skills and competences were precisely incorporated and 28 of them were implicitly reflected in the assessment as well. The figures above illustrate that the skills and competences of each domain of learning are directly and indirectly related to each other.



**Picture 1. Incorporation of Competencies in the Preschool Curriculum**

As shown in the figure above, the 45 skills and competences incorporated in the preschool curriculum are directly and indirectly reflected in the goals, objectives, content, methodology, and assessment sections, and the direct and indirect incorporation of skills and competences in the curriculum assessment was relatively less than that reflected\incorporated in the methodology part. Based on this, it can be concluded that the competences incorporated in the curriculum is reinforced by the methodology.

### **International trends of prsechool curriculum & compliance**

Competencies incorporated in the pre-school curriculum were analyzed in comparison with early childhood competencies adopted by UNESCO.

Young children's competencies were determined in 7 domains of learning: social and emotional, physical wellbeing, literacy and communication, science and technology, numeracy and mathematics, culture and the arts, learning approaches and cognition. Regarding our country, 5 domains of learning have been formulated to be supported and developped through social skills.

№	Domains of learning for early childhood education determined by the UNESCO	domains of learning of preschool education in Mongolia
1.	social and emotional	Socialization
2.	Physical wellbeing	Physical wellbeing
3.	literacy and communication	literacy and speaking
4.	science and technology	Natural and social environment
5.	numeracy and mathematics	Simple mathematical concepts
6.	culture and the arts	Music and drawing
7.	learning approaches and cognition	-

**Chart 2. Names of domains of learning**

The following results were obtained when analyzing the direct and implicit incorporation of competencies by comparing the competencies of young children in 7 domains of learning with that of Mongolia's domains of learning at preschool education level.

– The results of the analysis show that the competences contained in 7 domains of learning that issued by UNESCO are implicitly incorporated in 4 domains of learning in Mongolian preschool curriculum, for example, 5 competencies were directly and 1 competency was indirectly incorporated in music and the arts, and 6 competencies were directly and 1 competency was indirectly incorporated in the social and emotional domain of learning.

However, the competency of moral values of the social and emotional domain of learning have not been formulated in the preschool education curriculum in our country.

– The results of the analysis showed that the 4 skills and competences of physical well-being stipulated in the framework of the competences issued by UNESCO are fully incorporated in our preschool curriculum.

– The 4 skills and competences of literacy and communication stipulated in the framework of the competences issued by UNESCO are fully incorporated in the learning domain of language and speaking in Mongolian preschool curriculum.

– The 3 skills and competences of science and technology stipulated in the framework of the competences issued by UNESCO are fully incorporated in the learning domain of natural and social environment of our preschool curriculum as well.

– The 4 skills and competences of numeracy and mathematics stipulated in the framework of the competences issued by UNESCO are fully incorporated in the learning domain of basic mathematical concepts of preschool education curriculum.

– The 3 skills and competences of culture and the arts stipulated in the framework of the competences issued by UNESCO are fully incorporated in the learning domain of music and drawing of our preschool curriculum as well.

– The results of the analysis also showed that 7 out of 8 competences of learning approaches and cognition stipulated in the framework of the competences issued by UNESCO are directly incorporated in the social domain of learning of preschool education curriculum while 4 out of 8 of them are also directly reflected\incorporated in simple mathematical imagination as well. It can be also seen that 6 out of those 8 competencies are indirectly reflected in language and

speaking domain, 5 out of those 8 competencies are indirectly reflected in natural and social environment domain of learning of preschool curriculum.

When we analyzed the competences of learning domains stipulated in the framework of the competences issued by UNESCO and compared them with that of learning domains specified in the Mongolian preschool curriculum, we found out that although the names of the domains differed, the competences were the same in terms of content.

For instance, it seems that the domains of learning approaches and cognition are not specifically included in our preschool curriculum, but the results showed that there are some competences instructed through the socialization and simple mathematical concepts.

### Competences possessed/acquired by students

The state of mastery of the competences contained in the preschool curriculum was investigated through the curriculum implementation research, conducted by the MNIER in 2019 and the study report on the evaluation of school preparedness, undertaken by the Center of Education Evaluation in 2021. We explored the results of these studies in the area of preschool curriculum.

We examined the study results on the evaluation of school preparedness, conducted by the Center of Education Evaluation (MECSS, 2021).

*Ares of child development:* 16.1% of the total tasks performed by children, belong to "social development", another 16.1% of tasks were relevant to the "physical development", and 67.9% were relevant to the "cognitive development".

**Table 3**

#### Shows the performance of each area of the development

№	Child development	Number of tasks	National average	Ulaanbaatar city	Rural areas
1	Socialization	9	65.1	66.3	63.5
2	Physical	9	56.2	57.7	54.3
3	Cognition	38	61.0	60.6	61.5

### Chart 3. Performance rate shown by the development areas

In terms of developmental areas, tasks related to "socialization development" demonstrate higher performance, whereas tasks related to "physical" development show a lower level of effectiveness. Looking at UB City and the rural areas, the table indicates that rural area students outperform UB City students in "cognitive development" tasks. However, UB City students exhibit better performance in tasks related to "socialization development" and "physical development."

*In terms of training directions:* "fine art" constitutes 7.1%, "music" 12.5%, and each of "health and movement," "socialization," "language development," "nature and social environment," and "mathematical imagination" collectively accounts for 16.1% of the total tasks.

Nº	Area of Study	Number of tasks	National Average	Ulaanbaa tar city	Rural areas
1	Socialization	9	65.1	66.3	63.5
2	Health and movement	9	56.2	57.7	54.3
3	Linguistics	9	64.7	64.1	65.5
4	Nature	9	72.5	72.8	72.0
5	Mathematical Imagination	9	62.4	62.7	61.9
6	Music	7	47.9	46.7	49.4
7	Fine Arts	4	59.6	58.0	61.5

#### Chart 4. Performance in each area of study

Based on the aforementioned performance outcomes, educational tasks related to "nature and social environment" exhibit the highest level of achievement, while tasks associated with "music" demonstrate the lowest performance.

Let's examine a few findings from the study on the implementation of the National Institute for Educational Research program (Ministry of Education, Culture, Science, and Sports, 2019).

The study involved 4- and 5-year-old participants, who demonstrated the ability to introduce themselves, recognize words based on shapes and sizes, differentiate shapes, memorize and count, exhibit basic mathematical imagination skills, engage in naming and listening language skills, demonstrate social skills for communication, engage in cooperative play, distinguish emotions, practice drawing, refine hand and finger movement skills, showcase singing abilities, demonstrate an understanding of rhythm, exhibit musical skills, and understand and practice healthy life habits, all assessed through predefined standard tasks.

#### Some findings from the research include:

1. While there is only a one-year age gap, notable distinctions in performance across all parameters were observed between four and five-year-olds. Statistical analysis (t-test) validated that five-year-olds outperformed four-year-olds in completing all exercises.

2. Half of the children (50%) could count up to 15, yet only 20.5% demonstrated the accurate ability to count 14 ankle bones. Discrepancies were evident between rote counting and the capability to effectively score and compare numbers in terms of more or less.

3. Regarding comprehension of the topic and the capacity to provide accurate answers, the children managed to respond correctly to approximately 70% of the questions.

4. The socialization development level of 4-5-year-old children appears relatively low, with a limited proficiency in playing with others, understanding peers, cooperating, and showing respect. Notably, instances of inappropriate responses surpassed instances of appropriate responses.

5. The comprehension of hygiene practices, such as brushing teeth and washing hands, fell below 70 percent.

6. Concerning musical ability, performance in the single tap task exceeded 70%, while performance in double tap and fast-slow tap tasks was inadequate.

The study outcomes regarding the mastery of the learner's competence include:

- In the National Institute for Educational Research study, social skills were found to be relatively weak within the field of study. Additionally, according to the Education Evaluation Center study, socialization scored at 63.5 percent (Nature and social environment at 72.0 percent), indicating a lower performance in skills related to this area.
- In the National Institute for Educational Research study, the performance of the rhythm tapping task related to musical ability was deemed insufficient. Furthermore, the Education Evaluation Center study reported a musical ability score of 49.4 percent (compared to Nature and social environment at 72.0 percent), indicating a weakness in musical skills.
- In the Education Evaluation Center study, children excelled in recall-level tasks, whereas in the National Institute for Educational Research study, children provided over 70 percent correct answers when questioned after being read a story.

### **Conclusion**

- The curriculum goals and objectives for Preschool Education are clearly and cohesively formulated.
- The analysis results indicate that the capabilities of Preschool Education are evident both directly and indirectly in the curriculum's goals, objectives, content, methodology, and evaluation. Moreover, the capabilities reflected in the curriculum receive more support from the methodology.
- Based on the findings from both the Preschool Children School Readiness Assessment Study conducted by the Education Evaluation Center and the Preschool Education Program Implementation Study by the National Institute for Educational Research, it is evident that there is a necessity to prioritize the support for skills crucial to children of this age, particularly in the areas of social and musical skills.
- In comparison with the competencies outlined for kindergartener by UNESCO, the competencies embedded in the curriculum of our country's Preschool Educational Organizations align well. While certain categories, like learning methods and cognition, may not be explicitly delineated, the analysis reveals that competences in those areas are indeed compatible with some social skills.
- The outcomes of the program implementation research highlight a deficiency in supporting skills related to moral values, social relations, and behavior. Additionally, there is an absence of skills supporting folk traditions, customs, and understanding. Consequently, it is imperative to concentrate on formulating and incorporating content and methodology that target these skills for effective implementation.

### **Contribution of the authors**

**Harii S.** – formation of an idea; formulation or development of key goals and tasks; development of methodology.

**Dorj S.** – research; collection, analysis and interpretation of the data obtained; final conclusions



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**Hari Sandugash<sup>1</sup>, Dorji Sarantuya<sup>2</sup>**

<sup>1</sup>General Department of Education of Mongolia, expert in pre-school education  
Sukhbaatar duureg, Enkhtayvani orgon choloo, Ulaanbator

<sup>2</sup>National Institute of Educational Studies of Mongolia, researcher  
Sukhbaatar duureg, Enkhtayvani orgon choloo, Ulaanbator

### **Мектепке дейінгі білім берудегі оқу бағдарламалық талдаудың кейбір нәтижелері**

**Аңдатпа.** Мақала мектеп жасына дейінгі педагогика саласындағы заманауи маңызды мәселелерді шешуге арналған. Мектепке дейінгі білім беру деңгейінде оқыту белгілі бір мазмұн салаларына бағытталған және оқу бағдарламасы оқытудың салалары арқылы әртүрлі дағдылар мен құзыреттерді қамтамасыз етуге арналған. Қажетті дағдылар мен дағдылар «Мектепке дейінгі білім берудің оқу бағдарламасының анықтамалығында» және оны жүзеге асыруда балабақшалардағы оқыту бағыттарын негізінде әзірленген. Мектеп жасына дейінгі балалар меңгеруі қажет ерте оқыту сапасы мен нәтижелерін өлшеуде (MELQO) анықталған құзыреттер қарастырылды және Моңғолия оқу бағдарламасына енгізілген құзыреттер де MELQO-мен салыстырылды. Оқыту нәтижелері мен құзыреттіліктері Моңғолиядағы мектепке дейінгі білім берудің оқу жоспарында анықталған, олар балабақшалардағы оқыту салаларына енгізілген. Бұл оқу нәтижелері мен құзыреттер MELQO-мен салыстырғанда салыстырмалы түрде сәйкес келеді. Алайда, талдау нәтижелері көрсеткендей, кейбір құзыреттілік/дағдыларды, мысалы, адамгершілік құндылықтар мен оқу тәсілдерін қалыптастыру және оқу бағдарламасына ұлттық мәдениет пен ел мұрасының ерекшеліктеріне сәйкес енгізу қажет. Бұл зерттеу халықаралық құзыреттермен салыстырғанда Моңғолияның мектепке дейінгі білім беру ұйымдары бағдарламасының құзыреттілік талдауының кейбір нәтижелерін ұсынады.

**Түйін сөздер:** оқу бағдарламасы, құзыреттіліктер, дағдылар, құзыреттілік шеңбері, сабақтар

**Hari Sandugash<sup>1</sup>, Dorji Sarantuya<sup>2</sup>**

<sup>1</sup>General Department of Education of Mongolia, expert in pre-school education  
Sukhbaatar duureg, Enkhtayvani orgon choloo, Ulaanbator

<sup>2</sup>National Institute of Educational Studies of Mongolia, researcher  
Sukhbaatar duureg, Enkhtayvani orgon choloo, Ulaanbator

### **Некоторые результаты анализа программ дошкольного образования**

**Аннотация.** Статья посвящена решению современных важных проблем в области дошкольной педагогики. Обучение на дошкольном уровне сосредоточено на конкретных областях содержания, а учебная программа разработана так, чтобы обеспечить разнообразные навыки и компетенции в различных областях обучения. Перечень необходимых навыков и умений разработан в Руководстве по учебному плану дошкольного образования и его реализации, основанном

на областях обучения в детских садах. Компетенции, определенные в «Измерении качества и результатов раннего обучения» (MELQO), которыми должны овладеть дошкольники, были изучены, а компетенции, включенные в монгольскую учебную программу, также сравнивались с MELQO. Результаты обучения и компетенции определены в учебной программе дошкольного образования Монголии и включены в области обучения в детских садах. Эти результаты обучения и компетенции относительно постоянны по сравнению с MELQO. Однако результаты анализа показывают, что некоторые компетенции/навыки, такие, как моральные ценности и методы обучения, должны формироваться и вводиться в учебную программу в соответствии с особенностями национальной культуры и наследия страны. В этом исследовании представлены некоторые результаты анализа компетенций монгольских программ дошкольного образования в сравнении с международными компетенциями.

**Ключевые слова:** учебная программа, компетенции, навыки, рамка компетенций, уроки.

#### **Information about authors:**

***Harii Sandugash*** – expert in pre-school education, General Department of Education of Mongolia, Ulaanbator city, Sukhbaatar duureg, Enkhbayvani organ choloo BMD 605

***Dorj Sarantuya*** – researcher, National Institute of Educational Studies of Mongolia, Sukhbaatar duureg, Enkhbayvani organ choloo, Ulaanbator city, Bagshin deed 9-31,

#### **Авторлар туралы мәлімет:**

***Кари Сандугаш*** – Моңғолия Білім Бас департаментінің мектептен тыс білім беру жөніндегі сарапшысы, Улан-Батор қ., Сухэ-Батор Дуурег, Энхтайвани оргон чолоо БМД 605

***Дорж Сарантуяа*** – Моңғолия Ұлттық білім беру зерттеулері институтының ғылыми қызметкері, Сухэ-Батор дуурег, Энхтайвани оргон чолоо, Улан-Батор қ., акт Багшин 9-31

#### **Сведения об авторах:**

***Кари Сандугаш*** – эксперт по дошкольному образованию, Главное управление образования Монголии, г. Уланбатор, улица Сүх Баатор дүүрэг, дом. Энхтайваны оргон чолоо, БМД 605.

***Дорж Сарантуяа*** – научный сотрудник, Национальный институт педагогических исследований Монголии, г. Улан-Батор, Сүхбаатар дүүрэг, Энхтайваний оргон чолло, Багший дээд 9-31.