УДК 81'1:004
DOI 10.58423/2786-6726/2025-1-45-64

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A competence-based approach in linguistic research: theoretical foundations, assessment methods, and digital technologies

1. Introduction

Scientific and technological progress has led to an exponential increase in information, but the development of learning abilities has not kept pace with this dynamic. In this new context, a key task is to teach students how to navigate the flow of information, helping them identify and integrate into their own knowledge systems everything that will serve them throughout life. Increasingly important is the ability of individuals to continuously update their knowledge, see the bigger picture, and apply acquired knowledge in new situations.

Simultaneously, our understanding of knowledge as a phenomenon is also expanding. Thanks to research in cognitive psychology, motivational theory, and other scientific disciplines, we are learning more about the mechanisms of thinking, the development of abilities, and techniques for organizing educational material. These scientific advances enable a deeper understanding of learning processes and competence formation, allowing educators to apply more effective teaching approaches.

Moreover, our understanding of the quality of school knowledge, as well as the methods of its assessment, monitoring, and accountability of educational institutions, is growing. Advancements in these areas allow not only for the improvement of the educational process but also for more precise measurement and evaluation of students' competencies. This process forms the foundation for the further development of an education system aimed at meeting the needs of a rapidly changing society and economy.

The goal of competency-based learning is to equip students not only with knowledge but also with skills that enable them to apply this knowledge in everyday life. This approach promotes the formation of "knowledge-embedded" competencies that integrate an information base with the development of practical skills. It supports the harmonious development of individuals capable of critical thinking and

of solving tasks of varying complexity. Competency-based assessment, in turn, involves measuring not only acquired knowledge but also the skills and competencies of students within a specific subject area or academic discipline.

The primary objective of this article is to scientifically substantiate the prospects of competency-based assessment for school-aged children as an effective tool in the educational process. This approach is multidimensional and valuable for both educators and parents. Specifically, it provides precise information on a student's current level of academic achievement, which aids in more effective planning of their further educational development. Additionally, competency-based assessment helps to promptly identify potential gaps in knowledge and skills, enabling teachers to develop and implement corrective measures to prevent academic delays.

A competency-based approach in education also promotes the individualization of the learning process. Assessment based on competency criteria allows for a more accurate tracking of each student's development, considering their unique educational needs and potential. This enables timely adjustments to educational plans, fostering not only improved academic outcomes but also the comprehensive development of students, including the cultivation of self-regulation skills, critical thinking, and adaptability to new learning environments.

The essence of competency-based learning lies in integrating theoretical knowledge with practical skills that students can effectively apply in daily life. The primary goal of school education within this approach is to prepare students for successful adaptation and functioning in a complex and dynamic world, equipping them with essential competencies needed to tackle real-life challenges. This includes fostering skills such as critical thinking, independent decision-making, problem-solving, communication, collaboration, and adaptability to new conditions.

This educational objective involves not only the transfer of information but also the creation of conditions for engaging and motivating learning, where knowledge takes on a more practical and applied significance. The learning process is structured to encourage students to actively acquire and use knowledge in various contexts, promoting their personal and professional growth. This approach does not diminish the importance of theoretical knowledge; on the contrary, it integrates knowledge into the context of real-life situations and tasks, fostering the ability to apply it effectively in practical scenarios.

Such an approach cultivates a lasting interest in learning, as students recognize the practical value of the knowledge and skills acquired, which stimulates them toward further independent development and deepening of their competencies. As a result, competency-based learning enables students not only to absorb the educational material effectively but also to apply their knowledge successfully in real life, a key aspect for their continued education and professional development.

2. Analysis of scientific sources

A review of scholarly sources shows that the concept of competence has been explored by both European and domestic scholars, including F. Weinert, M. Wick, J. Goody, J. Delors, S. Hamilton, J. Carson, R. Kegan, J. Coolahan, D. McClelland, W. Moser, T. Oates, J. Perret, J. Raven, D. Reichen, L. Salganik, M. Stecher, K. Sturgis, H. Hallasch; as well as O. Antonova, L. Maslak, N. Bibik, S. Bondar, S. Vitvitska, N. Volkova, M. Holovan, O. Dubaseniuk, I. Zymnia, I. Zyazyun, V. Kalney, O. Marushchak, O. Pometun, H. Selevko, N. Sydorchuk, Y. Tatur, A. Khutorsky, F. Sharipov, S. Shyshov, among others.

The concept of competence is explored in the scientific literature from various approaches and perspectives, reflecting its multidimensional nature. It encompasses different aspects of knowledge, skills, abilities, and value orientations that enable an individual to act effectively in specific situations. In pedagogical theory, competence is seen not only as the level of knowledge acquisition in a particular field but also as the ability to apply this knowledge practically to solve specific tasks.

From a philosophical perspective, competence is associated with personal self-realization and the capacity to integrate knowledge within social and professional contexts. In psychological research, competence is often examined through the development of cognitive and emotional skills that enable an individual to adapt to new conditions and cultivate critical thinking.

From the standpoint of modern didactics, competence includes not only theoretical knowledge but also the ability to apply it effectively in various real-life situations, which is essential for forming a successful personality. This concept is also closely linked to the notion of lifelong learning, as it implies continuous development and enhancement of professional and social skills.

The issue of shaping a competent personality within the framework of school education has become the subject of in-depth and multifaceted research conducted by a number of international organizations, such as UNESCO, UNICEF, UNDP, the Council of Europe, the Organisation for Economic Co-operation and Development, the International Department of Standards, and others. These studies view competence as a new indicator of an individual's education, where the focus shifts from the accumulation of knowledge, skills, and abilities to the individual's capacity to act effectively in various life and professional contexts. The primary attention is not merely on theoretical knowledge but on the practical outcomes of learning, which manifest through the individual's ability to solve complex problems, adapt to changes, and act productively in conditions of uncertainty. In this context, competence is seen as an integrative characteristic that includes cognitive, emotional, and behavioural components.

Today, many countries are implementing national development programs for society, a key part of which is the reform of educational systems based on a competency-based approach. This means not only improving teaching methods

but also transforming curricula to promote the development of students' ability for independent learning, critical thinking, teamwork, and creative problem-solving. Such an approach is strategically important in the context of global changes occurring in the labour market and in society at large, ensuring that new generations are prepared for the challenges of the modern world.

3. The history and contemporary significance of competency assessment

The competency-based approach to learning began to be explored in the 1970s, with one of its earliest theorists being American psychologist David McClelland. He introduced the concept of "competence" as an alternative to traditional indicators of intelligence, such as IQ, arguing that success in professional activities depends on specific competencies rather than solely on academic knowledge (McClelland, 1973).

According to the Dictionary of Foreign Words, competence means being informed, knowledgeable, and authoritative (Morozov–Shkaraputa eds., 2000, p. 282).

The Law of Ukraine "On Higher Education" provides the following definition: "Competence is a dynamic combination of knowledge, skills, practical abilities, modes of thinking, professional, worldview, and civic qualities, as well as moral and ethical values, which determine an individual's ability to successfully engage in professional and further educational activities and is the result of education at a certain level of higher education" (Article 1.1.13) (URL1).

Competence, as a characteristic, is understood in the context of "being competent", meaning: 1) someone with sufficient knowledge in a particular field; well-informed; resourceful; based on knowledge; qualified; 2) someone with specific authority; having full rights and powers – as used in the explanatory dictionary of the Ukrainian language (Bilodid ed., 1973, p. 250).

The concept of competence is considered by scholars from various perspectives. Among the key views, O. M. Marushchak highlights the following: being informed, knowledgeable, authoritative; an integrated (general) ability of an individual to successfully (qualifiedly) perform activities; readiness for action; a personal quality (a set of qualities); possessing relevant competence; an integral characteristic of the individual; a combination of knowledge, skills, and abilities, norms, emotional-value attitudes, and reflection; a result-oriented characteristic of education; educational outcomes, etc. The essential components of competence are defined as knowledge, skills, abilities, experience, personal values, and attitudes toward activity in a particular field (Marushchak, 2016).

Competencies, according to scholars, serve as indicators that allow assessing an individual's readiness to perform specific tasks, promote personal development, and contribute to productive participation in social life. Acquiring these

competencies enables individuals not only to adapt to the demands of modern society and the information space but also to actively engage in further education, self-improvement, and professional activities in the ever-changing labour market. Competencies play a key role in shaping an individual's ability to think critically, make independent decisions, solve problems, and communicate effectively.

At the same time, researchers' approaches to defining the term "competence" remain ambiguous. Some scholars equate competence with competencies, viewing them as an integration of knowledge, skills, abilities, and practical activity. Others believe that competence is an independent psychological and social phenomenon, which includes not only cognitive and practical components but also motivational, value-based, and emotional aspects of the individual. Therefore, competence can be seen as a complex characteristic of a person, ensuring effective functioning in various life contexts.

J. Raven believes that the main components of competence are:

1. Intrinsically motivated characteristics related to the system of personal values. These include qualities such as initiative, leadership, direct interest in the mechanisms of how organizations and society work in general, as well as thoughts about how these mechanisms may affect the individual. All of these qualities depend on the presence of specific knowledge – in contrast to outdated, general, non-specialized knowledge often offered by most educational programs today.
2. Ideas and expectations related to the functioning mechanisms of society and the role of the individual within it. This includes individuals' perceptions of themselves and the role they play in the activities of the organization (Yermakov, 2005, p. 140).

In pedagogy, measurement began to gain popularity in the 1920s–1930s under the influence of developments in physiological and psychological measurement methods, including testing techniques. These innovations significantly changed approaches to assessing educational outcomes, contributing to the emergence of standardized tests to objectively measure students' knowledge and skills. As psychological science developed, the focus shifted to studying cognitive processes and personal characteristics, leading to a more comprehensive interpretation of the assessment processes.

To measure students' competencies, various approaches and methodologies are used, based on research in the fields of pedagogy, psychology, and didactics. This topic has been studied by many researchers, which has led to the development of scientifically grounded tools for assessing not only academic knowledge but also practical skills and key competencies. The most common methodologies include standardized tests, portfolios, self-assessment techniques, and observations of students' behavioural and cognitive manifestations during learning.

These approaches allow for a deeper and more objective assessment of students' mastery of the educational material, their ability to apply knowledge in practice, and help identify potential areas for development and correction. Scientific research in this field continues to actively develop, opening new prospects for improving methods of measuring competencies in modern education.

One of the key figures in the study of students' competencies is Brian M. Stecher and Laura S. Hamilton from the RAND Corporation. Their work emphasizes interpersonal and internal competencies such as communication and resilience, and includes recommendations for developing practical and qualitative tools to measure these competencies (Stecher–Hamilton, 2014).

Another important researcher in this field is Aaron Redman and his colleagues, who developed a structure of key competencies for sustainable development. This structure is used in many studies to assess competencies in the field of sustainable development and represents a significant contribution to the broader field of pedagogical research (Redman–Wiek–Barth, 2021).

Also, Sturgis from the International Association for K-12 Online Learning has researched the implementation of competency-based approaches in school systems. His work describes the process of transitioning to a competency-oriented learning system and emphasizes the importance of continuous improvement and innovation in this area (Sturgis, 2015).

These researchers and their works provide valuable resources for a deeper understanding of the methodology and practice of measuring students' competencies in various educational contexts. Their research contributes to the improvement of assessment methods, allowing both cognitive and practical aspects of learning to be considered, which is crucial for the modern educational process.

Among scholars who have made significant contributions to researching the measurement of students' competencies, representatives of the Ukrainian scientific school stand out. They are actively developing and adapting modern approaches to competency-based assessment, taking into account the peculiarities of the national education system and international trends. Research by Ukrainian scientists focuses on integrating the theoretical foundations of the competency approach with practical methodologies for its implementation in the educational process, an important step toward improving education quality and successfully adapting students to the demands of modern society.

S. Martynenko and I. Novyk, in particular, focused on using diagnostic tasks to measure educational competencies in younger schoolchildren, developing practically-oriented diagnostic tasks based on life stories to check the formation of key, subject-specific, and interdisciplinary competencies in primary school students (Martynenko–Novyk, 2015).

The results of these studies indicate the active involvement of Ukrainian scholars in the study of the issue of assessing students' competencies. They focus both on the theoretical aspects related to the definition of the conceptual foundations of the competency-based approach and on the development of practical tools for its implementation in the educational process. Ukrainian researchers are creating methodological approaches and tools that allow for the objective measurement of the level of development of key competencies in students. These developments contribute to the improvement of assessment quality, providing teachers and administrators with the opportunity to better understand the individual needs of students and to adjust the educational process towards developing those competencies that are important for their future successful integration into society.

Measurement is understood as an activity that allows for the quantitative characterization of the studied phenomenon and its objective comparison with other similar phenomena. Therefore, measurement is not just assigning a number to a certain educational phenomenon or its property, but a process that allows for quantitative comparison. In other words, the methods of measurement are those research or practical procedures whose goal is to measure in the above sense or that include measurement as an integral part (Ágoston–Nagy–Orosz, 1971).

Diagnostic tasks are appropriate for testing the formation of educational competencies in younger schoolchildren, as they enable the objective measurement of a child's learning competencies. Diagnostic methods can be considered effective if they "indicate the individual characteristics of each child (detection); outline the problem (analysis); help develop a successful action plan and assess it (intervention)" (Martynenko–Oskolova, 2014, p. 64). It should be noted that "the teacher's task is to prepare their students for the challenges of life, which includes readiness. And this readiness includes many things, but, first and foremost, keeping up with innovations" (Pevse–Molnar–Pavlovych, 2023, p. 975).

These principles are embedded in the foundation of the State Standard of Ukraine, which defines the key competencies formed in the process of acquiring full general secondary education. The document outlines the need for a comprehensive approach to education aimed at the development of both theoretical knowledge and practical skills necessary for successful adaptation in modern society. An important aspect of the standard is its orientation towards a competency-based approach, which ensures not only the acquisition of knowledge but also the formation of students' ability to apply them in real-life situations. All of this is to be ensured by the key competencies, namely:

- Fluency in the state language;
- Ability to communicate in native (if different from the state language) and foreign languages;
- Mathematical competence;

- Competence in the natural sciences;
- Innovativeness;
- Environmental competence;
- Information and communication competence;
- Lifelong learning;
- Civic and social competencies;
- Cultural competence;
- Entrepreneurship and financial literacy (URL1).

The key role of innovation in modern educational standards is emphasized by its connection to openness to change and adaptability to rapid transformations. Contemporary competency measurement methods contribute to this quality development by providing students with tools for creative and critical thinking. Such assessments not only evaluate knowledge but also support the development of an innovative approach to learning and activity.

The experience of many European countries, which have focused on defining, selecting, and implementing key competencies, indicates a growing trend towards incorporating competency-based approaches into educational programs and teaching technologies. This approach is becoming a primary tool for improving education quality, as it fosters the ability of students to solve real-world problems, think creatively, and apply knowledge in various life situations.

S. Martynenko advocates for using diagnostic tasks to assess the formation of learning competencies in younger students, enabling objective measurement of individual competencies. Within a competency-based approach, evaluating student achievements takes into account not only academic results but also the development and mastery of key competencies. This provides a more comprehensive evaluation of educational progress and contributes to developing the necessary skills and knowledge for the modern world (Martynenko–Oskolova, 2014).

The challenge of controlling and assessing knowledge, skills, and competencies in education has always been a central focus of researchers. Measuring competencies is a complex process that requires multifaceted and comprehensive analysis. The structure, organization, and execution of these studies are aimed at ensuring valid and statistically correct conclusions about the abilities of the target population, providing valuable insights for educational policies and schools.

Forming educational competencies as key learning outcomes requires clear standardization. This involves defining specific competencies, describing their content, and developing tools for assessment (Baranovska, 2008, p. 417). An essential aspect of this process is the creation of measurement materials that allow for objective and valid evaluation of student achievements. To achieve this, standardized evaluation systems must be implemented to ensure reliability, comparability of results across students, schools, and regions.

This approach ensures consistency in understanding educational outcomes and contributes to improving the quality of the learning process. A comprehensive approach to assessing competencies helps identify trends in student skills and knowledge development, which is crucial for making evidence-based educational decisions. The use of scientifically grounded methods ensures the accuracy of results, which can be used to adjust educational programs, improve teaching quality, and refine the school system.

A particular focus is placed on developing tools for measuring competencies that align with international standards and applying statistical methods to analyse data. These methods provide reliable and representative results that can be used to compare competency levels among different student groups and educational institutions.

Thus, competency-based assessment is a critical component of modern education systems, helping identify strengths and weaknesses in the educational process and providing key data for decision-making aimed at its improvement. Furthermore, through measurement, not only the level of acquired knowledge is assessed, but also other aspects of student progress, such as psychological formations, behaviour, and activities.

Feedback is one of the key factors in utilizing and assessing competency measurement results. This feedback allows results to be used by schools, teachers, and even parents, for example, to interpret data as early warnings regarding a specific student. The development and transformation of the system are also crucial, as such a complex system cannot be created instantaneously.

Three elements are particularly important during the measurement of competencies. The first is the introduction of a student identifier, which allows for tracking the individual progress of each student's performance over time. The second, equally important factor, is a set of tools that provides schools with the ability to analyse their own data, conducting analyses that cannot be done by external parties. Centralized assessment can process only a small portion of the vast amount of data, which may contain a wealth of valuable information for each educational institution.

The third important factor is what is known as comparison, which briefly shows educational institutions how their results measure up against similar schools. This allows schools to not only evaluate their own effectiveness but also identify potential paths for improving the quality of the educational process.

Typically, competency measurement for students involves test tasks that not only aim to meet educational requirements but also to solve real-world problems and situations that students might encounter in everyday life. These tests assess not only subject knowledge but also specific competencies and skills required to perform tasks effectively in various contexts.

It is important to note that measurement primarily pertains to the external form of student activity, specifically those aspects that can be documented. This

requires appropriate means of recording, proper assessment methods, and tasks that match the students' age group. It is also crucial to ensure contextual conditions that support accurate competency measurement, as this enables obtaining an objective picture of students' learning achievements and development. Thus, well-organized assessment can not only serve as a control tool but also as a key means of fostering and developing essential competencies within the educational process.

As previously mentioned, the process of recording results is an important aspect of assessment; however, undoubtedly, the most critical stage is the proper preparation for measurement. This preparation includes not only the development of appropriate test tasks but also the determination of the assessment's objectives, which allows for clearly defining success criteria and ensuring the objectivity of the results.

At this stage, it is important to take into account the specifics of the learning material, the age characteristics of the students, and the context in which the assessment is conducted. Additionally, it is necessary to develop a methodology that ensures accurate measurement not only of subject knowledge but also of key competencies that reflect the level of student preparation.

It is also important to plan for pilot testing, which will allow for the identification of potential problems in the assessment process and enable the adjustment of methods when necessary. Clear organization of the preparatory stages of measurement creates conditions for reliable and objective assessment, which, in turn, contributes to building students' confidence in their abilities and motivating them to learn.

Thus, effective preparation for measurement is the key to a successful assessment process and an essential element in the development of students' competencies. We outline the following stages of competency measurement:

- **Goal setting and planning:** At the initial stage, it is important to clearly define the goal of the measurement. This may involve questions such as which specific levels of knowledge and skills in a particular subject should be assessed, or how students demonstrate progress compared to previous years. The goal-setting should be specific, measurable, achievable, relevant, and time-bound (SMART), which will allow for an effective structure for the subsequent stages.
- **Selection of measurement tools:** Various methods and tools can be used to implement the measurement. Recently, computer technologies are increasingly being applied, allowing for interactive assessment. The choice of measurement tools should be appropriate for the goal of the assessment and take into account the age characteristics of the students, ensuring the most reliable results.
- **Conducting the assessment:** At this stage, the competencies of the students are directly measured using the selected assessment tools. It is

important to provide a comfortable environment for the students during the assessment, as this will contribute to the objectivity of the results obtained.

- **Analysis and evaluation of data:** After collecting the information, it is necessary to analyse the obtained data to determine the students' level and progress. The assessment should be reliable, objective, and transparent, which is critically important for achieving the measurement goals. It is essential to consider both qualitative and quantitative indicators to form a comprehensive understanding of the students' academic achievements.
- **Feedback:** Based on the results of the measurement, it is necessary to provide students with feedback, which will allow them to recognize their achievements, as well as identify their strengths and areas that need improvement. Feedback is an important element in the learning process, as it helps students adjust their learning strategies and form a positive attitude toward further development of competencies.

The process of setting priorities among competencies should be based on two key factors: the adequacy of the measures used to achieve the defined goal and the complexity of implementing new measurement methods.

Adequacy is assessed based on the number of existing measures, their practical applicability for educators, and the technical quality in relation to the set goals. It is also necessary to consider how these measures meet the current demands of the educational process and whether they contribute to the development of key competencies in students. The complexity of developing new measurement tools is determined by the depth of researchers' understanding of the competency structure and their awareness of measurement strategies. Many experts who have expressed their views on this matter emphasize the need to focus on competencies for which fewer measurement tools exist. They also note that developing such tools is likely not too complex, opening up opportunities to implement new, more effective approaches to assessing students' academic achievements. Thus, a systematic analysis of existing measures, consideration of their adequacy, and assessment of the complexity of developing new measurement methods are necessary conditions for optimizing the competency assessment process and ensuring their effectiveness in the educational environment. Another important factor when setting priorities for implementation is educational effectiveness, i.e., the degree to which a competency is considered changeable and potentially impactful in the educational environment, as well as the degree of its relevance and importance for educators and others concerned with the future of students.

Competency-based learning is an innovative pedagogical approach focused on developing students' abilities, skills, and knowledge in the process of school education. Within this educational model, curricula and the educational process are structured around key competencies that have practical applications in

everyday life, providing students with a broad range of opportunities for their personal and professional development. These competencies are not limited to professional knowledge and skills but also include more general skills such as critical thinking, problem-solving, effective communication, and teamwork. The development of such skills is crucial, as they form the foundation for students' successful adaptation to the challenges of a modern, dynamic, and complex world.

Competency-based learning also contributes to the formation of students as active participants in the learning process, capable of making independent decisions, critically analysing information, and interacting with others. Thanks to this approach, students gain not only knowledge but also practical skills that they can effectively apply in various areas of life, including professional activities, social relations, and personal development. Competency-based learning not only prepares students for solving current problems but also forms their ability to engage in lifelong learning, which is critically important in an ever-changing world. This educational model promotes the creation of a flexible, adaptive, and innovative educational environment that supports the development of students as well-rounded individuals (Stecher–Hamilton, 2014, p. 15).

Competency measurement results can serve as a powerful motivating factor for students, as they clearly demonstrate the importance of real skills and their practical application in everyday life. Such an assessment emphasizes the value of competencies that go beyond traditional knowledge and promotes the development of practical abilities with direct application in various spheres of activity. When students gain a clear understanding of how their knowledge and skills can be used in real situations, it motivates them to engage more actively and consciously in learning. They begin to realize that learning is not just a formal process but a path to achieving specific goals and solving practical problems.

This awareness can lead to increased student motivation, interest in subjects, and a greater willingness to take responsibility for their own learning process. Thus, competency measurement not only assesses learning outcomes but also shapes a positive attitude toward learning, boosting students' self-esteem and confidence in their abilities. Therefore, systematic competency assessment fosters the formation of an active life position in students, preparing them for continuous development and self-improvement in the dynamic modern world.

It is worth noting that competency measurement is an important stage not only in secondary education but also in higher education. Nowadays, measurement has become a widespread method. There are several examples of competency assessment in higher education. One such example is a study conducted in the spring of 2019 at two higher education institutions in Transcarpathia: the Ukrainian-Hungarian Educational-Scientific Institute of Uzhhorod National University and among students of the Ferenc Rákóczi II Transcarpathian Hungarian College of

Higher Education. The aim of the study was to assess the reading and text comprehension competencies of the youth participating in the program based on real empirical data. Based on the obtained results, researchers found that while school education in the native language focuses on the mechanical memorization of grammatical knowledge and spelling rules, the level of text comprehension among school students and adults remains low (Beregszászi–Csernicskó, 2021, pp. 55–56). First-year students at the Ferenc Rákóczi II Transcarpathian Hungarian College of Higher Education in 2022 also had the opportunity to participate in the measurement process. However, since the institution educates students with different native languages, it was necessary to provide access to tests that were available in both Ukrainian and Hungarian. For this reason, the PISA 2000 tests were chosen (URL2). The PISA Project (Programme for International Student Assessment), under the auspices of the Organization for Economic Co-operation and Development (OECD), is an international project that assesses the academic competencies of students from many countries and determines their readiness for life in modern society. This large-scale process studies the skills of 15-year-old students, but it can also be useful for measuring the reading competence of first-year students aged 16–17 studying in Transcarpathia... The presented data indicates some difficulties, and these measurements are undoubtedly necessary in higher education (Beregszászi et al., 2023, p. 28).

In their works, Brian M. Stecher and Laura S. Hamilton emphasize the importance of measuring interpersonal competencies. Measuring interpersonal competencies (e.g., communication, collaboration) raises some additional challenges. Many of these competencies involve explicit behaviours, and the process of developing an assessment is similar to the process described for achievement testing. First, the domain is clearly described. Then, a subset of behaviours is selected for assessment. The idea of a test item is replaced by a performance situation (e.g., a recorded voice says, "I have lost my car keys. Can you help me?"), and the respondent has to answer appropriately. The performance aspect adds complexity to the administration and scoring of the assessment, but the process is similar to the achievement example in most other respects. On the other hand, those interpersonal competencies that are not obviously observable (e.g., empathy) present new challenges. For these, we direct the reader to the next section on measuring intrapersonal competencies; the situations are quite similar (Stecher–Hamilton, 2014, p.12).

The need for more accurate definition of the results obtained during the learning process has long driven researchers and practicing educators to develop advanced measurement methods. In the context of modern education, measurement has become an integral tool for assessing students' academic achievements.

Systematic analysis of learning outcomes not only allows tracking the level of knowledge acquisition but also identifies individual gaps in the learning process, which, in turn, contributes to more effective planning of educational trajectories. Today, the measurement of learning outcomes covers a wide range of tools and methods that allow for an objective assessment of both knowledge and practical skills. This makes it a key element of the education system, providing not only formal evaluation but also fostering critical thinking, independence, and other important competencies necessary for students' successful integration into society. The necessity of measuring competencies in school-aged children is indisputable, as adequate assessment and feedback significantly contribute to the effectiveness of the learning process and personal development of students. It is important to emphasize that measurement should serve as a supportive tool that stimulates students to learn, motivates them to achieve, and promotes their development, rather than simply ranking or selecting them.

4. Conclusion

Competency assessment not only informs about the level of effectiveness but also serves as a tool for identifying interconnections, allowing for a deeper understanding of the mechanisms that determine effectiveness. Through data analysis, it is possible not only to assess students' achievements but also to identify factors influencing this process, such as educational methods, socio-economic conditions, or individual student characteristics. This approach contributes to the development of an evidence base for further improving educational strategies and programs, as it enables identifying key patterns and causes of varying levels of achievement. Thus, competency assessment becomes an important tool not only for monitoring results but also for building scientifically grounded educational interventions aimed at improving the quality of the educational process and ensuring equal opportunities for all students. From a scientific perspective, measuring competencies acts as a crucial mechanism that helps improve the quality of education, stimulates the development of students, and prepares them for real-life challenges. The measurement system should focus on developing not only knowledge but also key skills that will ensure successful adaptation in a changing social environment. Thus, the proper implementation of assessment methods can significantly improve educational outcomes and prepare students for active participation in social life. Therefore, the proper implementation of assessment methods can significantly improve educational outcomes, ensuring more active student participation in social life. The conclusions drawn from competency assessment become the foundation for further research, improvement of curricula, and adaptation of teaching methods to meet students' needs in the

modern world. As a result, competency-based assessment has the potential to not only enhance the effectiveness of the educational process but also foster the formation of a more resilient and adaptive society capable of innovation and change.

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A competence-based approach in linguistic research: theoretical foundations, assessment methods, and digital technologies

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Competency-based assessment is an important tool for forming a comprehensive understanding of learners' progress and their educational achievements. In modern conditions, it acts as a holistic approach that encompasses various aspects of personality development. A key feature of competency-based assessment is its focus not only on academic knowledge but also on the ability to apply this knowledge in real-life situations, which forms the foundation for developing key competencies such as critical thinking, creativity, teamwork skills, and social and civic abilities.

The relevance of the competency-based approach in modern education is driven by increasing demands for preparing pupils who must not only possess knowledge but also be capable of adapting to rapidly changing social and professional conditions. This approach allows the assessment of not only academic achievements but also the ability of learners to apply the acquired knowledge in real-life situations, which is critical for their further development as competent individuals. It also highlights the importance of forming interdisciplinary competencies that help learners integrate into modern society and actively participate in addressing societal challenges.

The assessment system must adapt to the demands of modern society, considering new educational priorities such as the development of critical thinking, problem-solving abilities, teamwork, and digital literacy.

Implementing a competency-based approach in the educational process not only enhances the objectivity of assessment but also ensures the development of individualized educational trajectories that take into account each pupil's unique abilities and needs.

Thus, modern assessment goes beyond the traditional approach focused solely on evaluating knowledge. It becomes a tool for a comprehensive analysis of pupils' personal development, their ability to learn, adapt to new conditions, and participate in social life. This allows for a deeper evaluation of their educational achievements and lays the foundation for the further development of the education system towards creating a competent, socially active, and responsible generation.

Keywords: *assessment, competence, digital technologies, linguistic research, measurement*.

Компетентнісний підхід у мовознавчих дослідженнях: теоретичні засади, методи вимірювання та роль цифрових технологій

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Метою статті є наукове обґрунтування перспектив компетентнісного оцінювання дітей шкільного віку як комплексного та багатоаспектного підходу в освітньому процесі. Таке оцінювання дозволяє виявити рівень сформованості ключових компетентностей учнів, на основі чого вчителі та батьки можуть отримати цілісну картину їхнього навчального прогресу. Це, у свою чергу, сприяє більш точному плануванню індивідуальних освітніх траєкторій, що дозволяє вчасно здійснювати коригувальні дії та підтримувати учнів, запобігаючи можливим академічним труднощам та відставанням. Компетентнісне оцінювання сприяє всебічному розвитку та формуванню ключових навичок, необхідних для успішної інтеграції в

сучасне суспільство. Актуальність теми полягає в тому, що компетентнісний підхід дозволяє не лише оцінювати знання учнів, але й виявляти рівень засвоєння ними практичних умінь і соціально значущих компетентностей, що мають вирішальне значення для їхнього подальшого навчання та особистісного розвитку.

Зважаючи на швидкий розвиток технологій та змінювані потреби суспільства, ключовими аспектами навчання є не тільки теоретичні знання, а й здатність учнів ефективно застосовувати ці знання в реальних життєвих ситуаціях. Завдяки компетентнісному оцінюванню можна визначити не лише академічні досягнення учнів, але й рівень їхніх навичок у вирішенні проблем, комунікації, критичному мисленні, а також у їхній здатності адаптуватися до нових умов та працювати в команді. Такий підхід дозволяє розвивати важливі соціальні та професійні компетентності, які є основою для подальшого успішного навчання й інтеграції в сучасний професійний та соціальний простір.

З давніх часів дослідники та педагоги-практики відчували потребу у вдосконаленні методів оцінювання, що дозволяють точніше визначати рівень засвоєння знань і навичок, отриманих у процесі навчання. Сучасний етап розвитку освіти характеризується тим, що вимірювання навчальних результатів стало не лише важливим компонентом освітнього процесу, але й невід'ємним інструментом для забезпечення об'єктивності та надійності оцінювання. Це дозволяє глибше аналізувати освітні досягнення та сприяє підвищенню якості навчання.

Враховуючи сучасні вимоги до освіти, система компетентнісного оцінювання дозволяє формувати індивідуальні підходи до навчання та допомагає врахувати специфіку кожного учня. Це дозволяє вчителям і педагогам своєчасно коригувати навчальний процес, забезпечуючи таким чином більш ефективне навчання та підвищення загального рівня знань та умінь. Зокрема, компетентнісне оцінювання підтримує розвиток критичного мислення, що є необхідним для адаптації учнів до постійно змінюваних умов, а також для формування в них умінь самостійно аналізувати, обирати оптимальні стратегії для розв'язання проблем та приймати відповідальні рішення в різних ситуаціях.

Отже, компетентнісне оцінювання виступає важливим інструментом для розвитку індивідуальних освітніх траєкторій, забезпечуючи гармонійний розвиток учнів, їхньої особистості та підготовку до подальшого життя в сучасному суспільстві, що характеризується швидкими змінами та новими викликами.

Ключові слова: *оцінювання, компетентність, цифрові технології, мовознавчі дослідження, вимірювання.*

Kompetenciaalapú megközelítés a nyelvészeti kutatásokban: elméleti alapok, mérési módszerek és digitális technológiák

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A tanulmány célja a kompetenciaalapú értékelés perspektíváinak tudományos megalapozása, amelyet a nevelési folyamat komplex és többdimenziós megközelítéseként értelmezünk. Az ehhez hasonló értékelés lehetővé teszi a tanulók kulcskompetenciái fejlettségi szintjének meghatározását, amely alapján a pedagógusok és a szülők átfogó képet kaphatnak a diákok tanulmányi előrehaladásáról. Ez elősegíti az egyéni tanulási utak pontosabb megtervezését, időben biztosítva a szükséges korrekciós beavatkozásokat és támogatást, megelőzve az esetleges tanulmányi nehézségeket és lemaradásokat.

A kompetenciaalapú értékelés kiemelt jelentőséggel bír az iskoláskorú gyermekek fejlődése szempontjából, mivel hozzájárul a kulcskompetenciák és készségek kialakításához, amelyek elengedhetetlenek a sikeres társadalmi integrációhoz. A kompetenciák mérése és értékelése az oktatásban egyre nagyobb figyelmet kap, mivel a hagyományos értékelési módszerek nem minden esetben képesek pontosan tükrözni a tanulók valódi képességeit és fejlődésüket. A modern oktatási módszerek előtérbe helyezik azokat a készségeket, amelyek a folyamatosan változó társadalmi és gazdasági környezetben való helytálláshoz szükségesek, így a kompetenciaalapú értékelés elengedhetetlenné válik. Ennek keretében nem csupán az elméleti tudás ellenőrzésére kerül sor, hanem a gyakorlati alkalmazás, a problémamegoldó képesség, a kreativitás és az együttműködés készségeinek értékelése is hangsúlyt kap.

A tudományos és pedagógiai diskurzusban már régóta megfogalmazódott az igény olyan értékelési módszerek fejlesztésére, amelyek pontosabban mérik a tanulási folyamat során elsajátított ismereteket és készségeket. A modern oktatás fejlődési szakaszának egyik meghatározó jellemzője, hogy a tanulási eredmények mérése nem csupán az oktatási folyamat kulcsfontosságú eleme, hanem egyben elengedhetetlen eszköz is az értékelés objektivitásának és megbízhatóságának biztosítására. Ez lehetőséget teremt a tanulói teljesítmény mélyreható elemzésére, elősegíti az oktatás minőségének javítását és támogatja az egyéni tanulási utak kialakítását.

Kulcsszavak: *értékelés, kompetencia, digitális technológiák, nyelvészeti kutatás, kompetenciamérés.*