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The 4C Skills Among Early Childhood Education Teachers

Kompetencje 4K wśród nauczycieli edukacji wczesnoszkolnej

KEYWORDS

teaching competences, key competencies, 4C competences, elementary education, early childhood education teachers

ABSTRACT

The main objective of this article is to present pilot research on critical thinking, cooperation, creativity, and communication skills conducted among early childhood education teachers from the Opole Province. The theoretical and cognitive objective of the study was to diagnose the level of 4C competencies among early childhood education teachers from the Opole Province. The practical and implementation objective was to develop practical recommendations related to improving teachers' competencies in this area. The research issue was related to the question: what 4C competencies do the surveyed teachers declare in their self-assessment? The study used a diagnostic survey method and a questionnaire technique. An original survey questionnaire was used for the research. The research tool consisted of four different scales, which assessed the characteristics of the phenomenon under study on a five-point ordinal scale. The first scale concerned creativity, the second – critical thinking, the third – communication, and the fourth – cooperation. The results of the research showed how

the teachers assessed their own competencies. The conclusions of the research were an interpretation of the relationships between individual variables, which were calculated using the JASP statistical program. The data analysis showed how teachers from different age groups assessed their level of innovation, independence, and teaching proactivity, as well as their educational practices. In particular, statistically significant differences were noted among teachers aged 35-46 and those with the professional rank of appointed teacher. These groups rated their professional aptitudes higher than the others.

SŁOWA KLUCZE

kompetencje nauczycielskie, kompetencje kluczowe, kompetencje 4K, edukacja wczesnoszkolna, nauczyciele edukacji wczesnoszkolnej

ABSTRAKT

Głównym celem niniejszego artykułu jest przedstawienie pilotażowych badań dotyczących kompetencji krytycznego myślenia, kooperacji, kreatywności i komunikacji przeprowadzonych wśród nauczycieli edukacji wczesnoszkolnej z terenów województwa opolskiego. Celem teoretyczno-poznawczym podjętych badań była diagnoza poziomu kompetencji 4K wśród badanych nauczycieli edukacji wczesnoszkolnej. Celem praktyczno-wdrożeniowym było wypracowanie zaleceń praktycznych związanych z podnoszeniem przez nauczycieli kompetencji z tego zakresu. Problematyka badawcza była związana z pytaniem: Jakie kompetencje 4K deklarują badani nauczyciele w ramach samooceny? W badaniach zastosowano metodę sondażu diagnostycznego, technikę ankiety. Do badań wykorzystano autorski kwestionariusz ankiety. Narzędzie badawcze składało się z czterech różnych skal, których przedmiotem oceny były cechy badanego zjawiska na pięciostopniowej skali szacunkowej, porządkowej. Pierwsza skala dotyczyła kreatywności, druga – krytycznego myślenia, trzecia – komunikacji, a czwarta kooperacji. Wyniki badań przedstawiały, jak swoje kompetencje oceniają badani nauczyciele. Wnioski badań stanowiły interpretację zależności pomiędzy poszczególnymi zmiennymi, które były obliczone za pomocą programu statystycznego JASP. Analiza danych wykazała, jak nauczyciele z poszczególnych grup wiekowych oceniają poziom swojej innowacyjności, samodzielności i prokreatywności dydaktycznej, a także swoje praktyki edukacyjne. W szczególności zauważono różnice istotne statystycznie wśród nauczycieli w wieku 35–46 lat oraz ze stopniem zawodowym nauczyciela mianowanego. Grupy te oceniały swoje predyspozycje zawodowe wyżej od pozostałych.

Introduction

"21st century competencies" and key "soft skills" known as "4C" (creativity, critical thinking, communication, and cooperation) are the subject of particular interest to many researchers. According to Stefan T. Kwiatkowski (2017), teachers should be characterized by three essential categories of 21st-century skills:

- those related to learning and innovation (including critical thinking, communication skills and cooperation, creativity);
- related to the circulation and sources of information, the use of media and modern technology products;
- related to broadly understood everyday functioning and professional career (e.g., adaptability, initiative, productivity, leadership, and social skills).

Everyone needs a solid grasp of 21st-century skills to function effectively in today's world. Many organizations have formulated their own definitions of these skills, but the same key elements appear in all of them. At a minimum, critical thinking and problem solving, ingenuity and creativity, teamwork, and communication are widely recognized as fundamental competencies for the 21st century. Mastering these areas is essential for students to meet the challenges of today (Budiyanto et al., 2024). The 4C competencies have become the foundation of modern education. These skills support students in solving complex problems and enable them to achieve success in various areas of life (Burieva, 2025).

Teachers play a key role in equipping students with the necessary knowledge, skills, and competencies that will enable them to shape their own future and prepare them to face the changes that are expected in tomorrow's society – and thus directly affect the students themselves. Above all, students should be introduced to ways of thinking such as creativity, critical thinking, problem solving, decision making, and lifelong learning (Auzina, 2018).

One of the key issues for understanding the 4C competences and their implementation in educational practice, which is directly related to the issues mentioned above, is their multidimensionality, interconnections, and transdisciplinary usefulness. It is precisely these characteristics that can, on the one hand, facilitate the process of teaching them and, on the other hand, pose a serious challenge in terms of their reliable assessment (Thornhill-Miller et al., 2023).

21st-century competencies refer in particular to innovative and learning-related skills, which consist of (Trilling & Fadel, 2009):

- **Creative skills** manifest themselves in the ability to think imaginatively, a high level of cognitive curiosity, a willingness to explore and take on new challenges, a love of challenging situations, and the ability to function in and understand ambiguity.

- **Critical thinking skills** are manifested in an individual's ability to make decisions, formulate responses and comments in a thoughtful manner, willingness to correct one's own mistakes, ability to systematically analyze phenomena, courage to speak the truth despite difficulties, meticulousness, honesty, sincerity, fair conduct, and avoidance of actions that harm others.
- **Communication skills** include the ability to listen actively and understand, ask questions aimed at solving problems, and set goals to achieve mutually beneficial solutions.
- **Cooperation skills** indicate responsibility for one's own actions, the ability to work productively, flexibility and the ability to compromise, effective task or project management, and mutual respect for others.

In turn, J. Lamri (2021) defines individual competencies as follows:

- **Creativity** is a process whose goal is either to transform what already exists in an original way or to create something new.
- **Critical thinking** is a set of mental processes, strategies, and ideas used by people to solve problems, make decisions, and learn new concepts.
- **Communication** is the ability of a sender to send messages to a recipient in a given context in a way that is accurate and friendly, as well as the ability of the recipient to receive messages from the sender in a given context in a way that is accurate and friendly.
- **Cooperation** is *a positive interdependence* that seems to combine communication skills with conflict and problem solving, decision making, and negotiation.

In particular, educational institutions have the task of teaching students problem-solving, teamwork, and communication skills, as this promotes creativity and progress in the learning process (Stanikzai, 2023). In addition, as emphasized by S.K. Nazaruk and J. Marchel (2019), the issue of teacher education and their practical professional competences is linked to the constant need for pedagogical research, one of the objectives of which is to learn about their self-assessment of competences.

Research Methods and Tools

The main objective of this article is to present pilot research on critical thinking, cooperation, creativity, and communication competencies conducted among early childhood education teachers from model training schools operating in the Opole Province.

The theoretical and cognitive objective of the study was to diagnose the level of 4C competencies among early childhood education teachers from the Opole Province.

The practical and implementation objective was to develop practical recommendations for teachers to improve their competences in this area.

The research project posed the following questions:

1. What level of creativity competence do the teachers surveyed declare in their self-assessment?
2. What level of critical thinking competence do the teachers surveyed declare in their self-assessment?
3. What level of communication competence do the teachers surveyed declare in their self-assessment?
4. What level of competence in cooperation do the teachers surveyed declare in their self-assessment?
5. Are there statistically significant correlations between the level of self-assessment of individual competences and other research variables?

The study used a proprietary questionnaire. The research tool consisted of four different scales, which assessed the characteristics of the phenomenon under study on a five-point ordinal scale (1 – definitely not, 2 – rather no, 3 – neither yes nor no, 4 – rather yes, 5 – definitely yes) (Nowak, 1965, Pilch, 1998, Łobocki, 2011). The first scale concerned creativity, the second – critical thinking, the third – communication, and the fourth – cooperation.

The first stage of preparing the tool was a thorough analysis of the literature on issues related to 4C competencies, with particular emphasis on the use of these competencies by teachers.

The second stage of the research consisted of evaluating the research tool by six competent judges. They were academic and teaching staff (2), methodologists from teacher training institutions (2), and early childhood education teachers (2). All these people had knowledge and experience related to early childhood education and strengthening teachers' competences. Thanks to the opinions gathered, two items contained in the tool were discarded, seven were modified and three were added. The final version of the questionnaire consisted of 45 items (12 related to creativity, 13 related to critical thinking, 10 related to communication, and 10 related to cooperation).

Then, after conducting a pilot study, Cronbach's alpha reliability coefficient was calculated, which was 0.90. The data was analyzed using the JASP statistical software, which uses statistical methods related to testing the statistical significance of differences between variables.

It should be emphasized that these research also have their limitations. Respondents may assess themselves subjectively (they may overestimate or underestimate their competencies). This may be influenced by self-assessment, self-confidence, mood, or the desire to present oneself in a better light. The results may differ from the actual level of competence (which could be verified by practical tests or external assessment).

The study involved 296 teachers (290 women and 6 men), which is consistent with the specific nature of the profession, which is highly feminized. Teachers aged up to 25 accounted for 10.8% of the respondents, those aged 26–35 accounted for 39.9%, those aged 26–45 accounted for 35.1%, those aged 46–55 accounted for 12.9%, and those aged over 56 accounted for 1.3% of the respondents. These were mainly teachers with little professional experience: up to 5 years – 62.2%, 6 to 15 years – 22.3%, 16-25 years – 10.1%, and over 25 years – 5.4%.

Most of the respondents were teachers with the professional rank of beginner – 55.0%. The rank of appointed teacher was held by 23.5%, and certified teacher – 21.5%. More than half of the respondents worked in primary schools in the city – 53.4%. 10.8% of the respondents worked in urban-rural municipalities, and 35.8% of teachers worked in rural institutions.

Analysis of Results

In terms of creativity, the survey results showed that the vast majority of teaching staff encourage children to come up with new ways of solving a given task: 31.1% answered rather yes and 59.5% answered definitely yes. The vast majority encourage their pupils to come up with their own original ways of solving a given task (41.2% of statements were rather yes and 45.9% were definitely yes).

A total of 264 people (89.2%) expressed a positive opinion on the use of innovative solutions in their professional work. It can therefore be concluded that the vast majority of teachers surveyed declare a pro-innovation professional attitude.

Most of the respondents declared a preference for non-standard ways of solving tasks (53.4% indicated rather yes and 20.3% definitely yes). This indicates that more than three-quarters of the respondents are open to a creative, non-stereotypical approach to the performance of professional tasks.

In addition, a total of 256 people (86.5%: 45.9% answered rather yes and 40.5% definitely yes) expressed a willingness to implement their own ideas in their work with children. This result indicates a high innovative and creative potential among the teachers surveyed.

However, it should also be noted that 85.8% of teachers (47.3% answered rather yes and 38.5% definitely yes) showed attachment to the use of methods that have already been tested and developed in practice. This result indicates that teachers have great confidence in teaching methods that have proven effective in working with children. In addition, 64.1% of respondents (48.6% – rather yes and 15.5% – definitely yes) indicated a positive attitude towards the use of original teaching methods. This indicates a significant, though not dominant, level of individualization of the teaching

approach in the work of teachers. A total of 63.5% of teachers (44.6% – rather yes and 18.9% – definitely yes) confirm the use of teaching methods based on previous, proven experience. This result, as in previous analyses, suggests a clear confidence of the surveyed teachers in already known and effective pedagogical solutions. In addition, less than half of the respondents indicated that their sense of security in teaching is based on the use of proven methods – 43.2%.

The majority of teachers, 66.9% (37.8% – rather yes and 29.1% – definitely yes), expressed confidence in expressing their own opinions in their contacts with other teachers. Fewer, 57.4% of respondents, said that they feel comfortable in their interactions with the headteacher and are able to express their opinions. The situation is different in contacts with parents, where almost three-quarters of respondents (49.3% – rather yes and 24.3% – definitely yes) stated that they are not afraid to express their opinions when talking to parents.

Nearly half of the respondents (47.3%) felt that they were not irritated by criticism from other people. In addition, a total of 91.2% (answers rather yes and definitely yes) of teachers stated that they encourage students to express their opinions in their classes. However, only 62.8% of respondents (27.7% rather yes and 35.1% definitely yes) declared that they are not afraid of criticism from students.

More than two-thirds of teachers declared that they use teaching methods that they consider most effective in their work – 68.2%. The vast majority, as many as 82.4% of respondents (46.6% – definitely yes and 35.8% – rather yes) said that they like to discuss different solutions to problems.

However, only slightly more than one-third of respondents (37.1%) believed that teachers should be periodically evaluated by their superiors. Despite these statements, the majority of teachers (89.9%) declared that when their superiors point out mistakes they have made while teaching, they accept this as practical guidance and try to correct their teaching methods (90.5%).

The vast majority of teaching staff (41.9% – rather yes and 42.6% – definitely yes) declared that they try to assess different situations based on facts, not information heard from others, and 72.3% indicated that there is no single, objective truth.

When it comes to communication, the vast majority of respondents (44.6% – rather yes and 48.6% – definitely yes) declared that they are able to understand the feelings and emotions of others. Significantly fewer people (43.2% – rather yes and 22.3% – definitely yes), and over a quarter (25.7%) had difficulty giving a clear answer to the statement "I find it easy to express my needs."

A very large number of respondents (40.5% – rather yes and 46.6% – definitely yes) stated that they are open to new ideas and concepts. Respondents rated similarly the issue of ease in establishing contact with other people (43.2% – rather yes and 39.2% – definitely yes) and the statement that they are able to communicate

instructions to children in a precise manner (45.3% – rather yes and 38.5% – definitely yes).

The situation was similar with the statement "I try to present arguments in my statements." The "definitely yes" responses accounted for 31.8%, and the "rather yes" responses accounted for 51.4%.

Fewer people said that they willingly engage in discussions with others (45.3% – rather yes and 31.8% – definitely yes), and almost one-fifth of respondents (18.9%) said that they found it difficult to answer this question.

The answers to the statement "I can talk clearly about problems that bother me" were completely different. In this case, as many as 35.1% of respondents were unable to answer this question unequivocally. Only 14.2% of teachers answered definitely yes and 38.5% answered rather yes.

Similarly, when asked "I like heated discussions conducted in a constructive manner," as many as 27.0% of teachers answered difficult to say and 12.8% rather no. The answers rather yes and definitely yes were 33.8% and 23.0%, respectively. Even more teachers had less decisive answers to the statement "I believe that in every difficult case, one should express one's opinion, even though it may hurt other people" (10.1% – rather not and 42.6% – difficult to say). Only 32.4% of respondents declared "rather yes" and 10.1% – definitely yes.

The last area analyzed was cooperation. More than half of the teachers (55.4%) responded rather yes to the statement in teamwork, "I achieve goals that are accepted by everyone," and 19.6% responded definitely yes. However, 20.9% of respondents did not give a clear answer in this case. It is satisfactory that the vast majority declared that they are able to work in a group (35.8% answered rather yes and 59.5% answered definitely yes). A similar number of respondents also believed that they take other people's views into account (35.1% answered rather yes and 58.8% answered definitely yes). The vast majority also stated that they are sensitive to other people's problems (27.7% answered rather yes and 66.9% answered definitely yes). Similar responses were given regarding the tendency to compromise when making group decisions. Half of the respondents answered definitely, and 40.5% answered rather yes. Even more teachers (25.0% answered rather yes and 70.9% answered definitely yes) declared that they would willingly help people who asked them for help.

Only 10.1% of respondents declared that their goals were more important than those of others, but 44.6% answered difficult to say. The answers were definitely not 14.2%, and rather not 28.4%.

A large number of teaching staff responded that they are able to listen actively to others (46.6% – rather yes and 41.2% – definitely yes). An equally large number of respondents said that it is worthwhile to negotiate in order to reach an agreement (35.8% – rather yes and 54.1% – definitely yes).

When it comes to performing tasks assigned by the headteacher, 14.9% (rather yes) and 4.1% (definitely yes) of respondents prefer to do so independently rather than as part of a team, while as many as 40.5% of respondents were unable to give a clear answer to this question. 27.0% (high degree) and 13.5% (very high degree) of respondents prefer to work in a team.

Results of Scientific Analysis

This section of the article will only show statistically significant correlations.

Data analysis showed that teachers aged 36–45 are more likely than others to deviate from patterns and encourage students to come up with new ways of solving a given task ($x^2 = 56.587$, $df = 16$, $p < 0.001$, $V(c) = 0.219$), encourage children to come up with their own original ways of solving a given task ($x^{(2)} = 65.409$, $df = 16$, $p < 0.001$, $V(c) = 0.235$), and to use innovative solutions ($x^2 = 45.814$, $df = 12$, $p < 0.001$, $Vc = 0.227$). The same age group more often than others stated that in their work they try to use their own new ideas to work with children ($x^2 = 86.215$, $df = 12$, $p < 0.001$, $V(c) = 0.312$) and use teaching methods they consider most effective ($x^{(2)} = 77.677$, $df = 12$, $p < 0.001$, $V(c) = 0.296$).

Table 1. Use of Own New Ideas at Work and Age

In my work, I am always looking for new ideas for conducting classes with children.		Age				
		Up to 25	26	36	46	56 and older
rather not	Number	4,000	0	0	0	0
	% in column	12.500	0.00	0	0.000	0.000
	% of total	1.351	0.000	0.000	0.000	0.000
difficult to say	Quantity	4,000	10,000	2,000	0	2
	% in column	12.500	8.475	1.923	0.000	50.000
	% of total	1.351	3.378	0.676	0.000	0.676
rather yes	Frequency	2,000	32,000	40,000	12,000	2,000
	% in column	6.250	27.119	38.462	31.579	50.000
	% of total	0.676	10.811	13.514	4.054	0.676

In my work, I am always looking for new ideas for conducting classes with children.		Age				
		Up to 25	26	36	46	56 and older
definitely yes	Number	22,000	76,000	62,000	26,000	0
	% in column	68.750	64.407	59.615	68.421	0.000
	% of total	7.432	25.676	20.946	8.784	0.000

$x^2 = 86.215$, $df = 12$, $p < 0.001$, $Vc = 0.312$. Source: own research.

On the other hand, teachers aged 46–56 were more likely than other age groups to declare that they were constantly looking for new ideas for teaching children ($x^2 = 66.802$, $df = 12$, $p < 0.001$, $Vc = 0.274$).

In turn, teachers with the highest professional promotion indicated more often than others that they base their work on teaching methods they have developed themselves ($x^2 = 29.803$, $df = 8$, $p < 0.001$, $Vc = 0.224$).

The results of the study also showed that certified teachers were more likely than others to indicate that they were not afraid to express their opinions during conversations with the principal ($x^2 = 35.348$, $df = 8$, $p < 0.001$, $Vc = 0.244$). In addition, certified teachers demonstrated greater self-confidence and interpersonal skills related to expressing their opinions during conversations with parents ($x^{(2)} = 45.496$, $df = 8$, $p < 0.001$, $V(c) = 0.277$).

Table 2. Expressing One's Opinion During a Conversation With the Principal and the Degree of Professional Advancement

I am not afraid to express my opinion during conversations with the principal.		Level of professional advancement			
		beginner	appointed	certified	Overall
definitely not	Number	10,000	2,000	0	12,000
	% in column	4.505	5.000	0.000	4.054
rather not	Quantities	30,000	6,000	2,000	38,000
	% in column	13.514	15.000	5.882	12.838
difficult to say	Number	72,000	0	4,000	76,000
	% in column	32.432	0.00	11.765	25.676

I am not afraid to express my opinion during conversations with the principal.		Level of professional advancement			
		beginner	appointed	certified	Overall
rather yes	Number	64,000	22,000	12,000	98,000
	% in column	28.829	55.000	35.294	33.108
definitely yes	Number	46,000	10,000	16,000	72,000
	% in column	20.721	25.000	47.059	24.324

$x^2 = 35.348$, $df = 8$, $p < 0.001$, $Vc = 0.244$, Source: own research.

As S. Graham-Clay (2024) points out, teachers are increasingly aware that communication between home and school is fundamental to parental involvement and student success, which is a welcome development.

The place of work also statistically differentiated the respondents' answers. It turned out that teachers from rural schools are more convinced that they are not afraid to talk to parents ($x^2 = 41.092$, $df = 8$, $p < 0.001$, $Vc = 0.263$). The same research group also declared that they are not afraid of criticism from students ($x^{(2)} = 29.766$, $df = 8$, $p < 0.001$, $V(c) = 0.224$).

Research by M. Trzcińska-Król and B. Pilipczuk (2015) showed that teachers from rural areas, compared to teachers from urban areas, rate the legitimacy of using such forms of communication as text messages, internet portals, discussion forums, chats, instant messengers, school newspapers, and pedagogical consultations in parent-teacher relations higher, which may also be important in relations with parents.

Place of residence also differentiated responses related to the willingness of teachers to perform tasks assigned by the headteacher independently. It turns out that teachers working in rural schools more often than others declared that they prefer to work alone ($x^2 = 29.443$, $df = 8$, $p < 0.001$, $Vc = 0.223$).

When it comes to communication, it turns out that teachers who completed a single-cycle master's degree (i.e., teachers with relatively little experience) expressed the highest level of ease in expressing their own needs compared to teachers who completed a two-cycle degree ($x^2 = 49.920$, $df = 6$, $p<0.001$, $Vc = 0.290$).

The data analysis also showed that teachers aged 36 to 45 are more open to new concepts and ideas than others ($x^2 = 53.389$, $df = 12$, $p < 0.001$, $Vc = 0.245$), and also claim that they can easily establish contact with other people ($x^2 = 53.398$, $df = 12$, $p < 0.001$, $V(c) = 0.245$) and are able to communicate instructions to children precisely ($x^2 = 31.013$, $df = 8$, $p < 0.001$, $Vc = 0.229$).

Table 3. Openness to New Concepts and Ideas and the Age of the Respondents

I am open to new concepts and ideas		Age					
		1	**2**	**3**	**4**	**5**	**All**
2	Quantity	0	4.000	0	2.000	0	6.000
	% in column	0.000	3.390	0.000	5.263	0.000	2.027
3	Number	10.000	4.000	6.000	10.000	2.000	32.000
	% in column	31.250	3.390	5.769	26.316	50.000	10.811
4	Quantities	6.000	56.000	40.000	16.000	2.000	120.000
	% in column	18.750	47.458	38.462	42.105	50.000	40.541
5	Quantities	16.000	54.000	58.000	10.000	0	138.000
	% in column	50.000	45.763	55.769	26.316	0.000	46.622

$x^2 = 53.389$, $df = 12$, $p < 0.001$, $Vc = 0.245$. Source: own research.

As shown in the OECD report prepared by V. Suarez and J. McGrath (2022), the teacher professional development model refers to the following effects of professional identity: teachers' participation in continuing professional development, their teaching practices, and teachers' commitment to their profession and decision to remain in it, which may be related to this age group.

In turn, respondents aged 46–55 were more likely than others to declare that they were willing to engage in discussion with other people ($x^2 = 69.382$, $df = 16$, $p < 0.001$, $Vc = 0.242$). This also applied to teachers with the longest seniority ($x^2 = 59.409$, $df = 12$, $p < 0.001$, $Vc = 0.259$), which is understandable.

In the area of cooperation, teachers aged 36-45 were more likely than others to declare that it is worthwhile to negotiate in order to reach an agreement ($x^2 = 60.655$, $df = 12$, $p < 0.001$, $Vc = 0.261$). In addition, they also stated more often that they were willing to help people who asked them for help ($x^{(2)} = 80.222$, $df = 12$, $p < 0.001$, $V(c) = 0.301$). Furthermore, teachers with a higher professional grade were more likely to say that they are able to listen actively to others ($x^{(2)} = 36.016$, $df = 8$, $p < 0.001$, $V(c) = 0.247$).

These skills are particularly important for teachers around the world, as emphasized by the authors of the TALIS study (OECD, 2025).

Conclusions and Recommendations

Research by J. Gralewski (2016) showed that teachers want to be creative and innovative, but social and educational pressure makes this difficult for them. Therefore, acting in good faith, teachers use proven and effective teaching methods which, in their opinion, ensure that students achieve high grades.

The data analysis showed that teachers in the 36–45 age group are characterized by the highest level of innovation, independence, and teaching proactivity in their self-assessment. Perhaps this manifests itself in a conscious departure from established patterns, the promotion of original thinking among students, and the use of original educational solutions. This may be related to their professional development and the attainment of higher professional qualifications.

Teachers aged 36–45, who are usually at the peak of their professional careers, already have significant practical experience, and at the same time remain open to professional development and changes in education, are more likely than other age groups to declare openness to new concepts and ideas.

In addition, this same group indicated more often than others that it is worthwhile to engage in negotiations to reach an agreement, which can be seen as a sign of high social and professional maturity among teachers of this age. Educational practice at this stage of life and professional career is often associated with a more developed awareness of interpersonal relationships, the need for joint action, and a greater understanding of the role of cooperation in the school environment.

Teachers with a higher professional promotion grade than others declare that they are able to listen actively to others, which may indicate that teachers at this stage of their career develop interpersonal and social competences, perhaps as a result of greater professional experience, participation in training or more frequent participation in task forces, where active listening is a key skill supporting effective cooperation.

Further conclusions relate to the fact that the experience and professional development of certified teachers translate into greater self-confidence in interpersonal contacts, both in vertical (with superiors) and horizontal (with parents) relationships. Such attitudes may result from longer service, participation in interpersonal training, the development of soft skills, as well as a natural increase in professional autonomy with each successive career level.

The results of the study suggest that teachers working in rural areas may be more accepting of criticism from their students and feel more at ease when talking to parents, which may be due to the more integrated nature of local communities and more frequent and less formal contacts with parents and students. This may also be related to the fact that some teachers previously taught parents and now teach their children, which is common in some rural schools. In addition, teachers working in rural schools

are more likely than their colleagues in cities and urban-rural municipalities to carry out tasks assigned by their superiors independently. This may be related to the nature of the work environment – in smaller schools, teachers often have to act more autonomously due to limited staff and greater organizational flexibility. In addition, this attitude may reflect a stronger sense of individual responsibility and a habit of solving problems independently, which is common in environments with lower levels of institutional support.

The younger generation of teachers – raised and educated in an environment with a greater emphasis on soft skills, who have completed a uniform master's degree program – demonstrate open communication and an individualized approach to work, and are more likely to articulate their own needs in the professional environment.

The results also indicate that people with longer seniority and those in middle age (45–56 years) may feel more confident in the professional environment, which makes it easier for them to speak up in situations requiring an exchange of opinions. On the one hand, this may result from developed self-confidence, knowledge of procedures, and interpersonal experience; on the other hand, it may result from an established position in the institutional structure.

References

Auzina, A. (2018). Teacher competences for facing challenges of globalisation in education. *Journal of Education Culture and Society*, *2*, 24-37. https://doi.org/10.15503/jecs20182.24.37

Budiyanto, Kabri, K., Harapan, E., & Purwanto, M.B. (2024). 21st century English learning: A revolution in skills, critical thinking, creativity, and visual communication. *Asian Journal of Applied Education (AJAE)*, *3*(1), 43–54. https://doi.org/10.55927/ajae.v3i1.7841

Burieva, K.E. (2025). Fostering critical thinking, communication, collaboration, and creativity in education: Global experiences and local implications. *American Journal of Innovation in Science, Research And Development*, *2*(2), 33–37.

Graham-Clay, S. (2024). Communicating With Parents 2.0: Strategies for teachers. *School Community Journal*, *1*, (34), 9–60.

Gralewski, J. (2016). Teachers' beliefs about creativity and possibilities for its development in Polish high schools: A qualitative study. *Creativity. Theories – Research – Applications*, *3*(2), 292–329. https://doi.org/10.1515/ctra-2016-0019

Kwiatkowski, S.T. (2017). Znaczenie kształcenia społeczno-emocjonalnego w rozwijaniu kluczowych kompetencji współczesnych nauczycieli. In S.T. Kwiatkowski & D. Walczak (Eds.), *Kompetencje interpersonalne w pracy współczesnego nauczyciela* (pp. 125–158). Wydawnictwo Akademii Pedagogiki Specjalnej.

Lamri, J. (2021). *Kompetencje XXI wieku. Kreatywność, komunikacja, krytyczne myślenie, kooperacja* (Zręda A., Trans.). Wolters Kluwer.

Łobocki, M. (2011). *Metody i techniki badań pedagogicznych*. Oficyna Wydawnicza Impuls.

Nazaruk, S.K., & Marchel, J. (2019). Diagnoza kompetencji zawodowych oraz potrzeb doskonalenia zawodowego nauczycieli wychowania przedszkolnego i edukacji wczesno-szkolnej. *Edukacja Elementarna w Teorii i Praktyce*, *14*(2/52), 55–76. https://doi.org/10.35765/eetp.2019.1452.04

Nowak, S. (1965). Concepts and indicators. In S. Nowak (Ed.), *Metody badań socjologicznych* (pp. 202–208). Państwowe Wydawnictwo Naukowe.

OECD. (2025). *TALIS teacher knowledge survey 2024 conceptual and assessment framework*. https://www.oecd.org/en/publications/talis-teacher-knowledge-survey-2024-conceptual-and-assessment-framework_65903902-en.html

Pilch, T. (1998). *Zasady badań pedagogicznych.* Wydawnictwo Akademickie Żak.

Stanikzai, M.I. (2023). Critical thinking, collaboration, creativity and communication skills among school students: A review paper. *European Journal of Theoretical and Applied Sciences*, *1*(5), 441–453. https://doi.org/10.59324/ejtas.2023.1(5).34

Suarez, V., & McGrath, J. (2022). Teacher professional identity: How to develop and support it in times of change. *OECD Education Working Papers*, 267. https://dx.doi.org/10.1787/b19f5af7-en

Thornhill-Miller, B., Camarda, A., Mercier, M., Burkhardt, J-M., Morisseau, T., Bourgeois-Bougrine, S., Vinchon, F., El Hayek, S., Augereau-Landais, M., & Mourey, F. (2023). Creativity, critical thinking, communication, and collaboration: Assessment, certification, and promotion of 21st century skills for the future of work and education. *Journal of Intelligence*, *11*(54), 1–32. https://doi.org/10.3390/ jintelligence11030054

Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times.* John Wiley & Sons.

Trzcińska-Król, M., & Pilipczuk, B. (2015). *Media w komunikacji nauczycieli i rodziców*. Wydawnictwo Akademii Pedagogiki Specjalnej.