

Health and safety education in the context of social and curricular changes

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Abstract: Health and safety education implemented in the accordance with the framework curriculum of elementary education develops pupils' relationship to health and provides a space for consolidating their skills to promote health and safety. It participates in shaping the health and safety literacy, which is necessary for life, to a large extent. The effective fulfillment of expected results of education in the given issue is determined by a number of social factors and circumstances. The teacher's personality plays there a key role. The article deals with current issue of health promotion and safety protection in education in the context of current social needs and challenges, which call for curriculum revision and adequate changes in teacher education. The attention is paid to the rapid rise of digital technologies into everyday life and the need to manage the reality of health and safety threat due to emergency.

Key words: health and safety education, digital technologies, Framework Education Program for Elementary Education, teacher education

Introduction

Inclusion of health and safety education in the Framework Education Program for Elementary Education (MEYS, 2007) was an important prerequisite for the development of pupil's health and safety literacy. The background study *Human and the health* (Tupý, 2018), which includes an analysis of the current development of education in this issue, points out that the legislative anchoring of the projected curriculum does not mean that the predicted goals are actually fulfilled in educational practice. Within the formal and informal school curriculum the insufficient acceptance of the importance of health and safety education seems to be a problem. The low hourly teaching allowances for health education in the school curriculum do not provide conditions for the implementation of all expected outcomes. The constant increase of the educational content and expected results of education (in the connection with

current social needs) is a specific feature of the given issue development, which cannot be overlooked in the creation of framework educational programs' revision.

The presented study points out the current problems associated with the change of social requirements in the issue of health and safety education in the Czech Republic and the European region. Specifically, it is focused on the need to respond adequately to the current security risks associated with the Covid-19 pandemic in the health and safety education. It presents also basic goals and recommendations for didactic processing of educational content in connection with the development of pupils' digital competence. It emphasizes the need to ensure the consistency between changes in the curriculum and future teacher educational programs.

Social changes associated with the development of digital technologies

Processes and phenomena associated with new information and communication technologies have created a new type of society whose basic element is information - the term information society is used. This concept has pushed into the background the concept of the educational society and knowledge society, which have been developed and discussed for decades. (Kolesárová, 2016 In Sak, 2018) How are children's lives changing in the information society? What is childhood like in the digital age? The OECD project "21st Century Children" seeks to answer these questions. One of the outputs of the project - the study "Educating 21st Century Children: Emotional Well-being in the Digital Age" (2019) brings us interesting key findings for the further direction of health and safety education.

According to the above-mentioned study, children gain their first experience with digital technologies before they reach the age of two years. Preschool children actually encounter digital devices before coming into contact with books (Hopkins, Brookes & Green, 2013 In Educating 21st Century Children, p. 41). The fact that children connect to the Internet or have access to online tools does not mean that they have the necessary knowledge and skills to be able to use these tools effectively. All education systems in OECD countries focus on development these skills. Currently, the subject of ongoing discussions is also the revision of the curriculum in the issue of digital competences in the Czech Republic (MEYS, 2020).

The above-cited study emphasizes that the current social environment of young people is a combination of offline and online relationships. Friendship on the Internet helps children who feel alienated from groups of their peers and classmates. It allows to meet people with

similar interests who may not meet the norm of their social context, for example with those who suffer from social anxiety, have a disability or belong to the LGBTQ+community (ibid, p. 96). It has been found that if an online friendship lasts longer than one year, its quality is comparable to an offline friendship so the boundary between real and virtual friendship is increasingly blurring. (ibid, p. 97)

The Internet is an essential means of finding information. For example, it is the second most common source of knowledge about sex for 15-18 years old pupils, right after the direct contact with peers. It is necessary to develop media literacy and safe behavior in the online environment. There are also changes in the style of parenthood. In connection with digital technologies there is talk of so-called “data-qualified children” - children who are monitored by their parents from the earliest stages of their development (ibid, p. 33). These are digital applications related to fertility, pregnancy, babysitters to alleviate parents' concerns about the health and safety of the child, applications to monitor the movement of children (sharenting), gathering and sharing a large amount of information about children on social networks. These facts affect the perception of the concept of privacy by children and affect children's relationship to the future data protection. Thus, the family does not become an essential part of building digital security awareness.

Based on selected conclusions of the OECD study “21st Century Children”, it is clear that targeted strengthening of digital literacy aimed at health and safety support is in the curriculum for elementary education necessary. Rapid changes in this issue will require closer cooperation between the school and external partners. Also, undergraduate education of health and safety education teachers will not be possible without reinforcing content involving cyber risks and integrating technology into teaching. The situation of the Covid-19 pandemic has shown us that risks cannot be completely eliminated, but it is necessary to learn to live with them. This skill should be developed through systematic education.

Social needs related to the real threat of emergencies

The concept of population protection until 2025 with a view to 2030 (MoI, 2020) views the protection of the population from a broader perspective and seeks to introduce a system of prevention. It points out the attention to the growing safety risks and the need to implement systematic health and safety education which is based on developing the self-protection and mutual assistance of the population. Excessive reliance on technology leads to a loss of skills

and habits which are important to self-protection. Therefore, it is necessary to create sufficient space for the implementation of “safety education” in elementary and secondary education. It recommends interconnecting the topics of health promotion, human protection under common risks, emergencies and crisis situations, traffic education, preparation of citizens for the defense of the state, medical training (including public health promotion and prevention of infectious diseases), crime prevention, the fight against terrorism and extremism, possibly also other topics related to the health and safety of the individual. Unfortunately, the current situation of the Covid-19 pandemic confirmed the validity of the request.

Covid-19 pandemic significantly affected the implementation of educational goals in schools. We are witnessing of changes, even paradoxes in education that need to be examined and discussed.

Strategies to support health and safety in schools in the European region

Three main approaches to the overall concept of education supplemented by prevention programs can be currently registered:

- a holistic approach (involving the responsibility of school, family, society),
- an approach based on the emphasis on integrating the issue into educational programs,
- an emphasis-based approach outside formal education.

In connection with current strategies to support health and safety education abroad, it is necessary to mention the term “risk prevention culture”, which first appears in the European Community Agency for Safety and Health at Work strategy, where there an integrated approach to health promotion is proposed as a part of lifelong learning and safety education (Brück, 2013). This term is based on the terms “safety culture” and “health culture”. Safety culture is defined as a set of characteristics and personal attitudes in the organization and thinking of people, which ensures that safety issues are given the highest priority, corresponding to their significance (Zwetsloot, Steijger, 2015). The term health culture can be defined similarly. In this context, it is desirable to point out to the obvious common platform of the safety and health culture defined above, which is the basis for the joint development of safety and health literacy. Health education and safety protection are therefore offered to be conceived in interdependence as one issue of education, which builds on key paradigms:

- the goals are based on the principles of personal responsibility,

- educational content is subject to updating based on the definition of new risks,
- is a natural part of lifelong learning,
- requires an active inter-ministerial approach by the managing authorities,
- is significantly influenced by non-formal education,
- success in education is based on cooperation, not “prescribing”.

The integrated model Health and Risk Education fulfills the idea of a school strategy of health and safety promotion (pic 1). Achieving a state of physical, mental and social well-being in the issue of health and safety presupposes the setting of conditions of the school environment in the field of material conditions and human resources for safe and healthy learning. This proposal is relevant in the context of the ongoing revision of the framework educational programs and searching for a suitable model of the issue of education in security topics (Kovaříková, 2018). In this context, for example, OSHA publications use the term “Health and Risk Education” (Antoine, Théveny, 2013).



Figure 1. Model of integration of health and safety education.
Adjusted according to Carsten Brück Mainstreaming OSH into education
https://oshwiki.eu/wiki/Mainstreaming_OSH_into_education

The above model of integrating health and safety education is based on the unity of the intertwining of formal and informal curriculum at school. The formal curriculum is understood as a complex project of goals, content, means and organization of education. It is the implementation of the projected curriculum in the educational process, methods of control and evaluation of teaching results (Kovaříková, Marádová, 2020). The formal curriculum of

health and safety education represents the implementation of the goals and content of education, which is based on the relevant framework educational programs. The informal curriculum includes all school-related activities, such as extra-class and extracurricular activities organized by the school (for example excursions, trips, competitions, hobby activities), but also home studying, homeworks preparation of pupils for learning. In the issue of health and safety, the school in an informal curriculum gives pupils the opportunity to “experience” in the real life of the school values declared by formal teaching. The pupil finds out what attention is paid to the issue of health and safety in the reality of school life whether the information obtained in formal teaching is in line with (or differs from) the pupil's own experience with the school and what conditions does the school really create to support the pupils' health and safety. From the point of view of the formation and acquisition of desirable values in pupils, the informal curriculum can have a more significant influence than the formal content of education on this issue. The model in pic. 1 represents a state where the formal and informal curriculum intertwine and are in the value agreement (Kovaříková, 2018).

In connection with curricular reforms in European countries and the integration of security issues into education, the issue of “education securitization” is discussed in the literature, especially in connection with the revision of the English national curriculum in 2014 (Dvořák, Holec, Dvořáková, 2018). The problem with reforms is finding ways to prevent the radicalization of young people through the education and to develop respect for basic social values ensuring safety and not to succumb to the militarization of education (Kovaříková, 2018).

Health and safety education in Covid-19 conditions

The Covid-19 pandemic has undoubtedly affected the goals and content of health and safety education. This is an educational issue in which it is assumed that it will always directly reflect the current social situation and personal needs of pupils. The Covid-19 pandemic and the more frequent occurrence of other emergencies (natural character) threatening the health and lives of people in the Czech Republic were reflected in a social approach to the issue of health and safety protection. The importance of ensuring the necessary readiness of all citizens to live in difficult situations has become apparent. This fact is reflected in the increased importance of health education in the curriculum of elementary education and it opens a new perspective on the choice of educational content of health and safety education.

Above all, it raises the need to provide teachers with sufficient time for its implementation in teaching. Above all, it raises the need to provide teachers sufficient hourly teaching allowance for its implementation. In the 2021/2022 school year, health education should respond to the current epidemiological situation and the set preventive measures and make a significant contribution to the smooth return of pupils to the normal daily school routine.

The main outputs and topics should be:

- infectious diseases, their transmission and prevention,
- principles of physical and mental hygiene, daily routine, healthy lifestyle, daily health and safety protection,
- an appropriate use of digital technologies,
- participation in dealing with current events and emergencies.

Teaching is focused on explaining responsible behavior and motivation to integrate active health promotion into the daily life of pupils and providing individual assistance in developing their personal potential and interpersonal relationships. Teachers should respond to the social situation and strive to manage a pandemic with all hygiene and social aspects, reflect pupils' experiences during a pandemic and support pupils' interest in current health and safety issue.

Digital technologies in health and safety education

In lessons, which are based on the educational field of Health Education according to the Framework Education Program for Elementary Education, pupils can develop their digital competences by using many of digital technologies and various digital resources. They learn to search, store, sort and evaluate specific information from verified sources focused on health and safety issue - from the own or social interest point of view. Digital technologies allow pupils to measure, store, evaluate, or share specific data about their person in the relationship to health and safety. They help them to monitor the health and safety of a specific situation in their immediate area, process the measured data, store them in appropriate formats, share, evaluate, discuss the results and make suggestions for possible measures to improve the situation.

Current requirements for teachers' education

If health and safety issue is to be given the highest priority commensurate with its importance it is necessary that this issue have to be a part of university preparation of future teachers and also professionals in other disciplines.

The didactics of health and safety education points out to the breadth of the influences of formal and informal education of pupils. These influences are reflected in the formation of pupils' preconcepts, but they also influence the process of education, the realization of educational goals with the use of appropriate forms and methods of teaching. (Kovaříková, Marádová, 2020) For the preparation of health and safety education teachers, there is a requirement to strengthen the content of the study program on cyber security. Cyber security includes not only information and its processing, but also a new virtual reality, with artificial intelligence being the pinnacle of this type of threat (Sak, 2018). Cybercrime and the issue of crime committed with the help of information technologies are gradually becoming the part of the educational content of health and safety education. "Life in cyberspace" affects a human's physical, mental and social health and the development of society leads to the digitization of lifestyle (Sak, 2018).

The changes must be reflected in the content of study programs for teacher education in terms of professional and didactic. Teachers need to be prepared to use digital technology in their teaching, moving from "paper, chalk and blackboard" to mobile phones and whiteboards. Social networks become a communication tool and pupils can easily interact with each other, share study materials or discuss with others in a group in their environment. There is also a boom in virtual tours with the integration of augmented or virtual reality. Subject didactics in the issue of methods and forms of learning also comes with a trend of gamification - the use of game elements in a non-game environment. The principle of gamification is specific, it for example constantly encourages pupils to solve tasks of various difficulties and gradually rewards them for their fulfillment. Due to the rapid development in the field of digital technologies and changing threats to human, the development of the issue of health and safety education will not be possible without the cooperation with external partners.

In connection with the need to create opportunities for the development of pupils' digital competences in health and safety education, teachers' education must ensure that teachers are able to:

- make credible health and safety resources available to pupils, enable them to search, sort and verify information and to create archives of suitable digital sources as well as portfolios of interesting information and their own knowledge in the issue of health and safety,
- lead pupils to realize that not everything that appears in the digital environment is healthy or safe and to discuss with students specific examples of appropriate and inappropriate behavior in the issue of health and safety,
- develop pupils' ability to master digital technologies that will enable them to record data on their health and safety (eating, exercise, environment, relaxation, etc.) or to monitor situations around them (transport, safe and dangerous situations, etc.) and to lead pupils to evaluate the data obtained and to formulate suggestions for improving the situation,
- lead pupils to communicate securely through digital technologies and to emphasize the possible risks of losing privacy and personal security if the basic rules of communication are not followed,
- point out pupils' to the issue of bullying and cyberbullying and to lead them to act ethically and to reject all manifestations of violence and aggression when interacting in the digital environment,
- acquaint pupils with the use of digital technologies in communication with rescue services and safety lines (in situations of danger, accident, emergencies), etc. and to make the issue of legal liability available to pupils when using and sharing information (image data) in a digital environment that relates to health and safety (protection of personal data, alarm message, etc.) by using examples.

Conclusion

As follows from the above analysis, the current time brings changes in individual's and whole society life, and it is necessary to respond immediately to these changes in the issue of education. The possible risks of health and safety threat raise the need to pay increased attention to the educational concept in the health and safety issue related the revision of the framework educational programs. The extension of the content focus of the educational issue by security topics and the requirement of the curriculum to systematically support the development of pupils' key competences requires the creation of sufficient space for the implementation of the expected learning outcomes in the curriculum. There is the long-term

problem of insufficient hourly teaching allowances for the implementation of health and safety topics, and it deepens in connection with the current social situation. The forthcoming “major revisions” of the framework educational programs are an opportunity to eliminate this deficit and to conceive education in this issue in a new concept that meets social needs. In this sense, an update of the educational content and expected learning outcomes can be expected. The creation of an updated curriculum cannot be done without inter-ministerial cooperation which is established in an experts from the resorts of education, health, defense, interior and transportation. Due to the broad content of the issue of education, a discussion with other institutions and professional companies is open. Content overlaps with some educational issues are solved - real and relative ones, where there is justified to present certain content from different perspectives of the issue. It will be also necessary to consider the planned educational concept changes in the issue of health and safety support in the direct relation to ensuring teacher readiness and realize the expected learning outcomes. To monitor the creation of “major revisions”, to participate in the process of creating new curricular documents and (if it is possible) to respond operatively by changing accredited educational programs is undoubtedly a challenge for faculties preparing teachers.

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