

WASTE MANAGEMENT AND ENVIRONMENTAL AWARENESS AMONG STUDENTS IN KAZAKHSTAN

Karassayev Rassul Samigullauly

Student, Nazarbayev Intellectual school, Kazakhstan, Aktobe

Urazalina Ainagul

научный руководитель, Scientific supervisor, Teacher, Nazarbayev Intellectual school, Kazakhstan, Aktobe

Kazakhstan, rich in natural resources and cultural heritage, faces significant environmental challenges, including issues from the Cold War era, climate change, water scarcity, and industrial pollution. This paper explores the role of educational institutions in teaching conservation and waste disposal techniques. The environmental issues are exemplified by the Semipalatinsk Nuclear Site, where 50,000 people live in a contaminated zone due to Soviet-era nuclear tests. This highlights the need for comprehensive environmental education.

Kazakhstan's climate change challenges include water shortages, soil degradation, and increasing desertification, impacting geographic and climatic conditions. Education is crucial for building resilience and adaptability among the youth, who are future climate defenders. Schools need to integrate sustainable water management and conservation into their curricula to address future water scarcity.

Promoting environmental preservation and effective waste management among students is essential for sustainable urban development in Kazakhstan. The country faces environmental dilemmas such as the residual effects of nuclear tests in Semipalatinsk, climate change, and the Aral Sea's deterioration. Educating the young generation and instilling deep environmental awareness is vital.

The Semipalatinsk Nuclear Test Site, with 456 tests between 1949 and 1989, has left a legacy of environmental and health threats. Educational programs should teach about radioactive waste management and its consequences. Integrating climate science into school curricula is crucial, given rising temperatures and resulting water shortages, salinization, and desertification. The destruction of the Aral Sea, once the world's third-largest lake, underscores the importance of rational water management education.

Kazakhstan's schools can foster eco-mindedness by combining classroom lectures with experiential learning. Student-led recycling campaigns, environmental clubs, and local clean-up initiatives can solidify theoretical knowledge with practical experience. Partnerships with local communities, environmental organizations, and government institutions can enrich the educational process and provide practical experiences for students.

This project aimed to enhance environmental awareness among students in Kazakhstan and improve waste management practices, using interviews to gather qualitative information. Interviews were chosen for their ability to capture rich, detailed accounts. The sample included five individuals from different cities: Idris and Ayazhan from Almaty, and three students from NIS in Aktobe. Interviews were recorded using a dictaphone and the Discord app.

While interviews offer depth and detailed information, they have limitations such as sampling bias and efficiency constraints. Future research phases will include large-scale surveys alongside

qualitative methods to ensure reliability and validity.

A student from Aktobe noted that awareness of environmental issues is increasing, but practical knowledge for impactful changes is lacking. The primary challenge is the inconsistency and lack of practical environmental education within schools.

NIS students expressed concerns about inadequate recycling facilities and the prevalence of plastic waste. A student from Almaty highlighted that environmental initiatives often stem from observations of waste management inefficiencies and a desire for improvement.

Interactive and project-based learning methods are most effective. An educator emphasized that hands-on activities allow students to see the direct impact of their actions. Student-led organizations play a pivotal role in fostering environmental consciousness, with initiatives like the 'Green Week' proving particularly empowering.

Incorporating waste management lessons into the existing curriculum is challenging due to tight schedules. Creative integration into subjects like biology or geography is necessary.

Educational institutions in Kazakhstan play a crucial role in cultivating environmental awareness. Participation in school-wide initiatives and after-school projects increases environmental knowledge among students. Governments and educational institutions need a comprehensive approach to address environmental problems.

Students who received environmental education through subjects like geography and history demonstrated a deeper understanding of environmental issues. Multi-disciplinary methods effectively link ecological concepts with current social, economic, and historical contexts.

Schools that collaborate with local ecologist communities develop a culture of sustainability more effectively. Partnerships between schools, communities, and environmental organizations are crucial for practical learning and ecological knowledge transfer.

For effective environmental awareness and waste management practices in Kazakhstan, schools need a structured educational framework, experiential and multi-disciplinary learning methods, and active community partnerships. These approaches equip students with the knowledge and skills to support sustainability and environmental conservation. Further research should focus on the long-term impact of educational interventions on students' behavior and environmental activities.

References:

1. Electronic resource <https://ustinka.kz/partners/79786.html>