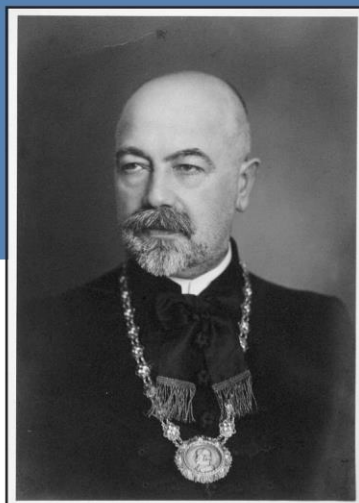


# I. Imre Sándor Neveléstudományi Konferencia. Oktatás egy változó világban

## 1st Imre Sándor International Conference on Pedagogy. Education in a Changing World



**Szerkesztők:** Tóth Péter; Hegyesi Dóra

**Kiadó:** Budapesti Műszaki és Gazdaságtudományi Egyetem,  
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# Health Education Curriculum in Secondary Education of Mongolia

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## ABSTRACT

School-based health education is essential for children and adolescents to learn proper knowledge, skills, and attitudes. Further, it helps them to become a healthy and self-responsible individual. The World Health Organization (WHO) recommended that school health education can be delivered in multiple ways and can be taught as a separate curriculum or as a part of other subjects. In the 2018-2019 school year, the Health Education Curriculum was introduced through 4 to 12th grade as a separate subject in Mongolia, including six health modules, such as personal hygiene and environmental health, healthy eating and physical activity, mental and emotional health, sexual and reproductive health, risky behaviors, and safety. A well-designed and well-resourced health education curriculum is crucial for promoting health for school pupils and broader communities. To our knowledge, no research has been conducted that has assessed the Mongolian Health Education subject since it was introduced in schools. This paper discusses the current state of the Health education curriculum. In addition, we discussed the significance of the Mongolian Health education curricula topics with the Health Education Curriculum Assessment Tool (HECAT), developed by the Center for Disease Prevention and Control, which further intended to assess Mongolia's Health Education Curriculum. The HECAT modules are used to assess curricula, including health-related topics. The HECAT is designed to assist K-12 by providing guidance, analyzing tools, and resources for completing accurate and sequential assessments of locally developed school-based health education curricula.

## KEYWORDS

*health education, Mongolia, health curriculum, curriculum assessment*

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## INTRODUCTION

The World Health Organization (WHO) suggested that school health education be taught in a various of ways, including as part of other courses or as a separate curriculum (WHO & UNESCO, 2021). Effective health education helps pupils maintain and improve their health, prevent illnesses, and make healthy decisions to avoid health-related risk behaviors (Kann et al., 2007). Schools educate youth about health-related knowledge, skills, attitudes, and responsibility. Thus, health education taught by teachers will act against the health misconceptions influenced by the surrounding environment and transferred by the media (Lipták & Tarkó, 2020).

From the 2018-2019 school year, Mongolia has significantly improved health education in primary and secondary schools. Health education was introduced as a stand-alone subject. Developed curricula included content on United Nations Children's Fund (UNICEF) priority fields, such as the Comprehensive sexuality education curriculum and additional curricula on mental health, violence prevention, safety, nutrition, and personal hygiene. The Ministry of Education, Culture, Science, and Sports (MECSS) of Mongolia collaborated with UNICEF to improve the school environment and design curriculum, guidelines, and manuals for implementing health education programs. However, the organizations focused on improving the health knowledge of pupils, developing skills for life, and increasing their flexibility to health and social risks; there is a need to contribute more to the quality of

health education, health promotion, and building skills initiatives in a school setting (UNICEF, 2019).

The Center for Disease Control and Prevention (CDC) (2021) developed the Health Education Curriculum Assessment Tool (HECAT). The HECAT is a primary evidence-based instrument to improve pre-K through 12th-grade health education. The tool contains "process guidance, appraisal tools, and resources for carrying out a clear, complete, and consistent examination of commercially packaged or locally developed school-based health education curricula" (CDC, 2021, p.5).

No research has yet been conducted to assess the quality of the health education curriculum in Mongolia since it was introduced in the 2018-2019 school year. The paper discusses the current state of the Mongolian Health education curriculum (MHEC) implemented in secondary education. In addition, the study aims to analyze the applicability and significance of the MHEC modules with the Health Education Curriculum Assessment Tool (HECAT), developed by the Center for Disease Prevention and Control, which further intended to assess Mongolia's Health Education Curriculum.

## LITERATURE REVIEW

### A. SCHOOL HEALTH EDUCATION

The WHO (1998) stated that health education consists of well-structured opportunities for learning that involve some form of communication purposed to improve health literacy, health knowledge, and develop life skills that promote individual and public health. Also, health education not only addresses health information but also

fosters the motivation, skills, and self-efficacy necessary to act on improving health.

Health education is an essential component of K-12 education that provides children and adolescents with knowledge, skills, and attitudes to become successful learners and healthy and responsible adults. Selecting or developing an effective health education curriculum is essential to ensure that health education appropriately promotes healthy behaviors in learners (CDC, 2021).

School-based health education includes classroom teaching, teacher training, and changes in school environments that promote healthy behaviors for children and adolescents (Franks et al., 2007; Luepker et al., 1996).

Introducing health education as an independent subject is not a common approach. The Organisation for Economic Co-operation and Development (OECD) (2019) investigated the current state of health and physical education curricula, policies, and practices from international prospects. Some of the OECD countries do not have a separate health education class. Instead, the countries mostly embed or combine health-related topics within multiple subjects in multiple ways. For example, Australia, China, Chile, and Ontario (Canada) have combined approaches of title, such as “Health and physical education,” “Physical education and health,” or “Health and sports,” while Wales (United Kingdom) and South Korea officially introduce as “Physical education”; Scotland (United Kingdom) has a core part of national curriculum “Health and wellbeing.” This approach aligns with the recommendation of the WHO (2008), that school health education can be introduced as a specific subject, as a part of science, agriculture, mathematics, economics, physical activity, or as a combination of those subjects.

#### HEALTH EDUCATION CURRICULUM IN MONGOLIA

In Mongolia, schools represent the primary critical communication setting with the state. In the 1920s, education played a crucial role in child development and learning when the Soviet boarding school model entered the educational system. Pupils considered that the school and government are responsible for education, protection, and employment in the future (Ismayilova et al., 2014). Schools are the primary setting for child development and interventions by the government and partner organizations, particularly health and protection (UNICEF, 2020).

In Mongolian public education, health education classes have been introduced to improve school-aged youth’s knowledge of their health, including health-damaging behaviors and personal hygiene, focusing on preventing non-communicable diseases (WHO, 2017a). Unfortunately, due to a lack of qualified health educators, implementing the health education curriculum and quality of classes are poorly impacting pupils. Also, the classes are taught mainly by biology or physical education teachers (UNICEF, 2020).

Currently, the Ministry of Education and Science (MEDS) regulates education in Mongolia and responsible in developing curricula in all levels of public education, spanning from kindergarten through elementary, secondary, and upper-secondary education (MEDCSS, 2019a; 2019b; 2019c; 2019d).

The MHEC includes the following six health modules (MEDCSS, 2019a; 2019b; 2019c):

*-H01: Personal hygiene and environmental health module consists of the contents including oral hygiene, hand and nail hygiene, preventing infectious and non-infectious diseases, clothing for four seasons, boys’ and girls’ hygienic regimes, and skin care. In addition, the topic covers environmental health areas, such as air pollution, natural disasters, and policies and regulations implemented in Mongolia for public health (MEDCSS, 2019a; 2019b; 2019c). Personal hygiene education plays a crucial role in public health and preventing diseases. Studies revealed that poor hygiene is directly linked with illnesses; for instance, proper hand washing reduces the risk of transmitting diarrheal diseases (Curtis & Cairncross, 2003). School-based health education, including hygiene for children and adolescents, helps to increase knowledge of fundamental personal health and practice skills to proper hand washing, bathing, tooth brushing, and changing clothes (Sarkar, 2013; Khattoon et al., 2017; Badarch et al., 2021).*

*-H02: Healthy eating and physical activity module contains topics on healthy eating patterns, differentiating food and nutrition types, decision-making in food choice, food security, and food hygiene, and food policies and laws implemented in Mongolia; benefits of physical activity, preventing obesity and overweight, and self-assessment of body development (MEDCSS, 2019a; 2019b; 2019c). Healthy eating is fundamental to living a healthy and long life (GBD 2017 Diet Collaborators, 2019). Healthy eating patterns of young generations are determined by personal, social, and cultural factors (Murimi et al., 2018; Brug, 2008). Unfortunately, pupils consume less fruits, vegetables, fiber, or nutritious foods, which leads to unhealthy dietary patterns and behavior outcomes (Haq et al., 2019). In Mongolia, due to regional disparities, children and adolescents in urban areas are more often overweight or obese than in rural areas. Overweight and obesity have become a nutritional challenge, while undernutrition remains in rural areas (WHO, 2017b). Concerning food and nutrition education, the WHO (2006) recommended a comprehensive attitude that points to cooking, nutrition, and promoting a healthy lifestyle in addition to various awareness-increasing learning endeavors.*

*-H03: Mental health module considers topics promoting mental and emotional health, self-respect, factors causing stress and their symptoms, stress management, social and emotional development, interpersonal communication, and mental and psychological problems (MEDCSS, 2019a; 2019b; 2019c). Mental health defined as “a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community” (WHO, 2022, para. 1). Globally, 10-20% of children and adolescents struggle with mental health disorders (Kieling et al., 2011), and 50% of adults with mental health issues revealed that they experienced them before the age of 15 (Kessler et al., 2005). Vanchindorj et al., (2017) determined that the prevalence of emotional and behavioral problems was 43.3% among parents, 33.4% among school teachers, and 16.3% among Mongolian adolescents. In order to deal with these problems, it is critical to focus on promotion and*

practicing prevention, and schools are in a proper position to provide (Sturgeon, 2006).

-H04: Risky behaviors module provides topics related to sedentary and health-damaging behaviors, including tobacco and alcohol use and other addictive substances, ways to avoid them, and preventing family, friends, and community. In addition, the module includes topics on the proper use of electronic devices, such as smartphones, computers, and televisions (MEDCSS, 2019a; 2019b; 2019c). Risky behaviors involve many factors, such as alcohol consumption, smoking, and other substance use, and all-cause unintentional injury, violence, or other health-damaging outcomes (CDC, 2023). Adolescence is a critical stage in life to be involved in risky behaviors, which may eventually result in health inequalities (Akasaki et al., 2019; Charrier et al., 2014; Jackson et al., 2012). The excessive use of alcohol leads to significant risk factors for noncommunicable diseases and disabilities, including cardiovascular diseases, cancer, mental and behavioral disorders, and some communicable diseases as well. In 2016, the rate of alcohol consumption was 6.4 liters among young adults aged 15 or older globally. This rate indicates that since 2010, alcohol use in the European region has decreased by 12%, whereas in the South-East Asian Region, it has increased by approximately 30%. However, 57% of the population aged 15 years or older had not consumed alcohol in the past 12 months in 2016 worldwide (WHO, 2018a). The cross-sectional study has shown that alcohol use was significantly high among Mongolian adolescents and youth. Health education in schools is considered to be effective in preventing alcohol use and other substance use (Dashpuntsag et al., 2021).

-H05: Sexual and reproductive health module includes concepts of gender equity, aging, race, mental and psychological issues, sexual attitude, prevention of risky sexual behaviors, and the importance of family, value, social, and legal environments (MEDCSS, 2019a; 2019b; 2019c). Youth and adolescents are more vulnerable to risky sexual behavior, and it can lead to adverse health consequences (Hoyle et al., 2000; Dir et al., 2014). Since adverse sexual outcomes can be prevented, public health or school health education should promote pupils' knowledge, attitudes, and safe practices (Browning et al., 2008; Eaton et al., 2012).

-H06: Safety module focuses on living an environmentally safe life, preventing indoor or outdoor

accidents, risk factors when traveling by personal or public transportation, and concepts of first aid in sudden circumstances (MEDCSS, 2019a; 2019b; 2019c). School children and adolescents are prone to unintentional risks of accidents (WHO, 2018b). In Mongolia, injury is a third leading cause of premature mortality. Traffic accident claim the largest of adults, while burns and falls occur among children (WHO, 2019). In order to prevent unintentional accidents, the Ministry of Health and collaborating organizations recommended intensifying advocacy among residents, schools, and kindergartens (General Authority for Education, 2023).

#### HEALTH EDUCATION CURRICULUM ASSESSMENT TOOL (HECAT)

The Health Education Curriculum Assessment Tool (HECAT) consists of process guidance, tools, and resources for conducting a complete, clear, and consistent analysis of commercially packaged and locally developed school-based health education curricula. The HECAT was first introduced in 2006 and updated in 2012 and 2021. By using the HECAT, based on results, schools can identify the strengths and weaknesses of health curricula, revise or improve the existing curricula, and the ability of school health educators to positively influence healthy behaviors and health outcomes among pupils (CDC, 2021).

The HECAT was developed based on Characteristics of Effective Curricula (CDC, 2019) and National Health Education Standards (NHES) (Joint Committee on National Health Education Standards, 2007) for schools in the United States. It addresses a comprehensive set of health topics, including nine health modules discussing alcohol and other drugs, food and nutrition, mental and emotional health, personal health and wellness, physical activity, safety, sexual health, tobacco, violence prevention, and comprehensive health education curricula (CDC, 2021).

The CDC (2019) has established 15 characteristics of effective health education curricula, which were created in state-of-the-art health education programs reflecting the growing body of research that emphasizes teaching functional essential health knowledge, personal values, and beliefs that promote healthy behaviors, developing the essential skills to adopt, implement, and achieve health-promoting behaviors.

The NHES framework, introduced in 1995 and revised in 2007 and 2022, consists of eight standards focusing on preschool through 12th-grade knowledge and performance expectations—the framework designed to develop health

<b>Standard 1:</b> Students comprehend functional health knowledge to enhance health
<b>Standard 2:</b> Students analyze the influence of family, peers, culture, social media, technology, and other determinants on health behavior
<b>Standard 3:</b> Students demonstrate health literacy by accessing valid and reliable health information, products, and services, and services to enhance health
<b>Standard 4:</b> Students demonstrate effective interpersonal communication skills to enhance health
<b>Standard 5:</b> Students demonstrate effective decision-making skills to enhance health
<b>Standard 6:</b> Students demonstrate effective goal-setting skills to enhance health
<b>Standard 7:</b> Students demonstrate observable health and safety practices
<b>Standard 8:</b> Students advocate for behaviors that support personal, family peer, school, and community health

Note. National Consensus for Children Health Education, 2023. National Health Education Standards 3<sup>rd</sup> Edition.

Table 1 - National Standards of Health Education



education curricula, instruction, and evaluation for K-12 pupils. The eight standards included performance expectations, providing the functional health knowledge and skills necessary for children and adolescents, motivating them to learn and practice healthy behaviors, becoming health literate, and promoting health and academic performance. Standard 1 represents the knowledge expectations of health concepts, while Standard 2 to Standard 8 addresses health skills (see Table 1). The performance expectations are proposed to challenge pupils at the proper age and grade levels continuously. In addition, the scope and number of the expectations primarily target personal health among younger children and extend to enhance the health of family, friends, schools, and communities among upper-grade pupils (National Consensus for School Health Education [NCSHE], 2022).

The HECAT lists healthy behavior outcomes (HBOs) according to each standard, including knowledge and performance expectations by grade levels: pre-K-2, 3-5, 6-8, and 9-12. Knowledge and performance expectations are numbered, representing the modules' abbreviation: the NHES standard number, grade, and item number of the expectations (see Figure 1). For instance, PHW 1.2.1 represents the Personal health and wellness module, Standard 1, grade pre-K-2, knowledge expectation item 8. At the end of the HBO, expectation codes are related to the relevant topic's healthy behavior outcomes. The curriculum scores regarding knowledge and skills will be covered on a 5-point scale, following the checklist for grade interval per standard (CDC, 2021):

- 4=all of the expectations (100%)
- 3=most of the expectations (67-99%)
- 2=some of the expectations (34-66%)
- 1=a few of the expectations (1-33%)
- 0=none of the expectations (0)

Knowledge Expectations Grades Pre-K-2

**Standard 1** Students will comprehend concepts related to health promotion and disease prevention.

**After implementing this curriculum, students will comprehend concepts important for promoting personal health and wellness.**

Grades Pre-K-2 Knowledge Expectations: Check the box next to each personal health and wellness-related knowledge expectation addressed in the curriculum.

**By grade 2, students will be able to:**

- PHW1.2.1 Identify the proper steps for brushing and flossing teeth daily. (HBO 1)
- PHW1.2.2 Explain why hygiene is important for good health. (HBO 1)
- PHW1.2.3 Identify the benefits of personal health care practices such as washing hair and bathing regularly. (HBO 1)
- PHW1.2.4 Explain the importance and steps of proper hand washing. (HBO 1 & 5)
- PHW1.2.5 Explain why sleep and rest are important for proper growth and good health. (HBO 2)
- PHW1.2.6 Explain how hearing can be damaged by loud noise. (HBO 3)
- PHW1.2.7 Identify ways to protect vision or hearing. (HBO 3)
- PHW1.2.8 List ways to prevent harmful effects of the sun. (HBO 4)
- PHW1.2.9 Identify different ways that disease-causing germs are transmitted. (HBO 5 & 8)
- PHW1.2.10 Identify ways to prevent the spread of germs that cause common infectious diseases. (HBO 5, 8 & 10)
- PHW1.2.11 Identify food and non-food triggers that are common causes of allergic reactions. (HBO 5, 6 & 9)
- PHW1.2.12 Explain that food and water can contain germs that can cause illness. (HBO 5 & 8)
- PHW1.2.13 Identify food and water safety strategies that can control germs that cause foodborne and waterborne illnesses. (HBO 5 & 8)
- PHW1.2.14 Identify proper steps for treating a wound to reduce chances of infection. (HBO 5 & 9)
- PHW1.2.15 Identify ways to stay safe around chemicals used for cleaning and disinfection, including alcohol-based hand rubs and sanitizers. (HBO 1, 5 & 8)

Personal Health and Wellness, Grades Pre-K-2 continued on next page.

Figure 1. HECAT sample of Standard 1, Personal health and wellness module

The HECAT (CDC, 2021) contains modules to discuss particular health-topic curricula and comprehensive health education curricula. The modules are listed as follows:

*AOD: Alcohol and other drugs module provide tools aimed to assess curricula that promote and enable pupils*

*to obtain and practice essential knowledge and skills for a healthy lifestyle free of alcohol and drug use.*

*FN: Food and nutrition module analyzes curricula of healthy eating patterns and encourages pupils to promote healthy eating. If a curriculum included physical activity, the module also suggested use.*

*MEH: The mental and emotional health module consists of the tool to evaluate curricula promoting mental and emotional health. If a curriculum also focuses on specific topics, such as sexual and reproductive health or violence prevention, it is also recommended to use the module.*

*PHW: Personal health and wellness module aims to analyze curricula that promote personal health, hygiene, and wellness. Additional topics, such as food and nutrition, safety, or physical activity in a curriculum, are suggested to be analyzed with the module.*

*PA: The physical activity module provides a tool to assess curricula that include physical activity topics. The module can analyze topics such as personal health and wellness or safety.*

*S: Safety module analyzes curricula aimed to enable and promote safety and prevent unexpected injuries or accidents. The module also addresses personal health and wellness, violence prevention, and physical activity.*

*SH: Sexual health module contains the tools to assess curricula aimed at promoting sexual and reproductive health and preventing risky sexual behavior problems, including unexpected pregnancy and sexually transmitted infections (STIs). In addition, the module is suggested to be used if a curriculum includes additional topics, such as mental health or violence prevention.*

*T: Tobacco module provides tools to promote knowledge, skills, and learning experiences that assist pupils in school to adopt and achieve a free lifestyle.*

*V: Violence prevention module helps assess the curriculum to enable pupils to obtain essential knowledge and skills to prevent violence. The module can also be applied to curricula, including sexual and reproductive health or mental health.*

*CHE: Comprehensive health education module can be applied to analyze comprehensive health education curricula that address numerous health-related topics or issues. The module allows to assess the overall complete health curriculum, addressing knowledge and skills across topics and grade levels with an entire scope and sequence.*

Each module describes the health topic to be discussed, including the Healthy Behavior Outcomes (HBOs) related to the curriculum in that health topic. Selecting an appropriate topic module is crucial for performing the assessment. If a curriculum specifically focuses on one topic, it is suggested to use the relevant module. Either, if a curriculum points the HBOs relevant to two or three topics and clearly states that the curriculum is limited to those specific topics, it is recommended to use the related modules to link those topics. The CHE module is recommended to be used if a curriculum is determined to be a comprehensive health education curriculum that includes numerous health topics and comprises several knowledge and skill expectations across multiple topics and grades.

The CHE module is not recommended for analyzing single-topic curricula or multiple single-topic modules (CDC, 2021).



## CONCLUSION

Based on international and local experiences, health promotion and effective health education help school-aged youth lead a healthy lifestyle by obtaining appropriate knowledge, developing skills, and motivating them to enhance their health (Tarkó et al., 2023).

Like many other countries, Mongolia is facing an increasing number of non-communicable diseases among school children and adolescents. Studies have shown that cardiovascular diseases, high blood pressure, and diabetes are the most common illnesses caused by the harmful use of alcohol and tobacco, physical inactivity, and salt intake. Health education for pupils contributes to achieving behavioral change by adulthood. Applying the HECAT for assessing the MHEC may help to determine the effectiveness of the existing curriculum and guide health educators in revising and improving the curriculum, enhancing the learning and instructing of health education for pupils. Our findings suggests that the HECAT modules have shown significance to the MHEC topics.

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## TABLES AND FIGURES

*Figure 1* - HECAT sample of Standard 1, Personal health and wellness module

*Table 1* – National Standards of Health Education

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