



Accepted	: August 11, 2026
Revised	: October 2, 2026
Approved	: October 6, 2026
Published	: October 15, 2026

TEACHERS' PERSPECTIVE ON ADAPTING STEM LEARNING FOR STUDENTS WITH INTELLECTUAL DISABILITIES IN INCLUSIVE SCHOOLS: CHALLENGES AND INSTRUCTIONAL NEEDS

Citra Ashri Maulidina¹, Irah Kasirah², Indra Jaya³, Nia Maulidhia Ibrahim⁴, Hanna Aksalu⁵,
Nita Nitiya Intan Tanbrin⁶

^{1*,2,3} Department of Special Education, Universitas Negeri Jakarta, Rawamangun Muka Raya Street, RT11/RW 14, Rawamangun, Pulo Gadung District, East Jakarta, DKI Jakarta, Indonesia

⁴ Department of Biology Education, Universitas Pendidikan Indonesia, Dr. Setiabudhi Street No. 229, Bandung 40154, West Java, Indonesia

⁵ School of Governance, Law and Society, Talin University
Narva mnt 25, 10120 Tallinn, Estonia

⁶ Department of Special Education, Universitas Pendidikan Indonesia, Dr. Setiabudhi Street No. 229, Bandung 40154, West Java, Indonesia

*Corresponding Author. E-mail: citraashri@unj.ac.id

Abstract: Inclusive education requires instructional approaches that respond to the diverse learning of students with intellectual disabilities. STEM learning provides potential for concrete and meaningful learning experiences, but the implementation of STEM learning in inclusive schools remains inadequately. This study aimed to explore teachers' perspective on the implementation of STEM learning for students with intellectual disabilities and to identify the challenges and instructional needs for developing adaptive STEM learning resources, primarily for students with intellectual disabilities. A qualitative exploratory design was employed in five inclusive elementary schools in Pulogadung District, Jakarta, involving 33 teachers selected through purposive sampling. Data were collected through classroom observations, semi-structured interviews, and document analysis and analysed using qualitative descriptive analysis. The findings indicate that STEM-related learning is integrated into Coding, mathematics, and IPAS activities rather than implemented as a primary subject. The implementation in inclusive schools is constrained by limited special education preparation, lack of standardized STEM guidance, insufficient adaptive instructional resources, and workload and time constraints. These findings showed that practical and adaptive STEM learning resources should provide clear guidance for teachers and can be adjusted to the diverse learning needs of students with intellectual disabilities.

Keywords: Inclusive education; intellectual disabilities; STEM learning; teachers' perspectives.

INTRODUCTION

Inclusive education is a fundamental strategy for ensuring that all children have access to quality education, regardless of their background and condition (Buli-Holmberg & Jeyaprabhan, 2016; Gaitas et al., 2025; Shogren et al., 2015). Inclusive education involves as a process that addresses and response to the diverse needs of all students by promoting their active participation in learning, culture, and community (Johora, n.d.; Sharma & Sokal, 2016; Yada & Savolainen, 2017) Accordingly, inclusive education represents a critical component in advancing a more equitable, high-quality, and sustainable education system.

Students with intellectual disabilities possess the same rights to education and learning opportunities as their peers within inclusive school settings (Aulia et al., 2025; Hanan Midiyati et al., n.d.; Maulidina et al., 2025). However, their cognitive characteristic and limitations in adaptive functioning often necessitate extended information-processing time and more individualized instructional support. In this context, STEM (Science, Technology, Engineering, and Mathematics) based approaches are a potential alternative in educational practice, for instance approaches emphasize concrete, contextual and meaningful learning experiences, while also contributing to the development of social and emotional abilities and increasing confidence in students with intellectual disabilities (Chen et al., 2022; Da et al., 2025; Hughes et al., 2022; Istenic Starcic & Bagon, 2014; Lampthey et al., 2021). Appropriately, designed STEM approaches have proven effective in supporting learning in inclusive schools (Istenic

Starcic & Bagon, 2014; McDonald & Research Online, 2016). STEM is not merely a passing educational trend; numerous studies have demonstrated its benefits in providing positive stimulation for child development.

STEM learning develops problem-solving, communication, collaboration, and independent thinking through authentic and meaningful task. These competencies are important for students with intellectual disabilities because they support participation in school and everyday context. (Ata-Aktürk et al., 2026; Basham et al., 2010; Sarita & Wisudawati, 2024; Wing et al., 2021). It provides opportunities to develop functional knowledge, problem-solving abilities, and independent living skills that are essential for everyday life and community participation. STEM Learning is valuable for enhancing the quality of student's daily life especially students with intellectual disabilities.

In the Indonesian elementary school context, STEM is generally implemented as an interdisciplinary approach integrated across relevant subject areas and learning activities rather than as a primary subject. The Indonesian National Curriculum has also introduced Coding and AI as optional subject in elementary school, with opportunities for integration into other subjects and learning activities.

While previous studies have explained the potential of STEM learning for students with intellectual disabilities. Moreover, limited attention has been given to show how STEM learning can be adapted to the specific learning characteristic of students with intellectual disabilities in inclusive classroom. However, they lack structured guidance on how STEM should be adapted to the specific learning characteristics of students with intellectual disabilities. This gap particularly essential because teachers in inclusive school are often required to adapt learning activities to diverse student needs, while teachers have limited preparation in STEM and special education. Adaptive STEM learning resources and instructional needs are required for teachers in inclusive setting classroom.

Although previous studies have discussed the potential of STEM for students with intellectual disabilities. There is lack evidence that shows about how teachers in inclusive elementary schools adapt STEM-related learning for students with intellectual disabilities, particularly in context where teachers have limited preparation in both special education and adaptive STEM pedagogy.

As a result, this study explores teachers' perspective on STEM learning for students with intellectual disabilities, focusing on the adaptation, the challenges that teachers encounter, and the instructional needs that should be considered in developing adaptive STEM learning resources for students with intellectual disabilities. Without clear guidance for teachers in inclusive classrooms, they may have to rely on their own experiences by trial and error, which makes it hard to understand how to adapt STEM for students with intellectual disabilities in their classroom.

This study is expected to contribute the theoretical development of inclusive STEM education by providing empirical evidence on how STEM learning is currently understood and implemented from teachers' perspectives in inclusive elementary schools. While STEM education has increasingly been associated with experiential, interdisciplinary, and problem-based learning, its application for students with intellectual disabilities remains insufficiently conceptualized. The findings extend the discussion of inclusive STEM education by highlighting the importance of an adaptive approach that considers students' cognitive characteristics, learning pace, communication abilities, and need for concrete learning experiences. In this regard, the study proposes that STEM learning in inclusive settings should not merely involve transferring conventional STEM activities to students with disabilities, but should incorporate principles of differentiation, accessibility, scaffolding, and contextual adaptation. The study therefore contributes to the emerging theoretical perspective that effective STEM education for students with intellectual disabilities requires alignment among STEM competencies, inclusive pedagogy, teacher preparedness, and adaptive learning resources.

Practically, this study is expected to provide important implications for teachers, schools, and educational resource developers. The findings indicate that teachers require practical guidance and structured resources that translate STEM concepts into accessible learning activities for students with intellectual disabilities. Adaptive STEM resources should therefore include clear instructional procedures, concrete and visual learning materials, differentiated tasks, flexible levels of difficulty, and assessment strategies that accommodate diverse learning needs. For schools, the findings highlight the need to strengthen teacher professional development in both STEM pedagogy and special education, while also providing adequate time, collaboration, and institutional support for inclusive STEM implementation. For curriculum and learning-resource developers, the study provides an empirical basis for developing adaptive STEM resources specifically designed for inclusive elementary classrooms. More broadly, the findings can inform policymakers and educational institutions in developing guidelines and professional development programs that integrate STEM education with inclusive education principles. Thus, this study contributes not only to understanding the current challenges of STEM implementation but also to establishing a practical foundation for the development of more accessible, adaptive, and inclusive STEM learning resources for students with intellectual disabilities.

RESEARCH METHODOLOGY

This study used a qualitative approach with an exploratory research design. The qualitative approach is used to explore and understand teachers' perspective on the implementation of STEM learning for students with intellectual disabilities in inclusive schools in Jakarta. According to (Creswell, 2018) qualitative research is appropriate when research seek to explore and understand the meaning of the problem. The study involved 33 teachers from five inclusive elementary schools in Pulogadung District, East Jakarta. Participants were selected based on their teaching experiences in inclusive classrooms. There were 33 participants, while one participant had a background in Special Education and other participants were graduated of Primary School Teacher Education. This characteristic is crucial

for understanding teachers' experiences and instructional needs in adaptive STEM learning for students with intellectual disabilities.

Data were collected through classroom observations, semi-structured interviews, and document analysis. Classroom observations were conducted in five inclusive elementary schools to observe the implementation of STEM learning and how teachers adapted learning activities for students with intellectual disabilities. Semi-structured interview was conducted with teachers to investigate teachers' understanding and experiences of STEM learning. Document analysis was conducted to obtain supporting data from curriculum materials, students' assessment, and their learning needs.

The data were analyzed using qualitative descriptive analysis. Classroom observations, interview, and document data were reviewed to identify information related to STEM implementation, adaptation, challenges, and teachers' instructional needs. The findings were then organized and described to provide STEM learning was implemented for students with intellectual disabilities in inclusive classrooms.

RESULTS AND DISCUSSION

Results

The findings identified three main areas related to STEM learning for students with intellectual disabilities in inclusive elementary schools: (1) STEM implementation and instructional adaptation, (2) challenges in implementing and adapting STEM learning, and (3) teachers' instructional needs for adaptive STEM learning.

First, regarding STEM implementation and instructional adaptation, among 33 teachers, only one had a background in special education. This teacher demonstrated more explicit in differentiation strategies, including simplifying learning materials and learning objectives. In contrast, teachers with primary school education background reported limited understanding of differentiated STEM instruction for students with intellectual disabilities.

The teacher with a special education background used two main differentiation strategies. First, the teacher simplified the learning materials even though sometimes when teacher had a high administrative workload, student with intellectual disabilities sometimes received non-STEM integrated learning while other students participated in STEM learning activities. For instance, in a Grade 5, there is a lesson about the human body system, including the respiratory, digestive, and circulatory systems, other students learned about the detailed process of breathing, digestion, and blood circulation. For the students with intellectual disabilities, teacher simplified the material by using simple visual aids such as flashcards. Second, teacher simplified the learning objectives based on student learning need.

Meanwhile, among 32 teachers with primary school education background reported limited understanding of how implement differentiated STEM learning for students with intellectual disabilities in their classrooms. They reported difficulties in modifying instructional content and learning materials according to students' individual learning needs. Although inclusive education is part of the education policy in Jakarta, this policy has not been fully accompanied by sufficient support and training for teachers in inclusive schools, particularly in special education.

Regarding challenges in implementing and adapting STEM learning demonstrated that there is no standardized STEM guidelines specifically developed to support teachers in adaptive STEM instruction for students with intellectual disabilities. As a result, teachers do not consistently adapt learning materials to meet the individual learning needs of students with intellectual disabilities. Consequently, teachers in inclusive classrooms often lack adaptive learning modules and instructional media that can be used in their classrooms. In addition, students with intellectual disabilities may require repeated instruction, continuous reinforcement, and consistent learning experiences, which can be challenging for teachers when managing heterogenous classrooms.

Finally, findings identified teachers' needs for practical guidance and instructional resources to support adaptive STEM learning. Teachers reported that they needed clear guidance on how simplify learning content, adjust instructional demand, and select appropriate materials and activities while maintaining students with intellectual disabilities. Therefore, teachers need learning resources that provide clear guidance on how to simplify learning content, adjust instructional demands, and use appropriate materials and activities while keeping students with intellectual disabilities connected to the STEM learning context as their peers. Such resources are needed to support teachers in providing more accessible and meaningful STEM learning experiences in inclusive classrooms.

Discussion

Inclusive education ensures that every student, including those with intellectual disabilities, have equitable access to learning opportunities that respond to their individual learning needs. Students with intellectual disabilities may require concrete, structured, repetitive, visual, and differentiated learning experiences to participate in inclusive classroom based on their learning characteristic (Breau et al., 2018; Simpson et al., 2016). Students with intellectual disabilities may require adjustments in the learning process because of their intellectual functioning and adaptive behavior. Appropriate support and learning stimulation are therefore needed to help them participate actively in their learning and social environments.

STEM is one of the learning approaches implemented in Indonesian elementary schools, and the government supports the development of STEM within the school learning process (Fajrin et al., 2023). The integration of STEM into instruction within inclusive schools in Indonesia is an area currently undergoing further development. Adopting a STEM-based approach in inclusive schools offers significant potential to enhance student engagement, facilitate conceptual understanding, and foster social and emotional development.

Differentiated instruction has not yet been systematically implemented for students with disabilities in inclusive classrooms, including within integrated STEM learning. Teachers without a background in special education may

lack the knowledge and skills needed to implement differentiated instruction, despite differentiated instruction being essential for addressing students with intellectual disabilities. This finding is consistent with previous research indicating that teachers in inclusive settings may experience difficulties related to limited training, resources, and institutional support (Sari et al., 2022; Wibowo & Muin, 2018). Studies indicate that many teachers in inclusive settings possess a limited understanding of special needs education and lack familiarity with effective classroom management strategies for these students (Ediyanto et al., 2021; Sheehy et al., 2019). This deficiency stems from several contributing factors, such as inadequate training, excessive workloads, insufficient facilities and support, a lack of emotional and psychological backing, and poor collaboration. The absence of proper teacher training and knowledge in inclusive schools is a central issue. Therefore, government policy should prioritize systematic training for educators in inclusive schools to strengthen their knowledge and skills in implementing effective differentiated instruction for students with special needs.

Teachers in inclusive schools often lack specific guidelines for accommodating children with intellectual disabilities in their classrooms (Jayanto & Saputro, 2026). Rather, learning content and instructional processes may need to be adapted to their individual learning needs. Consequently, appropriate adjustments are essential to help them access concept and participate meaningfully in the learning process. Instructional guidelines can support teachers to teach effectively for students with intellectual disabilities in inclusive classrooms, particularly given the current lack of specific guidance on students' characteristic, appropriate instructional approaches, and necessary classroom adjustments. Such guidelines could provide practical guidance on identifying students' individual learning needs, simplifying instructions, adapting learning activities, and providing step-by-step demonstrations and scaffolding during classroom instructions.

Adopting a STEM-based approach in inclusive schools offers significant potential to enhance student engagement, facilitate conceptual understanding, and foster social and emotional development. The findings provide several implications for the development of adaptive STEM learning resource for teachers in inclusive schools. First, these resources should provide clear and practical guidance, particularly for teachers without special education background. Previous research has highlighted the importance of teacher professional development and support in adapting STEM learning to the needs and abilities of students with intellectual disabilities (So et al., 2021). Second, STEM activities should be adaptable for students with intellectual disabilities based on their learning characteristic. Research on STEM education for students with intellectual disabilities has suggested adaptation such as breaking activities into smaller steps, providing appropriate tools and resources.

Third, activities should incorporate concrete materials, simplified instructions, simplifying learning content, breaking activities into steps, providing visual support, repetition, and contextual learning experiences to facilitate students with intellectual disabilities to meaningful participation in STEM (Da et al., 2025; Wood et al., 2025). Adaptation is essential to ensure that students with intellectual disabilities can access and engage in learning experiences that are responsive to their individual needs and learning characteristics. In the context of integrated STEM education in inclusive schools, appropriate instructional adaptations can support teachers in facilitating meaningful learning experiences while enabling students to participate more effectively in learning process.

CONCLUSION

This study explained the challenges faced by teachers in implementing and adapting STEM learning for students with intellectual disabilities in inclusive elementary schools in Jakarta. Although teachers have integrated STEM-related activities into classroom learning, differentiated STEM instructions remains limited due to teachers' limited preparation in special education, the lack of guidance, and insufficient adaptive instructional resources. The findings showed that practical and adaptive STEM learning resources are needed to provide clear guidance on adapting learning content, materials, and instructional support to students' individual learning needs.

This study is limited by its focus on teachers' perspectives from five inclusive elementary schools in one district of Jakarta, which may limit the transferability of the findings to other geographical contexts and inclusive school settings. In addition, the study primarily reflects teachers' experiences and does not directly capture the perspectives and learning outcomes of students with intellectual disabilities. Future research should involve a broader range of inclusive schools across different regions and incorporate the perspectives of students with intellectual disabilities, parents, and other relevant stakeholders. It is also recommended that subsequent studies develop and empirically test adaptive STEM learning resources based on the identified instructional needs, using experimental or design-based research to examine their effectiveness in improving students' STEM engagement, learning outcomes, and functional skills.

REFERENCES

- Adhelacahya Kevin, S. A. R. (2020). Inovasi Pembelajaran Berbasis Science, Technology, Engineering And Mathematics (Stem) Pada Anak Berkebutuhan Khusus Di Era Revolusi Industri 4.0.
- Ata-Aktürk, A., Capraro, R. M., Capraro, M. M., & Ozturk, S. (2026). STEM Education for Children with Disabilities: A Systematic Review. In *Early Childhood Education Journal* (Vol. 54, Number 4, pp. 3095–3110). Springer Science and Business Media B.V. <https://doi.org/10.1007/s10643-025-02069-5>
- Aulia, R., Maulidina, A., & Taboer, C. A. (2025). Investigating Social Stigma of Children with Intellectual Disabilities. *International Disability Innovation Journal (IDIJ)*, 01(02), 73–82.
- Basham, J. D., Israel, M., & Maynard, K. (2010). An Ecological Model of STEM Education: Operationalizing STEM FOR ALL. In *Journal of Special Education Technology JSET* (Vol. 25).
- Breau, L. M., Aston, M., & MacLeod, E. (2018). Education creates comfort and challenges stigma towards children with intellectual disabilities. *Journal of Intellectual Disabilities*, 22(1), 18–32. <https://doi.org/10.1177/1744629516667892>
- Buli-Holmberg, J., & Jeyaprabhan, S. (2016). EFFECTIVE PRACTICE IN INCLUSIVE AND SPECIAL NEEDS EDUCATION. In *INTERNATIONAL JOURNAL OF SPECIAL EDUCATION* (Vol. 31, Number 1).
- Chen, Y. L., Murthi, K., Martin, W., Vidiksis, R., Riccio, A., & Patten, K. (2022). Experiences of Students, Teachers, and Parents Participating in an Inclusive, School-Based Informal Engineering Education Program. *Journal of Autism and Developmental Disorders*, 52(8), 3574–3585. <https://doi.org/10.1007/s10803-021-05230-2>
- Creswell, W. (2018). *Qualitative Inquiry & Research Design Choosing Among Five Approaches*.
- Da, F., Ma, Y., Ma, M., Mao, J., Weng, Z., Yang, C., & Wang, T. (2025). Effects of STEM learning on students with autism spectrum disorder and students with intellectual disability: a systematic review and meta-analysis. *Humanities and Social Sciences Communications*, 12(1). <https://doi.org/10.1057/s41599-025-05292-y>
- Ediyanto, E., Kawai, N., Hayashida, M., Matsumiya, N., Siddik, M. A. B., & Almutairi, A. T. (2021). Indonesian Teachers' Attitudes Toward Inclusive Education. *Discourse and Communication for Sustainable Education*, 12(2), 31–44. <https://doi.org/10.2478/dcse-2021-0014>
- Fajrin, C. E., Ningsih, S. W. W., Kartini, Saputra, A., Khoiriyah, U., & Duma, M. (2023). Student and Teacher Collaboration in Developing STEM-Based Learning Modules and Pancasila Student Profiles. *JPI (Jurnal Pendidikan Indonesia)*, 12(1), 39–49. <https://doi.org/10.23887/jpiundiksha.v12i1.52704>
- Gaitas, S., Pipa, J., & Botelho, M. (2025). Inclusive horizons: School psychologists' efficacy profiles in inclusive education. *School Psychology International*. <https://doi.org/10.1177/01430343241312903>
- Hanan Midiyati, S., Izzaty, M., Hayaatun Nufus, N., Nur Anisa Ramadhani, T., Intikhon, M., Ashri Maulidina, C., & Arif Taboer, M. (n.d.). Literature Review: The Influence of Social Stigma on Children with Intellectual Disabilities. *International Disability Innovation Journal (IDIJ)*, 01(02), 3110–8105.
- Hughes, C. E., Dieker, L. A., Glavey, E. M., Hines, R. A., Wilkins, I., Ingraham, K., Bukaty, C. A., Ali, K., Shah, S., Murphy, J., & Taylor, M. S. (2022). RAISE: Robotics & AI to improve STEM and social skills for elementary school students. *Frontiers in Virtual Reality*, 3. <https://doi.org/10.3389/frvir.2022.968312>
- Istemic Starcic, A., & Bagon, S. (2014). ICT-supported learning for inclusion of people with special needs: Review of seven educational technology journals, 1970-2011. In *British Journal of Educational Technology* (Vol. 45, Number 2, pp. 202–230). <https://doi.org/10.1111/bjet.12086>
- Jayanto, P., & Saputro, T. V. D. (2026). IMPLEMENTASI STEM DI SEKOLAH DASAR DALAM MENGHADAPI TANTANGAN PEMBELAJARAN DAN PENDEKATAN PENDIDIKAN ABAD KE 21. *ELEMENTARY: Jurnal Inovasi Pendidikan Dasar*, 6(2), 252–262. <https://doi.org/10.51878/elementary.v6i2.9443>
- Johora, F. T. (n.d.). *Inclusive Education: Participation of Children with Disabilities in Australian Mainstream Preschools*.
- Lamprey, D. L., Cagliostro, E., Srikanthan, D., Hong, S., Dief, S., & Lindsay, S. (2021). Assessing the Impact of an Adapted Robotics Programme on Interest in Science, Technology, Engineering and Mathematics (STEM) among Children with Disabilities. *International Journal of Disability, Development and Education*, 68(1), 62–77. <https://doi.org/10.1080/1034912X.2019.1650902>
- Maulidina, C. A., Jaya, I., Lianty, L., Taboer, M. A., Kasirah, I., & Rizki, R. (2025). The Role of Schools in Family-Resource Interventions to Improve Family Quality Of Life in Children with Intellectual Disabilities. *JIV- Jurnal Ilmiah Visi*, 20(1), 10–14. <https://doi.org/10.21009/jiv.2001.2>
- Mcdonald, C., & Research Online, G. (2016). STEM Education: A review of the contribution of the disciplines of science, technology, engineering and mathematics Author Journal Title Science Education International Version Rights statement Link to published version. http://hdl.handle.net/10072/380672http://www.icasonline.net/seiweb/index.php?option=com_content&view=article&id=142:vol27-4-december&catid=41:archive-2011-2014&Itemid=119
- Sarita, M. R., & Wisudawati, A. W. (2024). Enhancing 21st Century Skills in Students with Special Needs

- Through STEM Learning. *JTK (Jurnal Tadris Kimiya)*, 9(2), 209–219. <https://doi.org/10.15575/jtk.v9i2.38883>
- Sharma, U., & Sokal, L. (2016). Can teachers' self-reported efficacy, concerns, and attitudes toward inclusion scores predict their actual inclusive classroom practices? In *Australasian Journal of Special Education* (Vol. 40, Number 1, pp. 21–38). Cambridge University Press. <https://doi.org/10.1017/jse.2015.14>
- Sheehy, K., Budiyo, Kaye, H., & Rofiah, K. (2019). Indonesian teachers' epistemological beliefs and inclusive education. *Journal of Intellectual Disabilities*, 23(1), 39–56. <https://doi.org/10.1177/1744629517717613>
- Shogren, K. A., Gross, J. M. S., Forber-Pratt, A. J., Francis, G. L., Satter, A. L., Blue-Banning, M., & Hill, C. (2015). The perspectives of students with and without disabilities on inclusive schools. In *Research and Practice for Persons with Severe Disabilities* (Vol. 40, Number 4, pp. 243–260). SAGE Publications Inc. <https://doi.org/10.1177/1540796915583493>
- Simpson, N., Mizen, L., & Cooper, S. A. (2016). Intellectual disabilities. In *Medicine (United Kingdom)* (Vol. 44, Number 11, pp. 679–682). Elsevier Ltd. <https://doi.org/10.1016/j.mpmed.2016.08.008>
- So, W. W. M., He, Q., Cheng, I. N. Y., Lee, T. T. H., & Li, W. C. (2021). Teachers' Professional Development with Peer Coaching to Support Students with Intellectual Disabilities in STEM Learning.
- Wing, W., So, M., He, Q., Nga, I., Cheng, Y., Tai, T., Lee, H., & Li, W. C. (2021). International Forum of Educational Technology & Society Teachers' Professional Development with Peer Coaching to Support Students with Intellectual Disabilities in STEM Learning. *Technology & Society*, 24(4), 86–98. <https://doi.org/10.2307/48629247>
- Yada, A., & Savolainen, H. (2017). Japanese in-service teachers' attitudes toward inclusive education and self-efficacy for inclusive practices. *Teaching and Teacher Education*, 64, 222–229. <https://doi.org/10.1016/j.tate.2017.02.005>