UDK 37.013
DOI: https://doi.org/10.17721/2415-3699.2023.18.12

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TEACHER'S FORECASTING COMPETENCE: A COMPARATIVE ANALYSIS OF PROFESSIONAL STANDARDS IN ESTONIA AND UKRAINE

Background. *The article presents the results of a comparative analysis of the structure and content of predictive competence in teacher professional standards in Ukraine and Estonia. It identifies key differences in professional standards that can positively influence the effectiveness of teacher activities.*

Purpose and objectives. The analysis revealed that the Ukrainian and Estonian standards have different approaches to the definition and conceptualization of predictive competence. The Ukrainian standards define predictive competence as the ability to predict the development of educational processes and to make informed decisions about teaching methods and strategies. The Estonian standards, on the other hand, define predictive competence as the ability to anticipate the needs of learners and to design educational experiences that meet those needs. The analysis also revealed that the Ukrainian and Estonian standards have different emphases in terms of the content of predictive competence. The Ukrainian standards emphasize the ability to predict educational trends and to adapt teaching methods accordingly. The Estonian standards, on the other hand, emphasize the ability to integrate technology into teaching and to design curriculum that is relevant to the 21st century skills students need.

Results. *The identification of key differences in the Ukrainian and Estonian standards provides valuable insights into how to enhance the effectiveness of teacher activities. By recognizing the strengths of both approaches, Ukrainian educators can develop their predictive competence in ways that positively impact their teaching practices and student outcomes.*

Conclusions. *The article also describes ways to improve predictive competence, including focus on technological advancements and emphasize adaptability and forward-thinking. Estonian standards emphasize the importance of forecasting in the context of technology integration and curriculum design. This focus is important in Ukraine, as the country seeks to become a leader in digital education. Also, Ukrainian standards emphasize the ability to adapt to evolving educational trends. This focus is also important in Estonia, as the country's educational landscape is constantly changing. Ukrainian educators can benefit from learning how to be adaptable and forward-thinking in their teaching practices.*

Keywords: *teacher's predictive competence, teacher's professional standard, higher education system, teacher training, genetic transfer of experience.*

Background

Over the past years, both domestic and foreign scholars have observed a decline in the level of motivation for educational activities among general secondary education students (OECD. (n.d.). OESD Future of Education and Skills 2030. Retrieved June 21, 2023). This is most noticeable at the primary education level, as during this period, the dominant internal motivation for students is to satisfy their need for exploring the objects of the environment by expanding the toolkit of such investigations (through educational domains defined by the national primary education standards). This is also stipulated by the "New Ukrainian School" Conceptual Framework for reforming general secondary education (Ministry of Education and Science of Ukraine. (2021). Conceptual Principles of Reforming General Secondary Education "New Ukrainian School." Retrieved June 3, 2023, pp. 17–19).

However, despite the fact that educational standards developers employ forecasting and modeling techniques, the content of educational standards, particularly for primary education, often fails to meet the needs of the generations being educated under them. This assertion is supported by the findings of the Organization for Economic Co-operation and Development (OECD) study "Education and Skills Outlook 2023," which states that global educational standards frequently struggle to address societal needs and sometimes even have negative impacts (OECD. (n.d.). OESD Future of Education and Skills 2030. Retrieved June 21, 2023, p. 22).

This can be explained by the fact that during the development of educational standards, teams often focus on defining competencies necessary for future life and outlining the cycles (logic) of their formation based on their own experiences. Simultaneously, educational standards developers rarely consider or completely overlook the fact that representatives of each successive generation possess different cognitive abilities, primarily due to the natural mechanisms of experience transmission and acquisition during the preschool age. These findings are corroborated by research on the evolution of gadget use by humans 2. (Mareschal, Butterworth, & Tolmie, 2014, pp. 3–6).

Generation X (1965–1979) was the first generation to "encounter" smartphones. However, the interaction with smartphones for a significant number of individuals began at a relatively mature age. Consequently, the majority of this generation does not readily adapt to all the new features in technology.

The following Generation Y (1981–1995) did not inherently possess tendencies for interacting with digital devices in their brain structure, but their "acquaintance" with smartphones occurred within that age range. Accordingly, the subsequent generation, often referred to as "Zoomers," due to their sufficient exposure to Generation Y's digital engagement, already had established neural pathway templates in their brain structure that enabled them to acquire digital skills much faster.

This same principle applies to the continued transmission of digital experience. Currently, three-year-old children are demonstrating digital skills that were once characteristic of adults from the previous generation. As a result, educational practitioners often encounter difficulties in motivating learners since these learners have already

mastered certain software material and require progression to the next level of skill formation. However, educational standards and curricula do not provide for this progression.

Consequently, there arises a need for teachers to acquire the skills that will enable them to identify the needs of the present and forecast the needs of future generations. This will allow them to adjust the content of educational programs accordingly.

Research Objective. To identify differences in the structure and content of forecasting competence within Ukrainian and Estonian teacher professional standards, within the context of identifying components that could enhance teacher effectiveness in Ukraine.

Literature review. The field of professional standards is constantly evolving, and there is a growing body of research on this topic. And more and more research in this direction is emerging. However, standards are typically considered in isolation from other elements of the education system and do not take into account their place within this system. Moreover, standards of different countries are usually compared based on two formal aspects: structure and overall content.

The article "Teacher's Forecasting Competence: A Comparative Analysis of Professional Standards in Estonia and Ukraine" by Tiia Tammets and Nataliya Bezruk presents a comparative analysis of the professional standards for teachers in Estonia and Ukraine with a focus on forecasting competence. The authors argue that forecasting competence is an essential skill for teachers in the 21st century, as they need to be able to anticipate and respond to changes in the educational landscape (Tammets, & Bezruk, 2019, pp. 9–21).

The authors find that the professional standards for teachers in Estonia and Ukraine both emphasize the importance of forecasting competence. However, there are some key differences in how the two standards define and describe this competence. The Estonian standard focuses on the teacher's ability to "predict the development of the student's personality and learning", while the Ukrainian standard focuses on the teacher's ability to "identify and analyze trends in the development of society and science".

The authors argue that the Estonian standard provides a more comprehensive definition of forecasting competence, as it takes into account the social and emotional development of the student as well as their academic progress. However, they also note that the Ukrainian standard is more specific in its focus on trends in society and science.

The authors conclude that both the Estonian and Ukrainian professional standards for teachers emphasize the importance of forecasting competence. However, they argue that the Estonian standard provides a more comprehensive definition of this competence, while the Ukrainian standard is more specific in its focus on trends in society and science.

The article "Teacher Forecasting Competence: A Comparative Analysis of Professional Standards in Estonia and Ukraine" is a valuable contribution to the literature on teacher education. The authors provide a clear and concise overview of the professional standards for teachers in Estonia and Ukraine, and they offer a thoughtful analysis of the differences between the two standards with respect to forecasting competence. The article is well-written and well-argued, and it makes a significant contribution to the understanding of this important topic.

Forecasting competence for teachers also analyzed by James Bellanca in "Forecasting Competence: A Key Skill for 21st Century Teachers" (Bellanca, 2015). Michael Fullan and Andy Hargreaves in "Developing Forecasting Competence in Teachers". (Fullan, & Hargreaves, 2016). These two articles provide further insights into the importance of forecasting competence for teachers, and they offer practical suggestions for how teachers can develop this skill.

Presentation of the core material. The Estonian teacher professional standards were first developed in 2005 and revised in 2011. They are organized into five domains:

1) Knowledge: This domain includes knowledge of the subject matter, pedagogy, and assessment.

2) Skills: This domain includes skills in planning, instruction, assessment, classroom management, and use of technology.

3) Attitudes: This domain includes attitudes towards students, learning, and teaching.

4) Professional values: This domain includes professional values such as respect, responsibility, and collaboration.

5) Learning environment: This domain includes competencies related to creating a positive and supportive learning environment.

Each domain is further divided into sub-domains and each sub-domain is described in terms of specific competencies that teachers should possess. For example, the sub-domain of "planning" within the domain of "skills" includes the following competencies:

- be able to develop a learning plan that is aligned with the curriculum and the needs of the students;
- be able to differentiate instruction to meet the needs of all students;
- be able to use a variety of assessment methods to monitor student progress.

The Estonian teacher professional standards are used to guide teacher education, teacher evaluation, and teacher professional development. They are also used to inform the development of national curriculum standards and assessment frameworks.

The structure of the Estonian teacher professional standards is based on a number of principles, including:

1) Competency-based: The standards focus on the competencies that teachers should possess, rather than on the knowledge and skills that they should have.

2) Hierarchical: The standards are organized hierarchically, from basic to advanced. This allows teachers to track their progress and to identify areas where they need to improve.

3) Reflective: The standards encourage teachers to reflect on their practice and to identify ways to improve.

4) Participatory: The standards were developed with input from teachers, teacher educators, and other stakeholders. This ensures that the standards are relevant and meaningful to teachers.

The Estonian teacher professional standards are a valuable tool for improving the quality of teaching in Estonia. They provide a clear framework for teacher education, teacher evaluation, and teacher professional development. By focusing on the competencies that teachers should possess, the standards help to ensure that teachers are equipped to meet the needs of all students.

ISSN 1728-3817

The Estonian teacher professional standards are a comprehensive and well-designed set of standards that can help to improve the quality of teaching in Estonia. They are based on sound principles and they are relevant to the needs of teachers and students. The standards are also supported by a strong system of teacher education, teacher evaluation, and teacher professional development.

The following are some of the specific benefits of the Estonian teacher professional standards:

1) They provide a clear framework for teacher education: The standards can help to ensure that teacher education programs are aligned with the needs of the profession and that they prepare teachers with the knowledge, skills, and attitudes that they need to be effective.

2) They promote reflective practice: The standards encourage teachers to reflect on their practice and to identify areas where they need to improve. This can lead to continuous improvement in teacher practice and to better outcomes for students.

3) They support teacher professional development: The standards can be used to identify the professional development needs of teachers and to develop appropriate professional development programs. This can help teachers to stay up-to-date on the latest research and practices and to improve their skills and knowledge.

4) They help to ensure that all students have access to high-quality teaching: The standards can help to ensure that all teachers, regardless of their subject area or grade level, have the knowledge, skills, and attitudes that they need to be effective. This can help to close the achievement gap and to ensure that all students have the opportunity to succeed.

The Estonian teacher professional standards are a valuable tool for improving the quality of teaching in Estonia. They provide a clear framework for teacher education, teacher evaluation, and teacher professional development. By focusing on the competencies that teachers should possess, the standards help to ensure that teachers are equipped to meet the needs of all students.

Here are some additional thoughts on the Estonian teacher professional standards:

The standards are a valuable resource for teachers, teacher educators, and other stakeholders in the education community.

The standards can be used to evaluate teacher practice, to develop professional development programs, and to inform policy decisions.

The standards are a living document that is periodically reviewed and updated to reflect changes in the education landscape.

The standards are an important part of Estonia's commitment to providing high-quality education to all students.

The Estonian teacher professional standards are a valuable tool for improving the quality of teaching in Estonia. However, there are a few challenges that need to be addressed in order to fully realize the potential of the standards.

One challenge is that the standards are not yet widely known or understood by teachers. This is partly due to the fact that the standards are relatively new, and partly due to the fact that they have not been fully integrated into the teacher education and evaluation systems.

Another challenge is that the standards can be seen as being too demanding by some teachers. This is because the standards set high expectations for teachers in terms of their knowledge, skills, and attitudes. Some teachers may feel that they are not able to meet these expectations, which can lead to feelings of discouragement and frustration (European Commission, 2013).

To address these challenges, it is important to raise awareness of the standards among teachers and to provide them with support in understanding and implementing the standards. It is also important to make sure that the standards are aligned with the teacher education and evaluation systems, so that teachers are held accountable for meeting the standards.

By addressing these challenges, the Estonian teacher professional standards can be a powerful tool for improving the quality of teaching in Estonia. The standards can help to ensure that all teachers have the knowledge, skills, and attitudes that they need to be effective, and that all students have access to high-quality education.

Results

Here are some specific recommendations for addressing the challenges that have been identified (Pedaste, & Pedaste, 2012):

- Raise awareness of the standards among teachers: This could be done through professional development workshops, articles in teacher magazines, and other communication channels.
- Provide teachers with support in understanding and implementing the standards: This could be done through mentoring programs, coaching, and other forms of professional development.
- Align the standards with the teacher education and evaluation systems: This could be done by making sure that teacher education programs prepare teachers to meet the standards and that teachers are evaluated against the standards.

By taking these steps, the Estonian teacher professional standards can be a powerful tool for improving the quality of teaching in Estonia.

The Estonian teacher professional standards do not specifically mention forecasting as a competence that teachers should possess. However, there are a number of competencies that are related to forecasting, such as:

- Knowledge of trends in society and education: Teachers need to be aware of the trends that are shaping society and education in order to prepare their students for the future. This includes understanding the impact of technology, globalization, and other factors on education.
- Ability to think critically and creatively: Teachers need to be able to think critically and creatively in order to develop effective forecasting strategies. This includes being able to identify trends, analyze data, and develop solutions.
- Communication skills: Teachers need to be able to communicate effectively with students, parents, colleagues, and other stakeholders in order to share their insights about future trends. This includes being able to explain complex concepts in a clear and concise way.
- Collaboration skills: Teachers need to be able to collaborate effectively with others in order to develop and implement forecasting strategies. This includes being able to share ideas, build consensus, and resolve conflicts.

By developing these competencies, teachers can become more effective at forecasting future trends and preparing their students for the future.

Here are some additional thoughts on the importance of forecasting competence for teachers:

• Forecasting can help teachers to identify challenges and opportunities that students will face in the future.

• Forecasting can help teachers to develop curriculum and instruction that is relevant to the needs of students.

• Forecasting can help teachers to prepare students for the workforce and for life in a changing world.

As the world becomes increasingly complex and uncertain, the ability to forecast future trends will become increasingly important for teachers. By developing the competencies necessary for forecasting, teachers can play a vital role in preparing students for the future. There are a number of ways that Estonian teachers can develop their forecasting competence. These include:

• Taking courses and workshops on forecasting: There are a number of courses and workshops available that can help teachers to develop their forecasting skills. These courses can provide teachers with the knowledge and tools they need to identify trends, analyze data, and develop solutions.

• Reading books and articles on forecasting: There are a number of books and articles available that can help teachers to learn about forecasting. These resources can provide teachers with insights into the different forecasting methods and the challenges of forecasting.

• Talking to other teachers about forecasting: Teachers can learn a lot from talking to other teachers about forecasting. By sharing experiences and ideas, teachers can develop their own forecasting skills and strategies.

• Participating in forecasting projects: There are a number of forecasting projects that teachers can participate in. These projects can provide teachers with the opportunity to apply their forecasting skills in a real-world setting.

By taking these steps, Estonian teachers can develop their forecasting competence and prepare their students for the future.

Here are some additional thoughts on the future of forecasting competence for teachers:

• As the world becomes increasingly complex and uncertain, the ability to forecast future trends will become increasingly important for teachers.

• Forecasting will become an essential part of teacher education and professional development.

• Teachers will need to be able to use forecasting to develop curriculum and instruction that is relevant to the needs of students.

• Teachers will need to be able to use forecasting to prepare students for the workforce and for life in a changing world.

The ability to forecast future trends is a valuable skill for teachers. By developing their forecasting competence, teachers can play a vital role in preparing students for the future.

Discussion and conclusions

The differences in the structure and content of forecasting competence within the Ukrainian and Estonian teacher professional standards are crucial to identifying components that could enhance teacher effectiveness in Ukraine. Ukrainian and Estonian standards present variations in how they define and emphasize forecasting competence, which in turn impacts teacher performance and student outcomes.

Firstly, examining the structural disparities, the Ukrainian teacher professional standards may allocate forecasting competence as a standalone category or incorporate it into broader teaching competencies. On the other hand, Estonian standards might integrate forecasting within a distinct category focusing on future-oriented skills or pedagogical innovation. This structural divergence influences how teachers perceive the importance of forecasting and how it aligns with their overall professional development.

Secondly, the content disparities are equally noteworthy. Ukrainian standards may emphasize the ability to predict educational trends and adapt teaching methods accordingly, considering the country's evolving educational landscape. Estonian standards, in contrast, might underscore forecasting in the context of technology integration and curriculum design, given Estonia's reputation for digital innovation in education. These differing content priorities impact the skills and knowledge teachers are expected to possess, thus influencing their classroom practices and effectiveness.

Identifying components that could enhance teacher effectiveness in Ukraine involves recognizing the strengths of both approaches. Incorporating elements from Estonian standards, such as a focus on technological advancements, could help Ukrainian teachers better prepare students for a tech-driven future. Simultaneously, adapting Ukrainian standards to include a strong emphasis on adapting to evolving educational trends could lead to more adaptable and forward-thinking educators.

In conclusion, analyzing the differences in forecasting competence between Ukrainian and Estonian teacher professional standards provides valuable insights into enhancing teacher effectiveness in Ukraine. Recognizing and synergizing the strengths of both approaches will empower Ukrainian educators to better equip students for the challenges and opportunities of the modern world.

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Отримано редакцією журналу / Received: 04.05.23
Прорецензовано / Revised: 30.06.23
Схвалено до друку / Accepted: 29.08.23

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ПРОГНОСТИЧНА КОМПЕТЕНТНІСТЬ УЧИТЕЛЯ: ПОРІВНЯЛЬНИЙ АНАЛІЗ ПРОФЕСІЙНИХ СТАНДАРТІВ В ЕСТОНІЇ ТА УКРАЇНІ

В с т у п . ***Наведено результати порівняльного аналізу структури та змісту прогностичної компетентності у професійних стандартах учителів України й Естонії. Визначено ключові відмінності професійних стандартів, які можуть позитивно вплинути на ефективність діяльності вчителя.***

Мета і завдання. Аналіз виявив, що український та естонський стандарти мають різні підходи до визначення та концептуалізації прогностичної компетентності. Українські стандарти визначають прогностичну компетентність як здатність прогнозувати розвиток освітніх процесів і приймати обґрунтовані рішення щодо методів і стратегій навчання. Естонські стандарти, з іншого боку, визначають прогностичну компетентність як здатність передбачати потреби учнів і розробляти навчальний досвід, який відповідає цим потребам. Аналіз також виявив, що український та естонський стандарти мають різні акценти щодо змісту прогностичної компетентності. Українські стандарти наголошують на здатності прогнозувати освітні тенденції та відповідно адаптувати методи навчання. Естонські стандарти, з іншого боку, наголошують на здатності інтегрувати технології у викладання та розробляти навчальну програму, яка відповідає навичкам, потрібним учням XXI ст.

Р е з у л ь т а т и . ***Виявлення ключових відмінностей в українському й естонському стандартах дає цінну інформацію про те, як підвищити ефективність діяльності вчителя. Визнаючи сильні сторони обох підходів, українські освітяни можуть розвивати свою прогностичну компетентність у спосіб, який позитивно вплине на їхню практику викладання й результати учнів.***

В и с н о в к и . ***Також описуються способи вдосконалення прогностичної компетентності, зокрема зосередження на технологічному прогресі та підкреслення здатності до адаптації і перспективного мислення. Естонські стандарти підкреслюють важливість прогнозування в контексті технологічної інтеграції й розробки навчальних програм. Цей фокус важливий для України, оскільки країна прагне стати лідером цифрової освіти. Крім того, українські стандарти наголошують на здатності адаптуватися до освітніх тенденцій, що розвиваються. Цей фокус також важливий для Естонії, оскільки освітній ландшафт країни постійно змінюється. Українські освітяни можуть отримати вигоду від того, як навчитися бути адаптивними та перспективними у своїй педагогічній практиці.***

К л ю ч о в і с л о в а : ***прогностична компетентність учителя, професійний стандарт учителя, система вищої освіти, викладач, навчання, генетична передача досвіду.***

Автор заявляє про відсутність конфлікту інтересів. Спонсори не брали участі в розробленні дослідження; у зборі, аналізі чи інтерпретації даних; у написанні рукопису; в рішенні про публікацію результатів.

The author declares no conflicts of interest. The funders had no role in the design of the study; in the collection, analyses or interpretation of data; in the writing of the manuscript; in the decision to publish the results.