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Development of reflexive skills in schoolchildren in the context of a competence-based approach

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Abstract. The purpose of the study was to substantiate and develop an integrative model for the development of reflexive skills in schoolchildren in the context of combining European educational guidelines and Bulgarian national traditions. To achieve this goal, a logical and semantic analysis of scientific sources, a comparative analysis of international and national approaches, and a method of theoretical modelling were used. The results of the study showed that it is advisable to build the development of reflexive skills at three interrelated levels: individual, collective, and metacognitive. Individual tools (student portfolio, self-assessment diaries, formative assessment) developed students' ability to introspect, analyse their own achievements, and realise their personal progress. Collective practices (group discussions, peer-to-peer discussions, analysis of personal results) transformed individual reflection into social interaction, contributing to the development of communication skills, critical thinking, and empathy. These practices are important in the Bulgarian educational context, where the values of cooperation and mutual respect have historically been cultivated. The metacognitive level provides a transition from partial skills to strategic self-management of learning activities, including planning, monitoring, and evaluating own thinking. The combination of these three components created a synergistic effect, which is reflected in the ability of students to learn throughout life. A factor in the effectiveness of the model was the role of a teacher, who in the Bulgarian context combines the functions of a moderator of collective practices and a facilitator of individual autonomy, and institutional support that ensures the adaptation of European innovations to local conditions. It was generally found that the proposed model integrates European innovations and Bulgarian traditions, creating conditions for improving the quality of Education. The results can be used by teachers and methodologists to update the content of curricula, implement effective reflection tools, and develop students' key competencies

Keywords: self-observation; critical comprehension; analysis of personal results; self-assessment; development mechanisms

INTRODUCTION

The development of students' reflexive skills becomes relevant in the process of modernising the content of education and directing it to the formation of key and subject competencies. Reflection is a mechanism for the student's awareness of their own activities, which provides the ability to self-correct and improve themselves. This approach can contribute to the development of skills in planning, analysing results and highlighting conclusions, which affects the quality of educational achievements. As a result, reflexive skills are integrated into the structure of competence-based learning as a necessary component of the student's personality development. According to the relevance of these skills, the methods of purposeful development of reflexive skills of schoolchildren are not sufficiently

developed in pedagogical practice. There is a gap between the theoretical substantiation of the role of reflection in learning and the real possibilities of its implementation in the classroom system. The lack of coordinated approaches to diagnosing the levels of development of these skills makes it difficult to include them in the curriculum.

A number of researchers interpreted the concept of reflection and determined its place in the development of all competencies of educational applicants, in particular, M. Barr *et al.* (2025) conducted a longitudinal study of the development of reflexive practice in educational applicants involved in a work-oriented programme in software engineering. They tracked the dynamics of reflexive skills over time and described data collection techniques focused on combining questionnaires and analysis of written reflections. The paper presented a model of the stages of development of reflection practice in the context of professional training. The researchers documented changes in the nature of participants' reflexive statements during the follow-up period. H. Machost & M. Stains (2023) described the main approaches to the introduction of reflexive practices in the educational process of biological sciences. The same researchers systematised the key concepts and structures of reflection for practitioners and gave examples of pedagogical tools. They used a synthesis of available research and methodological materials to derive practical recommendations. The paper contained examples of the use of reflexive techniques in classroom practice. Manifestations of student agency in primary education within the framework of competence-based learning by J. Ponomariovienė & D. Jakavonytė-Staškuvienė (2025) explored through goal setting, implementation, and reflection. They applied empirical methods to analyse goal-setting processes and reflexive practices in workbooks and classroom activities. The researchers described the types of activities through which student agency manifested itself, and the tools that allowed it to be recorded. Data on the relationship between goal setting, task completion, and students' reflexive notes were presented.

Issues of ensuring the quality of education through the development of professional competence of teachers were analysed by A.K. Egamberdiev (2023). The study examined the mechanisms of teacher development that correlated with the transformation of the educational process. The researcher reviewed professional development policies and practices and described competence assessment tools. The conclusions outlined the areas for integrating professional competence into quality assurance systems. E. Zerdali & E. Eğmir (2025) investigated the relationship between reflexive thinking for problem solving and metacognitive awareness among high school students. The publication described the procedure for collecting data in secondary schools and statistical methods for processing results. The correlation between reflexive thinking and metacognitive indicators of respondents was documented. The impact of keeping reflexive journals on the speech performance of primary school students in the context of writing skills was studied by V. Pham & T. Tran (2022). They described a pedagogical intervention that included regular reflection logs in writing lessons and measured writing speed and quality before and after the intervention. The researchers presented a methodology for assessing written fluidity and procedures for analysing letter samples. E. Todorova *et al.* (2020) applied the adapted ALACT (a look at critical thinking) model to create conditions for reflection in computer science teaching and described this experience in the proceedings of the conference on synergetics and reflection in mathematical education. The researchers detailed the modifications of this model for the computer course and the procedure for its implementation in training sessions. Examples of reflexive tasks and approaches to their integration into practical work were documented. The paper presented a methodology for evaluating implementation results. D. Izvorska (2022) considered the practice of reflection in mathematical training. The researcher described the pedagogical procedures that were used to stimulate mathematical reflection, and the mechanisms of their influence on educational processes. The researcher gave examples of tasks and forms of reflexive activity that were used in mathematics courses. The paper outlined tools for recording and analysing students' reflexive statements.

A reflexive approach to the development of personal and social competencies through educational content was studied by S. Chavdarova-Kostova (2022). The paper described examples of training modules and tasks aimed at developing empathy and social reflection. G. Sherwood (2024) considered reflexive practice and knowledge development in the context of transforming research for practice-oriented disciplines. The paper described the theoretical framework that links reflection to the generation of practically oriented knowledge. The researcher outlined methodological approaches to integrating reflection into research programmes for practitioners. In the above-mentioned studies, insufficient attention was paid to the systematic integration of reflexive skills into various academic subjects. There was also a lack of unified tools for diagnosing the level of development of reflexive skills, which made it difficult to compare results between different educational contexts. The purpose of the study was to substantiate the essence and structure of reflexive skills of educational applicants in the context of the competence approach. Research objectives: to determine the typology of reflexive skills, their place and role in the development of key and general education competencies of schoolchildren; to compare national and international approaches to the development of reflexive skills; to create a generalised conceptual scheme for the development of these skills, which integrates European innovative practices and the national educational experience of Bulgaria.

MATERIALS AND METHODS

The research was theoretical in nature and was aimed at investigating the development of reflexive skills of educational applicants in the context of a competence-based

approach. The time frame of the study covered from January 2020 to August 2025 to consider trends in the development of education and updated approaches to the development of student competencies. Data collection was carried out by processing and systematising scientific sources (Evans *et al*., 2021; Suphasri & Chinokul, 2021; Mohamed *et al*., 2022) covering theories of reflection, competence approach, and pedagogical practice. In addition, Strategic Framework for the Development of Education, Training and Learning in the Republic of Bulgaria (2021-2030) (2021), materials of the EU in the field of competence approach (European Training Foundation, 2021; European Education Area, 2025) were analysed. The experience of educational practice at the Father Paisii school in the city of Madan, where real pedagogical experience in the development of reflexive skills has been accumulated, was analysed. In the course of the research, the methods of logical and semantic, and conceptual and theoretical analysis were used, which helped to identify key approaches to understanding the essence of reflexive skills and the relationship with the competence approach. This allowed comparing various conceptual interpretations of reflection, highlighting its role in the development of general education and key competencies, and creating a generalised system of categories and concepts that provides a holistic view of the process of forming reflexive skills in schoolchildren. Based on the analysis, the structure of reflexive skills was clarified and their typology was proposed, which reflected the elements of this phenomenon in the educational process. In addition, the method of comparative analysis was used, which helped to investigate the differences between national (on the example of the Father Paisii secondary school in the city of Madan) and international approaches to the problem. Comparing the Bulgarian educational context with European trends revealed the strengths and weaknesses of existing models.

In the course of the study, a conceptual scheme for the development of reflexive skills was created, which was based on the synthesis of European and Bulgarian models. From the European experience, a number of elements were adapted, in particular, formative assessment as a tool for supporting students' constant reflection in the educational process, a student portfolio that promotes the accumulation and understanding of their academic achievements, and the development of metacognitive skills that help students to realise and regulate their thinking and learning. Furthermore, the features of Bulgarian educational practice were considered, including traditional forms of collective discussion in the classroom that stimulate a conscious attitude to learning, orientation to national educational standards that ensure the practical implementation of the concept in secondary school conditions. The combination of these elements allowed forming a holistic model for the development of reflexive skills, where innovative European practices are consistent with local educational traditions and the requirements of Bulgarian policy. The results were interpreted based on a combination of systematic and competence-based approaches. The systematic approach allowed considering the development of reflection as an integral pedagogical process that interacts with other components of learning. Based on the competence approach, the logic of data comprehension was determined. This allowed describing existing theories and drawing conclusions about their effectiveness in the development of key competencies of students, in particular reflexive skills. The results were compared with current educational standards in Bulgaria (Ministry of Education of Bulgaria, 2019) and the EU (European Commission, 2025), which gave them practical significance, and the conclusions obtained and the systematisation of theoretical material contributed to the achievement of the research goal.

RESULTS

The essence, structure and typology of reflexive skills

In pedagogical science, reflexive skills are considered as an integrated phenomenon that combines the cognitive, emotional, and activity aspects of a student's self-development. Their essence lies in the ability of students to be aware of their learning activities, critically evaluate their results, analyse the causes of success and difficulties, and find ways to improve personal learning strategies. According to M. Mohamed *et al*. (2022), reflection in education is a multidimensional and simultaneously complex process that requires a combination of intellectual operations with internal motivation and the ability to self-regulate. Therefore, reflexive skills cannot be reduced only to a technical analysis of knowledge or actions; they reflect a deep mechanism for understanding and transforming educational experience. The essence of reflexive skills cannot be revealed without considering their structure, which is multi-level and complex. Based on the analysis, four key structural components were identified. Firstly, it is an analytical component that covers the student's ability to highlight and critically evaluate their personal actions, correlate them with the tasks set and expected results. Secondly, the evaluation and value component, which is manifested in the development of an attitude to learning, awareness of personal responsibility for its results and the development of positive motivation. Thirdly, a regulatory component that provides an opportunity to plan educational activities, predict consequences, adjust personal actions, and make optimal decisions. And ultimately, the communicative component, which is implemented through the ability to interactively interact with other participants in the educational process, discuss academic achievements, and participate in collective analysis (Suphasri & Chinokul, 2021). Together, these components form a systematic model of reflexive skills that combines individual and social levels of learning activity.

Based on structural analysis and generalisation of approaches of various researchers, a typology of reflexive skills was proposed, reflecting the multidimensional nature of this phenomenon. The first group consists of cognitive and analytical skills that provide intellectual understanding of the educational process, the development of critical

thinking, and the ability to build new learning strategies. The second group consists of emotional and value skills, which are expressed in awareness of the emotional aspects of learning, motivation, and a positive attitude to cognitive activity. The third group consists of regulatory and operational skills related to the planning, organisation, and correction of educational activities, which directly affect the level of independence of the student. The fourth group consists of communicative and interactive skills aimed at collective discussion, exchange of experience, and mutual strengthening of educational reflection. As emphasised by C.M. Evans *et al.* (2020), it is the combination of different levels and types of reflexive skills that allows implementing a competence-based approach, since it provides a balance between individual self-development and integration into the learning community. Clarification of the essence, structure and typology of reflexive skills helps to determine their place in the development of key and general education competencies of schoolchildren. In the context of general education competencies, reflexive skills are the basis for developing the ability to learn independently and learn throughout life, since they form students' readiness to constantly analyse and improve their personal learning strategies. In the field of key competencies, their role is to promote the development of critical and creative thinking, the ability to make informed decisions, work in a team, and exercise self-control and self-regulation. In other words, reflexive skills are the integrative basis of the competence approach, which ensures the transition from simple assimilation of knowledge to their conscious use in new educational and life situations. The essence of reflexive skills is the ability of schoolchildren to conscious self-knowledge and self-regulation, their structure reflects a complex of cognitive, emotional, regulatory, and communicative components, and typology allows systematising the manifestations of this phenomenon in accordance with different levels of educational activity. Thus, reflexive skills occupy one of the important places in the process of developing key and general education competencies of students, ensuring the practical implementation of the competence approach in a school environment.

The Strategic Framework for the Development of Education, Training and Learning in the Republic of Bulgaria (2021-2030) (2021) clearly defines the priority of developing key competencies of schoolchildren, among which special attention is paid to the ability to learn throughout life, the development of critical thinking, and the ability to self-reflection. This document defines reflection as a central mechanism for ensuring the quality of education, since it contributes to the development of students' autonomy, increasing their responsibility for the results of their own learning activities, and developing the ability to apply knowledge and skills in new, unpredictable contexts. This approach correlates with trends in European education policy that emphasise the need to prepare the younger generation for a dynamically changing world and continuous professional growth. One of the components of the study was the analysis of European strategic documents, among which the recommendations of the Council of the EU on key competencies for lifelong learning (European Education Area, 2025) play a special role. In these provisions, it was emphasised that the skills of self-reflection and self-regulation have the status of cross-cutting competencies that ensure the integrity and interrelation of all other key skills. Reflexive practices in this context are considered not as an additional element of the educational process, but as a fundamental mechanism that enhances the development of cognitive flexibility, helps students to adapt to changes and ensures the transfer of knowledge to new contexts. In other words, self-reflection is a tool for integrating personal and educational experience, which allows students to more consciously build their personal educational trajectory.

A comparative analysis of national and European documents revealed a significant consistency of Bulgaria's strategic guidelines with continental trends in the development of education. This coincidence shows the systematic implementation of the competence approach and Bulgaria's desire to integrate its personal educational reforms into the broader European context. This was also confirmed by the conclusions given in the report of the European Training Foundation (2021), which indicates that Bulgaria is implementing the same areas of reforms that are being implemented in neighbouring countries of the region. In particular, this refers to integrating key competencies into school curricula, modernising teaching methods, and focusing on the development of skills necessary for living in a knowledge society. The report of the European Training Foundation pointed to the fact that in a number of countries, including Ukraine and Georgia, key competencies have already become the basis for reforming the educational system. The experience of these countries demonstrates the significant potential of the competence approach as a tool for modernising education, but also reveals a number of challenges in its practical implementation. The biggest problem is the lack of training of teachers to work with reflexive and metacognitive tools, which require changing the conventional pedagogical paradigm and introducing new methodological solutions. Similar difficulties are typical for the Bulgarian educational context, where, despite the presence of clear strategic guidelines, the implementation of reflexive practices at the level of daily school practice remains fragmented and insufficiently systematised. The strategic documents of Bulgaria and the EU have a high level of conceptual coherence, and the priorities defined by them are aimed at developing students' reflexive and metacognitive skills as key for quality education. Simultaneously, the real state of implementation of these provisions indicates the need for targeted local initiatives aimed at improving the professional competence of teachers, developing their ability to use innovative methods and creating a learning environment that encourages students' self-reflection. This underlines the relevance of comprehensive measures that combine strategic guidelines of the state educational policy with practical mechanisms for their implementation in school practice.

Comparison of national and international approaches to the development of the ability to reflect

It was revealed that the national model, based on the continuity of traditional pedagogical ideas, considers reflection as a component of the educational process associated with the analysis of the results of activities and collective work of teachers and students. Of interest is the experience of Father Paisii school in Madan, where purposeful work has been identified to develop students' reflective skills. According to the official document of the institution, the teaching staff regularly implements professional development activities aimed at introducing methods of formative assessment, maintaining student portfolios and organising collective discussions. The analysis showed that the practice of this educational institution combines national traditions of educational work (collective discussions, orientation to state standards) with innovative European elements, such as metacognitive techniques or individual learning trajectories. But international trends are more focused on the competence approach, individual self-awareness and the use of digital tools (Table 1).

Table 1. Features of national and international approaches to the development of reflexive skills

Criteria	National approach (Bulgaria, Father Paisii)	International approach (European trends)	Analysis of strengths and weaknesses
Theoretical background	Reliance on traditional pedagogical concepts, focus on national educational standards	Based on the competence paradigm, integration of reflection into the concept of lifelong learning	Bulgaria's strong point is the continuity of national tradition; its weak point is limited innovation; in Europe, there is a broad integration of reflection, but the need to adapt to local contexts
Forms of working with students	Collective discussions, oral reflection after classes, analysis of personal results	Use of individual portfolios, reflection diaries, and digital platforms for self-assessment	The Bulgarian model supports communication, but lacks systematisation; the European model supports structured tools, but less emphasises the collective aspect
Assessment	Mostly final, with increasing attention to the formative	Extensive use of formative assessment as a tool of reflection	Bulgaria has the potential for development, but the system is still result-oriented; in Europe, a procedural approach prevails
Development of metacognitive skills	Considered indirectly, through traditional subject methods	There are targeted programmes for the development of metacognitive strategies	European practice ensures systematic development; in Bulgaria, metacognition has not yet been singled out as an independent object of pedagogical influence
Role of the teacher	Teacher acts as the main organiser and moderator of collective discussions	Teacher acts as a facilitator of the individual and group reflection process	Bulgaria's strong point is active teacher participation; its weak point is the risk of teacher dominance; and Europe is paying more attention to student autonomy
Institutional support	There are national standards, but there are not enough systematic tools to encourage reflection	Within the framework of EU programmes, structured mechanisms for the development of reflection (projects, grants, methodological materials) are introduced	Bulgaria needs more institutional support; multi-level support is provided in Europe, but there are difficulties in unifying approaches
Digitalisation	Use of digital technologies is limited, mainly at the level of electronic resources for training	Intensive implementation of digital platforms (e-portfolio, online magazines, adaptive self-assessment systems)	Bulgaria has the potential to expand the digital component; Europe shows a more integrated approach, but challenges are linked to digital inequality
Motivational sphere	Students' motivation is formed through collective support, the role of the teacher, and the national and cultural context	Considerable attention is paid to individual motivation, internal factors of self-development, and the development of autonomy	The Bulgarian model is strong in the socio-cultural dimension, but to a lesser extent encourages individual autonomy; the European model is the opposite
Innovative pedagogical technologies	Introduction of innovations is selective and often depends on the initiatives of individual teachers	Innovation is systematically supported at the level of EU educational programmes and projects	Bulgaria's strong point is the flexibility of local initiatives; its weak point is the lack of consistency; in Europe, innovations are more structured, but there is a risk of formalisation

Source: compiled by the author based on S. Chavdarova-Kostova (2022), A.S. Lane & C. Roberts (2022), G.B. Sarzhanova *et al.* (2025)

The analysis of comparative data allowed tracing not only the differences between Bulgarian and European approaches to the development of reflexive skills, but also explaining their causes and potential consequences for the development of educational systems. The Bulgarian model is developing in the context of a strong continuity of pedagogical traditions established under the influence of national educational standards and historical and cultural factors. This leads to a focus on collective forms of work with students and an active role of the teacher as a moderator of the educational process. This approach ensures a high level of communication and social interaction in the classroom, which meets the cultural expectations and traditional values of the Bulgarian educational environment. The consequence of this is limited innovation and insufficient consistency in the use of tools for developing reflexivity, because the teacher, being the main organiser, often holds a dominant position, which can restrain the development of autonomy and independence of students. The European model, on the contrary, was developed under the influence of the competence paradigm and the idea of lifelong learning, which became the leading guidelines of the EU's educational policy. This explains the systematic integration of reflection into the curriculum, the use of individual tools (portfolios, diaries, digital platforms), and the emphasis on formative assessment as a mechanism for continuous student development. The consequence of this approach is the development of a high level of autonomy of schoolchildren, their ability to self-regulate and manage their own educational trajectory. Simultaneously, standardisation and multi-level institutional support pose the risk of excessive formalisation of innovation, when reflection may lose flexibility and authenticity, becoming a mandatory procedure, disconnected from real educational needs.

Digital dimension of differences also has clear causal relationships. The Bulgarian system is only gradually introducing digital tools, which is conditioned by both limited resource capabilities and insufficient training of teachers for their effective use. This leads to the fact that digitalisation is often limited to the use of electronic resources for learning, without covering more complex tools for self-assessment and monitoring of progress. But in the EU countries, the active implementation of digital platforms is ensured through a structured policy and financial support for educational projects. The consequence of this is a higher level of integration of digital technologies into everyday practice, which contributes to the development of individual trajectories of students, but at the same time actualises the problem of digital inequality, which can exacerbate social differences. In the field of motivation and development of metacognitive skills, national and international models also demonstrate different trajectories. Bulgarian practice, which is based on collective support and the role of the teacher, forms a strong socio-cultural dimension of learning, but to a lesser extent encourages the development of individual autonomy and internal motivation. This is explained by the fact that reflexive activity is often integrated into traditional subject methods, and is not considered as an independent area of pedagogical influence. European approaches, on the contrary, are based on the development of special programmes for the development of metacognitive strategies that are directly focused on the development of students' skills of self-regulation and internal control over their own learning. This allows for an individualised educational trajectory, but may reduce the role of the collective dimension of learning, which is important for students' socialisation and integration into the cultural context. In general, the differences found should not be interpreted as an advantage of one approach over another. Rather, they show two different accents: the Bulgarian model reflects the "socio-cultural paradigm" of reflexive skills development, while the European model reflects the "individual – autonomous paradigm". The reasons for this lie in the historical development of educational systems, in the presence or absence of institutional support, in different levels of digital infrastructure and pedagogical training. The implication is that Bulgaria needs more attention to systematising and institutionalising reflexive practices, while Europe needs to strike a balance between standardisation and consideration of local contexts to avoid the risk of formalisation.

Development of a conceptual scheme for the development and improvement of metacognitive skills

The conceptual scheme for the development of reflexive skills of schoolchildren in the Bulgarian educational context has an integrative character, since it combines European strategic guidelines with national educational traditions. Its main goal is to create a model that simultaneously meets global trends in the development of education and considers the specifics of the cultural and pedagogical environment in Bulgaria. Such integration allows avoiding direct copying of foreign experience and forming an adapted, flexible, and sustainable concept for the development of metacognitive skills and reflexive competencies of schoolchildren (Fig. 1).

The theoretical and methodological basis of the scheme is based on two interrelated dimensions. The first is European educational guidelines, which include a competence paradigm, a focus on lifelong learning, and a priority for developing metacognitive skills. They define reflection as a tool for providing educational flexibility, critical thinking, and the ability to adapt to new conditions. The second dimension is related to the Bulgarian national context, which emphasises compliance with national educational standards, preserving the continuity of traditions and using collective interaction as a key element of learning. This approach provides a balance between global innovation and local cultural heritage, which is a prerequisite for sustainable modernisation of education. In the structure of the Integrative model of development of reflexive skills of schoolchildren, the relationship between three key components is clearly traced – individual reflexive tools, collective reflexive practices, and the block of metacognitive development. Their interaction is not a mechanical combination of

different methodological approaches, but forms an integral system, where each element performs its own function, but simultaneously affects others, forming a synergistic effect. The first level is reflexive tools of the individual level, which directly form students' ability to introspect, analyse their own achievements, and build an internal picture of personal progress. Student portfolios, self-assessment diaries, and formative assessment are aimed at developing individual responsibility and awareness. An important consequence of their use is the emergence of the student's ability to identify their own strengths and weaknesses, which creates the basis for active participation in collective practices. Thus, individual tools act as the primary basis that allows the student to develop a reflexive position and prepare for more complex interaction in a social context. The second level of the model is collective-level reflexive practices that transform individual reflection into a collaborative process. Traditional after-school discussions, peer-to-peer group discussions, and joint analysis of mistakes and achievements develop students' communication, argumentation, and constructive criticism skills. Individually acquired introspection skills become the basis for active and productive participation in group interaction. Simultaneously, collective practices expand the scope of individual reflection, as the student begins to relate their own experience to the experience of others, which contributes to the development of critical thinking and empathy. In the Bulgarian context, this block takes on special significance, because collective interaction is a historical cultural tradition that supports the values of cooperation and mutual respect.

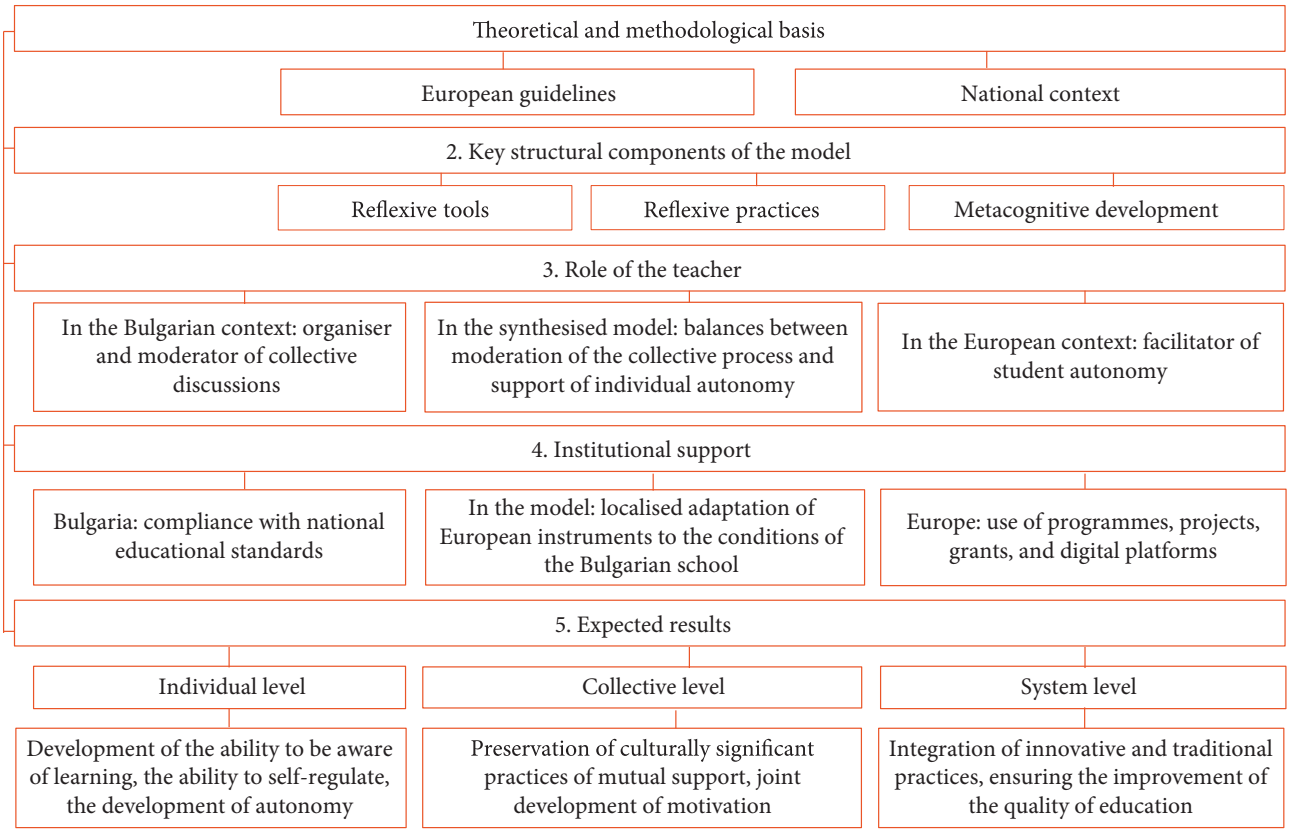

Figure 1. Conceptual scheme for the development of reflexive skills of schoolchildren
Source: developed by the author

The third, no less important, component is metacognitive development, which combines individual and collective dimensions, transferring them to a higher level of awareness. Mastering strategies for planning, monitoring, and evaluating their own thinking provides students with the ability not only to reflect on actual results, but also to manage the learning process itself. There is a causal relationship between the previous two blocks: individual tools form the basis for awareness, collective practices expand experience through collaboration, and metacognitive development integrates these achievements into a system of strategic self-government. Performing special exercises ("how I think, how I learn") encourages an in-depth awareness of own activities, and digital tools such as online magazines and e-portfolio allow for personalised analysis and strengthen established self-regulation skills. In this sequence, the logical dynamics of development are implemented: individual tools → collective practices → metacognitive development. It reflects not only methodological logic, but also corresponds to the specific features of the Bulgarian educational environment. On the one hand, the national education system emphasises the importance of

collective cooperation, which coincides with the second component of the model. On the other hand, European educational guidelines require an emphasis on individual autonomy and the development of metacognitive skills, which is integrated into the first and third blocks. Thus, the model achieves a balance between tradition and innovation, between collective interaction and personal autonomy.

The consistency of the above three levels creates a complex effect: individual development provides personal responsibility and willingness to cooperate; collective practices form social competence and ability to work in a team; metacognitive development integrates previous results and transforms them into the ability to learn throughout life. It is this multi-level structure that is optimal for the Bulgarian educational context, since it allows simultaneously considering cultural and historical features and implementing European practices, which ensures the integrity, flexibility, and sustainability of the educational system. The central link of the model is the role of the teacher. In the Bulgarian pedagogical tradition, the teacher is considered as an organiser and moderator of collective discussions, which corresponds to the cultural priorities of cooperation and mutual assistance. In the European context, there is a function of an intermediary that creates conditions for individual autonomy of the student. In the proposed integrative model, these functions are combined: the teacher balances between organising collective activities and supporting students' independent work, contributing to the harmonious development of both individual and collective reflection. Another component is institutional support. In Bulgaria, it is implemented through compliance with national educational standards, while European practices provide for participation in programmes, grant projects, and the use of digital platforms. In the model, institutional support is considered as a localised adaptation of European innovations to the conditions of a particular school. This means that European development mechanisms are not reproduced mechanically, but adapt to the resource and cultural capabilities of the Bulgarian educational system.

The expected results of implementing the model provide for multi-level changes. At the individual level, students acquire the ability to self-reflect, develop autonomy and the ability to self-regulate. At the collective level, culturally significant practices of mutual support are preserved and strengthened, which are integrated with innovative European approaches, stimulating the development of joint educational motivation. At the system level, the implementation of the model promotes the integration of traditional and new approaches, ensuring a sustainable improvement in the quality of education and the development of the key competence "lifelong learning". Thus, the conceptual scheme functions as an integrative model that combines individual and collective dimensions of reflection, pedagogical facilitation and institutional support, European innovations and Bulgarian traditions. Its implementation not only contributes to the development of metacognitive skills and reflexive skills, but also forms the prerequisites for a qualitative update of the educational system in accordance with global and national challenges.

DISCUSSION

The results of the study showed that the development of reflexive skills of schoolchildren in the context of the competence approach requires a combination of European innovative practices (formative assessment, student portfolios, development of metacognitive strategies) and traditional educational elements. This is consistent with the conclusions obtained by S. Abramovich & A. Grinshpan (2023), who proved that the use of technology in teaching mathematics contributes to the development of "collateral" creativity, and therefore, the students' ability to comprehend their actions in the educational process. The similarity of the results shows that technological integration and methods aimed at reflection form a new type of thinking in students, that is, flexible, open to creativity and critical analysis. Reflexive skills were most fully manifested when they were directly related to the development of key competencies, primarily communicative, and educational and cognitive. This correlates with the conceptual model by P. Heymann *et al.* (2022), which showed that the development of students' reflection through an online platform directly affects their employability (employability competencies). Therefore, both in school and higher education, reflection acts as a key intermediary between learning activities and the acquisition of real-life skills. The results of the study also showed that the competence approach provides a conceptual basis for the development of reflexive skills, since it allows integrating knowledge, skills, and values into a single system. This is consistent with findings of L. Holubnycha *et al.* (2022), which proved that the competence approach in education creates conditions for the development of integral skills, among which reflection occupies a leading place. In this aspect, it can be seen that both studies emphasise the need to move away from a purely knowledge-based paradigm to an activity and value one, which focuses on the student's ability to critically comprehend their own experience.

The results showed that the systematic integration of reflexive practices into school education is possible through the creation of pedagogical models that combine metacognitive strategies and formative assessment. This correlates with the study by M. Cheng *et al.* (2023), who highlighted the importance of critical self-reflection for students' transition between educational levels and new learning environments. The results of the study showed that even in primary school, the development of reflexive skills has great potential. This was consistent with the conclusions of A.S. Connelly *et al.* (2020), who found that primary school teachers view reflection as an integral part of effective teaching practice. Thus, the consistency of the results indicates that reflexive skills are not limited to high school students, but should be formed from an early stage of the educational trajectory. This study has shown that "stops for reflection" during the educational process are effective,

which allow students to reflect on their actions and adjust further steps. This is consistent with the conclusions obtained by M. Denami & D. Adinda (2023), who proved the effectiveness of such pauses in the student environment. In addition, the similarity with the findings of M. Bassachs *et al.* (2020) consisted in the use of interdisciplinary approaches that encourage critical reflection already at the primary education level. In the course of research, it was proved that interactive learning methods can enhance the development of reflection. This correlates with the results of T. Blyznyuk (2024), who showed that interactive technologies directly affect the development of critical thinking in schoolchildren. Both studies have confirmed that interactive and active methods should be integrated into the educational process to achieve qualitative growth in reflexive skills.

The results of this study showed that the development of reflection occurs in close relationship with interpersonal competencies. This is consistent with the conclusions obtained by S.L. Brooks *et al.* (2022), which indicated that the transition to a competence model in law education allows students to effectively develop relational skills. Therefore, reflection has a double effect: on the one hand, it increases academic results, and on the other, it promotes the development of socially significant competencies. In the course of the study, it was confirmed that even in crisis conditions, reflexive skills play a leading role in ensuring the quality of training. This correlates with the findings of L.M. Chambi *et al.* (2022), which highlighted the importance of reflexive practices in distance education. In both cases, the results confirm that reflection is a universal tool for adapting educational processes to new challenges. In addition, personalised monitoring and formative assessment increase the effectiveness of the development of reflexive skills in schoolchildren. This is consistent with the conclusions of J. Ponomariovienė *et al.* (2025), which proved the importance of personalising assessment in primary schools for the implementation of competence education. Both approaches point to the need to move away from traditional forms of control and move to more flexible, personality-oriented practices. The results confirmed the importance of reflection as a component of formative assessment. This correlates with the findings of A. Predyk (2023), who identified reflection as a key component of formative assessment of primary school students. The consistency of the results demonstrates that the development of reflexive skills cannot be considered in isolation, since they are an integral part of assessment models. The results of the study showed that the use of problem-oriented learning and elements of research activities encourages students to reflect more deeply and critically understand their educational actions. This is consistent with the conclusions obtained by Y.F. Surya *et al.* (2025), who proved that the problem-based learning method significantly increases the level of reflexive-critical thinking of primary school students in the process of studying natural sciences. The similarity of the results confirms that the active involvement of children in solving open and interdisciplinary problems creates conditions not only for mastering subject knowledge, but also for developing skills of introspection and evaluating alternative solutions.

In this study, it was found that the effectiveness of the development of reflexive skills increases significantly when using information and communication technologies that support the development of communicative competence. This correlates with the findings of A. Yesnazar *et al.* (2021), who found that integrating new technologies into primary school education promotes the development of children's speech skills in an interdisciplinary environment. In both cases, it was confirmed that digital technologies create new conditions for reflection, since they allow students not only to communicate, but also to evaluate the quality of their speech, thinking and cooperation with their peers. The results of the study also showed that the development of reflexive skills in schoolchildren is inextricably linked with their socio-cultural adaptation and orientation in a rapidly changing world. This is consistent with the findings of T.V. Zuyeva & A.T. Nyssanov (2020), who emphasised that the professional orientation of adolescents and the development of their socio-cultural competence in the context of new technologies require systematic involvement of students in reflexive practices. In the study, similar trends were found in the relationship between the development of reflection and the ability of students to understand their personal values, interests, and social roles, which will further contribute to their successful integration into society. Thus, the results of the study are generally consistent with the conclusions of the above-mentioned researchers who investigated the phenomenon of reflection in various educational contexts. They confirmed that the development of reflexive skills is a necessary condition for the implementation of the competence approach.

CONCLUSIONS

Analysis of the essence, structure, and typology of reflexive skills has shown that they are a multidimensional phenomenon that covers the cognitive, emotional, regulatory, and communicative aspects of student development. Reflexive skills provide not only critical understanding of the educational process, but also the development of a responsible attitude to personal activities, the development of skills to plan and correct actions, and establish effective interaction with other participants in the educational environment. The proposed typology of reflexive skills distinguished cognitive and analytical, emotional and value, regulatory and operational, and communicative and interactive components that together form a system model of their development. Reflexive skills occupy a place in the development of both general education and key competencies. In the first case, they contribute to the development of the ability to learn independently and learn throughout life, in the second – they support the development of critical and creative thinking, informed decision-making skills, the ability to work in a team, and exercise self-control. That is why they are the integrative basis of school education.

A comparative analysis of Bulgarian and European strategic documents has demonstrated a high level of conceptual consistency in prioritising the development of reflexive and metacognitive skills. The practical implementation of these provisions at the school level remains incomplete, which requires to increase attention to the training of teachers, create an innovative educational environment, and introduce methodological solutions that stimulate the development of students' self-reflection. The Bulgarian approach is based on a socio-cultural paradigm that emphasises collective interaction, the role of the teacher as a moderator, and reliance on traditional educational concepts. This ensures the continuity of pedagogical practices and promotes socialisation of students, but limits the development of individual autonomy, innovation, and the use of digital tools. The European approach demonstrates an individual-autonomous paradigm that focuses on competence-based learning, the development of self-regulation, the use of digital platforms, and formative assessment. Its advantage is to ensure a high level of student autonomy and create individualised educational trajectories, but there is a risk of excessive standardisation and a decrease in the collective dimension of learning. The proposed conceptual scheme for the development of reflexive skills of schoolchildren in the Bulgarian educational context confirmed the effectiveness of an integrative approach that combines European educational guidelines and national traditions. At the individual level, the development of awareness, responsibility and autonomy of the student is ensured, and at the collective level, a culturally significant tradition of cooperation and mutual respect is maintained, which expands the boundaries of personal reflection; at the metacognitive level, previous results are integrated into strategic self-management of educational activities. The role in this process is played by a teacher who combines the functions of a moderator of collective discussions and a facilitator of individual autonomy, which allows harmonising the requirements of the European and Bulgarian educational paradigms.

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Розвиток рефлексивних навичок у школярів у контексті компетентнісного підходу

Анотація. Метою дослідження було обґрунтування та розробка інтегративної моделі розвитку рефлексивних навичок у школярів у контексті поєднання європейських освітніх рекомендацій та болгарських національних традицій. Для досягнення цієї мети було використано логіко-семантичний аналіз наукових джерел, порівняльний аналіз міжнародних та національних підходів, а також метод теоретичного моделювання. Результати дослідження показали, що доцільно будувати розвиток рефлексивних навичок на трьох взаємопов'язаних рівнях: індивідуальному, колективному та метакогнітивному. Індивідуальні інструменти (портфоліо учнів, щоденники самооцінки, формувальне оцінювання) розвивали в учнів здатність до інтроспекції, аналізу власних досягнень та усвідомлення особистого прогресу. Колективні практики (групові дискусії, обговорення між однолітками, аналіз особистих результатів) перетворювали індивідуальну рефлексію на соціальну взаємодію, сприяючи розвитку комунікативних навичок, критичного мислення та емпатії. Ці практики є важливими в болгарському освітньому контексті, де історично культивуються цінності співпраці та взаємної поваги. Метакогнітивний рівень забезпечує перехід від часткових навичок до стратегічного самоуправління навчальною діяльністю, включаючи планування, моніторинг та оцінку власного мислення. Поєднання цих трьох компонентів створює синергетичний ефект, що відображається у здатності учнів навчатися протягом усього життя. Фактором ефективності моделі є роль вчителя, який у болгарському контексті поєднує функції модератора колективних практик та фасилітатора індивідуальної автономії, а також інституційна підтримка, що забезпечує адаптацію європейських інновацій до місцевих умов. Загалом було встановлено, що запропонована модель інтегрує європейські інновації та болгарські традиції, створюючи умови для поліпшення якості освіти. Результати можуть бути використані вчителями та методистами для оновлення змісту навчальних програм, впровадження ефективних інструментів рефлексії та розвитку ключових компетентностей учнів

Ключові слова: самоспостереження; критичне розуміння; аналіз особистих результатів; самооцінка; механізми розвитку