Abstract. The article provides overview of conceptual approaches to the transfer of scientific knowledge and opportunities for the application of these approaches for teachers within the New Ukrainian School. The term «translation of knowledge» considers for the first time in Ukraine. A theoretical review of conceptual approaches and working frameworks for the transfer of scientific knowledge and models used by foreign researchers in practice in the fields of education, health care, management for leadership development, etc. is carried out.

It is noted the importance of introducing evidence-based practice in the educational process, which is shared by the scientific and pedagogical communities, which is considered one of the solutions to improving the quality of teaching and efficiency of education. The practical significance lies in the possibility of applying approaches to knowledge transfer for teachers of the New Ukrainian School, heads of educational policy at the local and national levels. The Center for Mental Health and Psychosocial Support of the National University «Kyiv-Mohyla Academy» in cooperation with the Ministry of Education and Science of Ukraine and other national and international partners has developed a complex model of psychosocial support in secondary schools «Safe Space». The model includes programs of emotional support and professional development of teachers, supervision, a program of resilience development for children of different ages, a training program for parents. The model can be used during the training of future teachers, during the training of teachers, practical psychologists in their work. The program has undergone practical testing in eastern Ukraine and has evidence of the effectiveness of its use. The program can be used during the training of future teachers, during the training of teachers, practical psychologists in their work.

Key words: knowledge translation, evidence-informed practice, intervention development, framework, education.
ПІДХОДИ ДО ПЕРЕКЛАДУ ЗНАНЬ ДЛЯ ВЧИТЕЛІВ: ЗАРУБІЖНИЙ ДОСВІД І УКРАЇНСЬКІ ПЕРСПЕКТИВИ

Анотація. У статті вперше в Україні розглянуто термін «переклад знань», що включає в себе обмін, синтез та етично обґрунтоване застосування знань у рамках складної системи взаємодії дослідників, користувачів і практиків. Здійснено теоретичний огляд концептуальних підходів і робочих рамок до передачі наукових знань та моделей, що застосовувалися за-рубіжними дослідниками на практиці у сферах освіти, охорони здоров’я, менеджменту для розвитку лідерства тощо. Зазначено, що рамка «впровадження знань до дії» забезпечує системний погляд на процес впровадження, а також дає чіткий план дій, що особливо важливо для застосування в галузі освіти в умовах надзвичайних ситуацій. Рамка для спільних досліджень забезпечує основу для розробки пояснівової теорії «що працювало, для кого, чому та за яких обставин». Звернено увагу, що на сьогодні зростає визнання важливості впровадження доказової практики у навчальний процес, якою діляться наукові та педагогічні спільноти, що вважається одним з рішень проблеми підвищення якості викладання та ефективності системи освіти загалом. Встановлено, що за результатами досліджень та статистики в галузі середньої освіти в Україні існує ряд проблем, серед яких: булінг, вигорання вчителів, адаптація дітей із сімей внутрішньо переміщених осіб, депресивні та суїцидальні настрої та підіяттів тощо. Практичне значення полягає у можливості застосування підходів перекладу знань учителями в Новій українській школі, керівниками освітньої політики на місцевому та національному рівнях. Центр психічного здоров’я та психосоціальної підтримки НаУКМА у співпраці з Міністерством освіти та науки України та іншими національними і міжнародними партнерами розробив складну модель психосоціальної підтримки в закладах загальної середньої освіти «Безпечний простір», що побудована на основі ряду доказових втручань на різних рівнях.

Ключові слова: переклад знань, доказова практика, розвиток втручання, робоча рамка, освіта.

Problem statement. The New Ukrainian School (NUS) concept aimed at reinventing schools as more attractive places that do not only teach knowledge but also pass on life skills needed to apply learned knowledge. The focus is on the needs of the student in the educational process and child-centeredness (NUS, 2016, p. 7). All this is aimed at creating a new educational environment, built on the pedagogy of partnership, which involves changing the attitude of teachers to children. This means respect for the individual, friendliness and positive attitude, trust in relationships, dialogue and interaction, the right to choose
and responsibility for it, the obligation to comply with agreements, and so on.

The modern system of secondary education in Ukraine faces many problems that need to be addressed, such as bullying, teacher burnout, adaptation of children from IDP families, depressed and suicidal moods of adolescents, and so on.

Health behavior in School aged children survey in Ukraine (HBSC, 2019) that was conducted in 2017/2018 showed that 24% of children were bullied in schools; among adolescents, there were more than a third and 40% of them did not talk to anyone about it. Another survey (UNICEF Ukraine, 2019) suggested that 41% of children said that they insulted others, and 36% – who were offended in the last two months, data from 2018 showed that there were 35% and 38%, respectively, and from 2019 – 35% and 39%. UNICEF reported that 29% of adolescents suffered from online bullying, and 16% missed lessons because of it (UNICEF Ukraine, 2019). This indicates the need to develop a program of action to prevent bullying on school level. At the same time there were another psychosocial problems that school children face: 27.2% of children aged 10–17 sometimes lose the desire to live; 17.8% – believe that no one cares about them; 25.5% – can not always count on the help of a loved one; 51.9% – do not hold back in a conflict situation (Sabat, 2007, p. 36). According to the Unified State Register of Pre-trial Investigations, 166 teenagers committed suicide in 2017, 97 children in 2018, 111 juveniles in 2019, and 123 teenagers in 2020. Since the beginning of 2021 in Ukraine there have been 21 suicides and attempted suicides among children aged 8 to 18 (Khozhainova, 2021). At the same time, the suicide rate and its dynamics are important indicators of social well-being and mental health of society.

The ongoing military conflict in the Eastern Ukraine has resulted in 1.5 mio of internally displaced people (IDP) including children who need psychosocial support during adaptation in and out of school.

Additionally, socio-economic factors of the COVID-19 pandemic negatively affect physical and mental health both by students and teachers.

Therefore, in order to address all mentioned above negative risk factors it is important to create a psychologically safe educational environment for all participants in the educational process as well as implementing focused psychosocial evidence-based programs.

In recent years some promising psychosocial programs were developed and proved its effectiveness in schools in Eastern Ukraine (Bohdanov, Hirnyk, Zaleska at al., 2017; Bohdanov, Hnida, Zaleska at al., 2017). At the same time there is still a need in adaptation those programs to the needs and regional context in another regions of Ukraine as well as developing effective implementation framework that will allow the scientific knowledge transfer in everyday educational practice. By such a process it is crucial to involve wide educational community in the process of planning, developing and implementing appropriate programs. Various knowledge transfer approaches have been already developed and tested in USA, Canada and Australia in order to encourage evidence informed teaching practice among educators (Levin, Cooper, Arjomand & Thompson, 2011; R4S; PEAPLS; GEMS).

Today there is growing recognition of the importance of introduction of evidence-informed practice (EIP) in educational process, shared by scientific and pedagogical communities, which is considered to be one of the solutions that addresses the challenge of improving quality of teaching and effectiveness of education systems in general. EIP integrates ‘professional expertise with the best external evidence from research to improve the quality of practice’ (Sharple, 2013, p.7).

The purpose of the article is to provide a theoretical overview of conceptual approaches to the transfer of scientific knowledge and opportunities for the application of these approaches for teachers within the New Ukrainian School.

The first time in Ukraine the term knowledge translation is considered, its essence, approaches and areas of application are revealed. The practical significance lies in presenting the sequence of implementation of the stages of using approaches that can be used by education policy makers at the local and national levels.

Recent research and publications. The process of promoting and facilitating research knowledge uptake and the implementation of evidence-informed practice or collaboration between researchers and practitioners can take many forms, and is often referred to using different terminology, such as, knowledge translation, knowledge mobilisation, knowledge transfer, knowledge exchange, dissemination, research translation and so on (McLean, Graham & Tetroe, 2018). The terms «implementation science» or «research utilization» are commonly used in the United Kingdom and Europe. The terms «dissemination» and «diffusion», «research use», «knowledge transfer and uptake» are often used in the United States. The terms «knowledge transfer and exchange» and «knowledge translation» are commonly used in Canada (Straus, Tetroe & Graham, 2009). There is a need for consensus on terms and their definitions because a lot of confusion and complexity surround the setting of boundaries between mentioned terms and their appropriate use. Therefore, many theories, models, and frameworks that describe mentioned processes exist. Esmail and colleagues (2020) have so far identified more than 50 knowledge translation theories, models, and frameworks that can be applied to incorporate evidence into practice. Among researchers that contributed to a development of mentioned theories, models, and frameworks are Lavis J., Dobbins M., Caplan N., Graham I., Strauss S., Tetroe J., Lomas J., Davies H., Ward V., Nutley S., Bandura A., Ward V., Cooper A., Levin B. and others.

In this article key definitions are used as follow (IKT): Knowledge translation – «the exchange, synthesis and ethically-sound application of knowledge - within a complex system of interactions among researchers and users» (Graham, Logan, Harrison at al., 2006).

Implementation – «the execution of the adoption decision, that is, the innovation or the research is put into practice» (Graham, Logan, Harrison at al., 2006).

Presentation of the main material. To refer to the processes related to moving research knowledge to practice we will use term «knowledge translation». Canadian Institute of Health Research (CIHR) (2012) suggested to divide knowledge translation into two categories: end-of-grant knowledge translation, which is defined as activities aimed
at «making potential knowledge-user audiences aware of the knowledge that is gained during a project» and integrat-
ed knowledge translation, which is defined as ‘an approach
to doing research that applies the principles of knowledge
translation to the entire research process’, which ‘should
produce research findings that are more likely to be directly
relevant to and used by knowledge users’ through the en-
gagement of potential knowledge users in appropriate and
meaningful ways throughout the research process. IKT has
a potential to improve the relevance, impact and efficiency
of research through collaborations between researchers and
knowledge users.

Field of IKT is in active development. In 2016 CIHR
launched a 7-year research program aimed at testing ‘the
assumption that engaging the users of research in phases of its
production leads to (a) greater appreciation of and capacity to
use research; (b) the production of more relevant, useful and
applicable research that results in greater impact; and (c) con-
ditions under which it is more likely that research results will
influence policy, managerial and clinical decision-making’
(Graham, Kothari, McCutcheon et al., 2018). This program is
underpinned by the Knowledge to Action framework (KTA)
for implementation and the Rycroft-Malone et al. framework
for collaborative research (FCR) that complement each other:
KTA provides action-oriented understanding of knowledge
translation processes and FCR provides a framework for de-
veloping an explanatory theory of ‘what worked, for whom,
why and in what circumstances’.

A framework ‘Knowledge-to-action cycle’ was de-
veloped by Graham and colleagues following a review of
more than 30 planned action theories which identified their
common elements (Straus, Tetroe & Graham, 2011). This
framework involves knowledge creation process (3 phases)
and knowledge application (7 phases) with the process of
translating knowledge to action being an iterative, dynamic
and complex (Straus, Tetroe & Graham, 2013).

This model (Graham, Logan, Harrison et al., 2006;
Straus, Tetroe & Graham, 2009; 2013) outlines the process-
es needed to implement knowledge use, namely:

1.1. Knowledge inquiry includes the completion of
primary research, for example, randomized trials and in-
hibited time series.

1.2. Knowledge synthesis involves the application of
explicit and reproducible methods to the identification,
appraisal, and synthesis of research findings on a topic in
form of scoping and systematic reviews, meta-narrative
reviews, realist reviews and others, which can form the
base unit of KT tools.

1.3. Creation of knowledge tools and/or products
involves presenting knowledge in clear, concise, and user-
friendly formats with the intent to meet the stakehold-
ers’ knowledge or informational needs thereby facilitate
evidence-informed practice.

As knowledge moves through the stages described
above, it becomes more distilled and refined and poten-
tially more useful to end-users, especially if knowledge
producers tailored their activities to the needs of end-users.

2.1. Identifying the problem or knowledge-practice
gap that needs filling with the identified knowledge. It can
be done using a number of tools and techniques, for exam-
ple, needs assessment at a population, organizational or
practitioner level. The purpose of the assessment, the type
of data, and the resources that are available will influence
strategies for needs assessments. This activity should be
accompanied by identifying, reviewing and selecting the
knowledge to implement.

2.2. Adapting or customizing the knowledge relevant
to this problem to the local context is targeted to enhance
applicability while ensuring the integrity, quality and va-
idity of the evidence-based recommendations.

2.3. Assessment of barriers and facilitators (also
called determinants) to knowledge implementation helps
to set priorities about changes and select appropriate imple-
mentation interventions to ensure the effective translation
of knowledge. For example, barriers for potential users
may be related to knowledge, attitudes, skills, habits etc.
To identify barriers and facilitators researchers may use
various qualitative and quantitative study methods and
taxonomies, frameworks and instruments.

2.4. Selecting, tailoring and implementing interven-
tions to audiences involve the choosing specific objectives
for the KT program and their prioritization. The next step
is to link identified barriers to specific intervention com-
ponents to address, alleviate, or reduce the impact of the
barrier and to link identified facilitators to intervention
components in order to promote and maximize their im-
pact. This step is challenging as there is no clear guidance
on how to proceed. Research evidence on effectiveness and
efficiency of the various interventions can provide some
guidance, but not decisively show what intervention should
be implemented. Authors recommend combine explorative
and theory-based methods to select and tailor interventions.

2.5. Monitoring knowledge use or application after
launching intervention is needed to determine how and
the extent to which knowledge has diffused throughout the
potential-user group and define if intervention is sufficient.
Knowledge use can be measured as application of knowledge,
changes in understanding or attitude and researcher needs
to select valid and reliable measures for assessing knowl-
edge use. It may be useful to reassess the potential adopt-
ers at this stage and reassess determinants of use as new
barriers may emerge.

2.6. Evaluating the impact of knowledge implementa-
tion goes along with monitoring and optimizing sustained
knowledge use. The aim of this phase is to determine if
the knowledge use impacts outcomes. It should start with
formulating the question of interest and matching it to the
appropriate evaluation design. Both qualitative and quan-
titative methodologies could be used or mixed.

2.7. Determining strategies for ensuring sustained use
of knowledge should be initiated when interventions for
knowledge use are being selected, tailored, and implement-
ed. There are six factors to consider in the development
of sustainability oriented action plans: needs and expect-
ed benefits; effectiveness of the system to monitor prog-
ress; adaptability and alignment of the improved process;
multi-level and collective leadership; financial and human
resources; and community stakeholder support.

This model assumes that the process of translating
knowledge into practice is dynamic, knowledge applica-
tion phases can influence each other, and in turn can be
influenced by the knowledge creation phases, so users are
required to use the phases out of sequence, depending on
the project (Straus, Tetroe & Graham, 2009).
The Rycroft-Malone et al. framework for collaborative research (Rycroft-Malone, Burton, Wilkinson, 2016) derived from a review of implementation literature with the intention to be used to evaluate Collaborations for Leadership in Applied Health Research and Care (CLAHRCs) activities to implement research and their intermediate impact. CLAHRS model deals with collaboration between research community that produce knowledge and practitioners who apply it in everyday practice and try to explain how this collaboration works through identification of context (C), mechanism (M) and outcome (O) threads and their interplay within implementation process. This framework does not produce an action toolkit but rather suggests a complex explanatory theory which synthesises various CMO configurations:

**Positioning and interpretation.** It represents stakeholders physical, conceptual, cognitive positioning at micro, meso and macro levels, which led to interpretation of the context and determine the pathway and approach of implementation.

**Governance and connectivity.** Different opportunity for connectivity are prompted by pre-existing structures and processes between people, places, ideology and activities, which in turn can affect the quality of collaboration.

**Resources and facilitations.** Positioning and availability of resources prompts facilitation process and results in a range of impacts and implementation outcomes.

**Agendas and competing drivers: motivation to engage.** Various stakeholders agendas and competing drivers led to different levels of their engagement in implementation process and produce complexity of understandings about implementation goals and outcomes.

**Receptiveness to evaluation and learning: review and reflection.** The relative focus on evaluation is a function of the leadership approach, the way that they had organised themselves and the type of evaluation and review information.

**Structures, positions and resources alignment: release a potential for collective action.** Where structures, positions and resources are aligned, this releases the potential for, and unlocks barriers to, purposeful collective action for implementation, the successful delivery of projects and positive impacts on processes and outcomes.

**Ottawa Model of Implementation leadership (Gifford, Graham, Ehrhart at al., 2017)** is another widely used framework of knowledge translation. The O-MILE postulates that for successful implementation, front-line leaders require the knowledge of effective leadership practices, site-specific evidence-practice gaps, implementation strategies, and planned change processes, including barriers management. Leadership behaviours recognise relation, change and tasks modalities. Core knowledge and skills as well as leadership behaviour affect the implementation process and determine its impact.

**Conclusions.** A theoretical review of conceptual approaches to the transfer of scientific knowledge, provided an opportunity to draw the following conclusions.

Main conceptual frameworks of knowledge translational are studied by foreign scholars and used in practice in medicine, health care, education, management for leadership development, etc. It was found that in the field of secondary education in Ukraine there are a number of problems, as evidenced by research results and statistics, including: bullying, burnout of teachers, adaptation of children from IDP families, depressed and suicidal attitudes of adolescents and more. Therefore, it is important to create a psychologically safe educational environment that is possible only if implementing a complex set of psychosocial evidence-based programs at different socioecological levels such as: students, teachers, school administration, families and other local community organisations. Teachers are considered to lead the process of development of safe school environment.

The O-MILE model suggest framework that focused on leadership the implementation process that could be adopted to the school environment. The Knowledge to Action framework for implementation provides a systemic view on implementation process as well as gives a clear action plan that is of especially importance for application within education in emergency setting. CLAHRS model suggest a most comprehensive theoretical framework that recognize complexity of all program variables and their interconnectedness within implementation process in educational system and could be important for evaluation of knowledge translation as a complex phenomenon.

**Prospects for further exploration.** The NaUKMA Center for Mental Health and Psychosocial Support in collaboration with Ministry of Education and Science of Ukraine and another national and international partners developed a complex model of psychosocial support in schools called SAFE SPACE that is built from a number of evidence-based interventions at various levels. As a next step is adopting and testing a knowledge translation framework for implementing the SAFE SPACE model in everyday practise is considered withing project «New Pedagogical Skills for Teachers: a Multi-layered, Supervised Approach». A number of future subsequent publications with an analysis of the results, indicating the risks and achievements will be following. It is also important to increase the number of research projects in educational sphere targeted on gathering new evidence as well as study the implementation process.

**REFERENCES**


© Ковалишин О., 2021