



SDG Commitment Report 2024-2025



**SUSTAINABLE DEVELOPMENT
GOALS IN KAZAKHSTAN**

REPORT ON THE UNIVERSITY COMMITMENT TO THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS 2024 – 2025

Almaty 2025



UNIVERSITY PROFILE

Abai Kazakh National Pedagogical University is the first and oldest pedagogical higher education institution in Kazakhstan, founded in 1928. For nearly a century, the university has served as a center of pedagogical thought, scientific discovery, and professional community-building that has shaped the development of the national education system. Today, Abai University confidently holds its position as a national and regional leader in pedagogical education and sustainable development, acting as a **strategic partner of UNESCO in Central Asia**.

The university hosts the **UNESCO Chair in Pedagogy and Sustainable Development**, which serves as a platform for integrating international educational practices and promoting the Sustainable Development Goals (SDGs). The Chair provides the methodological foundation for embedding the principles of sustainability, global citizenship, and inclusiveness into teacher education. Its activities focus on developing pedagogical innovations, strengthening research capacity, and implementing strategic initiatives in the areas of **quality education (SDG 4)** and **education for sustainable development (SDG 4.7)**.

Abai University actively develops partnerships with international organizations and research centers. It hosts research and educational projects aimed at integrating global practices into Kazakhstan's education system, promoting experience exchange among universities, and advancing the principles of inclusivity, equal opportunity, and educational leadership. The university fulfills a key mission by bridging **science, practice, and humanistic values**, fostering an open and inclusive learning environment.

A central element of Abai University's innovation policy is the **Center for Pedagogical Innovations and Action Research**, established under the UNESCO Chair. The Center has become the core of the university's research and methodological transformation, supporting teachers' professional growth through research practice and promoting the integration of **Action Research** and **Lesson Study** into the educational process. Here, a culture of evidence-based education is being formed — one in which educators not only transmit knowledge but also study, analyze, and continuously improve their own teaching practices.

The university's mission is to prepare a new generation of teachers — **researchers and leaders** capable of ensuring high-quality education, supporting cultural diversity, and contributing to the sustainable development of society. Today, Abai University represents an **intellectual and educational hub of a new generation**, where academic traditions harmoniously merge with innovation. The university unites departments in pedagogical, humanitarian, natural, and technological disciplines,



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actively expands international cooperation, and introduces new teacher education models based on research-based learning, digitalization, and sustainable development.

The university's work is fully aligned with the **priority Sustainable Development Goals:**

- **SDG 4** – Quality Education,
- **SDG 4.7** – Education for Sustainable Development and Global Citizenship,
- **SDG 5** – Gender Equality,
- **SDG 8** – Decent Work and Economic Growth,
- **SDG 9** – Industry, Innovation and Infrastructure,
- **SDG 12** – Responsible Consumption and Production,
- **SDG 13** – Climate Action, and
- **SDG 17** – Partnerships for the Goals.

CAMPUS OPERATIONS

The campus of **Abai Kazakh National Pedagogical University** is evolving as an ecosystem of **sustainable education**, uniting academic, scientific, and social responsibility. The university's operations are guided by the principles of **ecological thinking, social justice, and inclusiveness**, which fully align with the strategic directions of the **Sustainable Development Goals (SDGs)**.

Environmental Sustainability

The **Department of Chemistry** implements practical courses in *Green Chemistry* and *Chemical Ecology* aimed at reducing the use of toxic substances and introducing environmentally safe technologies. Its research focuses on developing sustainable chemical solutions and environmentally responsible technologies applicable to educational contexts.

The **Department of Biology** conducts practical studies in biodiversity, ecosystem relationships, and rational use of natural resources, with special attention to projects on the conservation of Kazakhstan's flora and the study of medicinal plants.

The **Department of Geography and Ecology** actively participates in international initiatives such as **GreenMetric** and **ATECCE**, which promote climate education, geoecological monitoring, and the adaptation of educational programs to contemporary climate challenges.

The university hosts the student eco-club "**Ayala**", as well as youth-led projects **Ecolife** and **Biogumus**, both of which promote ecological awareness and were supported under the "*Zhas Kaspiker Abai University 2024*" competition. These



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initiatives reflect the growing environmental activism among students and engage future educators in addressing real-world ecological issues.

Social Sustainability

Abai University has developed a comprehensive policy to support young teachers' professional growth. In collaboration with the **Akimat of Almaty**, the university has established a model of pedagogical and methodological support for graduates with less than five years of teaching experience. This initiative helps novice educators adapt to the professional environment and develop their professional identity.

A new category — **“Mentor-Researchers”** — has been introduced to unite experienced professors and early-career teachers for joint research and professional exchange. This initiative fosters a professional community within the university and strengthens the institutional culture of inquiry and mentorship.

Digital and Cultural Transformation

Abai University is actively integrating modern learning technologies. The **Center for Pedagogical Innovations** has developed a repository of pedagogical and digital resources that includes e-textbooks, video lectures, educational case studies, and digital materials on **Action Research** and **Lesson Study** methodologies.

Courses on **digital competencies**, **emotional intelligence**, and **sustainable leadership** have been incorporated into the curriculum to foster students' *soft skills* and prepare them to work effectively in a rapidly changing educational landscape.

Inclusion and Equality

The university consistently implements the principles of **inclusive education**, creating equal opportunities for all students, including those with special educational needs. During the **World Inclusion Congress (WIC 2025)**, held in Almaty, Abai University acted as a **strategic partner** and reaffirmed its leadership role in promoting inclusion, diversity, and equality in education.

Promoted SDGs: 4, 5, 8, 9, 12, 13, 15, 17.

SCIENTIFIC AND EDUCATIONAL ACTIVITIES

In the **2024–2025 academic year**, Abai Kazakh National Pedagogical University demonstrated significant progress in strengthening research culture, developing innovative pedagogical practices, and integrating sustainability across all levels of teacher education. The university's research and teaching activities are directly aligned with the Sustainable Development Goals, particularly: **SDG 4 (Quality Education)**, **SDG 4.7 (Education for Sustainable Development and Global Citizenship)**, **SDG 8 (Decent Work and Economic Growth)**, **SDG 9**



(Industry, Innovation and Infrastructure), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action).

The **Center for Pedagogical Innovations** and the **UNESCO Chair** serve as the key hubs for integrating international and research-based initiatives. Their activities focus on enhancing teachers' professional capacity, improving methodological support for educators, and fostering a new research paradigm in higher education.

In 2025, the Center implemented an **80-hour professional development course** titled *“Developing Transformational Leadership and Integrating Action Research into Teaching Practice”* (June 9–21, 2025). The program brought together lecturers from different faculties, enabling them to master practice-oriented research methods, strengthen leadership skills, and develop professional reflection. The course became a model for integrating sustainable education and transformational leadership into teaching practice.

To promote research-based learning, the university developed and approved **Regulations for Bachelor's Theses in the Format of Action Research and Lesson Study** for students of pedagogical specialties. Methodological guides — *“How to Conduct Action Research in Higher Education”* and *“How to Conduct Lesson Study in Higher Education”* — were also produced and are widely used in academic staff development programs.

Throughout the year, the university hosted a series of key methodological seminars aimed at enhancing teaching quality and sharing best practices, including:

- *“Action Research – A Form of Self-Improvement of Teaching Practice”* (April 17, 2025),
- *“Improving Education Quality through Practice-Based Research”* (September 25, 2025),
- *“A Closer Look at Lesson Study”* (September 29, 2025), and
- *“A Step Toward Quality Education through Lesson Study and Action Research”* (October 3, 2025).

These events became platforms for strengthening the academic community and fostering a culture of professional collaboration.

Special attention was given to developing **young researchers' competencies**. In October 2025, an open dialogue *“Developing Research Competence of Young Scientists: Tools, Skills, and Prospects”* was held with international experts in educational psychology. Participants discussed strategies for developing research autonomy, the role of soft skills, and innovative research methodologies in the academic growth of educators.



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A major achievement of the year was the **International Conference “Pedagogical Innovations as a Condition for Sustainable Development of the Education System”**, held within the framework of the **World Inclusion Congress (WIC 2025)** in Almaty. The conference brought together leading researchers, administrators, and educational practitioners from over **50 countries**, becoming a significant event in the global agenda on sustainable pedagogical development.

The university’s **research activities** encompass a wide range of areas, including environmental, climate, and natural science education. Abai University actively participates in international projects such as the initiative *“Promoting Teacher Education for Climate Change Education through Collaboration between Asian Centres of Excellence on ESD (ATECCE)”*, implemented jointly with **Okayama University (Japan)**. The project involves **Professors K.D. Kaimuldinova, B.Sh. Abdimanapov, D.T. Aliaskarova, and N.D. Shakirova**, representing the university’s School of Geography Education. This collaboration supports the development of climate education and strengthens scientific ties between Asian countries.

Among **national research grants**, notable projects include:

- *“Study of the Effect of Soil Salinity on Corn Growth and Development in the Otrar Region and the Development of a Space-Based Method for Yield Prediction”* (PI: **Sh.U. Laiskhanov**), and
- *“Development of Conceptual Models for Sustainable Development of Small Towns in Zhambyl Region”* (PI: **D.T. Aliaskarov**).

Both projects hold practical value for shaping ecologically sustainable models of natural and social resource management.

Significant emphasis is placed on improving the preparation of **future geography and natural science teachers** in the context of the SDGs. Leading faculty members, including **N.D. Shakirova**, are implementing projects on integrating climate education and sustainable practices into curricula and actively participating in international forums and schools on climate education (ATECCE, Almaty, May 2024). Faculty members also took part in the **Teachers Lab (2024)** and **Educational Spaces: Sustainable Solutions (Finland, 2024)** programs, aimed at developing competencies in sustainable educational space design.

The university’s **natural science departments** continue to advance research in **green chemistry, biosorbent and ion-exchange material development for water purification**, and are preparing a textbook *“Green Chemistry and Environmental Safety in Education.”* The **Department of Biology** is conducting research in the Zhetysay region on the phytochemical properties of medicinal plants and biodiversity conservation, and has developed the methodological guide *“Preservation of Biodiversity and Ecological Education.”*



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An important component of academic life is the **publication activity** of university staff. Among the most notable works of 2024–2025 are:

- **A.S. Savanicheva & T.M. Choduraev**, *“Sustainable Development of Tourism in the Border Regions of Kazakhstan and Kyrgyzstan”* (2024);
- **Zh.T. Tilekova**, *“Implementation of SDGs in the Educational Process of Abai University”* (2024);
- **A.S. Seilkhan**, *“Formation of Environmental Competence through Project-Based Learning”* (2024);
- **A.E. Berikhanova & G.Kh. Sarsenbayeva**, *“Lesson Study and Action Research in the System of Pedagogical Education”* (2025).

These studies contribute to integrating research achievements into educational practice, developing faculty professionalism, and expanding international academic dialogue.

Thus, the **scientific and educational activities** of Abai Kazakh National Pedagogical University in 2024–2025 demonstrate a high level of **international engagement, methodological renewal**, and a clear orientation toward the **Sustainable Development Goals**. The university has strengthened its position as a **leading center for pedagogical research, innovation, and the integration of sustainability practices** in higher education in Kazakhstan and the Central Asian region.

EVENTS

In the **2024–2025 academic year**, Abai Kazakh National Pedagogical University became an active platform for implementing national and international initiatives aimed at advancing education, research, and the professional development of teachers. The university organized and participated in more than a dozen major events united by common goals — the development of research culture, the introduction of innovative pedagogical practices, and the strengthening of international academic partnerships.

One of the first events of the year was the seminar **“Action Research as a Form of Professional Self-Improvement for Educators”**, held on **17 April 2025** at the Faculty of Arts. Under the guidance of **Professor A.E. Berikhanova** and **Senior Researcher G.Kh. Sarsenbayeva**, participants discussed practical approaches to implementing Action Research in higher education and explored opportunities to improve teaching quality through analysis and reflection on pedagogical practices.

In **March 2025**, **Professor-Researcher A.E. Berikhanova** participated in the seminar **“Pathways to Integrate Media and Information Literacy into Secondary Education”**, organized by the **UNESCO Regional Office** and the **I. Altynsarin National Academy of Education** in Astana (**12–14 March 2025**). The event focused



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on innovative approaches to developing teachers' media and digital literacy and adapting educational content to global trends in digitalization and critical thinking.

On 16 May 2025, Senior Researcher Gulnaz Khamidollaevna Sarsenbayeva, representing the **UNESCO Chair in Pedagogy and Teacher Education** at Abai University, took part in the session of the **National Commission for UNESCO and ISESCO** held at the United Nations Office in Almaty. Chair of the National Commission **Erlan Karin** noted significant progress: of the 21 tasks approved by UNESCO and ISESCO in the previous year, 18 had been completed, while the remaining ones were in progress.

In June 2025, Professor-Researcher A.E. Berikhanova and Senior Researcher G.Kh. Sarsenbayeva from the **Center for Pedagogical Innovations** (UNESCO Chair) conducted an **80-hour professional development course** entitled “*Developing Transformational Leadership and Integrating Action Research into Teaching Practice*” (9–21 June 2025). The program combined interactive training, team-building, group research, and the defense of individual Action Research projects aimed at improving teaching quality and developing participants' leadership potential.

Beginning in September 2025, Abai University launched a series of institutional methodological seminars focusing on **Lesson Study** and **Action Research**, featuring **Dr. Clea Fernandez** — an international expert in educational psychology and one of the world's leading authorities on Lesson Study, author of “*Lesson Study: A Japanese Approach to Improving Mathematics Teaching and Learning*.” Her participation significantly strengthened the scientific and methodological depth of the discussions, helping to contextualize the Japanese model of Lesson Study for local pedagogical practices.

On 25 September 2025, the university hosted a campus-wide seminar “**Enhancing Education Quality through Practice-Based Research: Lesson Study and Action Research**,” moderated by Vice-Rector for Academic Affairs **Dr. B.M. Narbekova**. Keynote speaker **Dr. Clea Fernandez** delivered an address on the principles of effective professional learning communities and teacher-led inquiry. Principal presenters — **Prof. A.E. Berikhanova** and **Sr. Researcher G.Kh. Sarsenbayeva** — presented on the integration of Lesson Study and Action Research into students' teaching practice. At the conclusion of the event, mentor-researchers were awarded certificates.

On 29 September 2025, the **Center for Pedagogical Innovations** organized the training seminar “**A Closer Look at Lesson Study**,” featuring **Dr. Clea Fernandez** as guest expert. The seminar explored the role of mentor-researchers in cultivating a research culture among teachers and deepened participants' understanding of



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international Lesson Study methodologies. The event served as a platform for professional exchange and sharing of best practices in implementing Lesson Study.

On **1 October 2025**, the **Faculty of Physical Education and Basic Military Training** hosted the seminar “**Lesson Study and International Experience**,” where **Dr. Clea Fernandez** presented examples of cross-cultural Lesson Study applications and guided discussions on integrating Lesson Study into students’ graduation projects using international case studies.

On **2 October 2025**, the **UNESCO Chair**, in collaboration with the **Center for Pedagogical Innovations**, held the training seminar “**Writing and Defending Theses Using Lesson Study and Action Research**” at the **Faculty of Arts**. The event gathered faculty, students, and mentors — including **Prof. O. Abisheva**, **Assoc. Prof. L. Kakimova**, and **Dr. Clea Fernandez** — who explored practical approaches to embedding research-based methods in final-year projects.

On **3 October 2025**, the **Faculty of Pedagogy and Psychology** hosted a training seminar “**A Step Toward Quality Education through Lesson Study and Action Research**,” organized by **Assoc. Prof. R. Bazarbekova** and **PhD S. Erkebaeva**. With contributions from **Dr. Clea Fernandez**, the event encouraged research engagement among graduating students and inspired them to design their own school-based projects.

On **6 October 2025**, the **Faculty of Mathematics, Physics and Informatics** held the seminar “**Enhancing Education Quality through Practice-Based Research: Experience and Prospects of Lesson Study and Action Research**,” led by **Prof. A.E. Berikhanova**, **G.Kh. Sarsenbayeva**, and **Dr. Clea Fernandez**. The seminar presented international experience in integrating Lesson Study into STEM disciplines, discussed pedagogical analysis methods, and explored ways to improve teaching quality.

Special attention was devoted to **young researchers**. On **24 October 2025**, the **Department of Primary Education** organized an open dialogue “*Developing Research Competence of Young Scholars: Tools, Skills, and Prospects*,” where master’s and doctoral students discussed strategies for developing research skills, the role of soft skills, and opportunities for academic growth in the context of digital transformation.

On **26 September 2025**, the **Department of Preschool Education and Social Pedagogy** hosted the large-scale event “*International Educators’ Day: ‘The Educator — A Gardener of the Child’s Soul’*,” attended by representatives of the **Ministry of Education of the Republic of Kazakhstan**, partner universities from **Ukraine and Uzbekistan**, and leading practitioners in preschool education. The event emphasized the importance of early childhood educators and celebrated their contribution to education and equality.



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The culminating event of the year was the **International Conference “Pedagogical Innovations as a Condition for the Sustainable Development of the Education System,”** held on **16–17 October 2025** within the framework of the **World Inclusion Congress (WIC 2025)** in Almaty. The conference was co-organized by **Abai University, UNESCO, the HOPE Foundation, IFIP, Google for Education,** and other international partners. Bringing together more than **70 international experts** and representatives from **50 countries**, the event became one of the largest and most influential academic gatherings of the year.

Collectively, these activities strengthened the university’s **research capacity**, enhanced the **professional competence** of educators, expanded **international partnerships**, and promoted the values of **innovation, collaboration, and educational excellence**.

PUBLICATIONS

The publication activity of Abai University’s faculty reflects the university’s **systematic contribution** to the implementation of the **Sustainable Development Goals (SDGs)**.

Pedagogical Innovation and Methodology

- **Berikhanova A.E., Sarsenbayeva G.Kh.** *Regulations on the Implementation of Graduation Projects in the Format of Action Research and Lesson Study for Final-Year Students of Pedagogical Specialties* (approved by the Academic Council of Abai Kazakh National Pedagogical University, 2025).

- **Berikhanova A.E.** *Developing Teachers’ Research Skills through Action Research* (2025).

- **Sarsenbayeva G.Kh.** *Techniques for Developing Transformational Leadership of Future Primary Education Teachers Based on National Values. // Bulletin of Abai Kazakh National Pedagogical University, Series “Pedagogical Sciences”, Vol. 87, No. 3, 2025, pp. 213–222. DOI: <https://doi.org/10.51889/2959-5762.2025.87.3.019>*



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Main Publications

- **Abdimanapov B.Sh., Usenov N.E.** *Interdisciplinary Links in Geographic Education: A Systematic Review of Fields of Science. Pedagogy and Psychology*, Scientific and Methodological Journal, Abai KazNPU, No. 2, 2024.
SDGs: 4, 9, 17.
- **Abdimanapov B.Sh.** *A Comparative Analysis of the Development of Creative Thinking in Kazakhstani and Turkish School Geography Textbooks. Bulletin, Series "Pedagogical Sciences,"* Abai KazNPU, No. 2, 2024.
SDGs: 4, 4.7.
- **Abulgaziev A.U., Zhandossova G.O., Zhumasheva A.E.** *Current Issues in the Sustainable Use of Kazakhstan's Transboundary Rivers. Geography and Water Resources*, No. 1, January–March 2024.
DOI: <https://doi.org/10.55764/2957-9856/2024-1-3-7>
SDGs: 6, 13, 15.
- **Bakirova K.Sh.** *The Practice of Creating Educational Videos as a Form of Independent Student Work in Natural Science Subjects. Bulletin of L.N. Gumilyov Eurasian National University, Series "Pedagogy. Psychology. Sociology",* No. 2 (143)/2023, pp. 146–158.
DOI: <https://doi.org/10.32523/2616-6895-2023-143-2-146-157>
SDGs: 4, 9.
- **Seilkhan A.S.** *Project-Based Technology for Developing Environmental Competence.*
Almaty: Kemel Kitap Publishing, 2024. – 136 p.
SDGs: 4, 12, 13, 15.
- **Zhandossova G.O.** *World Heritage Geography. Teaching and Methodological Manual.* Almaty: Ulakat Publishing, 2024. – 168 p.
SDGs: 4, 11, 15.
- **Kaster Sarkytkan.** *Workshop on the Economic and Social Geography of Foreign Countries.*
Almaty: Kemel Kitap Publishing, 2024. – 167 p.
SDGs: 4, 8, 9.
- **Irkitbayev S.N.** *Natural Science.*
Almaty: Zhanya-Polygraphy Publishing, 2023.
SDG: 4.



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5.2. Student Research Projects (Natural Sciences Track)

As part of practice-oriented learning and the development of students' research competencies, numerous projects were implemented in 2025 by students of the Departments of Chemistry and Biology. These projects addressed environmental and technological issues in alignment with **SDGs 3 (Good Health and Well-Being), 4 (Quality Education), 9 (Industry, Innovation and Infrastructure), 12 (Responsible Consumption and Production), and 13 (Climate Action).**

Main Project Topics and Authors

- **Murat Ansar** – *Production of Bioplastic from Waste Materials.*
Supervisor: **D.A. Karazhanova.**
SDGs: 9, 12, 13.

- **Romanova Shattykzhamal** – *Extraction of Polysaccharides from the Roots of Asteraceae Plants.*
Supervisor: **M.B. Akhtayeva.**
SDGs: 3, 9.

- **Agylman Orken** – *Production of Black Soap from Natural Components.*
Supervisor: **K. Sarsekova.**
SDG: 12.

- **Sagidullayeva Kamshat** – *Complete Oxidation of Methane on Oxide Catalysts.*
Supervisor: **Z.T. Zheksenbayeva.**
SDGs: 9, 13.

- **Olzhabekova Gauhar** – *Sorption of Neodymium Ions by Polyacrylic Acid–Polyethylenimine Interpolymer Systems.*
Supervisor: **Kh. Khimersen.**
SDGs: 9, 12.

- **Mamytkhan Assel** – *Synthesis of Polyphosphates from Karatau Phosphorites.*
Supervisor: **A.B. Uzakova.**
SDGs: 9, 12.

- **Yerlanuly Azamat** – *Reactivity of β -Aminopropioamidoximes in Sulfochlorination Reactions and Biological Screening of the Products.*
Supervisor: **A.B. Uzakova.**
SDGs: 3, 9.



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- **Nurbakyt Ulpan** – *Development of an Electrochemical Sensor for Heavy Metal Detection.*
Supervisor: **Y. Bakytkarim.**
SDGs: 3, 9, 12.
- **Shertai Aknur** – *Utilization of Thermal Residues from Oil-Bearing Rocks as Construction Materials.*
Supervisor: **E. Tileuberdy.**
SDGs: 9, 12, 13.
- **Akmurzayeva Laura** – *Ecological Condition of Syrdarya River Water in the Shieli District.*
Supervisor: **Kh.N. Zhanbekov.**
SDGs: 6, 13, 15.
- **Ergeshbaeva Assem** – *Study of the Chemical Properties of Milk in the Almaty Region.*
Supervisor: **L.A. Nugymanova.**
SDGs: 3, 9.
- **Shuken Ayana** – *Development of Selective Polymer Sorbents for Cu^{2+} Ions.*
Supervisor: **M.B. Akhtayeva.**
SDGs: 9, 12.
- **Oralbay Albina** – *Purification of Sulfuric Acid Using Zeolites.*
Supervisor: **N.N. Kozhabekova.**
SDGs: 9, 12, 13.