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INCLUSIVE EDUCATION RESOURCES AND SPECIALIST TEACHERS - THE ROLE OF SUBJECTIVE AND INSTITUTIONAL FACTORS

Abstract

Objectives: *The objective of this study was to assess the resources available to teachers – namely, their attitudes, skills, knowledge, and agency – in the implementation of inclusive education throughout their professional careers.*
Material and methods: *The study employed the Inclusive Practices Questionnaire, adapted to the Polish educational context by G. Szumski and M. Karwowski. The research sample included 911 specialist teachers, providing a robust basis for quantitative analysis.*
Results: *Findings reveal that both the subject taught and institutional factors-such as professional seniority, job position, and the specific profile of the educational institution – significantly influence how teachers perceive their educational practices in terms of inclusiveness.*
Conclusions: *Inclusive education implementation is shaped not only by individual teacher characteristics but also by contextual and structural determinants. Supporting inclusive practices thus requires systemic efforts at the institutional level, tailored to the diverse profiles of educators and school environments.*

Keywords: *inclusive education, teacher agency, teacher competences, teacher attitudes, institutional factors*

Introduction

Inclusive education and the prerequisites for its development

Although inclusive education might seem to be an ambiguous concept, most scholars agree that the essence of inclusion is to ensure that all students have access to a public school and a general education programme (Ainscow, Booth and Dyson, 2006). The concept also highlights the need for quality education (Booth and Ainscow, 2002; Niholm, 2021).

Although many countries are trying to build and implement educational systems that meet these conditions, no country has managed to establish a fully inclusive system (cf. Anastasiou, Kauffman and Di Nuovo, 2015; Buchner et al., 2021; Mann et al., 2024). Therefore, inclusive education is often referred to as a process of continuous reform of the school system rather than as an

existing outcome. Effective implementation of inclusive education requires reforming the conventional school systems in terms of its culture, structures, organisation, and cooperation, as well as teaching methods and curricula (Nilholm, 2021). The process of reforming schools in line with the tenets of inclusive education depends on the actions of school staff, teachers, special educators and other professionals. Teachers and supporting staff members who are ill-prepared to implement inclusive education can hamper change and prevent inclusion (Dignath, Rimm-Kaufman, van Ewijk and Kunter, 2022), whereas those who are well prepared can take proactive measures that address the barriers and constraints inherent in the school system (Mu et al., 2015). Due to the crucial role played by teachers, special educators, and other professionals working in schools, studies on competence profiles of teachers involved in inclusive education have been conducted for years (cf. Dignath et al., 2022; European Agency for Special Needs and Inclusive Education, 2012; Li and Ruppar, 2020). Their aim is to identify competencies and features that are conducive to transforming conventional schools into inclusive schools. To be more precise, the aim is to provide a list of grounded and empirically verified models; however, it is important to bear in mind that the tasks of teachers working directly with students in classrooms and supporting staff tend to differ, as do their professional education paths. This requires a separate analysis of the preparation of specialist teachers (as they are referred to by the Polish school system) for implementing inclusive education principles.

Tasks of specialist teachers in the implementation of inclusive education

Specialist teachers – psychologists, educators, special educators, speech and language therapists as well as educational therapists all play important roles in the process of creating an accessible learning environment, even though they are not directly involved with teaching. In addition to typical activities pertaining to psychological and educational support, specialist teachers are expected to support teachers and tutors in identifying the causes of issues and behavioural problems experienced by students, adapting the ways of working to the individual developmental and educational needs of students

and their psychological and physical abilities, selecting methods, forms of education, and teaching aids to match students' needs as well as aid in solving educational problems[1]. Specialist teachers also serve as models for the subject teachers and non-teaching school staff by promoting the ideas of inclusion and actions that build an atmosphere of inclusion at school (Luneberg, Korhagen & Swennen, 2007). Knowledge and skill sharing by more experienced colleagues (including specialist teachers) is important for the development of young teachers' attitudes, beliefs and working methodologies (Thurlings & den Brok, 2018). Direct collaboration and learning from better-performing colleagues also results in more effective work with students (Jackson & Bruegmann, 2007). In the context of the arguments cited above, the task of specialist teachers to promote inclusion and initiate inclusive practices can naturally be carried out by working directly with school staff (Ainscow, 2020). Shifting the focus of specialist teachers towards the whole school approach is a solution implemented in many European countries (Webb, Michalopoulou, 2021; Carvalho et al., 2024). The need to combine the conventional tasks of school professionals (e.g., assessment, individual interventions) with new tasks (e.g., consultations, interdisciplinary collaboration and teamwork, leadership, advocacy) is sometimes justified in different ways (Anderson et al., 2007; Moliner & Fabregat, 2021). The justifications include the deepening diversity of student communities, and the greater effectiveness of proactive (universal design approach to education) as well as reactive measures during day-to-day classroom work. One can also see the notable shift in the educators' training model, from the categorisation paradigm to a relational one, which is based on ways of teaching that exploit the similarity of learning needs of students who are assigned different disability categories (Persson, 2003). In this context, the resources of specialist teachers pertaining to inclusive practices, which are linked directly to education, are particularly relevant to the process of inclusion in schools and kindergartens. This prompts a deeper analysis of the resources of specialist teachers, which are crucial from the point of view of their role as inclusion advocates in schools, as well as the factors that foster their development. These include knowledge, attitudes, the ability to implement solutions to foster the inclusion of students with diverse learning needs and agency. They can be modified by subjective factors (e.g., position, seniority)

and institutional factors (e.g., school type, number of students in the school, number of students with different learning needs, number of students with migration experience) related to teachers' professional experience.

Competence profile of specialist teachers in inclusive education and its determinants

The different resources of specialist teachers which enable them to promote inclusive education in schools consist of interconnected elements such as attitudes, knowledge and skills (Yada, Leskinen, Savolainen & Schwab, 2022). A certain *attitude* (e.g., 'children with diverse needs and disabilities should be allowed to attend a general school') requires a certain amount of *knowledge* (e.g., how to achieve this). The use of knowledge depends on one's *skills* (e.g., the ability to adapt the curriculum to the needs of specific students). According to the European Agency for Special Needs and Inclusive Education (2022), four core values are key to the development of the resources of a teacher implementing inclusive education, which need to be developed and reinforced in the process of developing professional competencies. They include: Valuing diversity and seeing differences between students as an advantage and an enabler of education; supporting all students in their development and progress; focus on collaboration and cooperation with other school staff; professional development and lifelong learning. Positive attitudes towards inclusive education are the foundation for taking appropriate action and developing in this area (Lautenbach & Heyder, 2019), while inconsistent beliefs or lack thereof concerning inclusive education carries the risk of counter-productive action (Fox et al., 2021).

Key factors positively correlated with attitudes concerning inclusive education include education focused on working with students with diverse learning needs (Aldosari, 2022) and, in the case of teachers who are working professionally, lifelong training and improving competencies concerning working with children with diverse needs (Coelho, 2017) and support from more experienced staff (Chow, 2024). Scholars highlight the tenets of professional development as the foundation for the attitudes and beliefs of future teachers (Leatherman & Niemeyer, 2007). The experience of working with students with diverse learning needs also fosters positive attitudes towards the idea of inclusion and

a belief in one's own agency in this regard (Miesera, DeVries, Jungjohann & Gebhardt, 2018). A meta-analysis of studies looking at potential correlations of teachers' skills and agency in the process of implementing inclusive education confirmed the significant role of education (including upskilling by active teachers), professional experience, and contact with students with disabilities as well as knowledge of strategies and methods for working with students with diverse learning needs (Wray, Sharma & Subban, 2022).

While there are a number of studies on teacher resources for inclusive education, there is a key knowledge gap concerning specialist teachers. In particular, there is a lack of studies that analyse the relationship between the resources of these teachers – such as attitudes, knowledge, skills and efficacy – and institutional and subjective factors (seniority, position, and character of the educational institution). Understanding the interplay between these areas can be important in shaping and developing the resources of specialist teachers in inclusive education.

The aim of the study discussed below is to assess the resources of specialist teachers aiding the implementation of inclusive education, including attitudes, skills, knowledge and agency in the context of supporting students with diverse learning needs, and to explore the role played by subjective (e.g., seniority, position) and institutional factors (e.g., number of students with different educational needs, school type) in shaping teachers' attitudes towards inclusive education. The paper also aims to reflect on and make recommendations concerning the training of specialist teachers in terms of developing important teaching resources to facilitate the implementation of accessible education for all.

Methodology and sample

The study was carried out using the Inclusive Practices Questionnaire by Mu et al. (2015) adapted to the Polish context by Grzegorz Szumski and Maciej Karwowski. It assesses teachers' resources pertaining to inclusive education, covering four dimensions: Attitudes, Knowledge, Skills and Agency. The tool comprises 34 statements. Respondents are asked to rate the extent to which they agree or disagree with a given statement using a 5-point scale,

where 1 means 'I strongly disagree' and 5 means 'I strongly agree'. The value of Cronbach's α coefficient for each dimension ranged from 0.76 to 0.95. The study also involved collecting data concerning the teacher's specialisation, seniority, professional level, postgraduate studies diplomas and character of the school (school type, number of students in the school, including students with different educational needs, students with migration experience, students with disabilities). In addition, demographic data (age, gender, place of residence) were also collected.

The survey was carried out within the framework of the 'Accessible School for All' project, which aims toimprove the competencies of specialist teachers in the area of providing tailored support to all audiences (children/students, parents, teachers). The project involves more than 1196 specialist teachers, employed in 471 schools and kindergartens, and the main form of support entails free training courses based on the concept of learning by doing. The issues covered during the training concern educational and upbringing issues, with proposed methodological, diagnostic, educational and therapeutic solutions, dubbed 'interventions'. Participants are being prepared to be the so-called Learning Accessibility Advisors, supporting other teachers (by means of a peer-mentoring model). The presented study involved 911 specialist teachers (special educators accounted for 36.2% of the group, educators made up 27.9%, psychologists – 22.9%, educational therapists – 19.9% and speech and language therapists – 16.6%), the majority of whom were women (97.8%). The largest group of participants live in rural areas (39.4%) and medium-sized towns (21.8%). Slightly fewer respondents came from cities with up to 20,000 residents (18.1%), cities with 100,000–500,000 residents (12.5%) and large cities with more than 500,000 residents (8.1%). The mean age of the subjects was just under 44 years *(M* = 43.79*; SD* = 6.85*)*. The average career duration in education was over 19 years *(M* = 19.09*; SD* = 9.72*)*, with teachers working in their current position for an average of nine and a half years *(M* = 9.57*; SD* = 8.98*)*. Among the respondents, qualified teachers accounted for 41.60%, nominated teachers – 24.80%, contract teachers – 19.20% and beginning teachers – 14.30%. The majority of teachers participating in the study worked in primary schools (76.20%), with smaller groups working in kindergartens (11.20%) and secondary schools (12.60%).

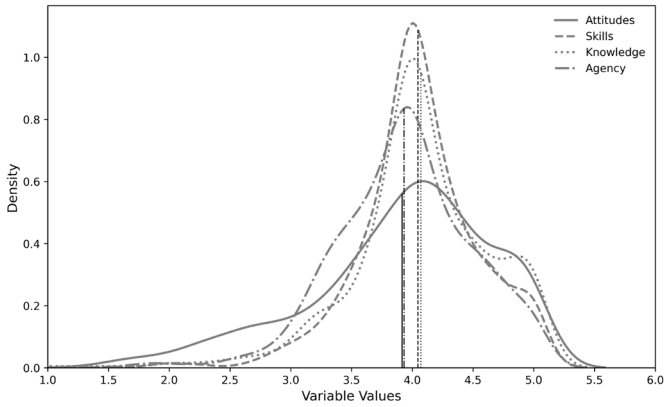
Data analysis process

Descriptive analyses – arithmetic means and standard deviations for each scale – were used for analytical purposes of analysis. Perason's linear correlation coefficient (r) was used to test the correlations between the scales. A two-level regression model was used to assess the significance of institutional and subjective factors in shaping attitudes towards inclusive education. The use of this analysis makes it possible to distinguish individual and group effects, making it possible to identify what part of the variability in results is due to individual differences (e.g., teachers' professional experience) and what part is due to differences between schools (e.g., the number of students with special needs in a particular institution).

Results

The average results on the scales of the Inclusive Practices Questionnaire fluctuated around 4 on a 5-point scale, suggesting a moderate acceptance of the claims concerning various aspects of resources available to specialist teachers, which are relevant to the implementation of inclusive practices (cf. Figure 1). Thus, one may conclude that respondents are generally moderately accepting of claims concerning inclusive practices, with minor deviations both above and below the mean value of 4 (corresponding to the response 'I would rather agree').

Figure 1. *Distribution of scores for each dimension of the Inclusive Practices Questionnaire*



The analysis of correlations between the four dimensions of the Inclusive Practices Questionnaire – attitudes, skills, knowledge and agency – displayed significant positive correlations between all variables (with $p < 0.05$). The strongest relationship was found between skills and knowledge ($r = 0.65$). Moderate positive correlations were observed between attitudes and skills ($r = 0.45$), knowledge ($r = 0.60$) and sense of agency ($r = 0.40$). In contrast, the correlation between skills and agency amounted to $r = 0.50$ and in the case of knowledge and agency, the result was $r = 0.55$. These findings suggest that attitudes, skills, knowledge and agency are all interconnected and form the foundation of effective inclusive practices.

The next stage of the study focused on factors influencing positive attitudes towards inclusive education among specialist teachers. Multiple regression analysis was used as a method in this stage, preceded by the estimation of the intraclass correlation coefficient (ICC), which measures the proportion of the total variance of a variable resulting from differences between groups. In an educational context, the ICC shows how much of the variance in results, e.g., teachers' knowledge levels, is due to differences between schools and how much is due to individual differences between teachers. The ICC for attitudes towards inclusive education was 0.112, meaning that 11.2% of the variance in teachers' attitudes can be attributed to differences between schools and the remaining 88.8% to individual differences. This means that while the context of a particular school has some influence on teachers' attitudes, the influence of individual characteristics and experiences has a far more significant bearing on that aspect.

The regression model explained 2.7% of the variance in teachers' attitudes towards inclusive education ($R^2 = 0.027$). Beginning teachers were characterised by more positive attitudes towards inclusive education than qualified teachers. Other variables, such as seniority and gender, were not linked with teachers' attitudes towards inclusive education.

At school level, the model explained 23.7% of the variance in teachers' attitudes towards inclusive education. A positive beta coefficient for the number of students with special educational needs indicates that teachers in schools with more special education students have a more positive attitude towards inclusive education, which may be due to their greater awareness and experience

of working with diverse needs. Other variables, such as the school type or the number of Ukrainian students, had no significant impact.

In summary, teachers at the outset of their careers and working in schools with more students with special needs tend to have more positive attitudes towards inclusive education.

Table 1. *Results of two-level regression analysis for Attitude predictors in the Inclusive Practices Questionnaire*

Value	Predictor	Beta factor	Std. dev.	Significance	R^2
Teacher					0.027
	Sex (Male)	-0.005	0.036	0.891	
	Career duration	0.086	0.057	0.132	
	Place of residence (city)	-0.048	0.047	0.308	
	Grade = nominated teacher[A]	-0.017	0.048	0.727	
	Promotion grade = contract teacher[A]	0.022	0.049	0.652	
	Promotion grade = beginning teacher[A]	0.145	0.055	0.008	
	Postgraduate studies diploma	0.02	0.034	0.553	
	Position: Educator	0.026	0.04	0.509	
	Position: Special educator	0.06	0.041	0.144	
	Position: Psychologist	-0.056	0.051	0.271	
	Position: Speech therapist	0.011	0.041	0.795	
	Position: Educational therapist	0.017	0.039	0.671	
School					0.237
	School type = Primary[B]	-0.07	0.154	0.648	
	School type = Secondary[B]	0.073	0.159	0.649	
	Number of students in the school	-0.131	0.186	0.483	
	Number of students with different needs in the school	0.545	0.205	0.008	
	Number of students with migration experience, from Ukraine	-0.149	0.138	0.281	
	Burden ratio (children with disabilities)	-0.029	0.143	0.837	

Note: [A] = *the reference category is certified teacher.* [B] = *the reference category is kindergarten.*

The subsequent stage of the study focused on identifying factors related to teachers' self-assessment of their skills in the area of inclusive education.

In this case, a two-level regression analysis was used once again, taking into account the characteristics of the teachers and the schools where they worked.

The intraclass correlation coefficient (ICC) for the Skills scale of the Inclusive Practices Questionnaire was 0.026, indicating that only 2.6% of the total variance in teacher skills scores can be attributed to differences between schools, meaning that as 97.4% is due to differences between teachers. This suggests that the skills assessed by the survey are largely shaped at the individual level and the significance of the school is negligible.

At the individual level, the model explained 3.9% of the variance in teachers' self-assessment of their inclusive education skills. A positive beta coefficient for seniority suggests that teachers with longer careers are more likely to rate their skills higher. Working as a special educator also proved to be a significant predictor, indicating that people holding this position have a higher self-assessment of their skills. The estimate for the speech therapist position was close to being significant, which also suggests higher self-esteem in this group. In contrast, variables such as gender, place of residence and working as an educator or psychologist did not have a significant impact on the assessment of one's skills.

At the school level, the model explained 72.7% of the variance in teachers' self-assessed skills. A positive beta coefficient for the number of students with special educational needs suggests that teachers in schools with more such students have a better view of their abilities. Other variables, such as the school type and the number of Ukrainian students, had no significant impact on teachers' self-assessment of their skills.

In summary, the analysis showed that, at the level of individual teachers, longer careers and being a special educator are associated with higher self-assessment of skills pertaining to inclusive education. At the school level, a higher number of students with special educational needs is associated with a more positive self-assessment of teachers' skills, highlighting the importance of experience and practice in working with diverse groups of students.

Table 2. *Results of two-level regression analysis for Skills predictors in the Inclusive Practices Questionnaire*

Level	Predictor	Beta factor	Std. dev.	Significance	R^2
Teacher					0.039
	Sex (Male)	-0.018	0.035	0.601	
	Career duration	0.113	0.054	0.038	
	Place of residence (city)	-0.05	0.041	0.218	
	Grade = nominated teacher[A]	0.071	0.044	0.104	
	Promotion grade = contract teacher[A]	0.034	0.049	0.482	
	Promotion grade = beginning teacher[A]	0.003	0.051	0.958	
	Postgraduate studies diploma	0.01	0.035	0.768	
	Position: Educator	0.033	0.04	0.412	
	Position: Special educator	0.107	0.042	0.010	
	Position: Psychologist	-0.003	0.05	0.960	
	Position: Speech therapist	0.077	0.039	0.050	
	Position: Educational therapist	0.064	0.037	0.084	
School					0.727
	School type = Primary[B]	-0.081	0.234	0.73	
	School type = Secondary[B]	-0.009	0.275	0.973	
	Number of students in the school	-0.146	0.294	0.619	
	Number of special education students in the school	0.905	0.455	0.046	
	Number of students with migration experience, from Ukraine	-0.431	0.276	0.119	
	Burden ratio (children with disabilities)	-0.008	0.263	0.977	

Note: [A] = *the reference category is certified teacher,* [B] = *the reference category is kindergarten.*

A further analysis highlighted factors influencing teachers' self-assessment of their inclusive education knowledge. The intraclass correlation coefficient (ICC) for the self-assessment of knowledge was 0.073, meaning that 7.3% of the total variance can be attributed to differences between schools, while the remaining 92.7% was due to individual differences between teachers. This result indicates that teachers' self-assessment of their knowledge is largely shaped by their individual characteristics and experiences, with the school context having only a moderate impact.

At the individual level, the model explained 5.1% of the variance in teachers' self-assessment of their inclusive education knowledge. Holding the position of a special educator appeared to be a significant predictor; as teachers in this role assessed their skills higher than the rest. A similar effect was observed in the case of educational therapists.

Other variables, such as gender, career duration, place of residence as well as working as as psychologist and speech therapist did not have a significant impact on teachers' self-assessment of their inclusive education knowledge. This shows that job roles, rather than general demographic characteristics, are particularly significant for teachers' confidence levels in this area.

At the institutional level, the model explained 29.8% of the variance in teachers' self-assessed knowledge. A positive beta coefficient for the number of students with special educational needs indicates that teachers working in schools with more such students had the tendency to assess their knowledge of inclusive education higher. Daily contact with students with diverse needs seems conducive to strengthening their sense of competence in this area. Other variables, such as the school type and the number of Ukrainian students with migration experience, had no significant impact on teachers' self-assessment of their knowledge. This suggests that the assessment of inclusive education knowledge hinges upon their direct experience of working with special education needs students rather than the general characteristics of the school.

The ultimate analysis focused on factors differentiating teachers' self-evaluation of their sense of agency in the area of inclusive education. The intraclass correlation coefficient (ICC) for the sense of agency was 0.073, meaning that 7.3% of the total variance can be attributed to differences between schools, while the remaining 92.7% was due to individual differences between teachers.

At the individual level, the model explained 3.9% of the variance in teachers' self-reported agency. The positive beta coefficient for the position of special educator suggests that people working as one tend to have a higher self-reported agency, likely due to their work with special needs students.

Table 3. *Results of two-level regression analysis for Knowledge predictors in the Inclusive Practices Questionnaire*

Level	Predictor	Beta factor	Std. dev.	Significance	R^2
Teacher					0.051
	Sex (Male)	-0.028	0.031	0.376	
	Career duration	0.096	0.058	0.096	
	Place of residence (city)	-0.08	0.043	0.064	
	Grade = nominated teacher[A]	0.016	0.044	0.724	
	Promotion grade = contract teacher[A]	0.002	0.047	0.972	
	Promotion grade = beginning teacher[A]	-0.055	0.055	0.324	
	Postgraduate studies diploma	0.016	0.034	0.633	
	Position: Educator	0.07	0.04	0.084	
	Position: Special educator	0.132	0.039	0.001	
	Position: Psychologist	0.049	0.048	0.31	
	Position: Speech therapist	0.032	0.039	0.407	
	Position: Educational therapist	0.101	0.036	0.005	
School					0.298
	School type = Primary[B]	-0.236	0.183	0.197	
	School type = Secondary[B]	-0.17	0.201	0.4	
	Number of students in the school	-0.13	0.203	0.524	
	Number of special education students in the school	0.586	0.251	0.02	
	Number of students with migration experience, from Ukraine	-0.177	0.148	0.233	
	Burden ratio (children with disabilities)	-0.014	0.202	0.943	

Note: [A] = *the reference category is certified teacher.* [B] = *the reference category is kindergarten.*

At the institutional level, the model explained as much as 82.9% of the variance in the perceived sense of agency ($R^2 = 0.829$), but none of the analysed predictors proved statistically significant, suggesting that the school context has a limited impact on teachers' sense of agency.

Table 4. *Results of two-level regression analysis for sense of agency predictors in the Inclusive Practices Questionnaire*

Level	Predictor	Beta factor	Std. dev.	Significance	R^2
Teacher					0.039
	Sex (Male)	-0.004	0.037	0.918	
	Career duration	0.092	0.053	0.086	
	Place of residence (city)	-0.068	0.04	0.092	
	Grade = nominated teacher[A]	0.016	0.045	0.727	
	Promotion grade = contract teacher[A]	-0.028	0.049	0.569	
	Promotion grade = beginning teacher[A]	-0.002	0.051	0.968	
	Postgraduate studies diploma	0.016	0.036	0.657	
	Position: Educator	0.077	0.038	0.042	
	Position: Special educator	0.103	0.038	0.007	
	Position: Psychologist	-0.009	0.048	0.848	
	Position: Speech therapist	0.041	0.04	0.310	
	Position: Educational therapist	0.041	0.035	0.248	
School					0.829
	School type = Primary[B]	-0.547	0.481	0.256	
	School type = Secondary[B]	-0.391	0.435	0.369	
	Number of students in the school	-0.151	0.36	0.674	
	Number of special education students in the school	0.865	0.77	0.261	
	Number of students with migration experience, from Ukraine	-0.173	0.304	0.570	
	Burden ratio (children with disabilities)	0.075	0.363	0.837	

Note: [A] = *the reference category is certified teacher.* [B] = *the reference category is kindergarten.*

Discussion of the results

The results obtained lead to the conclusion that specialist teachers have a moderately positive self-reported view of their competence in the area of inclusive education. The highest scores were recorded for the areas of skills and knowledge, suggesting that respondents feel ready to work with students with diverse learning needs. It is worth noting that these results were higher than scores recorded in international studies (cf. Mu et al., 2015), which highlighted the neutral (close to the middle of the scale) assessment of their personal inclusive education resources (e.g., de Boer et al., 2011; Dignath et al., 2022). The differences noted may have been caused by the specific characteristics of the sample group of specialist teachers. The majority of the cited international studies involved classroom teachers and special educators co-organising educational activities in classrooms, rather than specialist teachers; however, it is also plausible that the differences stem from cultural reasons, such as the tendency of Polish teachers to present themselves better and take care of their image. Unfortunately, there is no data that could contribute to a more comprehensive explanation of the results.

The results indicate the role of the position held (special educator) and seniority on the perception of one's skills and knowledge. It can likely be attributed to the professional training that the respondents underwent. The results are consistent with previous findings showing that special educators are characterised by the greatest openness towards inclusion among professionals who work in schools (Dignath et al., 2022; Guillemot et al., 2022).

At the institutional level, the number of students with special educational needs was the most significant factor determining the resources for inclusive education of specialist teachers. Forlani et al. (2021) noted that teachers are often accepting of the idea of inclusive education; however, their attitudes may depend on factors such as seniority and experience of working with students with special needs. The study by Sharma et al. (2018) as well as de Boer et al. (2011) confirm that experience is one of the key predictors of effectiveness in the field of inclusive education, as it allows teachers to develop knowledge and strategies that make them more effective. Teachers without such experience may have concerns or feel unprepared, which results in a lower sense of

agency and less readiness to use inclusive practices. The significant impact of institutional factors, such as the number of students with special educational needs enrolled in an establishment, indicates the importance of organisational support. Studies by Ferguson (2008) show that support from the school and collaboration between teachers increase the effectiveness of inclusive practices.

It should be noted that this study focuses on the influence of selected personal and institutional factors, leaving aside other plausible contextual variables, such as school culture, parental support, educational policies and specific teacher support programmes. These variables should be explored in future studies.

Practical implications

The results of the study outlined in this paper identify factors that correlate positively to the competence of specialist teachers in the implementation of inclusive education, including their job title, career duration and experience working with students with special educational needs. Within the group of respondents, the highest self-reported level of skills was recorded among special educators – experts trained to work with students with special educational needs and disabilities. These experts began working in kindergartens and general schools following the entry into force of the standards for the employment of specialist teachers in September 2022. These standards not only specify the minimum total number of educators, special educators, psychologists, speech therapists and educational therapists available in public and non-public kindergartens and schools, but also introduce a new position of special educator in mainstream schools and kindergartens. The results of the survey, which were presented above, point to the need to bolster the role of special educators as far as their tasks, assigned by the regulation of the Minister of Education and Science[2], namely working with teachers, parents and students, as well as with staff developing the Individual Therapy and Study Programmes, supporting teachers, educators and other specialists. Thanks to their professional experience, special educators can be mentors at their schools and support teachers in their educational work with groups characterised by diverse learning needs. Building peer support networks and interdisciplinary

cooperation between teachers with different levels of experience in schools can be important for developing competences and building resources for implementing the principles of inclusive education for both specialist and subject teachers. There is also a need for more hands-on training, especially for novice teachers. It is worth noting that the introduction of the specialist teacher employment standard has resulted in expanding the education workforce by more than 21,000 people. In schools, the role of specialist teachers included people whose university studies have ended and who need to build up their experience under the guidance of supervisors. The analyses presented also indicated the mutually supportive nature of the four components, namely attitudes, skills, knowledge and agency, which may provide guidance for building training programmes and other forms of professional development aimed not only at improving knowledge and skills, but also at shaping attitudes and fostering the sense of agency. Developing teachers' professional resources through relevant, cooperative learning-based, practice-oriented professional training will support schools in the implementation of inclusive education.

References

Ainscow, M., Booth, T., & Dyson, A. (2006). *Improving schools: Developing inclusion*. London: Routledge.

Ainscow, M. (2020). Promoting inclusion and equity in education: Lessons from international experiences. *Nordic Journal of Studies in Educational Policy.* https://doi.org/10.1080/20020317.2020.1729587

Aldosari, M. S. (2022). Factors affecting middle school teachers' attitudes toward the inclusion of students with disabilities. *Frontiers in Psychology, 13*, 853696. https://doi.org/10.3389/fpsyg.2022.853696

Anastasiou, D., Kauffman, J. M., & Di Nuovo, S. (2015). Inclusive education in Italy: Description and reflections on full inclusion. *European Journal of Special Needs Education, 30*, 429-443. https://doi.org/10.1080/08856257.2015.1060075

Anderson, C. J. K., Klassen, R. M., & Georgiou, G. K. (2007). Inclusion in Australia: What teachers say they need and what school psychologists can offer. *School Psychology International, 28*(2), 131-147. https://doi.org/10.1177/0143034307078086

Booth, T., & Ainscow, M. (2002). *Index for inclusion: Developing learning and participation in schools. Bristol*: Centre for Studies on Inclusive Education.

Buchner, T., Shevlin, M., Donovan, M., Gercke, M., Goll, H., Siska, J., Janyskova, K., Smogorzewska, J., Szumski, G., Vlachou, A., Demo, H., Feyerer, E., & Corby, D. (2021). Same progress for all? Inclusive education, the United Nations convention on the rights of persons with disabilities and students with intellectual disability in European countries. *Journal of Policy and Practice in Intellectual Disabilities, 18*(1), 7-22. https://doi.org/10.1111/jppi.12368

Carvalho, M., Serrão, R., Azevedo, H., Cruz, J., Alves, D., Martins, C., Marques, E., Fonseca, M., Tormenta, N., de Jesus, T., & Ramalho, S. (2024). School psychologists' training to support inclusive education in Portugal: Trainers' perspectives of opportunities, challenges, and improvements. *School Psychology International*. https://doi.org/10.1177/01430343241236487

Chow, W. S. E. (2024). Examining factors influencing teachers' intentions in implementing inclusive practices in Hong Kong classrooms. *Journal of Research in Special Educational Needs, 24*, 376-388. https://doi.org/10.1111/1471-3802.12632

Coelho, F., Blázquez, F., & Cubo, S. (2017). Teacher training, attitudes, and inclusion. *International Journal of Technology and Inclusive Education, 6*(1), 1032-1040.

De Boer, A., Pijl, S. J., & Minnaert, A. (2011). Regular primary schoolteachers' attitudes towards inclusive education: A review of the literature. *International Journal of Inclusive Education, 15*(3), 331-353.

Dignath, C., Rimm-Kaufman, S., van Ewijk, R., & Kunter, M. (2022). Teachers' beliefs about inclusive education and insights on what contributes to those beliefs: A meta-analytical study. *Educational Psychology Review, 34*, 2609-2660. https://doi.org/10.1007/s10648-022-09695-0

European Agency for Special Needs and Inclusive Education. (2022). *Profile for Inclusive Teacher Professional Learning.* Retrieved November 3, 2024, from https://www.european-agency.org/resources/publications/TPL4I-profile

Ferguson, D. L. (2008). International trends in inclusive education: The continuing challenge to teach each one and everyone. *European Journal of Special Needs Education, 23*(2), 109-120.

Forlani, G., Plazzotta, S., & Bonifacci, P. (2021). Teachers' attitudes towards inclusion: The role of experience, personal resources, and contextual variables. *International Journal of Disability, Development and Education, 68*(5), 683-701.

Fox, R. A., Leif, E. S., Moore, D. W., Furlonger, B., Anderson, A., & Sharma, U. (2021). A systematic review of the facilitators and barriers to the sustained implementation of school-wide positive behavioral interventions and supports. *Education and Treatment of Children, 44*(1), 1-22.

Guillemot, F., Lacroix, F., & Nocus, I. (2022). Teachers' attitude towards inclusive education from 2000 to 2020: An extended meta-analysis. *International Journal of Educational Research Open, 3*, 100175. https://doi.org/10.1016/j.ijedro.2022.100175

Jackson, C. K., & Bruegmann, E. (2009). Teaching students and teaching each other: The importance of peer learning for teachers. *American Economic Journal: Applied Economics, 1*(4), 85-108. https://doi.org/10.1257/app.1.4.85

Koliqi, D., & Zabeli, N. (2022). Variables affecting the attitudes of teachers towards inclusive education in Kosovo. *Cogent Education, 9*(1), 2143629. https://doi.org/10.1080/2331186X.2022.2143629

Lautenbach, F., & Heyder, A. (2019). Changing attitudes to inclusion in preservice teacher education: A systematic review. *Educational Research*. https://doi.org/10.1080/00131881.2019.1596035

Leatherman, J. M., & Niemeyer, J. A. (2005). Teachers' attitudes toward inclusion: Factors influencing classroom practice. *Journal of Early Childhood Teacher Education, 26*(1), 23-36. https://doi.org/10.1080/10901020590918979

Li, L., & Ruppar, A. (2021). Conceptualizing teacher agency for inclusive education: A systematic and international review. *Teacher Education and Special Education, 44*(1), 42-59. https://doi.org/10.1177/0888406420926976

Lunenberg, M., Korthagen, F., & Swennen, A. (2007). The teacher educator as a role model. *Teacher and Teacher Education, 23*(5), 586-601. https://doi.org/10.1016/j.tate.2006.11.001

Mann, G., Carrington, S., Lassig, C., Mavropoulou, S., Saggers, B., Poed, S., & Killingly, C. (2024). Closing special schools: Lessons from Canada. *The Australian Educational Researcher, 51*, 1729-1747. https://doi.org/10.1007/s13384-023-00661-5

Miesera, S., DeVries, J. M., Jungjohann, J., & Gebhardt, M. (2018). Correlation between attitudes, concerns, self-efficacy, and teaching intentions in inclusive education: Evidence from German pre-service teachers using international scales. *Journal of Research in Special Educational Needs, 19*(2), 103-114. https://doi.org/10.1111/1471-3802.12432

Miller, A. L., Wilt, C. L., Allcock, H. C., Kurth, J. A., Morningstar, M. E., & Ruppar, A. L. (2022). Teacher agency for inclusive education: An international scoping review. International *Journal of Inclusive Education, 26*(12), 1159-1177. https://doi.org/10.1080/13603116.2020.1789766

Moliner, O., & Fabregat, P. (2021). Nuevos roles y estrategias de asesoramiento psicopedagógico para promover la educación inclusiva en la Comunidad Valenciana. *Revista*

Española de Orientación y Psicopedagogía, 32(1), 59-75. https://doi.org/10.5944/reop.vol.32.num.1.2021.30740

Mu, G. M., Wang, Y., Wang, Z., Feng, Y., Deng, M., & Liang, S. (2015). An enquiry into the professional competence of inclusive education teachers in Beijing: Attitudes, knowledge, skills, and agency. *International Journal of Disability, Development and Education, 62*(6), 571-589. https://doi.org/10.1080/1034912X.2015.1077934

Nilholm, C. (2021). Research about inclusive education in 2020 – How can we improve our theories in order to change practice? *European Journal of Special Needs Education, 36*(3), 358-370. https://doi.org/10.1080/08856257.2020.1754547

Persson, B. (2003). Exclusive and inclusive discourses in special education research and policy in Sweden. *International Journal of Inclusive Education, 7*(3), 271-280.

Rozporządzenie Ministra Edukacji i Nauki z dnia 22 lipca 2022 r. w sprawie wykazu zajęć prowadzonych bezpośrednio z uczniami lub wychowankami albo na ich rzecz przez nauczycieli poradni psychologiczno-pedagogicznych oraz nauczycieli: pedagogów, pedagogów specjalnych, psychologów, logopedów, terapeutów pedagogicznych i doradców zawodowych. Dz. U. poz. 1610.

Schwab, S., & Alnahdi, G. (2020). Do they practise what they preach? Factors associated with teachers' use of inclusive teaching practices among in-service teachers. *Journal of Research in Special Educational Needs, 20*(4), 321-330. https://doi.org/10.1111/1471-3802.12492

Sharma, U., Loreman, T., & Forlin, C. (2018). Measuring teacher efficacy to implement inclusive practices. *Journal of Research in Special Educational Needs, 18*(3), 204-211.

van Steen, T., & Wilson, C. (2020). Individual and cultural factors in teachers' attitudes towards inclusion: A meta-analysis. *Teaching and Teacher Education, 95,* 103127. https://doi.org/10.1016/j.tate.2020.103127

Webb, F. A., & Michalopoulou, L. E. (2021). School psychologists as agents of change: Implementing MTSS in a rural school district. *Psychology in the Schools.*

Wray, E., Sharma, U., Subban, P. (2022). Factors influencing teacher self-efficacy for inclusive education: A systematic literature review. *Teaching and Teacher Education, 117*, https://doi.org/10.1016/j.tate.2022.103800.

Yada, A., Leskinen, M., Savolainen, H., & Schwab, S. (2022). Meta-analysis of the relationship between teachers' self-efficacy and attitudes toward inclusive education. *Teaching and Teacher Education, 109*, 103521. https://doi.org/10.1016/j.tate.2021.103521

Endnotes

[1] Regulation of the Minister of Education and Science of 22 July 2022 amending the regulation on the rules for organising and providing psychological and educational assistance in public kindergartens, schools and institutions (Dz. U. [Journal of Laws] of 2022, item 1594)

[2] Regulation of the Minister of Education and Science of 22 July 2022 amending the regulation on the rules for organising and providing psychological and educational assistance in public kindergartens, schools and institutions (Dz. U. [Journal of Laws] of 2022, item 1594).