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# The Educational Potential of Participation in the *Odyssey of the Mind* Program in Supporting the Development of Selected 21st-Century Competencies

## Abstract

This article combines theoretical reflections with fragment of preliminary research focused on exploring the educational potential of participation in the *Odyssey of the Mind* program in fostering selected key competencies among early school-aged students. The research question addressed the specific ways in which selected competencies can be supported by this process. The study examined and integrated two theoretical frameworks: the *4C* and the *Social Emotional Learning* (CASEL) models. The research sample included children from three countries (Poland, China, and the United States). Data were collected through participant observation. Findings indicate that the program offers opportunities for children's competencies development through program-based activities and initiated by children and teachers. The study recommends integrating similar programs in formal education and conducting further longitudinal research based on triangulation.

**Keywords:** Early School Education, Odyssey of the Mind, Social Emotional Learning, 4C Competencies.

## An Alternative Approach to Creative Early School Education

*Odyssey of the Mind* is an international educational program with a competitive framework. Its overarching aim is not only to foster creativity, but also to support autonomy and the development of skills associated with selected key competencies of the 21st century. Participation in the program enables multi-

lateral problem-solving and enhances adaptive capacity in response to the increasing demands of a rapidly changing socio-cultural environment.

The early school education is a time of heightened developmental sensitivity to environmental stimuli and a period of increased receptivity to learning through concrete actions, experiences, and emotional engagement (Schaffer, 2018). The principles underlying the *Odyssey of the Mind* program align with psychosocial needs by providing students with opportunities for experimentation, self-expression, collaborative play and games (Christ, 2019).

Considering the multifaceted nature of this educational program, the primary objective of this article is to present a part of qualitative analysis of the ways in which selected competencies are developed among children in early school age participating in the *Odyssey of the Mind* educational program. The second objective is to establish a theoretical convergence of concepts and frameworks based on two selected models of core competencies: *4C* competencies concept and *Social Emotional Learning* approach as defined by the CASEL framework. The analysis also identifies theoretical links between this models, including an integral alignment among specific components. The concluding part presents a several implications significant for future research and early school education practice.

## From Local Inspiration to an International Educational Program

The origins of the *Odyssey of the Mind* program date back to the 1970s in the USA. Samuel Micklus, Professor Emeritus at Rowan University of New Jersey, sought an innovative pedagogical approach to enhance and diversify instruction in his courses on industrial and fine art design classes. For years he experimented with many active learning strategies (Odyssey of the Mind, 2025a). Ultimately, he established a specialized university course and developed a project-based methodology (Odyssey of the Mind, 2025b).

Samuel Micklus' concept is consistent with the assumptions underpinning the humanistic educational paradigm. Emphasizing student subjectivity, individualization, experimental learning, dialogic interaction, and grounding the educational process in learner autonomy represent several key characteristics of this orientation (Paprotna, 2019). Implementation of the humanistic assumptions allows for the involvement of a broad spectrum of stakeholders (Gołębniak, 2014). Furthermore, the knowledge is approached as a dynamic, ongoing process, with reality understood as subject to constant transformation. Failures and mistakes are not regarded as setbacks but as essential components of the child's developmental trajectory (Poziemska, 2015).

Currently, *Odyssey of the Mind* operates as an international educational competition with a multicultural potential. Its global character is evident during the

annual *World Finals*, which bring together thousands of teams, coaches, and volunteers from various regions of the world including America, Asia and Europe (Odyssey of the Mind, 2025a). The total number of participants reaches approximately ten thousand annually (Odyssey of the Mind, 2025a). In the Polish edition of the finals in 2025, around two thousand individuals took part in the competition, forming two hundred and eighty-one teams (Odyssey of the Mind, 2025b).

The cyclical finals feature students from four distinct age groups, from primary school to university. Participation in the event is preceded by a multi-stage qualification process. Each team qualified for the competition is required to solve two types of challenges.

## Long-Term and Spontaneous Problems

Work on long-term problems is conducted in the form of a project and spans several months from the official announcement (Oddysey of the Mind, 2025a). These tasks are interdisciplinary, encompassing technical, natural science and engineering, social, humanities and artistic topics. The final outcome of the team's work is an original solution that must be presented in a thematic performance. The demonstration of the problem should adhere to specified formal and substantive criteria. Evaluation encompasses the accuracy and quality of the problem solution, originality, the level of independence, the technical quality of execution, artistic styl, and element related to group collaboration (Odyssey of the Mind, 2025b).

Table 1
*Comparison of Selected Criteria of Long-Term and Spontaneous Problems in the* Odyssey of the Mind *Program*

| Criteria | Long-Term Problems | Spontaneous Problems |
|---|---|---|
| preparation time | several months | a few minutes |
| availability of the task content | from the date of the commencement of the next edition of the competition | available prior to the commencement of problem-solving |
| nature of the task | multi-stage, project-based | „suprise" type, improvisation |
| type of tasks | vehicle, technical, classics, structure, performance | verbal, manual, verbal-manual |
| coach's presence | present at every stage | involved during the preparation phase as methodological support; absent during the final task |
| character of student collaboration | continuous, long-term engagement, extended over time | immediate, dynamic, based on mutual trust and connection |

Source: Author's own elaboration

The second fundamental component of the program comprises spontaneous problems. These tasks are solved by teams without prior preparation of scripts or instructions, within a strictly defined time and location during the competition finals. The task content is disclosed to participants immediately before commencement, allowing for real-time assessment of problem-solving skills. The task is completed in the absence of coaches and spectators. Spontaneous problems can be categorized into three types: verbal, manual, and verbal-manual tasks (Odyssey of the Mind, 2025b). In summary, both types of problems were compared in Table 1.

## Exploring the Key Competencies of the 21st Century

Key competencies in the 21st century are defined as a knowledge, skills, attitudes (Foster, Piacentini, 2023), habits, traits (Bucle, 2025) and also as values (CCR, 2024). They mainly concern such features, concepts and phenomena that will allow students to achieve success in the future, including coping with unpredictable challenges, self-regulation and keeping up with new technologies, adapting to previously unknown professions (Bucle, 2025). Regarding the theoretical framework we can distinguish many of them, i.e.: the *P21 Framework* (2009), *OECD/INFE Core Competencies* (OECD, 2018), *21st Century Skills Model* by Tony Wagner et al. (Edmond, 2017), *Four-Dimensional Framework* (CCR, 2024), model of *4C's* Competencies (Do, Maniate, Sultan, Sonnenberg, 2023; Lamri, 2021), *Future Work Skills 2020* (iCEV, 2024), *World Economic Forum Future Skills Framework* (2025) and *Collaborating States Initiative* (Dusenbury, Yoder, Dermody, Weissberg, 2019).

The most frequently emphasized key competencies of the future currently include: creativity, cooperation, critical thinking, and communication skills (Lamri, 2021); learning ability, problem-solving, empathy, cognitive flexibility, emotional intelligence, moral maturity (Kwiatkowski, 2018); self-awareness, social awareness, self-management, relathionship skills, responsible decision-making (CASEL, 2025); capacity for rapid adaptation, cultural and ecological awareness, visualization, matacognitive skills (Lamri, 2021); enterpreneurship, self-image shaping, or relathionship-building skills (Białek, Swat-Pawlicka, 2025).

The diversity of approaches of 21st-century competencies results from the influence of numerous socio-cultural factors that shape both their interpretation and prioritization in educational policy and pedagogical practice. The sources of variability in defining and understanding this phenomenon can be attributed to the rapidly changing labor market (Wasik, Barrow, 2018). The development of artificial intelligence, the expansion of social media, and increasing automation and replacement of humans by machines render the key competen-

cies of the 1990s inadequate in relation to the contemporary demands of everyday life (Fazlagić, 2022).

From presented approaches, two primary frameworks were selected for an in-depth analysis. The 4C competencies model (Lamri, 2021) was compared alongside socio-emotional competencies within the theoretical framework of CASEL (2025). Both approaches complement each other in educational theory and practice, as demonstrated in Table 2. Some competences exhibit closer links, while others are connected at deeper dimensions of theoretical correlation.

Table 2

*Juxtaposition of the 4C Competency Model with the Social Emotional Learning framework* (*SEL*) *– common competency domains*

| **4C**<br>**SEL** | **creativity** | **communication** | **critical thinking** | **cooperation** |
|---|---|---|---|---|
| **self-awareness** | self-efficacy | interpersonal communication skills | reflexivity, analysis of strenghts and weaknesses | recognizing/ understanding emotions, growth mindset |
| **social awareness** | awareness of diverse social needs, social construction of reality | empathy, active listening, context-sensitive communication | recognizing socio-cultural context, understanding diversity | understanding roles, emotions, motivations, and social dynamic |
| **self-management** | fostering intrinsic motivation, constructive attitude toward mistakes | resilience, emotional regulation, management of communicative situations | impulse control, attention regulation, delayed gratification | organizational skills, planning, goal-setting |
| **relathionship skills** | social engagement, openness to others, ability to integrate perspectives | interpersonal communication, ability to establish and maintain social relathionships | socially appropriate refusal skills, interpretive readiness | negotiation skills, conflict resolution, effective teamwork |
| **responsible decision making** | cognitive flexibility, ideas creating, problem-solving | articulation of needs and principles, argumentation skills | in-depth analysis of challenges, reflective thinking | perspective-taking, monitoring, coordination of group actions |

Source: Author's own elaboration upon: Lamri (2021); CASEL (2025); Glăveanu (2023); Nikitenko (2022); Karwowski (2010); Fazlagić (2019); P21 (2009); Białek, Swat-Pawlicka (2025); Panorama Education (Bucle, 2025); Czaja-Chudyba (2020); Dusenbury, et al. (2019); Nęcka (2003); Do, et al. (2023); OECD (2018); Deptuła, Misiuk (2016); Brzezińska, Półtoraczyk, Reksnis, Starczewska-Kaczmarek, Wilczyńska (2020).

## Methodology and Research Approach

This preliminary research constitutes fragment of an ethnographic, qualitative two-year study. The article is limited to presenting preliminary findings based on observations. Given the complexity and contextual nature of the phenomena, a subjective-participatory paradigm was adopted (Ciechowska, 2018; Denzin, Lincoln, 2009; Babbie, 2024; Malewski 2023). Consideration was given to the pragmatic approach to this study, with the aim of preserving cognitive efficiency as defined by the formulated research question (Ciechowska, 2018; Malewski, 2023).

## Research Objectives and Problems

The aim of the study was to explore the ways and situations in which selected competencies, from the integrated competency model (*4C* and *Social Emotional Learning*), could be supported through participation in the *Odyssey of the Mind* educational program among children in early school age. The research objectives were exploratory and descriptive (Pilch, Bauman, 2001; Babbie, 2024). Based on this, the research question was formulated from the framework of the education methodology approach: „What are the ways, if any, in which the participation in the *Odyssey of the Mind* program supports the development of selected competencies in early school age children?".

In alignment with the position of Łobocki (2000), the study refrained from establishing any hypotheses. The choice of research focus is consistent with current trends in contemporary pedagogical reflection and with the recommendations of the OECD (2018), as well as the „Council Recommendation of 22 May 2018 on key competences for lifelong learning" (Council of the European Union, 2018).

## Data Collection and Analysis Methods

A research qualitative approach was employed, using participant observation based on an ethnographic perspective (Babbie, 2024; Pilch, Bauman, 2001; Denzin, Lincoln, 2009; Flick, 2012). The researcher assumed three distinct roles in an active and passive way: as a coach, full member of the students team, and observator. The researcher attended various team-related events, including the opening and closing ceremonies, and daily activities held on the Michigan and Iowa State University campuses (e.g., teams rehearsals, lunches, shopping).

The subject-object perspective was an integral component of research based on shared experience (Pilch, Bauman, 2001). The direct observations

were also examined performances presented by early-school age children (aged approximately seven to ten or eleven) across all five categories of long-term problems: technical, vehicle, structure, classics, and performance (Odyssey of the Mind, 2025a). During the presentations and ceremonies, the researcher was seated among the audience.

The research tool consisted of self-designed journal used for recording general and subjective information related to all events taking place within the program (Flick, 2012; Deptuła, Misiuk, 2016). In progress, the researcher collected selected data included concrete situations and observed activities through the *Odyssey of the Mind* program participation.

Over the course of the study, manifestations of selected student competencies gradually became observable. They have been conceptualized in accordance with the views of scholars and scientific organizations such as: Lamri (2021); CASEL (2025); Glăveanu (2023); Nikitenko (2022); Karwowski (2010); Fazlagić (2019); P21 (2009); Białek, Swat-Pawlicka (2025); Panorama Education (Bucle, 2025); Czaja-Chudyba (2020); et al. Students were observed individually and in group contexts. The following manifestations of competencies and elements of observed situations were recorded in a descriptive way: acts of helping (e.g., repairing toys), creative activities (e.g., singing), initiating plays and groups situations (pin trading), conversations topics (pins, costumes), content of expressed emotions and opinions situations (statements about feelings), description of the reaction to the judges' opinion and failures (crying), content of asked questions (exact quotes), etc. The journal included the date, location, role allocation, and details regarding the study group (Table 3).

The main analysis focused on the six-steps thematic analysis procedure (Braun, Clarke, 2024). Following the familiarization phase and the formulation of the research question, relevant excerpts from the journal were identified. These included sections describing the methods, actions and educational activities employed by both coaches and students, with particular attention to the distinctive activities from the *Odyssey of the Mind* program.

Inductive coding was used in the thematic analysis of handwritten notes recorded in the observation journal (Gibbs, 2015; Braun, Clarke, 2024, Flick, 2012). This approach does not exclude the reliance on theories presented earlier in the article and enables the structuring of gathered thoughts, emotions, and other information (Gibbs, 2015; Flick, 2012). Following the approach proposed by Gibbs (2015), the coding process included specific actions and behaviors (e.g., asking questions, speaking in front of a group), activities (e.g., participating in an integration event), and events (e.g., losing a toy/pin).

## Sample Selection

Empirical data were collected during events related to the *Odyssey of the Mind* competition (the Polish and world finals in 2025 and in 2024 – four events). The selection of the sample was purposeful based on availability principle. As part of the observation of selected representations of long-term problems, a specific research sample was selected, consisting of ten teams of children at the early school age (students from first age category in this program). In total fifty-one children from three different countries (Poland, China, United States) participated in this fragment of observations, as presented in Table 3. The study did not interfere with the performances or the children's everyday lives.

All presentations of the long-term problems, except number 5, were conducted in English. The abbreviations „G" and „B" in the gender column stand for girls or boys. „Team size" is a number of children in one group. The „year" given refers to the date of the performance, and the „I age category" refers to students in early school age (from seven to eleven years old). In order to protect the anonymity of participants, information about competition placement and sensitive data were not disclosed.

Table 3
*Characteristics of the Sample* (*n=51*)

| Team Number | Represented Country | Age Category / Year | Type of Long-Term Problem | Team Size | Gender |
|---|---|---|---|---|---|
| 1. | Poland | I / 2024 | Performance | 7 | G, B |
| 2. | Poland | I / 2024 | Performance | 5 | G |
| 3. | USA | I / 2024 | Classics | 4 | G, B |
| 4. | USA | I / 2024 | Performance | 5 | G |
| 5. | Poland | I / 2025 | Vehicle | 6 | G, B |
| 6. | Poland | I / 2025 | Classics | 4 | G, B |
| 7. | China | I / 2025 | Structure | 5 | G, B |
| 8. | USA | I / 2025 | Technical | 5 | G, B |
| 9. | Poland | I / 2025 | Performance | 6 | G, B |
| 10. | China | I / 2025 | Performance | 4 | G, B |

Source: the author's own elaboration

The selection of groups for research was determined by the availability of performances, nationality, age category, and the event schedule. A variation in team size was observed (ranging from four to seven children), along with a predominance of coeducational groups. Performance type of presentations, titled „AstronOMical Odyssey!" (2025) and „Rocking World Detour" (2024), ranked

among the most preferred task formats analyzed in the study, consistent with information from the *Odyssey of the Mind* organization (2025b). A certain challenge was posed by the active role of the researcher, who at the same time participated in the implementation of the own team's program. The arrangement of buildings on the campuses and the distances between them, constituted another obstacle.

## Outline of Research Results

Based on the applied analysis, the main area corresponding to the study objectives was refined, defined, and named (Braun, Clarke, 2024). This category relates to ways of supporting the development of selected competencies among children in early school age (Table 4). They are understood as activities that facilitate the development of competencies in the context of implementing the assumptions of the Odyssey of the Mind program. These phenomena encompass specific situations and practices presented in Table 4, which constitute a coherent system of multidimensional support aimed at fostering students' competencies. This is aligns with CASEL's (2025) perspective on socio-emotional competencies development.

Table 4
*Activities Codebook – ways of support to the development of selected competencies*

| Main Code Name | Code Name | Code description | Examples |
|---|---|---|---|
| Activities | Program Initative | activities based on Odyssey of the Mind educational program | long-term and spontaneous problems-solving; integration events; opening and closing ceremony; self-made preparing costumes from recycled materials; living on the university campus |
| | Coach Initiative | non-program activities initiated by the coach to support team | discussions about the consequences of various behaviours; facilitating active group games; encouraging speeches; using mindfulness methods (body scan, councious breathing, etc.) before the performance |
| | Student Initiative | self-initiated activties and interactions presented by children | pins trading; spontaneous helping behaviors; team-based preparation of costumes and decorations; encouraging speeches; spontaneous prototype testing before the performance |

Source: Author's own elaboration

Each activity, conceptualized as main theme of analysis, undertaken during participation in the program and as part of non-formal education can be considered in the context of its potential to support the development of selected 21st-century competencies.

In addition, the main activities, that constitute a thematic category, may include more specific actions and behaviors, which can exert a more direct support within the broader framework of the educational process. For example, during pin trading, children develop a range of competencies through sub-activities: engaging in conversation and negotiation (communication); planning exchange strategies and trading collaboratively (cooperation); designing their own pins (creativity); evaluating the value and „profitability" of trades (critical thinking); recognizing their own emotions and preferences (self-awareness); interacting with peers from different countries (social awareness); managing uncertainty (self-management); forming social connections through trading (relationship skills); and learning to anticipate the consequences of exchanges from moral perspective (responsible decision-making). The detailed process of developing these competencies will be included in the separate publication.

Throughout the course of the research, a distinction was observed between activities based on the degree of their planning. Activities initiated by students were characterized by spontaneous interactions among peers (e.g., pin trading, helping behaviors). In the case of teacher-student interactions, activities were both planned (organizational tasks, implementation of the program) and spontaneous (encouraging speeches, mindfulness techniques before the performance).


*Fig. 1*
Examples of the Odyssey of the Mind Activities: pins trading, long-term problem presentation, closing ceremony
Source: Author's own archive

The example presented is intended to illustrate a perspective on the educational potential of participation in the program, whose activities often resemble

Łukaszewicz's (2020) concept of *designed educational opportunities.* The open-ended tasks in the form of long-term and spontaneous problems, which constitute the foundation of the *Odyssey of the Mind* program, trigger divergent thinking, encourage unconventional forms of activity, and stimulate an endless range of possible solutions and choices, what is simmilar compare to the ideas proposed by Łukaszewicz (Remiszewska, 2018). In the context of the analysis presented, the method of *designed educational opportunities* most closely corresponds to activities initiated by the teacher-coach, who prompts students to engage in creative actions that serve as a foundation for the development of multiple key competencies.

The observed activities confirm the importance of a supportive environment for child development and the role of mutual interactions among multiple stakeholders (Schaffer, 2018). The parents also participated in both programmatic and extracurricular activities of *Odyssey of the Mind.* During the research, parents were present in the audience, the campus cafeteria, and at other competitive events held in the USA.

Moreover, creativity was found as the most prominent competency within the program's requirements by the *Odyssey of the Mind* organization (2025a; 2025b), which is consistent with the observed activities. For example, the originality is evaluated in ideas, solutions, costumes, or handmade decorations. Creativity, conceptualized as a set of cognitive, emotional-motivational, and behavioral dispositions (Nikitenko, 2022), creative attitude grounded in independence and openness (Karwowski, 2010), is developed through both vertical and horizontal relationships (Schaffer, 2018). During informal meetings between teams, when children are creating pins or task solutions, this attitude was observed. The highlighted activities demonstrate a broad spectrum of influences on the development of future competencies and multitude of educational opportunities, with the recognition of the postulate of a school open to the environment, cooperation and experimentation (Białek, Swat-Pawlicka, 2025).

## Conclusions and Practical Implications

This fragment of preliminary research indicates that participation in the Odyssey of the Mind program can support the process of selected 21st-century competencies development through specific activities initiated by selected educational entities and subjects. The identified components of this process can provide children with opportunities for engaging and hands-on acquisition of specific skills in a situational, spontaneous, and integrated manner. The program may be conceptualized as a model example of personalized, participatory, and transcultural education. The program offers participants a range of opportuni-

ties, from establishing relationships with peers from different nationalities, to selecting the activities. Participants are also involved in a variety of both spontaneously initiated and formally organized events.

In terms of public schools and educational policy, the integration of the programs with a similar structure and humanistic orientation is recommended. Such initiatives may serve as valuable supplements to conventional school curriculum, particularly at the early primary education level, where foundational skills and attitudes are being shaped. It is advised that these programs be incorporated either as structured extracurricular activities or as part of pedagogical innovations. The implementation of selected elements of the program could be considered through the alignment of lessons plans and the development of supplementary activities focused on long-term and spontaneous problem-solving, focused on project-based method.

Nevertheless, it is important to acknowledge the potential risks and challenges with integrating programs such as Odyssey of the Mind into formal educational frameworks. A fundamental issue lies in the possible misalignment between the program's overarching goals and the requirements of the national core curriculum. Furthermore, the implementation of such pedagogical models necessitates substantial institutional capacity, including appropriately trained personnel, methodological expertise, sufficient time, and financial resources. Many public schools, particularly those operating under constrained budgets, may lack the infrastructure and support mechanisms required to facilitate sustained participation. The disparity could unintentionally reinforce existing educational inequities between affluent and under-resourced communities.

The financial burden associated with adopting such programs also raises questions about long-term sustainability and the allocation of responsibility between educational authorities and individual institutions. In addition, the increased cognitive and logistical demands placed on students may contribute to academic overload. Extended school hours and the accumulation of extracurricular tasks risk diminishing learners' intrinsic motivation and overall well-being. Moreover, the limited size of the research sample constrains the potential for broad generalizations. Therefore, it would be advisable to first conduct pilot studies focusing on the implementation of selected components of the program. For instance, the integration of spontaneous task-based activities into the routine structure of formal curriculum.

From the research perspective, a structured pedagogical experiment is advised, as current practices observed among Odyssey of the Mind educators indicate their informal implementation. For example, in the form of titled as *Odyssey Lessons*, during which selected competencies can be developed intentionally and in a structured manner, within the framework of *designed educational opportunities*.

It is essential to continued longitudinal research, accompanied by the application of methodological triangulation (methods, research technics, and theories), in order to expand and deepen scope of the research. To ensure a more comprehensive and nuanced analysis of the phenomenon, it is recommended that subsequent studies involve learners at early school age who present with special educational needs and enhance the analysis of how particular activities affect selected competencies, among elder students too.

Further research could benefit from a psychological examination of traits such as cognitive flexibility or emotional intelligence, particularly in connection with achievements in this competition. Future studies are encouraged to complement this preliminary findings with the use of diagnostic tools aimed at measuring socio-emotional competencies at early school-aged students (e.g. *Obserwacyjny Kwestionariusz Kompetencji Emocjonalnych i Społecznych*) (Brzezińska, et al., 2020).

## References

Babbie, E. R. (2024). *Badania społeczne w praktyce*. Transl. F. Tryl. Warszawa: Wydawnictwo Naukowe PWN.

Białek, K., & Swat-Pawlicka, M. (2025). *Kompetencje* (*w*) *przyszłości. Praktyczny przewodnik.* Warszawa: Instytut Badań Edukacyjnych – Państwowy Instytut Badawczy.

Braun, V., & Clarke, V. (2024). *Analiza tematyczna. Praktyczny przewodnik*. Transl. D. Przygucka. Warszawa: Wydawnictwo Naukowe PWN.

Brzezińska, A. I., Półtoraczyk, K., Reksnis, J., Starczewska-Kaczmarek, A., & Wilczyńska, S. (2020). *Kompetencje emocjonalne i społeczne dzieci w wieku wczesnoszkolnym.* Poznań: Wydawnictwo Nauk Społecznych i Humanistycznych Uniwersytetu im. Adama Mickiewicza w Poznaniu.

Christ, M. (2019). Twórcze rozwiązywanie problemów na przykładzie programów: Odyseja Umysłu i Destination Imagination. In: U. Szuścik, R. Raszka, & A. Trzcionka-Wieczorek (eds.), *Innowacyjność w praktyce pedagogicznej. Współdziałanie rodziców – dziecka – nauczyciela* (pp. 214–223). Katowice: Wydawnictwo Uniwersytetu Śląskiego.

Ciechowska, M. (2018). Podstawy badań jakościowych w pedagogice. In: M. Ciechowska, & M. Szymańska (eds.), *Wybrane metody jakościowe w badaniach pedagogicznych. Część 1* (pp. 25–100). Kraków: Wydawnictwo Naukowe Akademii Ignatianum w Krakowie.

Czaja-Chudyba, I. (2020). Myślenie krytyczne w ujęciu psychopedagogicznym – w kierunku poznawczej samodzielności i odpowiedzialności jednostki. *Argument. Biannual Philosophical Journal, 10*(2), 289–314;. https://doi.org/10.24917/20841043.10.2.2.

Denzin, N. K., & Lincoln, Y. S. (2009). *Metody badań jakościowych.* T. 1. Transl. K. Podemski. Warszawa: Wydawnictwo Naukowe PWN.

Deptuła, M., & Misiuk, A. (2016). *Diagnozowanie kompetencji społecznych dzieci w wieku przedszkolnym i młodszym szkolnym*. Warszawa: Wydawnictwo Naukowe PWN.

Do, V., Maniate, J. M., Sultan, N., & Sonnenberg L. (2023). The 4C's of influence framework: fostering leadership development through character, competence, connection and culture. *Leadersh Health Serv* (*Bradf Engl*)*, 36*(4), 461–478; https://doi.org/10.1108/LHS-05-2022-0060.

Fazlagić, J. (2019). Wprowadzenie. In: J. Fazlagić (ed.), *Kreatywność w systemie edukacji* (pp. 13–21). Warszawa: Wydawnictwo Fundacji Rozwoju Systemu Edukacji.

Fazlagić, J. (2022). Rozwój sztucznej inteligencji jako wyzwanie dla systemu edukacji. In: J. Fazlagić (ed.), *Sztuczna inteligencja* (*AI*) *jako megatrend kształtujący edukację. Jak przygotować się na szanse i wyzwania społeczno-gospodarcze związane ze sztuczną inteligencją?* (pp. 25–37). Warszawa: Instytut Badań Edukacyjnych.

Flick, U. (2012). *Projektowanie badania jakościowego.* Transl. P. Tomanek. Warszawa: Wydawnictwo Naukowe PWN.

Foster, N., & Piacentini M. (2023). *Innovating Assessments to Measure and Support Complex Skills*, Paris: OECD Publishing; https://doi.org/10.1787/e5f3e341-en.

Gołębniak, B. D. (2014). Szkoła wspomagająca rozwój. In: Z. Kwieciński, B. Śliwerski (eds.), *Pedagogika. Podręcznik akademicki.* T. 2 (pp. 98–122). Warszawa: Wydawnictwo Naukowe PWN.

Gibbs, G. (2015). *Analizowanie danych jakościowych*. Transl. M. Brzozowska-Brywczyńska. Warszawa: Wydawnictwo Naukowe PWN.

Glăveanu, V. (2023). *Kreatywność. Krótkie wprowadzenie.* Transl. T. Tesznar. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.

Karwowski, M. (2010). Kreatywność – feeria rozumień, uwikłań, powodów. Teoretyczno-empiryczna prolegomena. In: M. Karwowski, & A. Gajda (eds.), *Kreatywność* (*nie tylko*) *w klasie szkolnej* (pp. 12–44). Warszawa: Wydawnictwo Akademii Pedagogiki Specjalnej.

Kwiatkowski, S. M. (2018). Kompetencje przyszłości. In: S. M. Kwiatkowski (ed.), *Kompetencje przyszłości* (pp. 14–29). Warszawa: Wydawnictwo Fundacji Rozwoju Systemu Edukacji.

Lamri, J. (2021). *Kompetencje XXI wieku.* Transl. A. Zręda. Warszawa: Wydawnictwo Wolters Kluwer Polska.

Łobocki, M. (2000). *Metody i techniki badań pedagogicznych*. Kraków: Oficyna Wydawnicza Impuls.

Łukaszewicz, R. (2020). Edukacja wobec kryzysu zaufania, wspólnotowości i autonomii – która edukacja i jaka? In: J. Madalińska-Michalak, & J. Klimczak

(eds.), *Pedagogika i edukacja wobec kryzysu zaufania, wspólnotowości i autonomii* (pp. 98–115). Warszawa: Wydawnictwo Uniwersytetu Warszawskiego.

Malewski, M. (2023). Badania mieszane w naukach społecznych – o konstruowaniu metodologicznej prawomocności. *Edukacja, 165*(2), 17–30; https://doi.org/10.24131/3724.230202.

Nęcka, E. (2003). *Psychologia twórczości.* Sopot: Gdańskie Wydawnictwo Psychologiczne.

Nikitenko, D. (2022). Twórczość i kreatywność w rozważaniach psychologicznych i pedagogicznych ukierunkowanych na wspieranie kreatywności dziecka wczesnej edukacji (artykuł przeglądowy). *Zeszyty Naukowe Collegium Witelona, 44*(3), 11–28; https://doi.org/10.5604/01.3001.0016.1788.

Paprotna, G. (2019). Edukacja przedszkolna. Pomiędzy paradygmatem technologicznym a humanistycznym. *Chowanna*, *60–61*(1–2), 199–214; https://doi.org/10.31261/CHOWANNA.2019.S.11.

Pilch, T., & Bauman, T. (2001). *Zasady badań pedagogicznych. Strategie ilościowe i jakościowe.* Warszawa: Wydawnictwo Akademickie Żak.

Poziemska, J. (2015). Porażka w dyskursie edukacyjnym. *Przegląd Pedagogiczny, 9*(2), 181–185; https://doi.org/10.34767/PP.2015.02.09.

Remiszewska, Z. (2018). Prowokowanie do aktywności twórczej dziecka we Wrocławskiej Szkole Przyszłości. *Studia z Teorii Wychowania*, *4*(25), 267–278.

Schaffer, H. R. (2018). *Psychologia dziecka.* Transl. A. Wojciechowski. Wydawnictwo Naukowe PWN.

Wasik, S. Z., & Barrow, J. (2018). Odyssey of the Mind: Using a Creative Problem-Solving Competition to Promote Career Readiness in Elementary School. *Journal of Education*, *197*(3), 46–50; https://doi.org/10.1177/0022057418782335.

**Netography**

Bucle, J. (2025, July 25th). *A Comprehensive Guide to 21st Century Skills.* Panorama Education. https://www.panoramaed.com/blog/comprehensive-guide-21st-century-skills [access: 25.07.2025].

CASEL (2025, July 25th). *Fundamentals of SEL.* https://casel.org/fundamentals-of-sel/ [access: 25.07.2025].

CCR (2024, January). *Four-Dimensional* (*4D*) *Competencies Framework*. https://curriculumredesign.org/frameworks/competencies-framework/ [access: 12.09.2025].

Council of the European Union (2018). *Zalecenie Rady z dnia 22 maja 2018 r. w sprawie kompetencji kluczowych w procesie uczenia się przez całe życie* (2018/C 189/01). Dz. Urz. UE C 189. https://eur-lex.europa.eu/legal-content/PL/TXT/PDF/?uri= CELEX:32018H0604(01) [access: 25.07.2025].

Dusenbury, L., Yoder, N., Dermody, C., & Weissberg, R. (2019). *An Examination of Frameworks for Social and Emotional Learning* (*SEL*) *Reflected in State K-12 Learning Standards,* CASEL. https://measuringsel.casel.org/wp-content/uploads/2019/02/Framework-C.3.pdf [access: 25.07.2025].

Edmond, Ch. (2017, September 4th). *7 skills your child needs to survive the changing world of work.* World Economic Forum. https://www.weforum.org/stories/2017/09/skills-children-need-work-future/ [access: 12.09.2025].

ICEV (2024). *The Ultimate Guide to Teaching 21st Century Skills in Secondary Schools.* ICEV. https://www.icevonline.com/ultimate-guide-teach-21st-century-skills [access: 25.07.2025].

Odyssey of the Mind (2025a). https://odysseyofthemind.com/ [access: 12.09.2025].

Odyssey of the Mind (2025b). https://odyseja.org/ [access: 12.09.2025].

OECD (2018). *The Future of Education and Skills. Education 2030*. OECD. https://www.oecd.org/content/dam/oecd/en/publications/reports/2018/06/the-future-of-education-and-skills_5424dd26/54ac7020-en.pdf [access: 25.07.2025].

P21 (2009). *Partnership for 21st Century Skills – Core Content Integration*. P21. Ohio Department of Education. https://www.marietta.edu/sites/default/files/documents/21st_century_skills_standards_book_2.pdf [access: 25.07.2025].

World Economic Forum (2025). *Future of Jobs Report 2025. Insight Report. January 2025*. https://www.weforum.org/reports/the-future-ofjobs-report-2025/ [access: 25.07.2025].

## Potencjał edukacyjny uczestnictwa w programie Odyseja Umysłu we wsparciu rozwoju wybranych kompetencji XXI wieku

### Streszczenie

Niniejszy artykuł łączy refleksje teoretyczne z fragmentem badań wstępnych, które były skoncentrowane na poznaniu edukacyjnego potencjału wynikającego z uczestnictwa w programie Odyseja Umysłu w kontekście wspierania wybranych kluczowych kompetencji uczniów na etapie edukacji wczesnoszkolnej. Sformułowane pytanie badawcze dotyczyło konkretnych sposobów, w jakie wybrane kompetencje mogą być kształtowane w oparciu o wskazany proces. W artykule przeanalizowano i zintegrowano dwie ramy teoretyczne: model kompetencji 4K oraz Social Emotional Learning (CASEL). Do grupy badanej wybrano dzieci z trzech krajów (Polski, Chin i Stanów Zjednoczonych). Dane zebrano w oparciu o obserwację uczestniczącą. Wyniki wskazują, że program oferuje możliwości rozwoju kompetencji poprzez działania programowe oraz aktywności inicjowane przez dzieci i nauczycieli. W badaniu rekomenduje się integrację podobnych programów w edukacji formalnej i potrzebę dalszych badań longitudinalnych opartych na triangulacji.

**Słowa kluczowe:** edukacja wczesnoszkolna, Odyseja Umysłu, Social Emotional Learning, kompetencje 4K.