

# LEARNING LOSSES AMONG STUDENTS OF GENERAL SECONDARY SCHOOLS IN UKRAINE AS A CONSEQUENCE OF UNPREDICTABLE GLOBAL CHALLENGES: CHALLENGES AND PERSPECTIVES

**Oleh Topuzov**

Institute of Pedagogy of NAES of Ukraine, Ukraine

**Oleksandr Malykhin**

Institute of Pedagogy of NAES of Ukraine, Ukraine

**Nataliia Aristova**

Institute of Pedagogy of NAES of Ukraine, Ukraine

**Liudmyla Kalinina**

Institute of Pedagogy of NAES of Ukraine, Ukraine

**Iryna Mosiakova**

Institute of Pedagogy of NAES of Ukraine, Ukraine

**Abstract.** *In the context of a full-scale war in Ukraine launched by Russia on February 24, 2022, Ukraine's educational system in general and the system of general secondary education in particular faced previously unforeseen challenges in organising educational process under martial law. These challenges lead to the emergence of previously unpredictable problems in the system of general secondary education that require systemic and purposeful solutions. One of these problems is directly related to learning losses among students of general secondary education and the search for effective ways of compensating for these learning losses. And although learning losses have become an objective reality at all levels of education, this issue is especially true in general secondary education institutions, as school-age children are the most vulnerable in the context of the tragic events taking place in Ukraine due to the war. Taking into account the fact that this topic has not been systematically studied in the scientific literature, the present paper is aimed at identifying war-related learning losses based on the experience of Ukrainian general secondary school teachers. The data collection instrument includes a questionnaire developed by the authors of this paper and the research sample includes 352 general secondary school teachers.*

**Keywords:** *Covid-19 pandemic, general secondary schools, general secondary school teachers, learning losses, students of general secondary schools, system of general secondary education, unpredictable global challenges, war conflicts, war in Ukraine.*

## Introduction

Unpredictable global challenges of the 21<sup>st</sup> century have already had adverse effects on the systems of education all over the world resulted in learning losses

among secondary school students. But, in the context of a full-scale war in Ukraine launched by Russia on February 24, 2022, Ukraine's educational system in general and the system of general secondary education in particular faced previously unforeseen challenges in organising educational process under martial law that led to the emergence of previously unpredictable problems in the system of general secondary education. And these problems require systemic and purposeful solutions. One of these problems is directly related to learning losses among secondary school students and the search for effective ways of compensating for these learning losses. And although learning losses have become an objective reality at all levels of education, this issue is especially true in general secondary education institutions, as school-age children are the most vulnerable in the context of the tragic events taking place in Ukraine due to the war.

According to the United Nations Children's Fund (2022), along with problems with children's mental health, malnutrition and a high level of abuse, grave consequences for general secondary education worldwide caused by the Covid-19 pandemic include learning losses. As of 24 January 2022, more than 616 million students worldwide remained affected by full or partial school closures (The United Nations Children's Fund [UNICEF], 2022) and these school closures led to the decrease in students' ability to read and do simple mathematics, on the one hand, and the increase of anxiety and depression among children, on the other hand. And in the nearest future it is believed that learning losses caused by the Covid-19 pandemic will affect the welfare and the quality of life of our young generation (UNICEF, 2021).

The statistics given by "The New York Times" (2023) shows that 50 million schoolchildren were out of the classrooms due to the Covid-19 pandemic and such school closures set the progress of school-age children in mathematics and reading back by two decades. One more serious problem that requires an urgent solution concerns the increase in student absenteeism. During the Covid-19 pandemic many schoolchildren got used to missing classes and they continue missing classes after the resumption of in-person classes (The New York Times, 2023). School absenteeism leads to both socialisation problems and high increase in school dropouts.

We are in full agreement with many researchers who state that before the Covid-19 pandemic, various forms of learning losses were mostly associated with summer vacations (Hevia, Vergara-Lope, Velásquez-Durán, & Calderón, 2022; Kuhfeld, 2019). But the Covid-19 pandemic made its own adjustments and learning losses started to be associated with the widespread closures of schools all over the world and the inability to organise a full-fledge educational process. Thus, for instance, in trying to figure out the effects of the Covid-19 pandemic on the system of general secondary education in Mexico, Hevia, Vergara-Lope, Velásquez-Durán, & Calderón (2022) identified learning loss in reading and

numeracy, an increase in learning poverty and gaps in fundamental learning by gender.

In Ukraine the situation with learning losses among school-age children goes beyond the standard one and this situation is unfortunately getting worse. It is connected with the fact that Ukrainian schoolchildren have been facing an unprecedented and devastating disruption of education for about four years caused by the Covid-19 pandemic and then by the full-scale war launched by Russia against Ukraine on the 22<sup>nd</sup> of February 2022 (UNICEF, 2023). The things are getting more and more complicated also because all Ukrainian school-age children find themselves in completely different circumstances which directly influence their studying. Existing research shows that nowadays all Ukrainian schoolchildren can be divided into following groups, namely, "... (1) school-age children who stayed at home in the same living conditions which they had before the war started; (2) internally displaced school-age children; (3) refuge- or asylum-seeking children; (4) forcibly displaced children; (5) children who remain in the war-affected areas" (Malykhin, Aristova, & Bondarchuk, 2022, p. 187). Such a situation makes it difficult to take quick actions aimed at minimising learning losses among Ukrainian schoolchildren. Moreover, adequate actions which have to be taken to minimise learning losses should be based on understanding the total picture of the magnitude of learning losses among schoolchildren and should take into consideration opinions of various participants of educational process, namely, schoolchildren, parents, teachers and representatives of school administrations etc. We do believe that the problem of minimising learning losses among Ukrainian schoolchildren requires prompt scientific understanding and complex search for the most optimal ways and means of solving it. In this regard, the present paper is aimed at identifying war-related learning losses based on the experience of Ukrainian general secondary school teachers.

### **Learning Losses, Learning Gaps and Learning Poverty**

Literature analysis shows that there is no uniform definition of the concept of "learning loss" and it is often associated with such concepts as "learning gap" and "learning poverty". To be more precise, learning gaps and learning poverty are considered to be the main reasons for learning losses. In this regard it should be noted that the concept of "learning poverty" is relatively a new phenomenon which was coined by the World Bank and the UNESCO Institute for Statistics in 2019 (World Bank, 2019). It is defined as an inability "to read and understand a simple text by age 10" (World Bank, 2019, p. 6). It means that in order to learn well and succeed in the future, all children should have good reading skills by age 10 (World Bank, 2019; World Bank, 2021). In many cases the lack of reading skills among schoolchildren becomes "a clear indication that school systems

aren't well organized to help children learn in other areas such as math, science, and the humanities" (World Bank, 2021).

As for such a concept as "learning gap", it is considered as "... a discrepancy between what a student has learned and what a student was expected to learn by a specific point in their education" (Welcome, 2021). The researcher identifies five main types of learning gaps, namely, knowledge gaps, skill gaps, motivation gaps, environment gaps and communication gaps (Welcome, 2021).

"The Glossary of Education Reform" (2013) defines the concept of "learning loss" in two ways. Thus, according to the first definition, a learning loss is regarded as "any specific or general loss of knowledge and skills" (The Glossary of Education Reform, 2013). The second definition regards learning losses as "reversals in academic progress, most commonly due to extended gaps or discontinuities in a student's education" (The Glossary of Education Reform, 2013). The most typical reasons for leaning losses include summer breaks, interrupted formal education, returning dropouts, senior year, school absence, ineffective teaching and block scheduling.

Taking into account the fact that education is foundational for "active participation of individuals and societies in the global economy" (World Bank, 2019, p. 7), learning losses among secondary school students might cause irreparable damage for the global economy in general and for the welfare of any member of the global community in particular in the long run.

## **Research Methodology**

The current research was aimed at identifying war-related learning losses based on the experience of Ukrainian general secondary school teachers. Data collection which lasted for four months took place in September-December 2023. The data collection instrument included a questionnaire developed by the authors of this paper. The developed questionnaire contained open- and close-ended questions. For convenience the researchers used two versions of the questionnaire: a paper-based questionnaire and an online questionnaire. The main research questions were:

*Do you believe that schoolchildren you teach experience learning losses?*

*Do you believe that learning poverty among schoolchildren you teach increased?*

*Do you believe that learning poverty is one of the main reasons for learning losses? Please, explain your point of view.*

*Do you believe that in order to take the right steps to minimise or to compensate for learning losses, teachers have to identify learning losses schoolchildren you teach experience?*

*Please, list learning losses caused by the full-scale war launched by the Russian Federation in Ukraine, which, in your opinion, schoolchildren you teach experience?*

*Which of the learning losses listed by you are extremely difficult to measure? Please, explain your point of view.*

*Which of the learning losses listed by you are extremely difficult to respond?*

*When do you think is the best way to evaluate the magnitude of learning losses among schoolchildren? Please, explain your point of view.*

The researchers used a combination of two techniques to collect data: a convenience sampling technique and a purposive sampling technique. The need to use a purposive sampling technique is explained by the fact that the authors were interested in general secondary school teachers' views on war-related learning losses. And the use of convenience sampling techniques is explained by the fact that the researchers represent Institute of Pedagogy of National Academy of Educational Sciences of Ukraine, they actively cooperate with general secondary educational institutions all over Ukraine and can communicate directly with teachers. As a result, the research sample included 352 general secondary school teachers: 137 primary school teachers (38.92%), 121 middle school teachers (34.38%), 94 high school teachers (26.70%).

To process data the team of researchers used methods of qualitative analysis.

## **Findings**

The first question of our research is “*Do you believe that schoolchildren you teach experience learning losses?*”. The obtained results show that all 352 school teachers (100.00%) believed that schoolchildren they taught experienced learning losses. It means that all the respondents admit that their students suffer learning losses. Moreover, they do realise the seriousness of the situation.

The main aim of the second question was to find out if learning poverty among schoolchildren increased. The results clearly demonstrate that 267 respondents (75.85%) answered affirmatively to this question and 85 respondents (24.15%) found it difficult to answer it.

The third question was aimed at finding out if respondents believed that learning poverty was one of the main reasons for learning losses among Ukrainian schoolchildren. It was found out that 190 respondents (53.98%) were convinced that learning poverty was one of the main reasons for learning losses, 95 respondents (26.99%) stated that they didn't agree that learning poverty was one of the main reasons for learning losses and 67 respondents (19.03%) found it difficult to answer this question. Figure 1 demonstrates the results concerning the respondents' opinions on the third question.

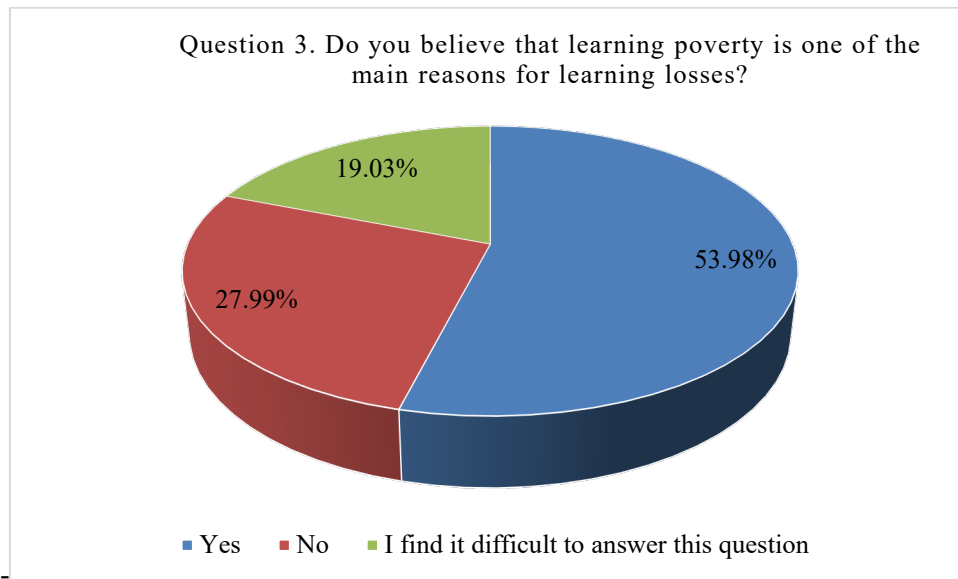


Figure 1 Respondents' Opinions on Question 3 (made by authors)

The fourth question was “Do you believe that in order to take the right steps to minimise or to compensate for learning losses, teachers have to identify learning losses schoolchildren you teach experience?” The results obtained showed that all 352 respondents (100.00%) were united in the idea that in order to take the right steps to minimise or to compensate for learning losses teachers should identify learning losses their students suffered.

In the context of question 5, the respondents were asked to list learning losses their students experienced caused by the full-scale war launched by the Russian Federation in Ukraine. The results obtained are presented in Table 1.

Table 1 Types of Learning Losses Experienced by Ukrainian Schoolchildren by Respondents' Points of View (made by authors)

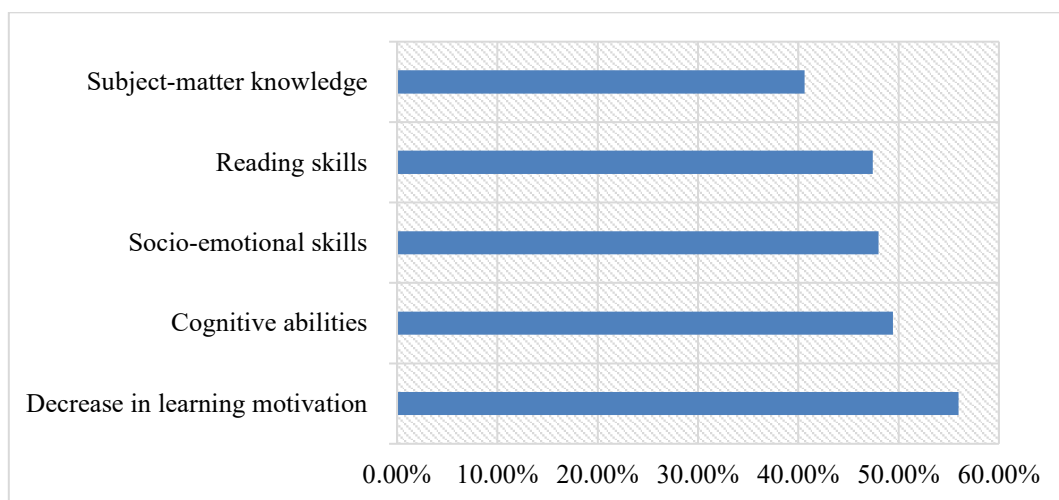
Types of Learning Losses	Respondents	
	Number	Percent
Losses connected with subject-matter knowledge	197	55.97
Losses connected with socio-emotional skills	279	79.26
Losses connected with brain-based skills (so-called cognitive abilities)	301	85.51
Losses connected with reading skills	164	46.59
Decrease in learning motivation	203	57.67%

n=352

Question 6 aimed at finding out which of the listed learning losses were extremely difficult to measure. 256 respondents (72.73%) were convinced that it was almost impossible to measure socio-emotional skills effectively. Moreover, in respondents' opinions the lack of a unified classification of socio-emotional

skills made it difficult to determine the most important socio-emotional skills. Taking into account the fact that such a procedure should be complex and should be based on proven inventories the respondents believed that the measurement of soft skills would continue to grow over time. According to 201 respondents (57.10%), brain-based skills were found to be the second most difficult task to measure. Decrease in learning motivation was ranked the third place by 187 respondents (53.13%). The respondents' explanations clearly demonstrated that the process of measuring schoolchildren's brain-based skills and the level of learning motivation would be time-consuming and would require the additional help of psychologists. Subject-matter knowledge was ranked the fourth place by 173 respondents (49.15%) and reading skills were ranked the fifth place by 92 respondents (26.14%). The respondents explained that although some complications connected with measuring subject-matter knowledge and learning poverty could occur, they could be measured during the educational process. The majority of respondents stated that in order to succeed in measuring subject-matter knowledge and learning poverty, measurements should have a systematic and complex character which was difficult to do in times of war.

The sixth question we were interested in was “*Which of the learning losses listed by you are extremely difficult to respond?*” In answering this question, the respondents' opinions were as follows: decrease in learning motivation – 197 respondents (55.97%), brain-based skills – 174 respondents (49.43%), socio-emotional skills – 169 respondents (48.01%), reading skills – 167 respondents (47.44%) and subject-matter knowledge – 143 respondents (40.63%). Figure 2 demonstrates results obtained on question 6.



*Figure 2 Respondents' Views on Types of Learning Losses which are Difficult to Respond (made by authors)*

The main aim of question 7 was to find out when was the best way to evaluate the magnitude of learning losses among schoolchildren. 271 respondents (76.99%) suggested that the magnitude of learning losses among schoolchildren should be evaluated at each level of complete general secondary education. According to paragraph 3 of Article 12 of the Law of Ukraine “On Education”, the complete general secondary education consists of three levels, namely, primary education, basic secondary education and specialised secondary education (Verkhovna Rada of Ukraine, 2017). It is worth noting that the mandatory learning outcomes, cross-cutting skills and key competences for lifelong learning which schoolchildren have to acquire at each level of complete general secondary education are identified and described in “The State Standards for General Secondary Education”. “The State Standard for Primary education” (Verkhovna Rada of Ukraine, 2018) and “The State Standard for Basic Secondary Education” (Verkhovna Rada of Ukraine, 2020) were issued and became effective. And “The State Standard for Specialised Secondary Education” is still in development. But nevertheless, specially designed tests for three levels of complete general secondary education based on the “The State Standards for General Secondary Education” should be developed and implemented in the educational process of general secondary institutions and this requires the collaborative efforts of teachers, researchers, school administration, parents, representatives from the Ministry of Education and Science of Ukraine and policy makers. In such a way it would be possible to realise what knowledge and skills school-age children lack. These respondents also stated that in times of war it was practically impossible to evaluate and see the magnitude of learning losses as the full-scale evaluation of the seriousness of the problem would be possible only after the war. It should be also noted that 81 respondents (23.01%) found it difficult to answer this question.

## **Conclusions**

Taking into account the fact that learning losses among general secondary schoolchildren might cause irreparable damage for the global economy in general and for the welfare of any member of the global community in particular in the long run, the current research was aimed at identifying war-related learning losses based on the experience of Ukrainian general secondary school teachers. The obtained results clearly demonstrate that teachers who took part in this research believe that Ukrainian schoolchildren experience learning losses and learning poverty among them increased. It is proved by the fact that 190 respondents (53.98%) are convinced that learning poverty is one of the main reasons for learning losses among Ukrainian schoolchildren. 352 respondents (100.00%) are united in the idea that in order to take the right steps to minimise or to compensate for learning losses teachers should identify learning losses their students suffer.



According to respondents, the main types of learning losses experienced by Ukrainian schoolchildren include losses connected with subject-matter knowledge, losses connected with socio-emotional skills, losses connected with brain-based skills (so-called cognitive abilities), losses connected with reading skills and decrease in learning motivation. In answering this question regarding the learning losses that are extremely difficult to respond, the respondents' opinions are as follows: decrease in learning motivation – 197 respondents (55.97%), brain-based skills – 174 respondents (49.43%), socio-emotional skills – 169 respondents (48.01%), reading skills – 167 respondents (47.44%) and subject-matter knowledge – 143 respondents (40.63%). The majority of respondents (76.99%) do believe that in times of war it is practically impossible to evaluate and see the magnitude of learning losses as the full-scale evaluation of the seriousness of the problem would be possible only after the war. These respondents suggest that the magnitude of learning losses among schoolchildren should be evaluated at each level of complete general secondary education and for this reason specially designed tests for three levels of complete general secondary education based on the “The State Standards for General Secondary Education” should be developed and implemented in the educational process of general secondary institutions.

### References

- Hevia, F. J., Vergara-Lope, S., Velásquez-Durán, A., & Calderón, D. (2022). Estimation of the fundamental learning loss and learning poverty related to COVID-19 pandemic in Mexico. *International Journal of Educational Development*, 88, 102515. DOI: <https://doi.org/10.1016/j.ijedudev.2021.102515>.
- Kuhfeld, M. (2019). Surprising new evidence on summer learning loss. *Phi Delta Kappan*, 101 (1), 25–29. DOI: <https://doi.org/10.1177/0031721719871560>.
- Malykhin, O., Aristova, N., & Bondarchuk, J. (2022). Providing Quality Education to School-Age Children in Times of War in Ukraine: A Netnographic Analysis. *The New Educational Review*, 69, 180–190. DOI: <https://doi.org/10.15804/tner.2022.69.3.14>.
- The Glossary of Education Reform. (2013, August 8). *Learning Loss*. <https://www.edglossary.org/learning-loss/>
- The New York Times. (2023, November 18). *The Startling Evidence on Learning Loss Is In*. <https://www.nytimes.com/2023/11/18/opinion/pandemic-school-learning-loss.html>
- The United Nations Children's Fund. (2021, December 6). *Learning losses from Covid-19 could cost this generation of students close to \$17 trillion in lifetime earnings*. <https://www.unicef.org/press-releases/learning-losses-covid-19-could-cost-generation-students-close-17-trillion-lifetime>
- The United Nations Children's Fund. (2022, January 23). *COVID:19 Scale of Education Loss 'Nearly Insurmountable', Warns UNICEF*. <https://www.unicef.org/press-releases/covid19-scale-education-loss-nearly-insurmountable-warns-unicef>.
- The United Nations Children's Fund. (2023, August 29). *Widespread learning loss among Ukraine's children, as students enter fourth year of disruption to education – UNICEF*. <https://www.unicef.org/ukraine/en/press-releases/widespread-learning-loss>.

Topuzov et al., 2024. *Learning Losses Among Students of General Secondary Schools in Ukraine as a Consequence of Unpredictable Global Challenges: Challenges and Perspectives*

- Verkhovna Rada of Ukraine. (2017). *On Education: Law of Ukraine*. <https://zakon.rada.gov.ua/laws/show/2145-19?lang=en#Text>
- Verkhovna Rada of Ukraine. (2018, February 21). *The State Standard for Primary Education*. <https://zakon.rada.gov.ua/laws/show/87-2018-%D0%BF?lang=en#n12>
- Verkhovna Rada of Ukraine. (2020, September 30). *The State Standard for Basic Secondary Education*. <https://www.kmu.gov.ua/npas/pro-deyaki-pitannya-derzhavnih-standartiv-povnoyi-zagalnoyi-serednoyi-osviti-i300920-898>
- Welcome, A. (2021, November 23). *Learning Gaps: Types, Examples, and Tips to Solve Them*. Sphero. <https://sphero.com/blogs/news/learning-gaps>
- World Bank. (2019). *Ending Learning Poverty: What Will It Take?* Washington, DC: World Bank. <https://openknowledge.worldbank.org/server/api/core/bitstreams/1ef8a794-710b-584e-a540-a3923ad7ea90/content>
- World Bank. (2021, April 28). *What is Learning Poverty?* <https://www.worldbank.org/en/topic/education/brief/what-is-learning-poverty>