ERASMUS+ PROGRAMME

"REFORMING TEACHER EDUCATION TOWARDS GREEN ANDDIGITAL TRANSITION IN MONGOLIA" PROJECT- RETEACH

PROJECT ID NUMBER: 101179222 - RETEACH

FACT FINDING ANALYSIS ON THE SITUATION OF THE TEACHER EDUCATION POLICY AND PROGRAMS IN MONGOLIA

ULAANBAATAR 2025

ERASMUS+ PROGRAMME

"REFORMING TEACHER EDUCATION TOWARDS GREEN AND DIGITAL TRANSITION IN MONGOLIA" PROJECT- RETEACH

Project ID number: 101179222 - RETEACH

Fact Finding Analysis on the situation of the teacher education policy and programs in Mongolia

Ulaanbaatar 2025

LIST OF ABBREVIATIONS

OTU	Otgontenger University
MNCEA	Mongolian National Council for Education Accreditation
ME	Ministry of Education
TDC	Teacher Development Center
HEI	Higher Education Institution
EEC	Education Evaluation Center
UN	United Nations
EU	European Union
GAE	General Authority for Education
MNIER	Mongolian National Institute for Educational Research
WB	World Bank
MNUE	Mongolian National University of Education
NGO	Non-Governmental Organization
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund

HEADLINE

Foreword

CHAPTER ONE
CURRENT SITUATION, POLICIES AND SYSTEMS OF PRE-SERVICE AND IN-SERVICE TEACHER TRAINING

CHAPTER TWO
EXAMINING THE CONDITIONS OF TEACHER EDUCATION PROGRAMS IN MONGOLIA

CHAPTER THREE
SURVEY REPORT BASED ON QUESTIONNAIRES COLLECTED FROM TEACHERS IN GENERAL SECONDARY SCHOOL

FOREWORD

This report titled "Fact Finding Analysis on the situation of the teacher education policy and programs in Mongolia" outlines the current state of higher education training, systemic challenges, existing difficulties, and recommendations for future development in line with the RETEACH project objectives and expected results. The report was developed within the framework of the EU-funded project "Reforming Teacher Education Programmes in Mongolia Towards Green and Digital Transition".

The structure and quality of the teaching staff in institutions that prepare professionals for various sectors of society play a crucial role. Highly educated, adaptable teachers who are equipped with self-development methodologies, are passionate about their profession, and are continuously improving themselves, make significant contributions to the development of both society and higher education institutions supporting green and digital transition of Mongolia. Therefore, in building a knowledge-based society and ensuring the sustainable development of the country, it is essential to optimize human resource capacities. In today's world, where individual growth drives household and national development, the professional development of teachers has become one of the most pressing issues in the education sector.

Focusing on the goals and objectives outlined in the Law on Teacher Development, the General Law on Education, and the Law on Higher Education, this report reveals the policy issues and teacher education practices in each involved HEIs and emphasizes the ways of future improvements of teacher education in Mongolia. The importance of supporting teacher initiatives, providing opportunities for workplace development, and identifying practical solutions through participatory approaches. It aims to foster continuous teacher development as a national priority.

Disclaimer

CHAPTER ONE

CURRENT SITUATION, POLICIES AND SYSTEMS OF PRE-SERVICE AND IN-SERVICE TEACHER TRAINING

MONGOLIAN EDUCATION SYSTEM

According to the Article 7, Mongolian Fundamental Education law[1] the education system consists of formal and informal education, and learning in the living environment. Formal education has the following levels: pre-school education, general education, vocational and technical education, and higher education.

Education levels are classified into pre-school (2-5 years of age), primary (5 years), basic education (4 years), general secondary education (3 years), technical and vocational education and training (TVET), and higher education as well.

National Qualifications Framework (NQF), specified in the 3.1.15 of Fundamental Education law has following structures[2].

Table 1. National Qualifications Framework (NQF)

Level	Formal education		
	General education	Technical and vocational education and training	Higher education
X			Doctorate
IX			Postgraduate\master's
VIII			Undergraduate\Bachelor's
VII			Diploma
VI		Technical education V-VI	
V		Vocational education III-IV	
IV	General secondary education	Vocational education I-II	
III	Basic education		
II	Primary education		
I	Foundational competencies and learning		

Source: https://legalinfo.mn/

---

[1] Mongolian Fundamental Education Law 2023
[2] Government of Mongolia. Resolution No. 227

INFORMATION ABOUT EDUCATIONAL INSTITUTIONS OF ALL LEVELS AND THEIR TEACHING STAFF

Pre-school education[3]: 1,407 pre-school education institutions, including 1,002 public, 22 locally owned and 383 private institutions, are operating in the 2024-2025 school year. 264,818 children are learning and attending 9,226 groups\classes in those pre-school education institutions. 253,158 of those are enrolled in main education programs and 11,660 are enrolled in alternative\equivalency education programs. There are 2,150 children with disabilities.

Teacher: 18,926 teachers, including 9,945 teachers, 8,743 assistant teachers, 30 contract teachers and 208 retired teachers, are working in 1,406 pre-school education institutions. Great majority (86.0%) of teachers (except for contract and retired teachers) are working in public (state-owned) kindergartens, while 1.7 percent and 12 percent of teachers are employed in locally owned and privately owned kindergartens respectively. Of 9,945 teachers, 84.5 percent of them are class\group teachers, 8.5% of them are music teachers and 5.7% of them are physical education teachers. Furthermore, 0.1% is special education teachers, 0.6% and 0.7% of them are working for mobile kindergarten classes and itinerant teachers respectively.

726 teachers are needed in pre-school education institutions, including 164 class teachers, 142 assistant teachers, 241 music teachers and 179 physical education teachers.

General secondary school[4]: 887 secondary schools are operating in the 2024-2025 school year. 705 of them are public (state-owned) schools, 180 are private schools and two schools, which were established by mutual agreement of governments.

Teacher: 37,770 teachers are working in 887 schools at primary and secondary level in the 2024-2025 school year. 32,728 teachers are working in public schools, while the rest of them (5,042) are employed in private schools. 12,436 of them are primary teachers while 12,050 and 5,659 are teaching at lower and upper secondary level respectively. 7,625 teachers are secondary teachers, which work both at lower and upper secondary level. 1,280 teachers are needed by secondary schools, including 140 primary teachers and 1,140 subject teachers. EMIS \Education management information system\ does not show such statistics of teachers on a subject-by-subject or subject groups basis.

Technical and vocational education and training[5]: 70 TVET institutions are operating in the 2024-2025 school year, including 41 public (state-owned) and 29 private institutions. By type of educational institution, there are 39 polytechnic colleges; 28 vocational training-industrial centers; and

---

[3] Report of the administrators and teachers of preschool educational institutions for the 2024-2025 academic year
[4] Report of the general secondary schools for the 2024-2025 academic year
[5] Report of the employees of TVET institutions for the 2024-2025 academic year

3 others. By educational institution stages, there are 69 vocational education institutions, 41 technical education institutions, and 12 vocational training institutions.

Teacher: 2,140 teachers are working in TVET institutions, 1,700 teachers are working in public TVET institutions and 440 teachers are working in private institutions. 181 teachers are needed in TVET institutions, including 90 subject teachers and 91 vocational education teachers.

Higher education institution[6]: Higher education institutions comprise of 16 public; 1 with state partial ownership; 42 owned by Mongolian citizens; 1 with co-owned by Mongolian and foreign citizens; 2 owned by foreign citizens; 3 religious\community; 1 branch of foreign institution. By type of educational institution, there are 34 universities, 29 institutes, two colleges and one technological college.

Teacher: 5,151 lecturers are working higher education institutions, 3,308 lecturers are working public institutions. 1,684 and 159 lecturers are teaching in private institutions and religious\community institutions respectively. 692 part-time lecturers are also working in higher education institutions. There are 493 professors, 728 associate professors, 1,485 senior lecturers, 2,083 lecturers and 362 assistant lecturers in higher education institutions.

Higher education institution: Article 15 of the Law on Higher Education defines the requirements for lecturers in higher education institutions, stating that... lecturers must have a master's degree or higher educational degree, while seminars, practicums, and laboratory classes may be led by experts, specialists with expertise and experience in the relevant field.

Higher education institutions select and employ lecturers in accordance with their institution's "Teacher Recruitment Procedures." Currently, there is no comprehensive information about the shortage of lecturers faced by higher education institutions.

STATE OBJECTIVES ON TEACHER EDUCATION, POLICY PROVISIONS ON GREEN AND DIGITAL TRANSFORMATION, AND IMPLEMENTATION ACTIVITIES

Mongolia has been creating policies and improving its legal conditions by focusing on issues related to teacher development, especially on teacher education.

As stipulated in the "VISION-2050" Long-term Development Policy of Mongolia, which approved by the State Great Khural in 2020, "all educational institutions and schools will be provided with creative, competent teachers and human resources commensurate with learning needs and requirements of students".

Activities to be implemented in 2021-2030 to achieve this objective:
- "2.1.34. establish teaching standards based on *different skills, such as subject matter, teaching*

---

[6] Report of the Higher education institutions for the 2024-2025 academic year

methodology, research, information and communication technology, foreign language, implement these standards in coordination *with teacher development and human resources policies and staff educational institutions of all levels with professional teachers.*

- "2.1.44. *Ensure the application of the information and communication technology* by teachers *in teaching, conducting digital and distance learning, improving the English language proficiency ……………* organize trainings and proper activities, and ensure the involvement of all types of training organizations"[7].

Higher Education Institution: Within the framework of Article 15 of the Law on Higher Education, the requirements for teaching staff at higher education institutions are specified. A teacher must hold a master's degree or higher. Seminars, practical training, and laboratory classes may be conducted by professionals who are specialized in the relevant field, and who possess advisory roles, practical experience, and expertise. Higher education institutions hire teachers through a selection process based on the institution's "Teacher Recruitment Procedure." Currently, there is no consolidated data available regarding the shortage of teaching staff in higher education institutions.

In addition to the VISION 2050 long-term policy document, the "Teachers' Three-Pillar Policy" comprehensive measure, adopted by the Government in 2024, set several objectives in two key areas: 1) increasing teacher availability and creating stable working conditions, and 2) improving teacher quality.

Some of these objectives are aimed to support teachers' continuous professional development in their workplace and introduce digital content and systems to reduce workload, provide every teacher with a virtual assistant, establish professional standards for teachers, deliver professional development training and activities, as well as introduce the International Standard Classification of Education (ISCED).

According to the above policy documents, Mongolia prioritizes to train and develop teachers with 1) knowledge and skills of information and communication technologies; 2) proficiency in foreign languages, especially in English; and 3) professional skills, teaching methodology, and research knowledge and skills. In particular, government is paying more attention to training teachers and improving their professional skills in line with the digital transition.

Although the green transition is not specifically addressed in relevant teacher policy documents, Strategic Objective 5.1.2 of the "Action Plan for the implementation of Green Development Policy (2016-2030)" approved by Resolution No. 35 of the Mongolian Government in 2021, stipulates the activities to be implemented in 2016-2030, including "Incorporating the ideas of sustainable development and green development into the education curricula at all levels, inheriting\passing on

---

[7] VISION 2050
State Great Khural of Mongolia. (2020). Resolution No. 52. Vision– 2050\Long-term Development Policy of Mongolia.
[7] Government Resolution No. 209 from 2018

traditional customs of nature conservation, and cultivating a culture of economical and efficient consumption with the rhythm of modern life" as well.

3.1.1. of "National program for Sustainable Development Education[8]" specifies objectives to implement activities that "*enrich and implement curriculum content and methodologies to develop knowledge, skills, values, and attitudes necessary for students to support sustainable development*". Except for those policy documents, UN SDG-2030 indicator 12.8.1 measures the "*extent to which (i) global citizenship education and (ii) education for sustainable development are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment*".

According to the above policy documents related to the green transition, Mongolia has committed to incorporating and realising sustainable development and green development into the curriculum. Therefore, there is a need to determine how the green transition is reflected in the curricula of teacher training (Initial teacher education institutes) institutions. (Please see chapter two).

TEACHER AS PROFESSION, COMPETENCY FRAMERWORK, CATEGORIES

Teacher competency is regarded as the set of knowledge, skills, attitudes and behaviours that a teacher can apply in a given context (European Union (2013), OECD (2017), Bert Krimers (2013)). Practice from other countries suggests that teacher competence frameworks or professional standards are established and pre-service teacher training and in-service teacher training activities are implemented in accordance with them (MNIER, 2022).

Teacher occupational standards at primary and secondary level were approved in 2022. The 17.6 of Labor Law specifies that, "*the standards of jobs and professions" shall set the assessment criteria for labor conditions and employee's work practices, experience, knowledge, skills, capability, attitude, level of specialization, and performance[9]*, and the Fundamental Education Law also stipulates that "*Teachers and employees shall carry out the functions specified in educational legislations, occupational standards and job descriptions specified in paragraph 17.6 of the Labor Law.*" Teacher occupational standards set the following competences for secondary school teachers.

Table 2. Competencies of secondary school teacher

	Competencies		
1	Curriculum development	7	Child development
2	Planning, designing and organizing lesson	8	Child protection
3	Planning and organizing assessment	9	Documentation
4	Developing and organizing advanced lesson curriculum	10	Participating in organizational development activities

---

[8] Government Resolution No. 209 from 2018
[9] Labour Law, article 17.6

5	Supporting learning	11	Following occupational safety and health rules
6	Classroom management	12	Teachers' labor law, ethics

This information indicates that occupational standard of Mongolian secondary school teacher is linked and consistent with the duties of the teacher in the workplace. In other words, it can be defined as an occupational standard, rather than the professional standards.

Furthermore, several studies related to teacher competencies have been conducted in Mongolia. For instance, the content framework for teacher competencies were defined in the study conducted under the reform of the Teacher and Primary Education curriculum (MNIER, 2022). The framework consists of four areas\domains: 1) professional knowledge, 2) teaching and learning, 3) collaboration, and 4) professional development and values.

Table 3. Content framework of teacher competencies

Domain	Competencies
Professional knowledge	Knowledge about learners, Subject knowledge, Pedagogical knowledge, Knowledge of information, communication and technology, Education trends, policy, legislation, research-based knowledge
Teaching and learning	Planning and organizing lessons, Teaching skills, Support learning, Respect diversity and include all students with different needs in learning, Assessment
Collaboration	Collaborate with parents, guardians, public and colleagues Communicate with others
Professional development, values	Teacher reflect on themselves, Continuous professional development, Professional support provided for other teachers, Teachers' values and attitudes

There is no competency framework for secondary education teacher, present teachers' category in place. MoE is working to develop teacher professional standards at secondary education level.

TEACHER PREPARATION POLICY

In the early years of the People's Revolution, the requirements for teachers were to be capable, good-quality, healthy, and young, but in the 1940s, the knowledge and quality in various sciences were emphasized. Since the 1950s, teachers with pedagogical (higher education) degrees have been encouraged to teach and continuously improve their teaching profession, and since the 1960s, teachers have been encouraged to support teachers' creative initiatives to connect classroom lessons with real-life practice. Since 1990s, policies\requirements for teachers had been implemented with the emphasis of teacher ethics and professional skills.[10]

- 1921-1924. Literacy teachers were prepared through a 4-month course by government decision.
- 1924-1940. Teacher Training Institution was established by government decision, and teachers were prepared by a 3-year training course.
- 1924-1960. Prepared teachers with pedagogical degrees at tertiary level.
- 1960-1991. Teachers were prepared at the special secondary school, after 1991 secondary school teachers have been prepared at university and college; teachers of vocational education were prepared at Mongolian National University, university lecturers/professors were prepared at foreign countries, (1991) secondary school teachers are required to gain a bachelor degree; university lecturers /professors are required to have at least masters' degree
- 2023. Teacher preparation issues stated in General/Basic Law on Education[11], article 12.
- 12.2.The Government shall support elective classes of teaching in the senior classes of secondary schools, and the Government shall provide support for a successful graduate to enroll and study in a initial teacher education institute.
- Higher education institutions shall prepare and train teachers through accredited programs. Individuals with professions other than teaching may participate in alternative teacher training programs and become eligible to work as teachers.
- 12.7.Students who have successfully completed the teacher education program shall receive tuition fee discounts and support from the Government.
- 12.8.Teachers of pre-school, general education, vocational and technical education institutions must have teaching certificates.
- 12.9.Teaching license specified in paragraph 8.5 of the Law on Support of Teacher Development shall be considered as having the teaching certificate specified in paragraph 12.8 of this Law.12.10.The Government shall provide support to teachers who have signed a contract to work for at least three years at the request of the administration of province, soum, district, bagh, or village, or at their own request, for vacancies in kindergartens and secondary schools.

---

[10] Study on policy changes regarding the Mongolian teacher education https://lavai.msue.edu.mn/ppapers/20-LAV-001.pdf
[11] General Law on Education of Mongolia 2023

- 12.16.A third or fourth-year student of initial teacher education institute can be employed as an apprentice teacher in accordance with Article 62 of the Labor Law in the vacant position of a kindergarten or secondary school teacher.

There is no consolidated teacher preparation policy at the national level, concerning teacher education concepts and relevant benchmarks. It is necessary to study and analyse whether the legally guaranteed academic freedom and autonomy of higher education institutions negatively affect teacher education policy or not.

Teacher Demand: According to the Education Sector Outlook 2020-2050 study[12], the demand for preschool education teachers is expected to reach: 12.9 thousand in 2025; 12.8 thousand in 2035; 16.0 thousand in 2045; and 16.7 thousand in 2050 respectively.

The need for secondary school teachers is expected to reach 24.0 thousand in 2025; 26.4 thousand in 2035; 29.1 thousand in 2045; and 30.6 thousand in 2050 respectively.

According to the Education Sector Data Processing Report[13], a total of 31,284 new teachers need to be prepared and supplied\allocated to secondary schools by 2030.

Table 4. Teacher demand

Subject	2018			2020		2025		2030	
	Current	Total	New	Total	New	Total	New	Total	New
Primary teachers	10397	10759	362	11727	1590	12265	3428	12696	5158
Subject teachers	19541	23563	4022	26628	7575	36761	20149	40294	26126
All teachers	29940	34323	4383	38355	9163	49025	23576	53082	31284

CURRENT SITUATION OF TEACHER PREPARATION

TVET: The Order of the Minister of Education and Science of Mongolia dated January 11, 2024, "On approval of the professional index direction to be followed in vocational and technical education institutions" No. A/11 was approved. The Order approved the preparation of detailed directions for teachers and preschool education (index 011201) and preschool education teacher assistants at levels III-IV of vocational education, starting from the 2024-2025 academic year; and the preparation of professional training interns in the teaching profession (index 011441) at levels I-IV of vocational education.

---

[12] Боловсролын салбарын хэтийн тооцоо 2020-2050 Үндэсний статистикийн хороо, БШУЯ 2022
[13] Боловсролын салбарын өгөгдөл мэдээллийн боловсруулалтын тайлан, 2019. БСШУСЯ, АХБанк, p. xxx

Higher education: By Order A/160 of the Minister of Education and Science of Mongolia dated May 9, 2022, the professional fields (program names) and their corresponding codes were revised and approved. In 2024, Order A/146 was also approved. At the bachelor's level, teacher training is being conducted under a total of 27 program codes for the 2024–2025 academic year. (Table 5.)

Table 5. Number of graduates who completed teacher education programs in 2023-2024[14]

No.	Professional index	Undergraduate degree holders	Male	Female
	Undergraduate degree holders -all	20,906	7,500	13,406
1	Teacher of pre-school \aged children?\ education	421	4	417
2	Teacher of pre-school education	291	16	275
3	Teacher of primary education	392	12	380
4	Teacher of primary education	141	7	134
5	Teacher of mathematics	109	23	86
6	Teacher of natural science	93	14	79
7	Teacher of social science	186	31	155
8	Teacher of computer science	13	5	8
9	Teacher of arts	212	68	144
10	Teacher of lifelong education	5	1	4
11	Teacher of special needs education	16	1	15
12	Teacher of Mongolian language-literature	170	8	162
13	Teacher of biology	1	0	1
14	Teacher of foreign language	274	31	243
15	Teacher of physical education	275	199	76
16	Teacher of health education	7	0	7
17	Teacher of social science	4	0	4
18	Teacher of drawing\painting	5	5	0
19	Teacher of design and technology	6	1	5
20	Teacher of music	20	6	14
21	Teacher of dance	9	4	5
22	Teacher of Mongolian language, literature	13	0	13
23	Teacher of foreign language	95	25	70
24	Teacher of physical education	58	47	11
25	Teacher of vocational education and training	0	0	0
	Number of graduates, who completed teacher education programs	2816	508	2308

---

[14] News from higher education institutions graduates for the 2023/2024 academic year,

TEACHER SELECTION, EVALUATION, CERTIFICATION, AND ITS CRITERIA

Requirements for Teacher Selection: At pre-school and secondary education level, schools and kindergartens exercise the right to hire teachers. Minimum qualification for teachers is regulated to be undergraduate pedagogical (bachelor's) degree in Mongolia. The newly adopted education law also allows Mongolian professionals in fields other than teaching to become qualified as teachers by attending a specialized teacher preparation program. At TVET and tertiary level, HEIs follow their internal regulations for teacher recruitment and selection. Teacher education programs need to be revised and their curricula should be developed to reflect green skills and digitalization in its content. The recruitment of a teacher in a teaching cluster is determined by many factors.

- The recruitment of a teacher in a teaching cluster is determined by many factors. Article 8.5 of the Law on Supporting Teacher Development, which has been in force since 2019, provides that...Graduates who have a higher education in the profession of teacher are entitled to teach..., Article 12.8 of the General Law on Education, approved in 2023 ... A teacher in a pre-school, general, vocational and technical education institution has a teaching certificate...

Legal Framework for Employment Relations in the Teaching Profession:

The legal relations governing the core duties, responsibilities, and authority of teachers are regulated by the *Civil Service Law*, the *General Law on Education* adopted in 2023, and other related supplementary laws and legal acts. For example:

- The *General Law on Education* outlines 8 provisions on teachers' rights, 18 on their duties, and 12 on social guarantees.
- The *Law on Pre-school and General Education* includes 10 provisions detailing teachers' roles and responsibilities.
- The *Law on Vocational and Technical Education and Training* includes 7 provisions on teachers' rights, 6 on their duties, and 3 on social guarantees.
- The *Law on Higher Education* regulates 4 provisions on teachers' rights, 3 on duties, and 6 on social guarantees.

Between 2018 and 2020, new policies such as the *Law on Supporting Teacher Development* and the *"Skilled Teacher"* program were developed and implemented. These, along with the updated *General Law on Education* and its supplementary laws adopted in 2023, focus on enhancing the system that ensures teachers' continuous professional development.

In the case of higher education institutions, teacher recruitment is based on internal regulations developed in accordance with the *General Law on Education*, the *Law on Higher Education*, the general

requirements for teachers in higher education institutions, and the technical regulations applicable to such institutions.

Results of Performance Evaluation for Preschool and General Education Institutions and Teachers

In the preschool and general education sectors, organizational and teacher performance evaluations were conducted in **2022 and 2023**. The progress and results of these evaluations have been calculated and publicly announced. Teacher performance is assessed based on the following **four main criteria**:

- Progress and results of curriculum implementation
- Student learning\developing\upbringing progress and results;
- Teacher professional development progress and results;

Participation and outcomes in institutional and public activities.

Results of the Preschool Education Institution and Teacher Performance Assessment:

- In 2023, 6,513 teachers were enrolled, with 406 teachers evaluated at Level I, 790 at Level II, 801 at Level III, 1,267 at Level IV and 3,249 at Level V.
- In 2024, 7,036 teachers were enrolled, with 510 teachers evaluated at Level I, 938 at Level II, 911 at Level III, 1,424 at Level IV and 3,253 at Level V.

Compared to the previous year, the 2024 performance assessment was updated with 104 teachers at Level I, 148 at Level II, 110 at Level III, 157 at Level IV and 4 teachers at Level V.

Results of the Assessment of General Education Instruction and Teacher Performance:

- In 2023, 28,006 teachers were enrolled, including 893 teachers at Level I, 3,338 at Level II, 3,207 at Level III, 4,768 at Level IV and 15,800 at Level V.
- In 2024, 28,743 teachers were enrolled, up from 737 teachers in the previous year's assessment. There were also 1,874 teachers at Level I, 5,481 at Level II, 4,604 at Level III, 4,419 at Level IV and 12,365 at Level V.

Compared to the previous year, the performance assessment for 2024 saw 981 teachers at Level I, 2,143 at Level II, 1,397 at Level III, 349 at Level IV and 3,435 at Level V.

For the field of vocational and technical education, the process of evaluating the performance of institutions and teachers has been initiated since February 2025, and it is planned to conduct performance evaluations in 31 state-owned educational institutions from February 10 to 14, 2025, and to conduct teacher performance evaluations from March 2025, indicating that the foundation has been laid for the evaluation of organizational and teacher performance in the sector.

Evaluation of Higher Education Institution Teachers:

The comprehensive evaluation of teachers at higher education institutions is regulated internally by universities based on relevant educational legal documents. The evaluation consists of the following components: 40% is based on teaching methodology; 30% on academic research; 15% on professional services; and 15% on community services. The overall evaluation results are used to make decisions regarding teacher certification, salary incentives or deductions, determination of job ranks, and the extension or termination of employment contracts.

FORMAL AND INFORMAL TRAINING SYSTEMS TO ENSURE CONTINUOUS PROFESSIONAL DEVELOPMENT OF TEACHERS

The training system to ensure the continuous professional development of teachers at all levels is governed by the Law on the Promotion of Teacher Development, which came into force in 2019, and the General Law on Education, the Law on Pre-School and General Education, and the Law on Vocational and Technical Education and Training, which were updated in 2023.

Preschool and general education teachers: Article 12.11 of the General Law on Education stipulates that "Teacher professional development activities shall be organized at the national and local levels in cooperation with parties involved in educational relations, with the support of educational institutions of the relevant level and higher education institutions for teacher training", and Article 12.12 provides that "A digital system for teacher professional development shall be established". Within the framework of the implementation of the "Provision of a Professional Development Environment and Environment Based on the Need for Digital Learning", 154 teacher needs-based module training content was developed by 374 scholars, researchers and teachers from 128 teams for the 2023-2024 school year, and 37,902 teachers and staff from SEB and ECU participated in virtual training and supported professional development. The average performance of the participants was 90.5 percent.

In addition to participating in modular trainings based on a digital platform to support the continuous professional development of teachers based on their development needs, teachers and staff of the EU and the EU will also participate in training organized by the State Administration for Education in accordance with Article 27, Article 27.1.2 of the General Law on Education, "to support the organization of certification training for teachers and staff and to support the provision of continuous professional development" And that's it.

Vocational and Technical Education and Training Teachers: Article 24.1.4 of the Law on Vocational and Technical Education and Training (Responsibilities of the State Administration for Education) provides for "the co-organization of professional development activities of teachers and staff with partner parties" and the funds of the Fund for the Support of Vocational and Technical Education and Training as provided for in Article 29 of the Law are used for "basic training for the professional development of teachers and administrators, the cost of certification training."

In the 2023-2024 school year, 2,252 teachers are working in 76 vocational and technical education institutions, and a total of 1,550 teachers participated in 5 rounds of training in teaching rights, capacity assessments and strategies in 2023 and 2024, accounting for 68.6 percent of the total teachers.

Higher Education Teacher:

The system supporting the continuous professional development of teachers in higher education institutions is regulated by the Law on Supporting Teacher Development, which has been implemented since 2019, and the revised Law on Higher Education approved in 2023. As part of this framework, during 2020–2021, nine "Science" virtual forums were organized to share research and best practices among university faculty and to foster peer learning. These forums engaged 3,187 teachers from 80 public and private higher education institutions. Additionally, seven online training sessions aimed at enhancing the professional skills of professors and instructors were held, involving more than 1,670 teachers from 51 universities.

As a result, within a period of just over one year, these initiatives reached 67.9% of the total 7,143 higher education teachers in the country.

According to Article 15.5 of the revised 2023 Law on Higher Education, it is stated that: "...Higher education institutions shall approve and implement regulations to ensure the professional development of their teaching staff..."

In line with this provision, all 61 higher education institutions operating during the 2024–2025 academic year are organizing training and development activities for faculty through teacher development centers, teams, designated specialists, and faculty members under their institutional regulations on teacher development.

The ongoing professional development of university instructors is coordinated under institutional teacher development programs, managed by teacher development centers, teams, or designated personnel. Over 80% of the 61 universities have established dedicated teacher development centers, while around 20% conduct their faculty development activities through joint teams or within the responsibilities of other units. TPD training includes mandatory and specialized training at secondary education level, as specified in the new regulation. GAE is in charge of secondary school teacher in-service training[15].

Since 2014, the Mongolian Institute for Educational Development (MIED) has been collaborating on the "Education for Sustainable Development" project to support the implementation of the United Nations' Sustainable Development Goals (SDGs) for 2030. As part of this collaboration,

---

[15] Ministry of Education. (2025). Order No. A/25

MIED has organized training sessions for teachers and staff of general education schools (GES) and pre-school education (PSE) institutions to raise awareness about sustainable development (SD) and education for sustainable development (ESD) — covering its concepts, content, and methodologies.

(The Ministry of Education, the Mongolian Institute of Education, The Institute of Teacher's professional development and other relevant organizations have been working together on the "Education for Sustainable Development" project since 2014 to support the implementation of the United Nations Sustainable Development Goals by 2030. Within the framework of this cooperation, the National Education Agency of Mongolia (NEAG) is organizing training for teachers and staff of general education and preschool educational institutions on sustainable development (SD) and education for sustainable development (ESD), covering its concepts, content and methodology.)

There is a great need for mandatory training for teachers.

Training for teachers is organized at the national level by the Ministry of Education, the General Authority of Education, the Mongolian National Institute of Educational Research, and the Center for Educational Evaluation within the framework of their functions. At the local level, it is organized by the respective Department of Education and training institutions. A national center for supporting teacher development will be established in 2025. The training programs are approved by the Ministry of Education and the General Directorate of Education in cooperation with the training institutions. The content of the training includes green and digital content.

Additionally, they have developed methodological modules and guidelines, enhanced domestic human resource capacity, and integrated the principles and content of SD and ESD into the core training curriculum. From 2013 to 2024, MIED has regularly incorporated 4–6 hours of SD and ESD content into the core professional development programs for teachers and staff at different stages of their careers — including those in their first, fifth, and tenth years of service. As a result, 66% of teachers and educational staff across PSE and GES — including principals, training managers, social workers, kindergarten directors, methodologists, librarians, and medical staff — have been exposed to SD and ESD concepts to some extent through professional development courses.

In 2021, within the framework of the national initiative "Joint Action and Partnership for Education for Sustainable Development," a national forum titled "The World's Largest Lesson – ESD" was held. As part of this forum, a total of 411 lesson plans were submitted by teachers from 21 provinces and 9 districts. Out of these, 110 best practices and methodological examples were selected based on specific criteria and published on the esd.mn online platform for public access.

THE RELATIONSHIP BETWEEN THE CONCEPT OF GENERAL EDUCATION CURRICULUM AND TEACHER COMPETENCE

Mongolian Education Declaration 2024, it stated:

- The vision of Mongolian education is defined as ... respecting the common culture of humanity, building a democratic, humane, and civil society, ensuring family life, supporting individual development, and nurturing Mongolians. In addition, improving the efficiency of education based on advances in information technology...

- The Mongolian education system is learner-centered, and the image of a Mongolian learner is defined as a "global citizen" who respects the human culture and learns from the world culture; a "cultural carrier" who inherits and develops national culture, traditions, and customs; a "humane citizen" who contributes to building a democratic, humane, and civil society; a "responsible member" of society and family; and a "lifelong learner" who learns independently and lifelong.

- Competencies define the image of a Mongolian learner, and competencies are designed to be developed sequentially at each level of education.

- It is stated that digital technology should be applied consistently to accelerate the transformation of Mongolian education, and a variety of activities based on big data learning should be supported, and work ethically.

Rationale for updating the curriculum: policy and law:

By Government Resolution No. 176 of 2024, the "Concept of Preschool and General Education Curriculum" of Mongolia was approved. This concept is basic document for revision of new curriculum. Furthermore, the purpose of this concept is to "define the learner competencies and guide the development of curriculum and subject programs based on ensuring coherence in content, methodology, and assessment." It serves as a foundational document for revising and updating the national curriculum. Table 6 presents a comparison between the implementation ways of the curriculum, the teacher competency framework, and the competencies outlined in professional standards. The results of the comparison show that the competencies required to implement the curriculum, as outlined in the concept, are aligned with the teacher competency framework.

According to the concept, "Mongolian learner competence" consists of basic and general competencies.

Basic competence	General competence
Native language and literacy	Creative and critical thinking
Mathematics	Learning styles
Science (natural and social)	Communication and collaboration
Computer science and electronic technology	Social and emotional development
English and other foreign languages	Sustainable development
Physical and mental health and well-being	National and global heritage

Table 6. Comparative analysis of the relationship between the concept of Preschool and General Education Curriculum and teacher competence

Concept of Preschool and General Education Curriculum	Teacher competence framework	Teacher standards for Secondary school teachers
4.1. Lesson planning and duration	Teaching and learning • Planning	1. Curriculum development 2. Planning, designing and organising lessons 4. Developing and organising an advanced lesson curriculum
4.2. Learning theory and methods The curriculum will be implemented using active learning methods developed based on learning models, real-world learning, constructivist, and alternative learning theories, following the developmental characteristics of the learner. Active learning methods will be employed in the classroom, non-classroom settings, and a combination of both, utilising digital technology.	Professional knowledge and understanding • Knowledge of learners • Pedagogical knowledge • Content knowledge • Knowledge of ICT Teaching and learning • Teaching methods • Supporting learning	7. Child development
4.3. Directions for using electronic technology in the implementation of the curriculum During curriculum implementation, electronic tools, open learning materials, interactive content, and platforms should be used to support students' reading, viewing, and listening activities, allowing them to work independently.	Professional knowledge and understanding • Knowledge of ICT	
4.4. Learning environment, materials, and infrastructure	Teaching and learning • Teaching methods • Supporting learning • Inclusion	8. Child protection
4.5. Student assessment	Teaching and learning • Assessment	3. Planning and organising assessment

4.6. Extracurricular activities and stakeholders in the implementation of the curriculum The effective implementation of the curriculum values the partnership and collaboration among parents, guardians, caregivers, government and non-government organizations, and the community.	Collaboration - Collaboration with parents, guardians, community, and colleagues - Communication with others	6. Class management 10. Participating in organisational development activities

CONCLUSION

1. There is still a shortage of qualified and professional teachers from preschool to vocational education. The data has been collected to fill the teacher shortage and to provide quantitative information on teacher demand.

2. To increase the teaching staff resources for all levels of educational institutions, the "Three Pillars of Teacher Policy" stipulates that the supply of professional teachers should be increased to 100 per cent, and the number of graduates in the teaching profession who meet the standards of entry-level teachers should be increased to 70 per cent. Although national objectives for teacher education aim to accelerate the implementation of the Sustainable Development Goals, teacher policies lack concrete activities that reflect and support the green and digital transition.

3. While goals related to digital transition are increasingly reflected in long-term and teacher-focused policies, teachers' ICT skills still require significant improvement (MNIER, 2022).

4. Since a teacher policy is not clearly defined and consists of multiple regulations and documents at any level of education, there is a risk that varying qualification standards, competency frameworks, and classifications will emerge, potentially undermining the coherence and integrity of the teaching profession.

5. In order to improve teacher education policy, there is a need for a clear conceptual framework that defines theoretical and methodological approaches, along with a national, standardised curriculum to be followed in teacher training programs. Relevant parts of Education sector Mid-term development plan should be reviewed in terms of investigating proposed policy programs on improving teacher education policy. Therefore, to ensure high-quality and consistent training for future teachers, as well as the professional development and placement of current teachers, the government should take targeted action. It is also important to acknowledge the global trend of viewing teachers as "knowledge brokers" and to actively involve teachers in broad discussions, incorporating their perspectives in policy development.

    During the national dialogue on "Transforming Education" (MES, 2022), it was emphasised that improving and effectively implementing policies to attract talented students into teacher education is essential for addressing issues related to teacher preparation. Therefore, it is appropriate to ensure this issue is not overlooked in the development of the teacher education strategy.

6. In Mongolia, teacher recruitment, employment, evaluation, and certification at all levels of education are regulated under the Civil Service Law, the General Law on Education (adopted in 2023), as well as related supplementary laws and relevant legal acts. These processes also vary based on the level of education and the specific characteristics of the educational institutions involved. For instance, since 2022, the performance of teachers in pre-school and general education schools has been evaluated through external assessments based on the results of three consecutive years of performance reviews. In contrast, vocational and technical education and training (TVET) institutions, as well as higher education institutions, assess teacher performance internally based on a general framework, considering the specific nature of each organization. These institutions also provide teachers with necessary training and support, including incentives and professional development opportunities, in accordance with the relevant legal provisions. It is advisable to align teacher evaluation, certification processes, and assessment criteria with the professional standards for teachers and to link them to a clear career progression framework to support professional growth.

7. The newly established *National Center for Teacher Professional Support* should focus on ensuring the continuous professional growth of teachers at all levels of education and on building research and analytical capacity in the field of teacher development.

8. The Mongolian Government has adopted the concept and main objectives of the general education curriculum in 2024. Currently, Mongolia is revising the textbooks for preschool and general education. Furthermore, our country has started to develop professional standards for teachers. Therefore, it is necessary to align the teacher competence framework with the curriculum concept.

References

1. Монгол Улсын боловсролын ерөнхий хууль УИХ, 2023
2. Мэргэжлийн болон техникийн боловсрол, сургалтын тухай хууль. УИХ, 2023
3. Монгол Улсын Хөдөлмөрийн тухайн хууль,
4. Багшийн хөгжлийг дэмжих тухай хууль. УИХ, 2018
5. Монгол улсын засгийн газрын тогтоол дугаар 227 "Мэргэшлийн үндэсний шаталсан бүтэц батлах тухай",2024
6. Монгол улсын засгийн газрын тогтоол дугаар 192"Багшийн гурван тулгуурт бодлого" цогц арга хэмжээг батлах тухай", 2024
7. Монгол улсын боловсрол, шинжлэх ухааны сайдын 2024оны 03 сарын 20өдөр А/146 дүгээр тушаал
8. Сургуулийн өмнөх боловсролын байгууллагын удирдах ажилтан, багш нарын 2024-2025 оны хичээлийн жилийн тайлан
9. Ерөнхий боловсролын сургуулийн 2024-2025 оны хичээлийн жилийн тайлан
10. Техникийн болон мэргэжлийн боловсрол, сургалтын байгууллагад ажиллагчдын 2024-2025 оны хичээлийн жилийн мэдээ
11. Дээд боловсролын сургалтын байгууллагын төгсөгчдийн 2023/ 2024 оны хичээлийн жилийн мэдээ
12. Дээд боловсролын сургалтын байгууллагын 2024/2025 оны хичээлийн жилийн мэдээ
13. Боловсролын салбарын хэтийн тооцоо 2020-2050 Үндэсний статистикийн хороо, БШУЯ,2022.
14. Боловсролын салбарын өгөгдөл мэдээллийн боловсруулалтын тайлан, БСШУСЯ, АХБанк,2019.
15. Дээд боловсролын багшийн хөгжилд дэмжлэг үзүүлэх сургалт, үйл ажиллагааны тайлан. БМДИ, 2022
16. Б.Жадамба,Чү.Байгалмаа, Монголын багш боловсролын талаарх бодлогын өөрчлөлтийн судалгаа, 2018 МУБИС https://lavai.msue.edu.mn/ppapers/20-LAV-001.pdf
17. Багшийн хөгжих хэрэгцээнд тулгуурласан модуль сургалтын тайлан. БЕГ. 2023
18. Багшийн хөгжих хэрэгцээнд тулгуурласан модуль сургалтын тайлан. БЕГ.2024

General Information

On May 13, 2020, the Great Khural of Mongolia approved the long-term development policy of Mongolia "Vision 2050" and defined a more citizen-oriented social development strategy. Section 2.1 of the policy document states that the government will provide equal opportunities for everyone to receive quality education and strengthen the lifelong learning system as a basis for individual development, family life, and national development (Parliament, 2020b). To achieve this goal, the government is working on planning and implementing very important measures, such as implementing a comprehensive personnel policy in the education sector, establishing a professional development system and organizing the selection of personnel based on the principle of merit or ability, ensuring gender equality within the sector, and providing housing for education sector workers in rural and remote areas.

To work as a teacher in Mongolia, one must study at a university and obtain a teaching qualification. However, according to the recently adopted General Law on Education, Mongolian citizens who have obtained a profession other than teaching have the opportunity to work as a teacher by participating in a teacher training program (Parliament, 2023). In the 2022-2023 academic year, there are 52,989 teachers and staff working in 2,418 educational institutions in Mongolia, and 36,118 teachers in general education schools.

According to statistics, there are 859 schools in the country, and approximately one in four schools (23.1%) operates in the capital Ulaanbaatar (Ministry of Education and Science, 2023в). The total population of Mongolia has reached 3,504,741 (USG, 2023), and 1/3 of the total population or 1,195,600 people are studying and receiving education in educational institutions of one level or another.

In the 2024-2025 academic year, there are 65 universities in Mongolia, of which 34 or 52.3 percent are universities, 29 or 44.6 percent are institutes, and 2 or 3.1 percent are colleges. Of the total universities and colleges, 16 are public, 42 are private, and 3 are public/religious educational institutions. In addition, 150,282 students are studying in universities and colleges. Of the total number of students, 81,571 or 54.3 percent are enrolled in public schools, 60,111 or 40.0 percent in private schools, and 8,600 or 5.7 percent in public/religious schools.

On the other hand, 32 teacher training universities and colleges across Mongolia are implementing the "Teacher" program, and in the 2023-2024 academic year, 16 universities and colleges have trained and graduated teachers. In the 2024-2025 academic year, there are a total of 14,773 students (3,163 teachers and preschool education, 2,684 teachers and primary

education, 8,926 teachers and professional education), and 13,971 students are enrolled at the bachelor's level.

Among them, the report includes a brief presentation of the professional programs of teachers of the Mongolian National University of Education, Otgontenger University, Eastern Regional Branch of NUM, Hangai Institute and Darkhan Institute.

In 2023, the "Concept of Teacher Training Programs" was approved by the MNUE rector by order No. A/188, and in 2024, the "Standards of Initial Teachers" were approved by order No. A/349, which ended the competence framework of the outgoing teachers prepared by MNUE. (Appendix 1, 2). MNUE implements the Bachelor's and Master's programs in Lifelong Education, which is a program that provides education to children, youth and other people who cannot receive general education due to necessary reasons throughout Mongolia. (Appendix 3)

In Mongolia's long-term development policy, *Vision-2050*, one of the strategic goals is to "ensure equal opportunities for everyone to receive quality education, and to strengthen the lifelong learning system as a foundation for personal development, family well-being, and national development." In support of this, Article 17.3 of the Education Law mandates that centers for non-formal education—responsible for organizing lifelong and non-formal education across all administrative levels—may operate independently or in conjunction with educational institutions.

In 2021, the Ministry of Education and Science approved the *Program for Compensatory Education for Primary, Basic, and Complete Secondary Education*, outlining procedures to support equitable access to education for out-of-school children and youth. This program is delivered in various flexible formats (e.g., classroom, distance, home-based, self-study, and mixed-mode training) to suit the learners' contexts.

However, a review of the current program implementation, as outlined in Table 1 below, shows limited integration of **green education principles** or content related to environmental sustainability. While digital modalities (such as distance learning and IT-based instruction) are increasingly incorporated—indicating progress on the **digital transformation** front—there is minimal evidence of curriculum alignment with green competencies such as environmental stewardship, climate change awareness, or sustainable development goals (SDGs).

To support the transition to a greener education system, it is important to assess:

- Whether the compensatory and lifelong learning programs integrate environmental themes.
- If teacher training includes competencies for green education.
- The extent to which teaching methodologies promote sustainability, both in content and practice (e.g., through eco-friendly resource use, community-based environmental projects, or climate-responsive curricula).

Table 1. Summary of the procedure for organizing Program for Compensatory Education for Primary, Basic, and Complete Secondary Education

№	Elements	Section number	Section
1	General principles of the procedure for organizing compensatory education for primary, basic, and complete secondary education	1.1	In order to ensure the right and equal access to education for every citizen, the non-formal education form of compensatory education for primary, basic, and complete secondary education is referred to as 'Compensatory Education'
2	Organization of training	2.2	Compensatory education will be organized in the form of group (classroom, distance, home-based or apprentice training, temporary gatherings, independent) training at general education schools in aimags, soums, and districts.
3	Requirements for training organizers	2.3.1	The training plan must be developed in accordance with the "Training Plan for Primary, Basic, and Complete Secondary Education" approved by the Central government authority responsible for education;
		2.3.3	The teacher organizing the training: - has a teaching qualification, - has participated in training on the content of the compensatory education program and mixed group methodology, - has knowledge of information technology for organizing distance learning;

4	In terms of the form and duration of the training:	2.3.3	The training will be organized in one of the following forms, based on the level of knowledge and skills of the student, and learning opportunities: classroom, distance, home or student training, temporary gatherings, self-study, or a combination of these methods, and the training period specified in Section 4.2 of the regulations will be adhered to.
	Monitoring, analysis, and evaluation during the training process:	5.4	The issue of transferring the learner to a general education school will be resolved by the training organizer in collaboration with the general education school and the local authority responsible for education.
		5.5	The detailed information of learners who have completed basic and complete secondary education and are taking graduation exams will be submitted by the training organizer and school administration to the Central government authority responsible for education through the local authority responsible for education within the specified period. The process of taking graduation exams and issuing educational diplomas and certificates will be regulated by the graduation exam procedures for primary and secondary education.

It could be useful to present and analyze information about current approach of teacher education based on subject-based training completed by teaching of pedagogical aspects, the proportion of subject-based and pedagogy/teaching psychology related courses, relevance with Preschool and General Education Curriculum and teacher competence, etc.

Table 2. Program Overview of Universities

№	University	"Teacher" professional programs	Percentage of total programs	"Other" professional programs	Percentage of total programs	"Teacher" professional programs
1	**Mongolian National University of Education**	39	75%	13	25%	Mathematics teacher; Information technology teacher; Physics teacher; Geography teacher; Biology teacher; Health teacher; Visual arts teacher; Design and cartography teacher; Lifelong education teacher; Special needs education teacher; Social studies teacher; History teacher; Mongolian language and literature teacher; English teacher; Russian teacher; Chinese teacher; Korean teacher; German teacher; Russian and English teacher; Japanese and English teacher; Physical education teacher; Elementary school teacher; Music teacher; Preschool education teacher
2	**Otgontenger University**	3	16.6%	15	83.4%	English teacher, Mongolian language and literature teacher, Preschool education teacher
3	**Khangai University**	4	36.3%	7	63.7%	English teacher; Preschool education teacher; Information technology teacher; Elementary school teacher
4	**National University of Mongolia, Eastern Regional Branch**	4	57.1%	3	42.9%	Mongolian language and literature teacher; Elementary school teacher; Preschool education teacher; Physical education teacher;
5	**Darkhan University**	5	45.5%	6	54.5%	Primary school teacher; Music teacher; Preschool teacher; Mathematics teacher; Teacher, foreign language education

Across Mongolia, 32 universities and colleges offer teacher education programs. In the 2023-2024 academic year, 16 of these institutions trained and graduated new teachers. The RETEACH project—"Renovating Mongolia's Teacher Education Program in Accordance with the Green and Digital Transition"—is a collaborative initiative involving five universities: Mongolia University of Education, Otgontenger University, Eastern Regional School of the National University of Mongolia, Khangai University, and Darkhan University. This project aims to modernize teacher education by integrating green and digital competencies into training programs.

Among the universities participating in the RETEACH project, teacher training programs play a significant role in their academic offerings:

- Mongolian National University of Education provides 39 teacher training programs, accounting for 75% of its total programs.
- Otgontenger University offers 3 programs (16.6% of its total programs).
- Dornod University collectively offer 4 programs (57.1% of their total programs).
- Khangai University provides 4 programs (36.3% of its total programs).
- Darkhan University offers 5 programs (45.5% of its total programs).

Each of these universities offers a bachelor's degree in teacher education, contributing to the development of Mongolia's future educators.

ANALYSIS OF THE GREEN AND DIGITIZATION OF TEACHER TRAINING PROGRAMS

One of the three key global issues is climate change. ((WEF), 2024). This has a negative impact on all aspects of sustainable development, including human health and well-being, food security, economic growth, natural resources, and biodiversity. Therefore, the following documents highlight the need to green education globally. These including:

- 47 percent of national curriculum frameworks of 100 countries reviewed had no reference to climate change. (UNESCO, Getting every school climate-ready. How countries are integrating climate change issues in education., 2021)

- Only one third of teachers felt able to effectively explain the effects of climate change in their regions. (UNESCO, Getting every school climate-ready. How countries are integrating climate change issues in education., 2021)

- 70% of the youth surveyed in 2021 could not describe the broad principles of climate change due to a lack of quality in the current way it is taught. (UNESCO, Youth demands for quality climate change education, 2022)

While there have been many studies conducted across Mongolia on the online status of all levels of education curriculum, the availability of equipment, and the capacity of the internet, there is a lack of research on the readiness of e-learning, the factors affecting it, and the analysis of the digital and greening status of the curriculum.

2.1 Documentary Review of green and digitization of teacher training programs

we aimed to analyze the green and digital status of teacher training programs in universities and study the readiness of e-learning and the factors affecting it.

To do this, a total of 34 programs of teachers trained at MNUE, Otgontenger University, Darkhan University, Eastern Regional School of NUM, and Khangai University were studied in three areas: document analysis for standard/programs, learning management information system operations, and readiness for e-learning.

When conducting a literature review, the following 4 principles for greening education were identified in the "Greening curriculum guidance" issued by the United Nations in December 2024, (UNESCO, Greening curriculum guidance, 2024) and one principle related to the digital transition were added it, then the research was conducted by identifying keywords and finding keywords using the T-Lab program.

1. Action-oriented

- **Empowering:** It supports learners' empowerment, self-efficacy and agency by improving their analytical, communication, and other skills, and by supporting the acquisition of relevant knowledge and values for sustainable development and addressing climate change.

- **Learner-centred:** The pedagogy (e.g. critical, participatory, problem-oriented, learner-centred and experiential approaches) allows students to actively participate in learning processes, critically engage with personal experiences and their natural environment, and construct their own understanding.

- **Career-related:** It incorporates practices or ideas that can be applied to career choices and workplace practices.

- **Transformative**: It contributes to collective society-wide, local and global efforts to change human behaviour, systems and underlying causes and root drivers of climate change.

2. Justice-promoting: The principles of education reflect content that focuses on human rights, equality, and living together. They aim to broaden students' understanding of not only environmental issues, but also of justice, equality, and human rights in the world.

- **Based on a human rights approach:** It builds on and promotes an understanding of universal human rights – including the rights of children and young people – and the rights of all persons to health, education, information equality and non-discrimination. Using a human rights-based approach, within education addressing climate change, also involves raising awareness among young people, encouraging them to recognize their own rights, acknowledge and respect the rights of others, and advocate for those whose rights are violated..

- **Based on gender equality:** It addresses the different ways that gender norms can influence inequality, and how these inequalities can affect vulnerabilities to climate change.

- **Based on inter-generational equity:** It develops a notion that ensures the rights and obligations of future generations while maintaining those of the present generation..

- **Based on intra-cultural equity**: It develops a vision of environmental, economic, and social justice and fairness across communities and cultures within the current generation.

3. Quality content:

- **Scientifically accurate:** The content is based on evidence related to climate change and sustainable development.

- **Conveys urgency:** Greening education stresses the urgency of adequately addressing the growing climate emergency.

- **Age- and developmentally-appropriate:** The content is responsive to the evolving capabilities of the child and young person as they grow.

- **Indigenous-influenced:** Indigenous knowledge and perspectives are incorporated within education, especially from indigenous groups who are locally based.

- **Balanced:** Cognitive, social and emotional, and behavioural learning dimensions are addressed in a balanced manner to ensure a holistic approach to greening education.

4. Comprehensive and relevant

- **Comprehensive:** It provides opportunities to acquire comprehensive, accurate, evidence-informed and age-appropriate information on sustainable development and climate change over time and throughout a learner's formal, non-formal and informal (e.g. museums and libraries) education, and including TVET.

- **Lifelong:** This is a continuing educational process that starts at an early age, and where new information builds upon previous learning, using a spiral-curriculum approach.

- **Culturally relevant and context appropriate:** It fosters learning outcomes that are relevant to local climate change challenges and solutions, and cultural structures and norms that affect people's choices in addressing sustainable development and climate change.

- **Inclusive:** Greening education involves a range of actors from inside and outside education, including experts, parents, community members and local leaders who bring alternative perspectives, new skills, intergenerational and indigenous knowledge to understand climate challenges and solutions.

- **Institution-wide**: Greening education principles are integrated throughout the learning environment, affecting the organization-wide culture and practices.

Table 3. Standards, program elements, and their corresponding keywords

	Objective	Learning outcomes	Content	Methodology	Assessment
1	Inclusive	Empowering	Scientific	Learner-centred	Classroom-based assessment
2	Lifelong	Competence	Multimedia	Collaborative learning	Large-scale assessment
3	Holistic approach	Skill	Development	E-learning	Project-based work
4	Values	Green life skill	Lifestyle	Based on intra-cultural	Evidence
5	Equality	Attitudes	Research	Critical pedagogy	Projects
6	Empowering learners	Stability	Based on gender	Traditional teaching	Standart
7	Holistic	Enthusiasm	Diversity	Transformational learning	Justice
8	Outcomes	Flexibility	Environment	Pedagogy	Holistic assessment
9	Humanities	Critical thinking	Society	Media and new technologies	
10	Activity	Human rights	Economy	Problem-based learning	
11	Perspective	Ethic	Digital		

The following programs and standards were selected and used from each university in the study. These include:

Table 4. Sample information on programs and standards

MNUE (Standard curriculum)		OT University		Dornod University		Darkhan University		Khangai University	
Standards	№	Curriculum	№	Curriculum	№	Curriculum	№	Curriculum	№
Standards of the didactic courses	3	Curriculum of the didactic courses	1	Curriculum of the didactic courses	6	Curriculum of the didactic courses	3	Curriculum of the didactic courses	5
Foundation of psychology	1	English, Mongolian language	2					English	1
Online leaning methodology	1	e-learning, digital education, applied technology	2					Object-oriented programming	1
Others	8	Early childhood education	1					Others	1
Standards of the didactic courses	13	Curriculum	6		6		3		5
									33

Of the total programs selected from the 5 state-owned and private university that train teachers, 50% are didactic curricula, 11% are related to general basic education, 11% are related to online learning, and 28% are other programs and standards.

Figure 1. The weight of university programs and standards

Figure 1. The weight of university programs and standards
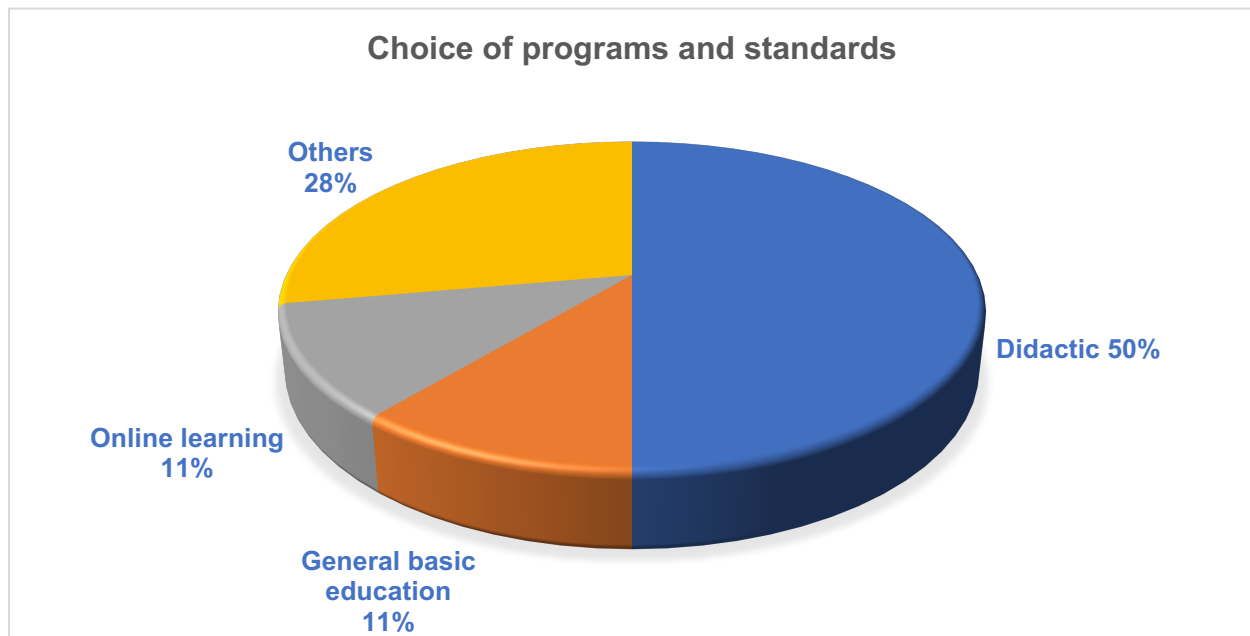
The study data were analyzed using MS-Excel and T-Lab software.

As for the document study, the results show that the key words related to the green and digital nature of the program are reflected in each standard of the MNUE program according to the following frequency.

Figure 2. Frequency of key words indicating program greenness

Comparison Chart of Schools

Figure 2 shows that keywords such as lifelong, values, comprehensive, results, activities, trends, competences, skills, attitudes, science, development, research, society, e-learning, standards, and digital are more frequent in the standards and programs of the four schools. The repetition of the above keywords across each school's program is included in the appendix. Looking at the frequency of the above keywords, relation to the "Guidelines for Greening the Curriculum", the four key principles and the percentage of the digitization keywords can be seen in this part.

The number of key words related to action-based principles in teaching training programs within five universities that train teachers throughout Mongolia indicates that the programs often have content and methods which meet action-based principles (Figure 3).

However, the key words related to comprehensive and coherent are repeated 19 times in 32 programs and standards of 5 schools. In particular, in addition to the content, methodology, and evaluation related to the principle of comprehensive, lifelong, culture-appropriate, appropriate, equal inclusion, and working as a whole in educational or training institutions, it indicates that there is a need to coordinate with the goals of the curriculum and standards. If you look at the order of these letters, the word "activity" is used 123 times, the word "attitude" 78 times, the word "result" 77, the word "development" 55, the word

"research" 39, the word "standard" 35, "lifetime" 28 times, "values" 49, "competence" 19 times, "skills" 16, "e-learning" 35 times etc. The relationship between the words of the program will be explained further.

Figure 3. Corresponding frequency to the principle of key words indicating the greenness of the program
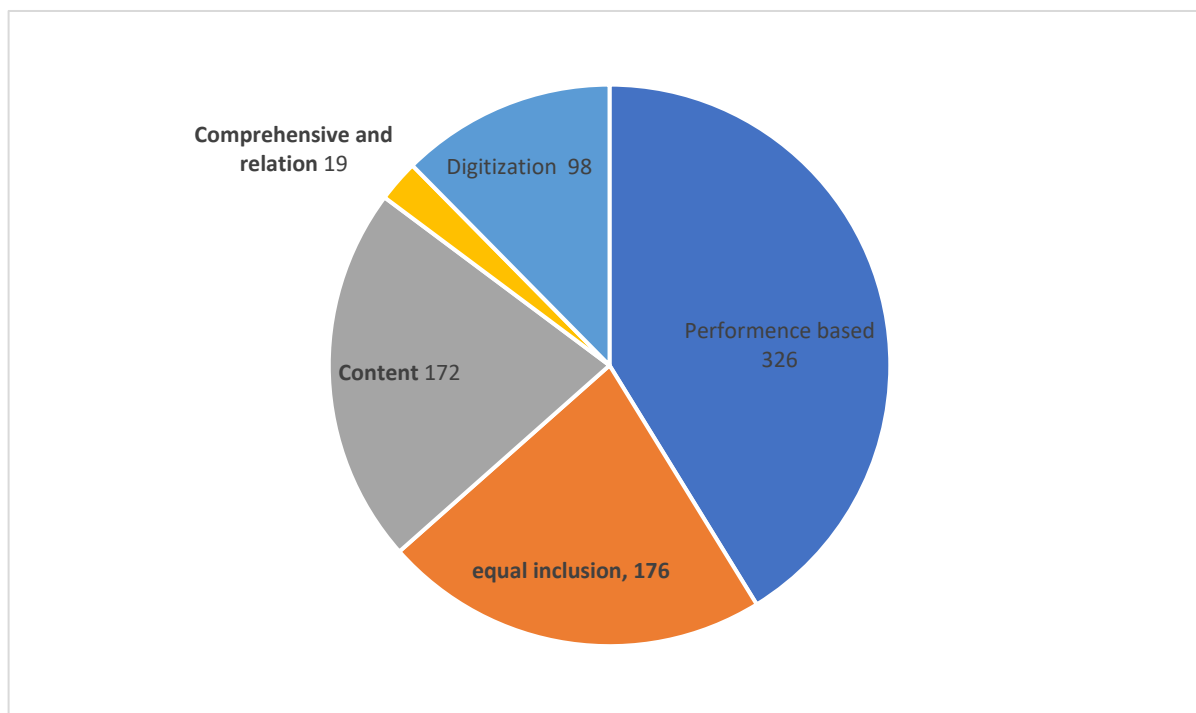
Among the many repeated words in the program and standards, and the relationship between four words such as ability, comprehensive, digital, and results are as follows. It includes:

Figure 4. "Skills"

Figure 5. "Comprehensive"

Figure 6. 'Digital' linking words

Figure 7. "Result" linking words

As shown in Figure 4, the word "competence" is a key word distinguished from the Guidelines for Greening the Curriculum, and it is the word corresponding to the second principle of "Promoting Integrity". It is strongly related to the words such as learning outcomes, attitudes, knowledge, and practices for the selected programs and standards, and a certain extent related to the words such as creativity, method, application, and curriculum standards. As can be seen in Figure 5, the word "comprehensive" is strongly related to words such as competence, education for the sustainable development, values and age. Moreover, among the words that are weakly related, there are words such as "interactive", "in operation", "validation", and "development". As can be seen in Figure 6, the word Digital is strongly related to words such as

technology, information, application, electronic, and education, while it is related to words such as learning outcomes, collaborative, communication, expression, application, and theory, which shows that the digitality of the program. It means that the above-mentioned words express the space of transition to a certain extent. If you look at the related words of the word "result", it is strongly related to words such as learning, correlation, taxonomic levels, evaluation methods, course and etc. However, it is weakly related to the words exam, work, reason, improvement, course learning results, level, and evaluation which indicates the quality content of the program is consistent with the principle of greenness.

Figure 8. Keywords cluster
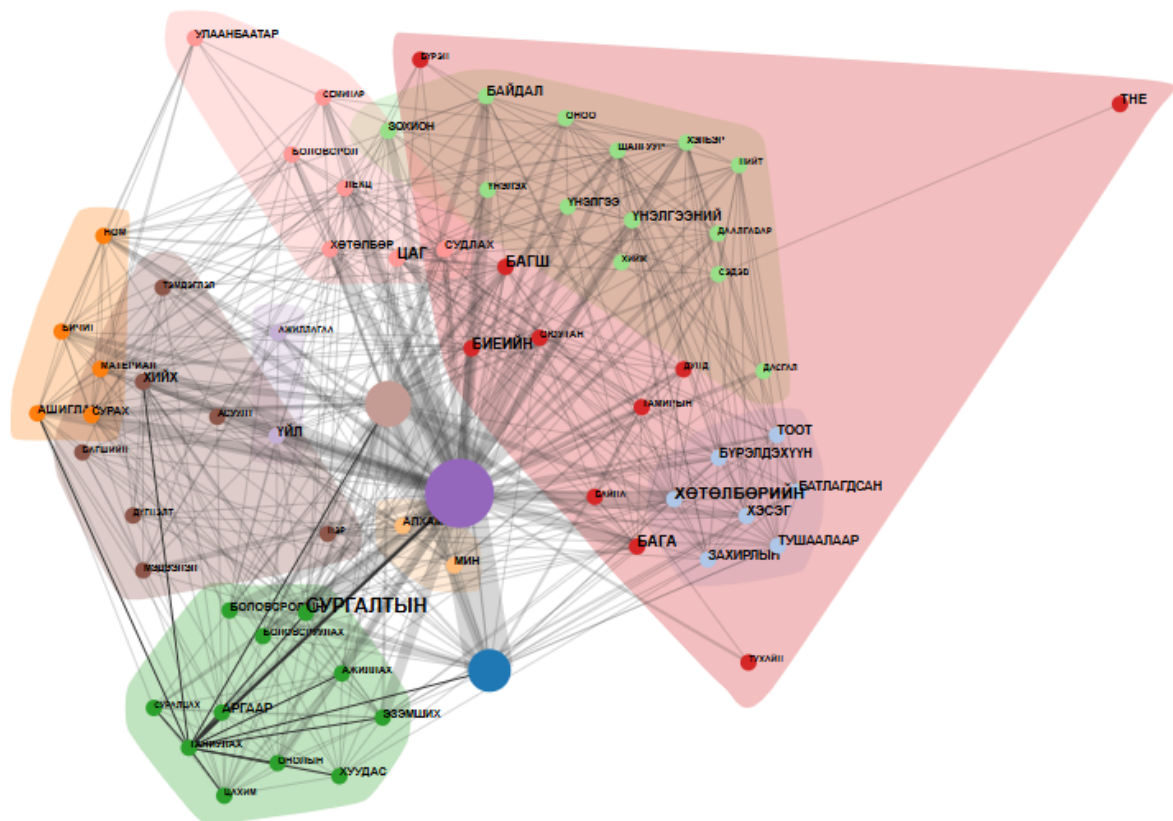

Figure 8 indicating the greenness of program shows that there is a cluster of words corresponding to each element of the program, such as program objectives, methodology, evaluation, and a cluster related to the teacher's activities. This shows the need to introduce and integrate the principles of greenness of the program into each element of the program on the basis of research.

2.2 Training Management Information System - Green and Digitalization of the Program

        Learning management systems (LMS) offer modern technologies that can manage all aspects of operation, and in recent years, they have become increasingly used for training worldwide. Therefore, analyzing the data recorded in the learning management systems of the universities under study will be beneficial in aligning with the program's sustainability goals. Since learning management systems are important not only for meeting the needs of distance learning, but also for providing opportunities for teachers and students to learn and develop, we collected the following data from the learning management systems of MNUE, Otgontenger University, Darkhan University, NUM Eastern Regional School, and Hangai University.

Table 5. The Training Management Information System Data

Name of the File	Type of the File	MNUE	Darkhan	Dornod	Otgontenger	Hangai
MP4 Video	.mp4	4,014	1120		2,290	1861
WinRAR ZIP archive	.zip	30,641	24		18,071	0
Firefox HTML Document	.pdf	27,105	0		35,499	0
PPTX File	.pptx	8,312	0		7,926	0
PNG File	.png	55,779	248	0	10,478	0
WinRAR archive	.rar	72	0	0	50	0
MP3 Format Sound	.mp3	3,293	982		1,943	0
PPT File	.ppt	953	347		741	1382
Office Open XML Document	.docx	6,250	0		0	0
JPG File	.jpg	16,451	387		12,567	0
JavaScript File	.js	6,541	0	0	0	0
SWF File	.swf	4,200	0	0	0	0
Wave Sound	.wav	14	0	0	6	0

			163,625	3,108		89,571	3243
Total							

Table 3 shows that, according to the indicators from the universities' training management system, lecturers are actively using the system to digitize their lessons, upload information, and store data. However, it is necessary to increase the number of electronic lessons, develop a storage policy, delete unnecessary large files or move them to another location, optimize image and archive files to improve capacity efficiency, find a solution for storing media files on a dedicated server, and enhance teachers' electronic skills.

2.3 "Analysis of the Teacher Training Program Curricula

One. Purpose:

1. Based on the findings of the situational analysis conducted for the teacher training program, an analysis is carried out on certain curriculum plans, with the aim of verifying the outcomes.
2. *Scope:*
   The analysis involves five universities participating in the Reteach project: Otgontenger University, Mongolian National University of Education, the Eastern regional branch of the National University of Mongolia, Darkhan Institute, and Khangai University.
3. *Outcomes:*

3.1. Master's program Curricula: The alignment of the master's program curriculum and the plan with the general requirements, as well as the ratio of credit hours, was analyzed.

Table 6. Master's level programs at participating universities

	University	Curriculum	Total credit hours	Core credits	Specialization credits	Research credits
1	Mongolian National University of Education	Lifelong Education	35	10	17	8
		Social science education (Research)	30	12	9	9
		Social science education (Professional)	32	12	15	5

		Design technology education	34	10	16	8
2	Otgontenger University	Educational studies (research)	30	15	9	8
		Educational studies (Professional)	32	15	14	3
3	Eastern Regional Branch of the National University of Mongolia	Educational studies	32	15	12	5

Based on the above indicators, the master's program curriculum plans implemented by the three universities align with the credit hours for core professional, specialized, and research courses as outlined in the Minister of Education and Science's Order No. A/147. However, some of the requirements in Order No. A/147 need to be further refined. There is no content overlap in the courses listed in the curriculum plans for all programs. In the curriculum plan for the Master's Program in Educational Studies at Otgontenger University, the continuity between the courses is clearly defined, whereas in the curriculum plans of the other schools, the courses are scheduled arbitrarily across terms. Additionally, it is necessary to explicitly determine the appropriate theoretical-practical balance in the curriculum plans, ensuring that this relationship is clear and well-defined.

Digital and Green Development Skills, Content of Pedagogical Courses, and the Ratio of Credit Hours.

Table 7. Master's level programs at participating universities

	University	Curriculum	Total credits	Digital skills credits	Green development credits	Pedagogy credits
1	Mongolian National University of Education	Lifelong Education	35	4	2	9
		Social science education (Research)	30	2	2	0

		Social science education (Professional)	32	2	5	0
		Design technology education	34	31	6	4
2	Otgontenger University	Educational studies (research)	30	3	1	2
		Educational studies (Professional)	32	3	1	8
3	Eastern Regional Branch of the National University of Mongolia	Educational studies	32	6	3	9

An analysis of the courses listed in the curriculum plans with respect to digital content reveals that each curriculum includes 2-6 credit hours dedicated to digital content. However, the program in Design and Technology Education at the Mongolian National University of Education stands out, with 86% of its total credit hours focusing on digital technology-related courses, due to the specific nature of the program. Furthermore, an analysis of the course titles and content related to green development in the curriculum plans shows that each program includes 1-6 credit hours of courses focused on green development. The credit hours for pedagogical courses in the master's program curriculum plans at these universities vary, depending on the particular characteristics of each program. The percentage of the total credit hours allocated to pedagogical courses ranges from 6% to 28%.

The following courses related to digital and green development have been included in the curriculum plans:

3.2 Bachelor's Program Curriculum Plan:

The alignment of the bachelor's program curriculum and the plan with the general requirements, as well as the ratio of credit hours, was analyzed.'

Table 8. Bachelor's degree programs at participating universities

№	University	Curriculum	Total credit hours	General credits	Professional credits	Specilization credits
1	Otgontenger University	Teacher, foreign language education	120	26	21	54
		Teacher, foreign language education	120	28	21	54
2	Mongolian National University of Education	Teacher, Mongolian langauge and literature education	124	24	25	75
		Teacher, Lifelong Education		17	21	70
3	Eastern Regional Branch of the National University of Mongolia	Teacher, design technology education	126	18	31	65
4	Darkhan institute	Teacher, physical education	120	27	37	61
5	Khangai Univerisity	Teacher, elementary education	127	30	38	55

The curriculum plans have been developed in accordance with the general requirements set out in the appendix of the Minister of Education and Science's Order No. A/147 for bachelor's degree programs. There is no overlap in the content or titles of the courses, the continuity between courses is logical, and the balance between theory and practice has been appropriately allocated.

Table 9. Digital and Green development skills, Content of Pedagogical Courses, and the Ratio of Credit Hours

	University	Curriculum	Total credit hours	Digital skills credits	Green development credits	Pedagogy credits
1	Otgontenger University	Teacher, foreign language education	120	8	21	54
		Teacher, Mongolian langauge and literature education	120	15	21	54
2	Mongolian National University of Education	Teacher, Lifelong Education	124	8	25	75
		Teacher, design technology education		16	21	70
3	Eastern Regional Branch of the National University of Mongolia	Teacher, physical education	126	3	31	65
4	Darkhan institute	Teacher, elementary education	120	5	37	61
5	Khangai Univerisity	Teacher, computer science education	127	45	38	55

The curriculum plans for each program include courses with digital content ranging from 3 to 45 credit hours. Programs in digital and technological fields have courses with higher credit hours for digital content, while programs in foreign languages, physical education, and elementary education feature comparatively fewer credit hours dedicated to digital content. In contrast, the credit hours allocated to green development in the curriculum plans account for 21.38 credit hours of the total, which is a relatively high figure.

However, a more detailed analysis of the program content will provide a clearer understanding. The following courses related to digital and green development are included in the curriculum plans:

Conclusion:

1. In the curricula of the Mongolian National University of Education, Otgontenger University, Darkhan University, the Eastern Regional School of Mongolian State University of Education, and Khangai University, which train teachers throughout Mongolia, two of the five principles that indicate the greenness of the curriculum, namely quality content and digital transition, were identified. This leads to the conclusion that it is necessary to carefully coordinate them, taking into account the "Guidelines for Greening the Curriculum" proposed by the United Nations and other documents.

2. In the master's program curriculum plans, 30-35 credit hours are covered, while in the bachelor's program curriculum plans, 120-127 credit hours are included. The master's curriculum plans need to be improved with more detailed alignment to the general requirements, whereas the bachelor's program curriculum plans are in compliance with the general requirements.

3. The percentage of courses with digital content in the master's program curriculum ranges from 6% to 18%, while in the bachelor's program, it ranges from 2% to 12%. In contrast, the percentage of courses focused on green development in the master's program curriculum ranges from 3.3% to 17.6%, while in the bachelor's program, it ranges from 17.5% to 30%. From these findings, it is evident that the master's program curriculum has a higher percentage of courses with digital content, while the bachelor's program curriculum has a higher percentage of courses focused on green development.

4. Furthermore, it would be beneficial to increase the content of courses related to digital and green skills in the teacher training programs, and to integrate these skills not only through specialized courses but also within professional discipline courses to enhance both green and digital skills.

Reference

(WEF), W. E. (2024). *Global Risks Report 2023*. Cologny/Geneva.

Churches, A. (2008). Bloom's Digital Taxonomy. *Research Gate*, 1-44.

Geert, R. (n.d.). *SPSS TUTORIALS*. Retrieved from www.spss-tutorials.com: https://www.spss-tutorials.com/spss-factor-analysis-tutorial/

Sneed, O. (2016, May 6). *Arizona State University*. Retrieved from https://teachonline.asu.edu/2016/05/integrating-technology-blooms-taxonomy/

Taeho Yu and Jennifer C Richardson. (2016). An Exploratory Factor Analysis and Reliability Analysis of the Student Online Learning Readiness (SOLR) Instrument. *Asynchronous Learning Network*, 120-141.

UNESCO. (2021). *Getting every school climate-ready. How countries are integrating climate change issues in education.* Paris.

UNESCO. (2022). *Youth demands for quality climate change education.* Paris.

UNESCO. (2024, 12). Greening curriculum guidance. Paris, France.

БЕГ. (2022). *Насан туршийн боловсролын салбарын хүний нөөцийн судалгааны тайлан.* Улаанбаатар.

БСУХ. (2022). Монголын суралцагчдын цахим сургалтын бэлэн байдлын тандах судалгаа.

Газар, М. У. (2023 оны 03 29). *Эрх зүйн мэдээллийн нэгдсэн систем*. legalinfo.mn: https://legalinfo.mn/mn/detail?lawId=16758861285151-ээс Гаргасан

Яам, Б. Ш. (2022 оны 05 09). Боловсролын Яам: https://moe.gov.mn/post/118712-ээс Гаргасан

General Department of Education. (2022). Human Resources Research Report on Lifelong Learning. Ulaanbaatar

Mongolian National Institute for Educational Research (2022). Study Results of the e-Learning Readiness of Mongol

CHAPTER THREE: CURRENT CONDITIONS OF ONLINE AND DISTANCE EDUCATION FOR SUPPORTING THE PROFESSIONAL DEVELOPMENT OF TEACHERS IN GENERAL SECONDARY SCHOOLS"

One. The Legal Framework of Online and Distance Learning Based on Digital Technology in Supporting the Professional Development of General secondary Education Teachers

Let us briefly review how online and distance learning, supported by digital technology, is addressed in eight legal documents that focus on supporting and enhancing teachers' professional development. (For more detailed information, please refer to Annex No. 1.)

In recent policy documents such as *"Vision 2050" – Mongolia's Long-Term Development Policy* and the *Education Sector Mid-Term Development Plan 2021–2030*, the need to improve the quality of education at all levels has been strongly emphasized.

- Over the past four years, a number of policy documents have been approved and implemented with a focus on supporting teacher development and establishing a coherent legal framework for training and professional development activities. This has created certain advantages in the education sector.
- These legal documents state that the organization of training and activities aimed at enhancing teacher competencies and supporting professional growth can only be carried out by government education institutions at the national, regional, and local levels.
- While the documents broadly outline the forms, organizational structure, and methods for teacher training and development, they remain general in nature.
- Although government involvement and support are acknowledged, the provisions regarding self-directed learning, independent teacher development, and the use of distance and online learning remain vague and insufficiently detailed.
- The documents also contain restrictive clauses that limit the forms of collaboration and recognition involving public and private higher education institutions and organizations in supporting and enhancing teacher capacity. For example.

According to Annex 1 of Order No. A/25 of 2025 by the Ministry of Education:

"Procedure for the Professional Development Activities of Teachers and Pre-school teachers and General Secondary Education"

- **2.9.1** It is stated that training and professional development activities aimed at supporting the professional growth of the officials specified in clause 2.9 of this procedure (referring to managerial staff, employees, and teachers in general) may be organized in cooperation with relevant higher education institutions, professional organizations, non-governmental organizations operating in the respective field, and professional associations.
- **2.9.2** National and local-level training may be conducted through the electronic system specified in clause 2.13 of this procedure, and in such cases, the electronic system must be open-access and free of charge.
- **2.9.3** The content and schedule of training activities specified in clause 2.9 of this procedure shall be made publicly available on the electronic system stipulated in Article 12.12 of the General Law on Education by the relevant state administrative body in charge of education no later than January 30 of each year.

According to Annex 2 of Order No. A/25 (2025) by the Ministry of Education: "Procedure for the In-Service Professional Development of Teachers and School, Pre-school teacher and General Secondary Education".

- "The training specified in clause 2.13 (which stipulates that teachers and administrators shall participate annually in specialized professional training) may be organized in collaboration with public or civil society organizations that operate in the fields of preschool and general education, teaching methodology, and child protection."

This provision gives the impression that organizing such training in collaboration with accredited higher education institutions—aimed at enhancing the qualifications of their own graduates and supporting the professional development of teachers—and issuing certificates for participation, does not significantly impact the performance evaluation of the teachers or the institutions involved.

Two. Overview of the Implementation of Teacher Professional Development Content and Methodologies through Online and Distance Learning Formats

Over the past six years, teacher training and professional development activities for general education school (GES) teachers have been organized in an online and digital format with the following focus areas and organizational frameworks. (For detailed information, please refer to Annex 1.2.)

- Modular training programs designed to support teacher development have been structured as foundational training depending on the number of years a teacher has worked. These programs are delivered in a blended format combining in-person and online learning.
- Specialized modular training programs are delivered in an online format with one academic credit and are funded through institutional training fees.
- Due to limited government funding, central educational authorities (ministries and agencies) have implemented online and distance learning for teachers using privately developed platforms. Over the past three years, three different platforms have been used to deliver these trainings: **Moodle.mn**, **Aplus.mn**, and **Bagsh.edu.mn**.
- At the school level, teacher development training programs are based on institution-specific demand, tailored to relevant content and methodology.
- At the national level, online and distance training programs for teacher development have predominantly been based on content designed by policy makers rather than on needs assessments or surveys conducted among teachers.

Three. Recommendations and Proposed Directions

- Teachers are interested in participating in training that provides digital resources and planned guidance on evaluating their initial and baseline performance in online learning, as well as future developmental pathways.
- Expand independent distance learning opportunities for teachers by developing systems for evaluating the outcomes of online professional development programs and creating accessible assessment repositories and learning variants.
- When designing and delivering online and distance learning programs, it is essential to consider computer-based instructional theories and design principles.
- As digital teacher development training often occurs during regular working hours, the potential risk of teachers not being able to participate due to time constraints should be carefully considered.

- In order to enhance the quality, equity, and effectiveness of digital and online teacher development programs, it is recommended to examine in detail the roles and contributions of key educational stakeholders—such as government bodies, non-governmental organizations, and higher education institutions—in supporting teacher competency development and other professional development activities.
- Online training initiatives for teacher development should also aim to improve participants' digital literacy and English language proficiency.
- To improve the structure and recognition of professional development training, it is necessary to establish and promote a database of accredited institutions that offer certified continuing professional development programs for teachers

GENERAL CONCLUSION

1. Mongolia has prioritized teacher education and teacher professional development in its policies and activities. The education sector is considered a top priority, as reflected in the Parliament's decision to allocate approximately 14 per cent of the 2025 state budget to education. Policy goals related to digital transformation are increasingly embedded in long-term strategies and teacher policies. However, improving teachers' information and communication technology (ICT) skills remains a continuing need. While national objectives are geared toward accelerating the implementation of the Sustainable Development Goals, practical activities supporting the green and digital transition are still insufficient in teacher policy. A total of 28 legal and administrative acts include some degree of alignment with the project's objectives. However, in the absence of a unified national teacher policy across all levels of education, inconsistencies in qualification standards, competency frameworks, and classification systems may emerge, posing a risk to the coherence of the teaching profession. Therefore, it is recommended to develop a consolidated policy framework titled "Policy Guidelines on Teacher Education," which would integrate relevant standards, competencies, and operational documents, including specific provisions on green and digital skills.

2. An analysis of teacher education programs across Mongolia reveals that out of the five core principles of greening the curriculum, only two—quality content and aspects of digital transformation—are currently reflected. This suggests the need to more closely align these programs with international guidelines such as the United Nations' *Greening Curriculum Guidance*. It is more effective to integrate green and digital content into the curriculum and teaching methodology in a way that matches the specific context of each program, allowing for appropriate and adaptable pedagogical approaches.

3. Moving forward, efforts should focus on integrating this thematic and methodological change into mechanisms for program quality assurance, including general and specific accreditation requirements. Green and digital competencies should be formally embedded in teacher professional standards and the competency framework.

4. The *Entry-Level Teacher Standards* should be formalized as national standards and implemented across all schools. This would enable baseline assessments of teachers' digital teaching capabilities and provide a foundation for organizing targeted professional development training to support ongoing improvement in this area.

ANNEX

ANNEX1"SURVEY REPORT BASED ON QUESTIONNAIRES COLLECTED FROM TEACHERS IN GENERAL SECONDARY SCHOOL"

This survey aimed to identify the current state of green and digital education, as well as the challenges faced by teachers in high schools. A total of 4,503 teachers participated, selected through random sampling: 2,567 teachers from nine districts of the capital city and 1,936 teachers from 12 provinces, including Bayankhongor, Bayan-Ulgii, Govisumber, Zavkhan, Tuv, and Khentii. According to 2024 statistical data, there are 37,770 teachers in high schools across Mongolia, meaning the sample represents 11.3% of the total teacher population, ensuring a high level of representativeness.

Of the teachers who participated, 13.6% were male and 86.4% were female, reflecting the predominance of women among general high school teachers in Mongolia. In terms of experience, 16% (n=722) were new teachers with 1–3 years of experience, 27% (n=1220) had 4–9 years, 31.2% (n=1404) had 10–19 years, and 25.7% (n=1157) were experienced teachers with over 20 years.

Regarding age, 9.4% (n=425) were aged 22–25, representing young teachers, 29.7% (n=1337) were aged 26–34, and the largest group—36.2% (n=1631)—were aged 35–45. Additionally, 21.5% (n=967) were middle-aged teachers aged 46–55, and 3.2% (n=143) were old teachers aged over 56.

In terms of the grade levels taught, 37.7% (n=1680) taught primary school students, 50.3% (n=2266) taught lower secondary (middle school), and 12.4% (n=557) taught upper secondary (high school) students.

Regarding their involvement in digital education, green education, or education for sustainable development programs, 26.7% of the teachers had participated in such initiatives, while 73.3% had not.

THE CURRENT STATE OF GREEN AND DIGITAL EDUCATION AMONG GENERAL SECONDARY SCHOOL TEACHERS

In response to the question on the importance of green education, 16% (n=722) of teachers stated it is extremely important, 38.8% (n=1748) considered it important, 37.2% (n=1673) rated it as moderately important, 5.7% (n=258) saw it as of low importance, and 2.2% (n=99) believed it is not important at all. These findings indicate that while teachers generally recognize and acknowledge the significance of green education, there remains a need to further deepen their understanding of its importance.

Table 1. General Subject of Taught and Perceived Importance of Green Education

		"Please Evaluate the importance of green education."					
		Not Important	Low	Moderate	High	Very High	Total
General	Natural Sciences	20	57	381	447	230	1135
Subject	Social Sciences	11	16	144	184	85	444
Area	Language, Literature	18	60	381	378	157	994
Taught	Technology, ICT	8	16	96	136	24	280
	Arts, Sports	17	31	204	142	61	455
	Primary School Teachers	25	78	457	460	177	1197
Total		**99**	**258**	**1673**	**1747**	**724**	**4501**

When comparing the responses based on the general subject areas taught, it was found that teachers of natural sciences and social sciences tend to value green education more highly. This may be due to the fact that these subjects directly address environmental and social development issues, leading teachers in these areas to have a deeper understanding of the importance of green education. The variation in how teachers perceive the significance of green education based on their subject area suggests the need to promote consistent awareness and understanding across all educators. This highlights the importance of integrating green education more uniformly into teacher training and school curricula.

In response to the question evaluating the importance of digital education and skills, 14.4% (n=650) of the teachers who participated in the survey rated it as "very important," 45.1% (n=2031) rated it as "important," 36.2% (n=1629) rated it as "moderate," 3.6% (n=162) rated it as "low," and 0.7% (n=31) rated it as "not important."

From these results, it is evident that the majority of teachers (59.5%) consider digital education and skills to be "very important" or "important." This aligns with the development of educational technologies and the growing demand for digital skills. Additionally, 36.2% (n=1629) rated it as "moderate," which suggests that while some teachers recognize the importance of digital skills, they may not fully comprehend their significance. On the other hand, 4.3% (n=193) rated it as "low" or "not important," indicating that there is a lack of understanding of the importance of digital education in certain areas.

Table 2. Teacher's professional qualification and the importance of digital skills.

Corrolations

		"Please evaluate the importance of digital education and skills."	Qualification
"Please evaluate the importance of digital education and skills."	Pearson Correlation	1	.007
	Sig. (2-tailed)		.662
	N	4503	4503
Qualification	Pearson Correlation	.007	1
	Sig. (2-tailed)	.622	
	N	4503	4503

The relationship between the two variables, "Evaluation of the importance of digital education and skills" and "Professional qualification," was assessed using Pearson's correlation coefficient (r). The correlation coefficient was found to be 0.007, indicating a very weak positive correlation. In other words, a higher professional qualification does not influence the evaluation of the importance of digital education, and teachers at all levels assess this topic in a similar manner.

Correlations			
		"Please evaluate your digital skills, as well as your understanding and knowledge of digital education."	Years of teaching experience
"Please evaluate your digital skills, as well as your understanding	Pearson Correlation	1	-.081**

and knowledge of digital education."	Sig. (2-tailed)		.000
	N	4502	
			4502
Years of teaching experience	Pearson Correlation	-.081**	1
	Sig. (2-tailed)	.000	
	N	4502	4503
**. Correlation is significant at the 0.01 level (2-taild).			

Table 3. Years of Teaching Experience and Digital Skills and Understanding.

Of the teachers who participated in the study, 42.6% rated their own digital skills and digital literacy as very good or good, while 37.6% rated them as average, and approximately 5% assessed them as poor. The Pearson correlation coefficient (r) between the two variables—"Self-assessment of digital skills and digital literacy" and "Years of teaching experience"—was found to be -0.081, indicating a weak negative correlation. In other words, as teachers gain more years of experience, their self-assessment of digital skills and literacy tends to slightly decrease.

Table 4. Do the E-Parents and Medle.mn platforms help make teachers' work easier?

Coefficients[a]					
	Understandardized Coefficient		Understandardized Coefficient		
Model	B	Std. Error	Beta	t	Sig.
1 (Constant)	3.856	.034	-.089	112.909	.000
Years of teaching experience	-.072	.012		-6.010	.000
a. Dependent Variable: Do the E-Parents and Medle.mn platforms help make teacher's work					

In response to the question of whether digital platforms such as E-Parent and Medle.mn help make teachers' work easier, 16.3% (n=734) of participants answered "very much," 39.5% (n=1779) answered "quite a lot," and 39.6% (n=1785) rated them as "moderate." Meanwhile, 4.5% of respondents stated that these platforms either did not help much or did not help at all. To determine the extent to which educational digital platforms impact teachers depending on their years of experience, a linear regression analysis was conducted. The unstandardized coefficient (B) was found to be -0.072, indicating that the more years a teacher has worked, the less helpful these platforms appear to be. Specifically, with each additional year of teaching experience,

the perceived helpfulness of these platforms decreases by 0.072 units. The standardized coefficient (β) was -0.089, suggesting a weak negative correlation between years of teaching experience and the perceived impact of digital platforms. In other words, the longer a teacher has been in the profession, the less helpful they find platforms like E-Parent and Medle.mn. This suggests a declining trend in the perceived effectiveness of digital platforms as teaching experience increases. The standard error (Std. Error) was 0.012, indicating that the results are precise and reliable. Additionally, the p-value was 0.000, confirming that the findings are statistically significant. In conclusion, the analysis suggests that as teachers gain more years of professional experience, the likelihood that they perceive digital platforms as helpful in their work tends to decrease.

COMMON ISSUES FACED BY GENERAL SECONDARY SCHOOL TEACHERS

To identify the issues faced by teachers, 43 questions were developed covering the following areas: Lack of a support system for teacher development, Issues related to teacher ethics and professional reputation, Excessive workload, Unsatisfactory financial status and salary, Insufficient learning environment and material provision, Unstable government policies, management and organization, and ttitudes of students and parents. These were evaluated using a five-points scale.

Table 5. Internal Consistency Analysis of the Survey

	Structure	Cronbach's alpha	Number of questions
P1	Lack of a support system for teacher development	0.947	7
P2	Issues related to teacher ethics and professional reputation	0.918	7
P3	Excessive workload	0.901	5
P4	Unsatisfactory financial status and salary	0.909	6
P5	Insufficient learning environment and material provision	0.921	5
P6	Unstable government policy, management, and organization	0.942	6
P7	Attitudes of students and parents	0.951	7

As shown in the table above, the issues have been clearly identified. The overall reliability of the 43 survey questions is 0.964. This indicates a very high level of internal consistency and reliability, as each Cronbach's Alpha coefficient for the subscales is above 0.90.

Table 6. Overall Evaluation for Each Category

	Lack of Support System for Teacher Development	Issues Related to Teacher Ethics and Reputation	Excessive Workload	Unsatisfactory Financial Status and Salary	Inadequate Learning Environment and Material Provision	Unstable Government Policy, Management, and Organization	Attitudes of Students and Parents
Not a Problem	19.80%	15.40%	7.70%	7.40%	9.90%	5.20%	4.20%
Minor Problem	19.60%	16.10%	10.30%	10.10%	13.00%	10.70%	8.90%
Moderate Problem	35.40%	35.70%	30.40%	25.70%	32.00%	33.60%	28.00%
Major Problem	17.10%	18.10%	22.50%	18.90%	20.40%	22.30%	21.40%
Very Serious Problem	8.10%	14.70%	29.00%	37.90%	24.70%	28.20%	37.50%

As seen in the table, the most pressing issue for high school teachers is the attitude of students and parents, which accounts for the highest percentage overall. The second most significant issue is related to the financial status and salary of teachers. The third issue highlighted by the survey participants is the excessive workload. There are also concerns regarding government policies, management, and organizational issues. If we break down these common challenges into four main categories, they are as follows:

Table 7. Lack of a Support System for Teacher Development

		Responses N	Percent	Percent of Cases
Group 1[a]	Not an Issue	6254	19.8%	138.9%
	Low	6183	19.6%	137.3%
	Moderate	11163	35.4%	247.9%
	High	5378	17.1%	119.4%
	Very High	2543	8.1%	56.5%
Total	Total	31521	100.0%	700.0%

In relation to the issue of lack of a support system for teacher development, a significant percentage of the teachers who participated in the survey considered this issue to be problematic, as shown in the table above. The majority, 35.4%, selected a moderate response, indicating that while the issue is not extremely severe, it is still a challenge to some degree, reflecting a negative trend. In other words, most teachers perceive that there is a lack of policy to support teacher development. This trend was found to be unrelated to demographic factors such as age, years of experience, professional qualification, or gender, indicating that it is a common problem, as evidenced by the correlation analysis.

Table 8. Issues Related to Teacher Ethics and Reputation

		Responses N	Percent	Percent of Cases
Group 2[a]	Not an Issue	4843	15.4%	107.6%
	Low	5062	16.1%	112.4%
	Moderate	11262	35.7%	250.1%
	High	5706	18.1%	126.7%
	Very High	4648	14.7%	103.2%
Total	Total	31521	100.0%	700.0%

According to Table 8, 32.8% of respondents consider issues related to teacher ethics and reputation as either very serious or major problems, while 35.7% rated it as a moderate problem, and 31.5% believe it is not a problem at all. This suggests that the majority of teachers do perceive some level of concern regarding ethics and reputation, but they do not view it as an urgent or serious issue. From the data, it can be inferred that approximately one-third of teachers consider issues related to ethics and reputation to be severe, indicating that in some contexts, these concerns are felt strongly.

Within this category, 7 questions were asked, and 44.9% of the respondents highlighted that the public undervalues the importance and worth of the teaching profession, which is a very challenging issue (very serious = 24.8%, major = 20.1%). In contrast, 31.9% felt that this issue is a problem to some extent. Additionally, teachers are sensitive to the increasing tendency on social media to tarnish their reputation and bring up ethical issues. Specifically, 42.3% of the respondents reported that this issue is very serious, while 31.8% said it is a problem to some extent. In other words, implementing specific programs to improve the reputation of the teaching profession would be beneficial.

Table 9. Excessive Workload

		Responses N	Percent	Percent of Cases
Group 3[a]	Not an Issue	1743	7.7%	38.7%
	Low	2324	10.3%	51.6%
	Moderate	6845	30.4%	152.0%
	High	5074	22.5%	112.7%
	Very High	6529	29.0%	145.0%
Total	Total	22515	100.0%	500.0%

Nearly half of the survey participants, or 49.5%, reported that their workload is very high or excessive, indicating that high school teachers face a significant workload. Additionally, 30.4% of respondents acknowledged that this issue affects them to a certain extent. In particular, 54.7% of teachers reported that additional tasks, such as paperwork and organizing events, impact the quality of their main teaching duties. Among the five questions related to teacher workload, 48-54% of participants selected very serious or major issues, and one-third of teachers stated that this problem is moderate. This shows that excessive workload is one of the serious problems faced by high school teachers.

Table 10. Financial Status and Insufficient Salary

		Responses N	Percent	Percent of Cases
Group 4[a]	Not an Issue	2006	7.4%	44.5%
	Low	2725	10.1%	60.5%
	Moderate	6937	25.7%	154.1%
	High	5116	18.9%	113.6%
	Very High	10234	37.9%	227.3%
Total	Total	27018	100.0%	600.0%

In the survey, 37.9% of the teacher participants selected "very serious" regarding financial difficulties. Those who selected "major" or "very serious" together account for 56.8% of the total participants. The survey results indicate that financial challenges are a significant concern for teachers. The very low percentage of respondents selecting "not a problem" shows that this issue is widespread and common. In particular, when it comes to low salaries and insufficient funds to meet basic living needs, 67.1% of the teachers who selected "very serious" or "major" responses represent a significant proportion of participants. Only 3.9% of respondents stated that this issue does not affect them. Additionally, 61% of respondents indicated that social security, incentives, and financial support are very inadequate (very serious and major), while 24.8% considered it a moderate issue.

Table 11. Learning Environment and Material Support

		Responses N	Percent	Percent of Cases
Group 5[a]	Not an Issue	2240	9.9%	49.7%
	Low	2927	13.0%	65.0%
	Moderate	7194	32.0%	159.8%
	High	4603	20.4%	102.2%
	Very High	5551	24.7%	123.3%
Total	Total	22515	100.0%	500.0%

Regarding issues related to the learning environment and material support, 45.1% of participants reported that these problems are significant. Concerning the lack of suitable classrooms and laboratories, 48.5% answered "very serious" and "major" while 30.5% considered it a moderate issue. Additionally, teachers highlighted inadequate access to computers, equipment, and internet networks, as well as the insufficient development of their digital skills and poor working conditions. From this, it is clear that the primary challenge in developing teachers' digital skills is the accessibility of technology. Furthermore, teachers pointed out the unequal distribution of material resources, which is influenced by factors such as the school's location and ownership type. They also noted that the lack of necessary equipment for career development in the workplace is a major concern.

Table 12. Government Policy and Organization

		Responses N	Percent	Percent of Cases
Group 6[a]	Not an Issue	1175	5.2%	26.1%
	Low	2405	10.7%	53.4%
	Moderate	7560	33.6%	167.9%
	High	5025	22.3%	111.6%
	Very High	6350	28.2%	141.0%
Total	Total	22515	100.0%	500.0%

Issues related to government policy, leadership, and organization are a significant challenge for teachers. Specifically, 50.5% of participants reported that these issues are very serious or major. Another 33.6% acknowledged that these issues are considerable but not overwhelming. In particular, the majority (55.5%) believes that government support for education policy is insufficient. 35.9% rated this issue as moderate, while only 14.8% indicated that it is not a problem or is of low concern. Additionally, many teachers noted that excessive oversight and inspection in educational institutions negatively impact flexibility at work. Another challenge is that textbooks and curriculum standards are frequently changed, making it difficult for teachers to adapt to new content. About 49.5% reported that this issue is very serious or major. Furthermore, the lack of training or seminars to help teachers adapt to new policies and legal regulations has resulted in information gaps. Based on these findings, it appears that teachers believe that the education sector needs more government support than it currently receives, and that there is a need for greater stability in textbook and curriculum standards.

Table 13. Students and Parents' Attitudes

		Responses N	Percent	Percent of Cases
Group 6[a]	Not an Issue	1317	4.2%	29.2%
	Low	2819	8.9%	62.6%
	Moderate	8836	28.0%	196.2%
	High	6741	21.4%	149.7%
	Very High	11808	37.5%	262.2%
Total	Total	31521	100.0%	700.0%

Among the seven categories of the survey questions, the most pressing issue identified was related to students' and parents' attitudes. Specifically, 58.9% of respondents reported this issue as either "very

significant" or "significant." In contrast, only 13.1% of teachers indicated that this problem was either minor or not an issue at all. Some of the key questions within this category included:

Table 14. Parental and Guardian Attention to Children

"The care and attention given to children by parents or guardians is often insufficient."

		Frequency	Percent	Valid percent	Cumulative percent
VALID	Not an Issue	152	3.4	3.4	3.4
	Low	319	7.1	7.1	10.5
	Moderate	1071	23.8	23.8	34.2
	High	863	19.2	19.2	53.4
	Very High	2098	46.6	46.6	100.0
	Total	4503	100.0	100.0	

According to the survey participants, 3.4% (n=152) said that the issue of insufficient attention and care from parents or guardians was not a problem, 7.1% (n=319) reported it as minor, 23.8% (n=1071) as moderate, 19.2% (n=863) as significant, and 46.6% (n=2098) as very significant. From this, it is clear that the most pressing challenge for teachers is the lack of involvement from parents and guardians, and insufficient attention and care towards children. This issue is not only common for both urban and rural teachers but is also particularly challenging for new and younger teachers, as observed in a cross-analysis.

Table 15. Professional Qualifications and Parents' Understanding of Teachers' Roles and Workload

		"Parents often do not understand the work and workload of teachers and tend to place excessively high demands on them."	Qualification
Parents often do not understand the work and workload of teachers and tend to place excessively high demands on them."	Pearson Correlation	1	-.059**
	Sig. (2-tailed)		.000
	N	4503	4503
Qualification	Pearson Correlation	-.59**	1

		Sig. (2-tailed)	.000	
		N	4503	4503
**. Correlation is significant at the 0.01 level (2-taild).				

Correlations

The next major issue identified by teachers is that parents do not understand the work and responsibilities of teachers, often imposing excessively high expectations. Around 60% of the teachers surveyed noted that this is a significant issue. A correlation analysis between teachers' professional qualifications (i.e., teaching, advisory, and non-qualified teachers) revealed a negative correlation of -0.059. Specifically, as the professional qualifications of teachers increase, the tendency for parents to have unrealistic expectations and misunderstand the teacher's workload decreases. The p-value (Sig.) = 0.000, which indicates statistical significance. This suggests a weak but statistically significant negative correlation between the level of professional qualification and parents' tendency to impose excessive demands. "There is a weak negative correlation between parents' lack of understanding of teachers' roles and workload, their tendency to place excessively high demands, and the teachers' professional rank.

Table 16. Issues with Student Discipline and Moral Conduct

"The majority of students exhibit a lack of discipline and moral conduct."

		Frequency	**Percent**	**Valid percent**	**Cumulative percent**
VALID	Not an Issue	209	4.6	4.6	4.6
	Low	447	9.9	9.9	14.6
	Moderate	1395	31.0	31.0	45.6
	High	960	21.3	21.3	66.9
	Very High	1492	33.1	33.1	100.0
	Total	4503	100.0	100.0	

Based on the survey results, 4.6% (n=209) of participants stated that the issue of students' lack of discipline and moral conduct is not a problem, 9.9% (n=447) said it is a minor issue, 31% (n=1395) described it as moderate, 21.3% (n=960) reported it as a significant problem, and 33.1% (n=1492) considered it a very serious issue. The majority of teachers are facing challenges related to students' lack of discipline and moral conduct.

Suggestions for Policy Directions Based on Survey Results from High School Teachers:

1. Improving Teachers' Financial Conditions: Policies aimed at improving the financial status of teachers are crucial. Increasing teachers' salaries and bonuses will significantly contribute to resolving the major issues teachers face. According to official information from the Ministry of Education, there is a shortage of 4,200 teachers, with approximately 2,400 of them required in Ulaanbaatar. One of the main reasons for the teacher shortage in Mongolia is insufficient salary and benefits. This financial issue has led to a shortage of teachers, and the remaining few have to deal with higher workloads, which in turn causes additional problems for teachers.

2. Addressing Attitudes of Students and Parents: The most challenging issue for teachers is the attitudes of students and parents. To address this, organizing informational and awareness-raising campaigns to support teacher-parent relationships will be effective. Implementing policies to protect the reputation of teachers is also beneficial.

3. Optimizing Frequent Inspections and Evaluations at Schools: It is essential to make the frequency of inspections and evaluations at schools more reasonable, as well as increase teachers' flexibility, ensuring their voices are heard in the national policy-making process.

4. Stabilizing Education Policies: The education sector's policies in Mongolia have been unstable and continuously changing. Therefore, there is a need to stabilize, clarify, and provide adequate information about reforms and legal changes in the education sector.

5. Supporting Teachers' Professional Development: Policies to support teachers' professional development have led to the official recognition of online training for teachers. However, there is no unified standard for online training, evaluation methods, or clear criteria, which has hindered the effective development of digital education. Therefore, it is essential for the government to set clear standards and guidelines for digital education.

ANNEX 2 LEGAL AND POLICY FRAMEWORK SUPPORTING DIGITAL-BASED TEACHER PROFESSIONAL DEVELOPMENT IN MONGOLIA

№	Legal Document and Article(s)	Key Provisions
1	**General Law on Education (2023)** – Articles 3, 12, 13	Defines the structure, organization, roles, and responsibilities of teacher professional development via digital learning. • Definitions of terms related to online learning; the system, organization, and formats of teachers' professional development; and the rights and responsibilities of teachers. • Digital system for teacher professional development • Conditions and environment required for digital learning-based professional development
2	**Law on Preschool and General Education (2023)** – Articles 15, 16	Teacher duties and professional development: • To develop oneself in the workplace, participate in professional group activities, share experiences, organize distance and online training, and obtain professional qualifications. • To organize training and activities supporting teachers' professional development at the school, local, and national levels. • To allow educational authorities to organize such activities in collaboration with non-governmental organizations and professional associations.
3	**Law on Supporting Teacher Development (2018)** – Articles 5, 10, 11	Support for teacher development: • A teacher shall have short-, medium-, and long-term plans for self-development. • A teacher may establish and participate in interest groups and align their personal and group development plans with the annual training institution plan. • Support shall be provided to teachers at the national, local, institutional, interest group, and individual levels. • Information on work performance and activities outlined in the personal development plan shall be submitted to the education sector's information system.

4	**Ethics Code for Preschool and General Education Teachers and Staff (2022)** – Article 3	Ethical and responsible use of technology: • To engage in any educational interaction with learners, colleagues, parents or guardians, citizens, business entities, and organizations through social networks and technology • To use the official email address approved by the organization when performing official duties. • To possess appropriate knowledge of technological advancements and use them responsibly. • To avoid violating intellectual property laws when creating or using online lessons and digital content.
5	**Government Resolution No. 53 (2024)** – Annex 2	Includes budget allocations for teacher development and digital resource usage
6	**Ministerial Order A/25 (2025)** – Guidelines on Teacher and Staff Professional Development	Structure of professional development activities: • Training formats tailored by years of service • Contents of general and specialized training • Issuance of e-certificates for training
7	**Ministerial Order A/95 (2024.09.19)** – Procedures for Awarding/Revoking Professional Qualifications	Criteria for awarding/revoking qualifications: • Professional support and guidance • Participation in and facilitation of online training
8	**Model Job Description for Teachers**	
9	**Ministerial Order A/14 (2024.01.14)** – Annex	Article 2.2.2: Introduction of internationally recognized digital content and digital textbooks

10	**Concept of Preschool and Primary Education Curriculum**	Guidelines for using digital technologies in teaching:
		• Implement teaching and learning activities that ensure the integration of teaching and learning—shifting the focus from teaching to learning, from competition to collaboration—using multilingual and digital technologies to create new knowledge, supporting meaningful, real-life problem-based learning, and helping learners experience the joy and value of learning.
		• Use active learning methodologies in both in-person and remote or blended learning environments in combination with digital technologies.
		• Create opportunities for parents, guardians, and caretakers to participate in learning activities through digital technology-based training and project-based learning.
		• Develop digital systems and methodologies to assess the progress and outcomes of training and analyze learning.
		• Establish a national integrated platform capable of consolidating curriculum implementation, use of textbooks and learning materials, teaching and learning processes, progress, and outcomes at the levels of learners, teachers, schools, districts, and the nation.

ANNEX 3 OVERVIEW OF INSTITUTIONS AND PLATFORMS ORGANIZING DIGITAL-BASED TEACHER PROFESSIONAL DEVELOPMENT TRAINING IN MONGOLIA

Organizing and Guiding Institution	Framework of Digital-Based Training Organization	Features	Email address
Institute for Teacher Professional Development (2012–2019) Responsible for teacher professional development policies and training. The training was initially conducted in a classroom format, but since the outbreak of the COVID-19 pandemic, it has been organized in an online format.	**Organization of training and activities to support teacher professional development:** • Establish a national network based on information and communication technologies to improve teachers' professional skills through distance learning; • Develop open educational resource services based on online platforms for training purposes; • Organize centralized and local-level professional development training; • Prepare electronic materials to be used in teacher professional development courses.	**Specialized training targeted at teachers and school administrators in their 1st, 3rd, 5th, and 10th year of service Contract-based training organized upon request by educational institutions Modular training for teachers**	**Trainings organized in collaboration with governmental educational authorities, university professors, and qualified non-governmental organizations.** Initially conducted in **online format via Google Meet** and the **Moodle platform**. Teachers participating in the training are provided with a **username and login credentials** to access the system through the website: e.surgalt.edu.mn
	Announcing module topics based on the results of teacher performance evaluations, and having qualified organizations and individuals participate in the development of the modules. **Organizing selected module training online.**	Module Training Targeted and optional two levels. Study offline and online courses, take exams, and receive certification. Register for professional qualifications and attend	**Aplus.mn** Platform Participants can make selections and transfer payments from organizations from 2021 to 2024. Starting from 2024, a page

		module courses in distance learning format.	will be available with open access, offering both paid and free usage options.
An implementing agency of the Ministry of Education, responsible for teacher professional development, policy, and training.	**General education schools** can enter into agreements with government, non-governmental organizations, and individuals based on teachers' suggestions to receive training and consultancy services.	**At the organizational level**, a blended approach combining both online and offline formats.	**Mind Storm "Teacher" Platform**
	Teachers can create and distribute their own online courses and lessons. Develop and design Mathematics lessons.	Eduten	Eduten
	The Digital Development and Innovation Agency, together with the General Education Department, has been organizing digital training to enhance teachers' skills starting from 2023.	Teachers of state-owned general education schools must be registered on the websites esis.mn and medlee.mn. The textbooks are to be converted into digital format, and further development and skill enhancement digital training for teachers will be provided.	Google Education, Mozabook, Mozaweb.mn, and Medlee.mn provide resources for digital learning. Medle Digital School is another platform involved in online education. To access the system: • Access link: www.bagsh.edu.mn • Login ID: Your ESIS login ID • Password: Your ESIS password
Private sector organizations offering training:	Independent selection by general education schools:	An inclusive education digital platform for teachers of general education schools.	

• Adina-Equal Opportunity" NGO • Im World Mongolia • Aplus	• Training teachers in online and distance learning.	Training to increase the range of digital learning materials based on advanced technologies such as AR and VR.	I m break Im steam Im world Arguin, Aplus.mn Платформ mn

ANNEX 4. TEACHER COMPETENCY FRAMEWORK (STANDARDS) OF MNUE FOR BEGINNING TEACHERS

Teacher competency framework (standards) of MNUE for beginning teachers was approved in 2024, by the order of MNUE director, based on article 8.5 of Teacher Development Support Act and 4.6.10 of the MNUE charter and it is implemented within this university.

The standard consists of the following sections, including common grounds; scope; competency framework; implementation assessment. The competency framework of the standard has 33 knowledge criteria, 41 skills criteria, and 29 values and attitude criteria defined within 3 domains and 9 standards.

Within the scope of the standard's competencies, the knowledge, skills, and attitudes of beginning teachers regarding digital and sustainable development education are reflected as follows.

Knowledge

➢ K3.2: know the opportunities of using modern educational innovations and digital technologies to create an environment for student learning and development

➢ K3.3: know how to utilize social media networks and technological means\applications correctly\appropriately in communications

➢ K3.4: knowledge of advising learners on how to use social media networks and technology correctly, safely and effectively

➢ K5.3: know how to use digital technology and other tools\applications when teacher prepares teaching resources

➢ K7.1: have knowledge about native language, history, culture and digital technologies

➢ K7.3: Knowledge of the tools and applications, software programs required for collecting and processing research data.

Skill

➢ S3.3: define the opportunities for using digital technology and social media in classroom teaching, with and without supervision from teachers, parents, and guardians.

➢ S3.4: Effectively use digital technology and online resources to create environment for learning and development

➢ S4.4: explain the content of the subject\discipline in relation to Mongolian national values, traditions, culture, education for sustainable development, and global, regional, and local issues.

➢ S5.5: Use digital content, models, simulations, and digital learning resources and guide\facilitate teaching and learning in an online environment.

Attitude

➢ Y4.2: Seeks information from multiple sources, judges it, and uses scientific approach

2. Conceptual framework for pre-service teacher training program at the MNUE

Conceptual framework for pre-service teacher training program of the MNUE was approved in 2023, by the order of MNUE director, and it is implemented within this university.

This policy document consists of different parts, including backgrounds; missions and visions; objectives and expected outcomes.

The graduates will acquire the following skills and attitudes, which specified in the objectives and expected outcomes section of the conceptual framework for pre-service teacher training program.

➢ A citizen who leads with a positive attitude and ethics, that respect national values and creatively enrich traditions and customs in an fast-changing society, economy, environment, and ecosystem

➢ A continuous learner who defines their own learning path and creates their knowledge in an environment of ever-growing knowledge, information, and digital technology.

The content of digital skills will be determined based on the alignment of program's learning outcomes with the specific professional directions.

The program will include cross-curricular content such as education for sustainable development, digital transition, and ICT applications.

Digital transformation: It was considered that the idea of digital transition is necessary to be incorporated into the methodology in line with the development of ICT, the interests and learning styles of the new generation.

It is recommended to be implemented through the following three steps:

➢ Convert (digitize) teaching aids, textbooks, and printed materials into simple digital format in a way that is accessible to the new generation (Digitalization-Converting data into digital format)

➢ Interactive, AR, VR tools, and various applications, that make learning content easily understandable through digital technology, in order to facilitate learning activities effectively. (Digitalization-Adapting digital technologies)

➢ Develop various digital products, contents necessary for students to learn independently (Digital Transformation-Creating digital products for learners)

ANNEX 5. MONGOLIAN EDUCATION DECLARATION 2024

The "Transforming Education in Mongolia" summit issued the "Mongolian Education Declaration 2024." The declaration includes the following statements regarding the digital transformation of education and big data.

➢ Digital technologies will be consistently used to accelerate the transition\transformation of Mongolian education.

➢ Will encourage and promote a variety of activities to support e-learning.

➢ Will collect good quality data based on reliable and appropriate measurement principles to create a big database of education.

➢ Big data-driven best learning experiences and results\outcomes data will be a source of information for planning and developing students' future education, work, and life paths.

➢ Big data will be used ethically in the process from planning to decision-making, which will be based on artificial intelligence.