

ORIGINAL ARTICLE

The effect of Aquaexplorers module implementation on special education teachers' self-confidence: A mixed-methods analysis

N. A. Samsudin¹  | M. Supermaniam¹ | N. A. Izhar¹ | F. Q. Rozaimi²¹School of Educational Studies, Universiti Sains Malaysia, Penang, Malaysia²Faculty of Education, Social Studies and Humanities, Universiti Poly-Tech Malaysia, Kuala Lumpur, Malaysia**Correspondence**

M. Supermaniam, School of Educational Studies, Universiti Sains Malaysia, 18000 USM, Penang, Malaysia.

Email: murugesu@usm.my**Abstract**

Although aquatic activities are commonly used in special education classes in Penang, Malaysia, there are no specific modules and training that can be used as guidance for the special education teachers conducting these activities. This drawback has contributed to teachers' low self-confidence when conducting their teaching and learning sessions, which can affect their students' level of comprehension and progress in their lessons. Therefore, this study focuses on the Aquaexplorers module to discover its effect on the self-confidence of special education teachers in Penang. A mixed-methods approach is used with 120 special education teachers on the implementation of the Aquaexplorers module. A pre-post test consisting of a questionnaire was given before and after the course to investigate the effect of module implementation on the participants' self-confidence in conducting water activities. A semi-structured interview was performed to acquire supportive qualitative data, analysed using NVivo. Results of a paired t-test showed that there is a significant difference ($p < 0.05$) between the pre- and post-test in participants' levels of self-confidence, and results from the analysis of the interview data using NVivo supported the quantitative findings, leading to our rejection of the null hypothesis.

KEYWORDS

aquatic activities, modules, self-confidence, special education, teachers

Key points

- The Aquaexplorers module significantly improved the self-confidence of special education teachers in conducting water activities. This change empowered teachers to create more engaging and effective aquatic learning experiences for students with special needs.
- The module provided structured guidance, clear instructions and practical activities, filling a long-standing gap in aquatic education for special education teachers, especially those with limited swimming experience.
- By aligning with constructivist and experiential learning theories, the module fostered hands-on learning experiences, improving teachers' skills and positively impacting on students' confidence, engagement and progress in water activities.
- The Aquaexplorers module's flexible, step-by-step structure allowed teachers to adapt sessions based on students' abilities, ensuring inclusive, safe and enjoyable aquatic experiences while enhancing teacher collaboration and peer support.

INTRODUCTION

In the Malaysian education context, special needs are defined as the educational requirements of students with disabilities or exceptionalities that necessitate additional support to facilitate their learning and development (Lan, 2024). According to the Sun Daily (2020), there were over 93,000 students with special needs enrolled in Malaysian public schools in 2020, representing approximately 1.9% of the total student population. Special educational needs in Malaysia encompasses a diverse group of students classified under various categories, such as learning disabled, speech impaired, emotionally disturbed, mentally challenged, visually or hearing impaired, physically or multiply handicapped, and other health impairments (Lan, 2024). The Malaysian Ministry of Education emphasises the optimal development of children with special needs to enable them to become skilled, independent individuals who are ready to adapt to society (Lan, 2024).

Regarding the educational placement of students with special needs in Malaysia, there has been a transition from traditional special education practices towards inclusive education (Jakovchevska, 2024). Initially, students with special needs were segregated into separate classrooms or educational settings, but there is now a move towards inclusive placements whereby these students are placed into general educational settings alongside their peers without disabilities (Jakovchevska, 2024). This shift aligns with the Malaysian Ministry of Education's initiative to include students with special educational needs in national schools to promote awareness of their educational rights and foster societal harmony (Jakovchevska, 2024).

The placement of students with special needs in Malaysia is guided by the principle of providing a free, appropriate public education in the least restrictive environment, similar to that mandated by the Individuals with Disabilities Education Act (IDEA) in the USA (Katsiyannis et al., 1996). This approach aims to ensure that students with disabilities receive services tailored to meet their individual needs, while promoting their social participation in mainstream school settings. In Malaysia, this principle is reflected in the Education Act 1996, which emphasises access to education for all children, including those with disabilities, and the Persons with Disabilities Act 2008, which reinforces the rights of individuals with disabilities to education, employment and social inclusion. Additionally, the Malaysia Education Blueprint 2013–2025 (Ministry of Education Malaysia, 2013) and the Inclusive Education Programme (IEP) further support the placement of students with special needs in mainstream classrooms with appropriate accommodations and resources.

Research indicates that inclusive placements benefit students with special needs by enhancing their academic achievement, socio-emotional development and overall

well-being (Sallin, 2021). Inclusive education is a critical component of ensuring that every child has access to quality education (UNICEF, 2020). According to UNESCO (2017), inclusive and equitable education is essential. The 2030 Agenda for Sustainable Development emphasises the importance of inclusive education for all (UN, 2015). Inclusive education also brings about positive outcomes for students without special needs. By learning alongside peers with diverse abilities, these students often develop better social skills, empathy and understanding (De Boer et al., 2013). Inclusive classrooms also provide opportunities for students with special needs to improve leadership, teamwork and problem-solving skills.

In order to prepare students with special educational needs for participating in an inclusive classroom, diverse pedagogical approaches have been used, including Learning Outside the Classroom (LOC). LOC, introduced by the Malaysian Ministry of Education in 2000, offers structured activities outside traditional classrooms, aiming to enhance learning experiences. These student-centred activities, as outlined in Ministry guidelines (Ministry of Education Malaysia, 2005), foster a progressive learning environment, encouraging contextual understanding and promoting socialisation among students with special needs (Sulaiman et al., 2011).

In Penang, LOC activities conducted by special education classes frequently involve land-based activities like horse riding and bowling, alongside aquatic endeavours like swimming (Penang State Education Department, 2023). Due to teacher qualifications and confidence limitations, aquatic activities are supervised by external parties with appropriate certification (Penang State Education Department, 2023). For special education teachers, cultivating self-confidence is crucial, as it influences the quality of learning experiences and student self-assurance (Kharani, 2019). This is particularly relevant in the context of LOC, which provides valuable opportunities for students to develop independence, problem-solving skills and resilience. By engaging in hands-on, real-world experiences outside the traditional classroom setting, students can apply their learning in meaningful ways, strengthening their self-confidence and social skills. For special education students, these experiences are especially beneficial, as they encourage exploration, improve communication abilities, and build a sense of achievement. Consequently, special education teachers who confidently facilitate LOC activities can enhance both the effectiveness of their own teaching and their students' overall development.

Research suggests that expanding professional knowledge and skills, participating in collaborative learning communities, and gaining teaching experience are vital for enhancing teachers' self-confidence (Nolan & Molla, 2017). Teachers' confidence levels significantly impact on their ability to manage challenging behaviours in students with special educational needs, with experience being a key

contributor (Byrd & Alexander, 2020). Lack of experience can pose challenges in conducting water activities for students with special educational needs, highlighting the importance of teacher self-confidence (Chao et al., 2017).

Management of water activities in special education classes

In Malaysia, water activities with specific guidelines for students with special educational needs have never been utilised in special education classes. Generally, special education teachers who conducted water activities simply brought the children to the pool and let them play in the water while they supervised them. This is the common practice that has raised concerns among parents about the outcomes of such activities (Penang State Education Department, 2023). As researchers, our focus is on identifying effective strategies to enhance the learning experience for students with special educational needs. To achieve this, it is vital to explore innovative solutions that address current challenges and ensure that students with special educational needs receive the support necessary to thrive in their learning environments.

Previous research suggests that the 10-point Halliwick model has dominated water activity programmes carried out for people with disabilities in many contexts outside Malaysia: the results of this technique show positive effects on various aspects of the lives of people with disabilities. The Halliwick concept, developed in 1949 by James and Phyl McMillan, focuses on teaching swimming to individuals with disabilities. This concept has been utilised to help children with disabilities gain control over their bodies, enhance perceptual-motor development, and facilitate social interactions (Rohn et al., 2021). The Halliwick method is specifically aimed at teaching aquatic independence for individuals with special needs while considering the unique attributes of the aquatic environment (Tirosh et al., 2008). Additionally, the Halliwick concept has been instrumental in promoting aquatic independence and enhancing motoric competencies for children with disabilities, leading to improved self-esteem, self-efficacy and courage (Vašćáková et al., 2015).

For this reason, the researcher has utilised the 10-point Halliwick model as the basis for the formation of the Aquaexplorers module, for the use of special education teachers in Penang for the management of special needs water activities. This water activity module is seen as a way of increasing the self-confidence of students with special educational needs, while also being able to help them to adapt to mainstream classes and compete alongside students in those classes. Beneficial water activities also require high self-confidence among the special education teachers who will implement them, and providing sufficient exposure to appropriate modules and short courses can be seen to help these special education teachers improve their self-confidence (Chunswan

et al., 2019). A previous study has already examined the effects of the Aquaexplorers Module on improving teachers' knowledge in managing aquatic activities for students with special needs (Samsudin, 2025). Building on this, the current article will investigate the module's impact on enhancing special education teachers' self-confidence in conducting such water-based programmes.

Theory, benefits and risks: Water activities in Penang special education classes

The Aquaexplorers module, designed based on constructivist principles, is specifically tailored for students with special educational needs who have previously participated in water activities. This module aims to structure new knowledge progressively by building on the students' existing experience and understanding. Through systematic training provided by special education teachers, the module ensures that students can connect new concepts with what they already know, facilitating a deeper and more meaningful learning experience. The focus is on creating an interactive and supportive learning environment where students can explore, experiment and grow at their own pace, leading to more effective and enjoyable learning outcomes.

Furthermore, the Aquaexplorers module aligns with experiential learning theory, which emphasises learning through experience. By engaging students in hands-on water activities, the module allows them to learn by doing, reflect on their experiences, and apply new knowledge in practical contexts. This underscores the importance of students actively participating in their learning, which is inherently task-orientated and practical (Blair, 2016; Dorfsman & Horenczyk, 2018). By engaging in hands-on activities, students can connect theoretical knowledge to real-world applications, enhancing their understanding and retention of information. This approach fosters student-centred learning, shifting the focus from teacher-led instruction to students' active involvement in their educational journey, encouraging self-directed learning, critical thinking and problem-solving skills. For teachers, particularly those working with students with special educational needs, experiential learning enhances their ability to adapt teaching strategies and better understand their students' unique challenges. By gaining experience through active engagement, teachers can create more inclusive and supportive learning environments.

Incorporating experiential learning into education ensures that both students and teachers continuously grow and adapt through meaningful experiences, making learning a dynamic and transformative process. Moreover, swimming programmes offer various positive effects for students with special educational needs, ranging from physical to psychological benefits (Fiorilli

et al., 2016; Hutzler et al., 1998; Jorgic et al., 2012; Murphy & Hennebach, 2020; Pan, 2010; Silva et al., 2020; Son, 2020; Suarez-Villadat et al., 2020).

However, the implementation of swimming programmes in special education classes faces considerable risks due to teachers' low confidence and skills (Penang State Education Department, 2023). Disturbingly, only a small fraction of special education teachers in Penang possess basic swimming skills, with none holding lifesaving or water rescue certificates (Penang State Education Department, 2023). This deficiency poses a grave concern, as the majority of special education classes have conducted water activities without adequately skilled teachers (Penang State Education Department, 2023).

To address these challenges, it is imperative that special education teachers are equipped with the necessary skills and confidence to conduct high-quality water activities safely. Certification in lifesaving and water rescue, such as the Bronze Medallion from the Lifesaving Society Malaysia, should be made mandatory for teachers involved in water programmes. Schools that embrace water activities for students with special educational needs foster a more engaging and confident learning environment (Young, 2018). Training and experience significantly influence teachers' self-confidence in managing students with special educational needs (Byrd & Alexander, 2020; Lacruz-Pérez et al., 2021). Developing training modules tailored to the needs of students with special educational needs can provide exposure and enhance teacher confidence in conducting water activities (Chunsuwan et al., 2019). Thus, structured water activity programmes, guided by modules, are crucial to providing teachers with knowledge, experience and skills, ultimately enhancing their confidence and ensuring student safety (Shariza, 2017).

The objective of implementing the Aquaexplorers module is to improve teacher confidence, teaching quality, and student learning outcomes in water activities.

Objectives and hypothesis

The objective of this study is to identify the effects of the Aquaexplorers module implementation on special education teachers' self-confidence and, based on this objective, a null hypothesis was created which is: that there is no significant difference in the level of self-confidence of special education teachers in conducting water activities after using the Aquaexplorers module for students with special educational needs.

Aquaexplorers module

The Halliwick module has 10 aspects in its application, which are Mental Adjustment, Disengagement,

Transversal Rotation Control, Sagittal Rotation Control, Longitudinal Rotation Control, Combined Rotation Control, Upthrust, Balance in Stillness, Turbulent Gliding, and Simple Progression and Basic Swimming Movement (Vaščáková et al., 2015).

The Aquaexplorers module, entitled Water Activity Module for Special Education Teachers, contains 10 interventions including all the above concepts, with some modifications. The development process of the module used the document analysis method (Shariza, 2017) and the expert recommendation method (Poncette et al., 2020). An analysis was conducted of the standard document for curriculum and assessment for Physical Education in Special Education (Learning Disabilities) for all age groups in special education classes in Malaysia. Other documents, including books and journal articles on the Halliwick model, were also analysed. All of these documents were analysed to extract meaningful elements that could be integrated into the module's structure. The content was then modified to ensure alignment with Malaysia's special education curriculum while maintaining the practical essence of the Halliwick concept. To enhance its effectiveness, insights from special education teachers, aquatic instructors and therapists were incorporated, ensuring the interventions were practical, adaptable and user-friendly. This process resulted in a well-structured module that equips teachers with clear instructions, visual aids and step-by-step strategies to deliver engaging and inclusive water activities for students with special needs.

The Aquaexplorers module has 10 interventions that can be conducted in 10 sessions of water-based activities for students with special educational needs. Each intervention is intended to be delivered in a single session; however, the pace may vary depending on the swimmer's ability. If additional practice is required, a single intervention can be extended across two or three sessions to ensure the student fully grasps the skills before progressing to the next stage. This flexible approach allows teachers to adapt the sessions according to individual learning needs, promoting a more effective and supportive learning experience. The skills provided in the module include water confidence activities, bobbing and bubbling, floating with variations – pencil/mushrooms/jellyfish/prone/supine, push and glide, flutter kick, front crawl arm movements, front crawl combination movements, water treading, frog kick/egg-beater kick with sculling and small water games at the end of each session. The module is arranged according to the format of the teacher's daily teaching plan, with interaction, focus, objectives, activities and records/teaching aids included to enhance user-friendliness. The arrangement of this module was established through experts' recommendations and it is designed to facilitate teacher usage.

The expert recommendation method (Poncette et al., 2020) used in developing the module was conducted via email, the Google Meet application and phone calls

(Poncette et al., 2020). The researchers drafted modules and sent them to four appointed experts for them to see and provide feedback. Each part was carefully drafted to meet the needs of students based on the analysis of the Physical Education curriculum and assessment documents and adopted by special education teachers. The implementation of each session was set out in detail and explained carefully to the experts to allow them to get a clear picture of the whole procedure, prior to feedback being received. While a previous study has focused on evaluating the effectiveness of this module in enhancing teachers' knowledge of managing aquatic activities for students with special needs (Samsudin, 2025), the present study extends this work by exploring its impact on boosting the self-confidence of special education teachers in delivering inclusive aquatic programmes.

METHODOLOGY

Mixed-methods research combines quantitative and qualitative data to understand complex processes (Fetters et al., 2013). In this study, interviews with special education teachers provide qualitative feedback, while pre- and post-intervention questionnaire scores offer quantitative data to prove the effectiveness of the Aquaexplorers module in boosting teacher confidence in water activities.

In the context of this study, the dependent variable is the result of data analysis through questionnaires during the pre-test and post-test and the interviews on the level of self-confidence of special education teachers. In this study, the Aquaexplorers module: Water Activity Module for Special Education Teachers, comprising 10 intervention sessions, served as the independent variable. Implementation of this module during the course facilitated the assessment of its effectiveness via questionnaires and interviews, with data collected before and after the course analysed for comparison against study objectives and hypotheses.

The study employed purposive sampling for the entire population of special education teachers in Penang state, totalling 616 individuals (Penang State Education Department, 2023). From this population, 120 teachers were selected as the sample, representing 30 special education classes across Penang state. Recruitment for the study was facilitated through invitations from the special education sector, Penang State Education Department, with support from Universiti Sains Malaysia. All participants were certified special education teachers with experience in water activity programmes at their respective classes, ensuring their suitability for the study. Invitations were extended through bodies such as the Malaysian Ministry of Education (KPM), the State Education Department (JPN), the District Education Office (PPD) and individual schools, with participants required to provide informed consent before participation.

The questionnaires and interviews used in the study were developed by the first author due to the lack of existing instruments suitable for the study's objectives. To ensure the instruments' quality, a rigorous validation and reliability process was conducted. Questionnaire development involved document analysis (Shariza, 2017) and expert survey methods (Ikart, 2019), with four experts – comprising a Physical Education Lecturer, a Special Education Lecturer, a Penang State Excellent Special Education Teacher, and a Certified Special Needs Swimming Coach – reviewing the instruments for validity and reliability. The first author formed questions based on study objectives, which were then reviewed by the experts to ensure appropriateness and alignment with research goals.

The development of the research interview followed a similar process. These questions were formulated by the first author in a semi-structured interview format, offering open-ended queries to participants (Ali, 2018). The interview aimed to gauge special education teachers' self-confidence in managing activities pre- and post-intervention, and to discover their views on the usability of the Aquaexplorers module. To encourage diverse responses, no specific format or expectations for answers were provided. Comments and suggestions from experts were integrated to refine the questions.

Validation testing of the research questionnaire involved appointing four experts to assess content validity, with the coefficient index between experts used to gauge validity levels (Ali & Saud, 2013; Alwi & Shaari, 2017; Hanif et al., 2020; Khalid et al., 2020). The evaluation revealed varying levels of agreement among the experts, with disagreements addressed through Cohen's kappa analysis. Despite some disagreements, the questionnaire's validity, as determined by Cohen's kappa analysis, was deemed moderate to good (Othman & Kassim, 2018).

Similarly, validation testing of the research interview instrument involved analysing the coefficient index between experts to determine validity (Ali & Saud, 2013; Alwi & Shaari, 2017; Hanif et al., 2020; Khalid et al., 2020). Four experts assessed the interview questions, with varying levels of agreement observed. Cohen's kappa analysis indicated significant agreement, further validating the interview questions.

Reliability testing of the questionnaire was conducted by piloting it with 17 special education teachers and assessing the Cronbach's alpha correlation coefficient, which yielded a value of 0.86, indicating good reliability (Idris & Shaari, 2017; Saper et al., 2016; Zahir et al., 2019). The reliability of the interview instrument was assessed through a pilot study, wherein a subset of participants was interviewed using the researcher's established protocol. This pilot study aimed to determine the clarity, comprehensibility and honesty of responses to the protocol's questions (Syafri & Yaumas, 2018). Following the pilot study, necessary improvements were implemented, and

the protocol was reviewed by the second author's supervisor to ensure its effectiveness.

For the quantitative data analysis of this study, comparative frequency analysis of the percentage frequency of answer choices in the pre- and post-intervention questionnaire was used to discover positive or negative trends in the results of the data by using the Statistical Package for the Social Sciences (SPSS) software. A paired *t*-test was used to compare the mean value of the study sample in the results of the pre- and post-intervention questionnaire data to identify the impact of the implementation of the intervention and whether it has positive or negative effects for the quantitative data.

For the qualitative data analysis of this study, interview findings were analysed using the NVivo software. This procedure involved the preparation of the matrix table in NVivo, building themes from qualitative data, selection of analysis methods, data saturation, selection of theme patterns and model preparation. The results of the NVivo analysis provide qualitative data that support the quantitative data from the paired *t*-test.

Protocol and procedures

The administration of the study began with the researcher applying for approval from the Universiti Sains Malaysia Ethics Committee and the Malaysian Ministry of Education before conducting the study. The study procedures and instruments were presented to all relevant parties including the Head of the Special Education Unit, Penang State Education Department and the special education teachers of the schools involved. Data were collected before and after the intervention from the 120 special education teachers who comprised the research sample. The research procedure was explained to the teachers before the research started.

The data collection process involved both pre- and post-intervention sessions. Before the intervention sessions commenced, pre-intervention data collection was conducted through a Google Form questionnaire, accessible via a QR code provided at the course registration desk. After completing the intervention, participants scanned a QR code to access the post-intervention questionnaire, which was also a Google Form. Quantitative data analysis was performed on the collected questionnaire responses from all 120 course participants (Ali, 2018; Jie, 2020). Additionally, 10 participants were selected for interviews to gather qualitative data, complementing the quantitative findings (Ali, 2018; Jie, 2020). These 10 interviewees were randomly selected from the pool of 120 course participants using a simple random sampling technique. Each participant was assigned a unique identification code during the course, based on their group and sequence within that group – for example, 'P1-S1' refers to Participant 1 from Group 1, while 'P2-S3' refers to Participant 2 from Group 3. All 120

codes were compiled, and a random number generator was used to select 10 participants without replacement to ensure unbiased sampling. For instance, if the random generator selected P1-S1, P2-S3, and so on, the corresponding participants were then invited for the interview sessions. This method ensured transparency, fairness and representativeness in the qualitative sample, enhancing the trustworthiness of the findings (Ali, 2018; Jie, 2020).

The intervention sessions, held at the Universiti Sains Malaysia swimming pool, spanned three days per series, totalling 12 days across four series. Before commencing, the researcher provided detailed explanations to the 120 participants, most of whom lacked swimming skills. Demonstrations and instructions were repeated to ensure understanding, taking into consideration the participants' limited background in water activities. Despite not being sports or swimming instructors, these special education teachers were required to conduct such activities as part of their duties. The study's administration and protocol were designed to facilitate participant involvement in the intervention and data collection processes.

During the course, participants first completed the pre-intervention questionnaire, and then received briefings on the course, instruments, schedule and content of the 10 intervention sessions in the module. These sessions included various water activities outlined in a daily teaching plan format. Participants engaged in activities such as bobbing, floating variations, flutter kicks, push and glides, among others, progressing through water confidence sessions, skill acquisition and small games. Over the three-day course, participants utilised the module from 8:00 am to 5:00 pm, with the third day dedicated to practical sessions involving their students with special educational needs, with parental consent. After completing sessions with students, participants filled out the post-intervention questionnaire and 10 were selected for interview sessions, with their responses recorded for further analysis.

RESULTS

The results for the pre-test are shown in Table 1. The scale used a five-point rating system. Participants were shown the scale and asked to indicate the level at which they felt confident about teaching swimming to students with special needs. The scale ranged from 1 ('very low') to 5 ('very high'), allowing participants to express their perceived confidence level, with 3 ('not sure') indicating uncertainty or indecision about their ability. In the pre-intervention data analysis, special education teachers' self-confidence feedback showed low levels, with 'very low' scale responses ranging from 57.5% to 82.5%. Notably, confidence was lowest for leg movement activities (57.5%), floating activities (73.3%), push and glide activities (73.3%) and overall

water self-confidence (82.5%). Additionally, ‘low’ scale responses varied, including 81.7% for bobbing and bubbling activities; 71.7% for walking, bending and running activities in water; and 57.5% for crawling hand movement activities in water; while 65% reported low confidence in water tracking activities. All respondents reported ‘very low’ confidence in conducting small game activities in water. Furthermore, 88.3% expressed uncertainty about their ability to manage water activities for students with special educational needs without difficulty. Feedback regarding the Aquaexplorers module's suitability for special needs water activities was significant, with 91.7% strongly disagreeing and 8.3% disagreeing with its suitability for students with special educational needs.

When the post-intervention data were analysed (see Table 2), the sample responses showed that the self-confidence of the majority of respondents had increased, with a mean gap of between 3.84 and 5.00 for measures of self-confidence such as the managing of activities including hand movements, front crawl in water, and foot movement activities (flutter kick). These activities include the use of a kicking board or swimming noodle, or practising without assistance in the water. They involve water self-confidence activities, bobbing and bubbling, floating techniques (prone, supine, pencil, mushroom, jellyfish, combination); as well as walking, bending and running in the water; alongside push and glide, regaining feet, and small game activities.

However, there are also items for which the feedback remained negative (‘low’ and ‘very low’) with a mean recording of 2.24 and 2.03, including leg, hand and breathing activities during front crawl movements in the water and water-treading activities. These activities are more technically demanding, and the self-confidence of special education teachers appears to be lower in managing them. The analysis suggests that this lack of teacher confidence may, in part, be influenced by observable student behaviours during aquatic sessions. For example, students often exhibit hesitation when attempting new tasks, show signs of anxiety or uncertainty in the water, and rely heavily on flotation devices or direct instructor assistance. In some cases, students may struggle to follow instructions, express reluctance to participate, or become visibly frustrated when facing challenges. These student responses can create additional pressure on teachers, leading them to question their own ability to manage and deliver these activities effectively. As such, building water confidence requires not only gradual exposure, repetitive practice and supportive strategies for students, but also targeted training and resources to help special education teachers develop the skills and assurance needed to manage such challenges with confidence.

The mean value, standard deviation, mode and median for the level of self-confidence of special education

TABLE 1 The mean scale value of self-confidence in water activities before Aquaexplorers module implementation.

Activity	Very low	Low
Leg movement activities	–	2.00
Floating activities	1.27	–
Push and glide activities	1.27	–
Overall water self-confidence	1.18	–
Bobbing and bubbling activities	1.82	–
Walking, bending and running activities	1.72	–
Front crawl hand movement activities	1.58	–
Water-treading activities	1.65	–
Small game activities in water	–	2.87
Managing water activities without difficulty	1.08	–

Note: Scale: 1: very low; 2: low; 3: not sure; 4: high; 5: very high.

TABLE 2 The mean scale value of self-confidence in water activities after Aquaexplorers module implementation.

Activity	Very high	High	Not sure	Low
Leg movement activities	4.51	–	–	–
Floating activities	4.58	–	–	–
Push and glide activities	–	4.45	–	–
Overall water self-confidence	–	4.02	–	–
Bobbing and bubbling activities	–	4.49	–	–
Walking, bending and running activities	4.59	–	–	–
Front crawl hand movement activities	–	–	3.84	–
Water-treading activities	–	–	–	2.03
Small game activities in water	5.00	–	–	–
Managing water activities without difficulty	–	4.21	–	–

Note: Scale: 1: very low; 2: low; 3: not sure; 4: high; 5: very high.

teachers in water activities for students with special educational needs was also compared (see Table 3). On average, the respondents gave negative feedback pre-intervention, with the mean for self-confidence being 1.57, and the mode being 1.67, both of which are between 1 (‘very low’) and 2 (‘low’) on the scale. The results from this data analysis have clearly shown that the level of self-confidence of special education teachers in managing water activities for students with special educational needs was at a low level before this study was conducted.

For the level of self-confidence (pre- and post-intervention) the standard deviation shows a value of 0.14 for pre-intervention and 0.11 for post-intervention. This shows that the pre- and post-intervention responses on levels of self-confidence are scattered around the

TABLE 3 Statistical analysis showing mean, standard deviation, *t*-statistic and *p*-value for self-confidence.

	Test	Mean	Standard deviation	<i>t</i> -statistic	<i>p</i> -value
Self-confidence	Pre	1.49	0.14	-132.241	<0.001
	Post	3.98	0.11		

mean in the range of 0.12 and 0.10, which is between 1.45 and 1.69 for pre-intervention, and 3.98 to 4.18 for post-intervention. This shows a significant difference between the pre- and post-intervention data.

For the level of self-confidence in terms of pre- and post-tests using the questionnaire instruments, the results of data analysis using the paired *t*-test technique show a statistically significant difference between pre- and post-test ($p < 0.05$). Therefore, through the results of this analysis, it can be concluded that there is a significant difference in the level of self-confidence, with the mean value for post-intervention self-confidence close to 4 on the scale ('high'), compared to the mean pre-intervention value for self-confidence which is only 1.49 ('very low'). Based on these findings, the null hypothesis of this study, which is that there is no significant difference in the level of self-confidence of special education teachers in conducting water activities after using the Aquaexplorers module for students with special educational needs, is rejected.

Qualitative data analysis involved interviews with 10 participants randomly selected out of the 120. These interviews, lasting four to five minutes each, were conducted individually after quantitative data collection. Questions, which were validated for reliability, focused on various aspects of the Aquaexplorers module's implementation. Recorded responses were analysed using NVivo software in five phases: theme development, method selection, data saturation, pattern selection, and model preparation (Jasmi, 2012). Word Frequency Query analysis showed that the word 'successful' was the most frequently used word in the entire sample response, with a frequency of 2.98%.

Positive answers can also be clearly seen throughout the interview; positive words such as 'suitable' and 'easy' were used a lot. For example, responses to question 1 included the following:

Firstly, it's suitable because it's easy for the teacher to use and secondly, it's okay for our students too.

(Participant 1 (P1) from Group 1 (S1))

Based on my opinion, the objectives of each session are spot-on and fulfilling the needs of students with special education needs in water activities.

(Participant 2 (P2) from Group 3 (S3))

These interview answers clearly convey positive feedback. The results of the qualitative data analysis have also shown that the interviews include a high frequency of positive words, supporting the quantitative data (Di Pofi, 2002) and addressing the objective and hypothesis of the study. Based on these findings, the study's null hypothesis, that there is no significant difference in the level of self-confidence of special education teachers in conducting water activities after using the Aquaexplorers module, is rejected once again.

DISCUSSION AND RECOMMENDATIONS

The study found low self-confidence among special education teachers in managing water activities for students with special educational needs. Byrd and Alexander (2020) similarly note teachers lacking confidence in teaching new skills without adequate training, emphasising the need for continuous education. This underscores the importance of ongoing training and application of experiential theory in module development, as special education teachers gain self-confidence and skills through real experiences and exercises. The implementation of the Aquaexplorers module supports this claim.

Special education teachers are seen as more comfortable teaching skills or knowledge based on their existing knowledge and expertise in a particular field, and the results of this study support the findings of previous research in this regard. Special education teachers are also confident that their knowledge and expertise in a particular field is the main factor that influences their decisions in choosing an appropriate strategy or approach for teaching new skills for students with special educational needs. Previous studies show that training and experience have a significant influence on the self-confidence of special education teachers in managing students with special educational needs (Byrd & Alexander, 2020; Lacruz-Pérez et al., 2021). Past research also demonstrates that teachers gain their self-confidence through expansion in the professional field by acquiring knowledge and skills, participation in collaborative learning community networks and the ability to conduct professional teaching (Nolan & Molla, 2017). The results of this study show a very low level of self-confidence among

special education teachers before the intervention was carried out, but this was increased through their involvement with students during the intervention period. Their self-confidence seems improved based on experience, gaining knowledge for their teaching skills and participating in courses with fellow teachers (Byrd & Alexander, 2020).

The lack of self-preparedness of teachers with sufficient knowledge can also lead to a low level of self-confidence in their ability to manage challenging student behaviour (Chunsuwan et al., 2019; Moore et al., 2019). During the course of this study, it can be clearly seen that the special education teachers were uncertain and did not know how to carry out water activities, especially with regard to managing students who become increasingly excited and difficult to control when they are near the swimming pool. These teachers also said that they did not have an opportunity to practise the skills necessary for conducting water activities while they were studying, but had to do so when they were working, resulting in low self-confidence when conducting these activities.

Special education teachers are also found to have limited knowledge of laws related to special needs, as highlighted by Horner et al. (2020). This lack of awareness is concerning because teachers may unknowingly take actions that put students at risk, potentially leading to accidents or serious incidents. Recognising this issue, the current research introduced specialised courses and modules designed to improve teachers' understanding of legal aspects while boosting their confidence in managing students with special needs. Previous studies have shown that professional development programmes can significantly enhance teacher confidence and preparedness. For example, Lacruz-Pérez et al. (2021) emphasised that targeted training helps teachers feel more competent and secure in their roles, while Bjornson et al. (2019) highlighted that such training increases motivation and improves teaching practices. Additionally, Byrd and Alexander (2020) found that well-structured learning modules can enhance teachers' optimism and resilience, enabling them to manage challenging situations more effectively.

In analysing the effectiveness of the Aquaexplorers module in improving self-confidence among special education teachers conducting water activities for students with special educational needs, questionnaires were used to quantify the perceived improvement in self-confidence levels. The questionnaires, which included Likert-scale questions measuring self-confidence before and after the implementation of the Aquaexplorers module, show significant increases in the post-test. A mixed-methods approach allowed data triangulation, enhancing the validity and reliability of the findings. The quantitative results demonstrated significant improvements in self-confidence, which is a positive outcome for this research. However, to gain deeper insights into the underlying

factors influencing these improvements and to explore participants' inner thoughts and experiences, interview sessions were conducted to provide valuable additional information.

Supporting the quantitative findings, the interview data provide deeper insights into how and why the Aquaexplorers module influenced self-confidence. Through interviews, teachers shared their personal experiences, challenges and successes in implementing the module. These qualitative data reveal the specific aspects of the module that were most effective, as well as any contextual factors that contributed to its success. For instance, the interview answer from Participant 2 from Group 3, quoted above, shows that the explanation of the clear and specific objectives of each session helped the teachers to focus their efforts and measure progress effectively. The module's structure provided a roadmap, which not only guided the teachers through the activities but also ensured that the sessions were tailored to meet the diverse needs of their students. This alignment with student needs was crucial in building the teachers' confidence, as they felt more capable of delivering meaningful and impactful instruction.

Moreover, most of the teachers emphasised that the resources and support materials included in the Aquaexplorers module, such as detailed lesson plans, visual aids and step-by-step instructions, significantly boosted their confidence. These tools reduced preparation time and allowed teachers to feel more prepared and less anxious about conducting water activities. The practical, hands-on training sessions provided opportunities for teachers to practise and refine their skills in a supportive environment, further enhancing their confidence. Such detailed and personal responses cannot be captured through questionnaires, which only provide quantitative data without individual insights. This highlights the importance of mixed-methods analysis, as the interviews fill the gaps left by quantitative data alone, offering a richer, more comprehensive understanding.

Furthermore, the module fostered a sense of community and collaboration among the teacher respondents. In the interviews, most of the teachers noted that the opportunities for peer discussion and feedback during training sessions helped them to share experiences and strategies, learn from each other, and build a network of support. This collaborative aspect of the module was instrumental in helping teachers to overcome challenges and stay motivated. Even though the scores for some activities, such as water-treading activities, remained at low levels after implementation of the module, this is because these activities are quite difficult for beginner swimmers and, by chance, most of the students involved in this study were beginner swimmers. For teachers who conduct the sessions with students with special educational needs who are experienced swimmers, the sessions are seen as quite easy. That is one of the advantages of

the Aquaexplorers module: 10 sessions were prepared so that teachers can choose which sessions are the most suitable, based on their swimmers' level of ability.

For future research, we suggest expanding the current study by exploring the long-term impact of the Aquaexplorers module on special education teachers' teaching practices and student outcomes. Future studies could investigate how the module influences teachers' confidence, instructional strategies and ability to manage water activities effectively over time. Additionally, research could examine how improved teacher confidence and competence translate into better learning outcomes for students with special educational needs, particularly in areas such as water safety, engagement and participation in aquatic activities. Conducting follow-up studies to assess the sustainability of these improvements, along with gathering feedback from teachers, parents and students, would provide valuable insights for refining the module and enhancing its long-term effectiveness in special education settings.

CONCLUSION

In conclusion, the mixed-methods approach adopted in this research highlights the effectiveness of the Aquaexplorers module in boosting self-confidence among special education teachers conducting water activities. The significant improvements observed in the quantitative data are substantiated and enriched by the qualitative insights gleaned from the interviews. Teachers' personal narratives and detailed feedback reveal the specific elements of the module that contributed to their increased confidence, such as clear objectives, structured guidance and comprehensive support materials. These findings underscore the value of integrating both quantitative and qualitative methods to gain a holistic understanding of educational interventions. The combination of measurable outcomes and personal experiences offers a richer, more complete picture of the module's impact, ultimately supporting the conclusion that the Aquaexplorers module is a valuable tool for enhancing the self-confidence of special education teachers in water activities. Moreover, the study's findings highlight the potential for this module to foster long-term improvements in teaching practices, ultimately benefiting students with special educational needs. By equipping teachers with the necessary skills and confidence to deliver effective water activities, the Aquaexplorers module has the potential to enhance student engagement, participation and overall learning outcomes. Future research exploring the sustained impact of the module, along with its influence on student development, could further strengthen its value as a resource for special education teachers.

ACKNOWLEDGEMENTS

Thank you to Universiti Sains Malaysia and Penang State Education Department for the opportunity to conduct this research.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The data that supports the findings of this study are available in the supplementary material of this article.

ETHICS STATEMENT

Ethical approval for the study was obtained from the University Ethics Committee (USM/JEPeM/21090625).

ORCID

N. A. Samsudin  <https://orcid.org/0000-0002-2231-6431>

REFERENCES

- Ali, A.B. & Saud, M.D.M.S.B. (2013) Fasa awal: pembentukan kerangka pembinaan modul bahasa c berteraskan model integrasi pembelajaran berasaskan masalah dan pendidikan berteraskan kompetensi.
- Ali, T. (2018) Raising teachers' voices: an in-depth qualitative inquiry into teachers' working conditions and professional development needs in Khyber Pakhtunkhwa, a province of Pakistan. *Teacher Development*, 22(1), 78–104.
- Alwi, N. & Shaari, A. (2017) Kesahan dan kebolehpercayaan intervensi modul kaunseling rasional emosi tingkah laku. *Jurnal Pembangunan Sosial*, 20, 63–75.
- Blair, D.J. (2016) Experimental learning for teacher professional development at historic sites. *The Journal of Experimental Education*, 39, 130–144. Available from: <https://doi.org/10.1177/1053825916629164>
- Bjornson, K.F., Moreau, N. & Bodkin, A.W. (2019) Short-burst interval treadmill training walking capacity and performance in cerebral palsy: a pilot study. *Developmental Neurorehabilitation*, 22(2), 126–133.
- Byrd, D.R. & Alexander, M. (2020) Investigating special education teachers' knowledge and skills: preparing general teacher preparation for professional development. *Journal of Pedagogical Research*, 4(2), 72–82.
- Chao, C.N.G., Sze, W., Chow, E., Forlin, C. & Ho, F.C. (2017) Improving teachers' self-efficacy in applying teaching and learning strategies and classroom management to students with special education needs in Hong Kong. *Teaching and Teacher Education*, 66, 360–369.
- Chunswan, I., Lerthattasilp, T. & Hansakunachai, T. (2019) Changes in attitude and self-confidence of the provincial special education Center's teachers toward teaching children with specific learning disabilities after short course training. *Thammasat Medical Journal*, 19(3), 547–557.
- De Boer, A., Pijl, S.J. & Minnaert, A. (2013) Regular primary school-teachers' attitudes towards inclusive education: a review of the literature. *International Journal of Inclusive Education*, 17(4), 405–426.
- Di Pofi, J.A. (2002) Organizational diagnostics: integrating qualitative and quantitative methodology. *Journal of Organizational Change Management*, 15(2), 156–168.
- Dorfsman, M.I. & Horenczyk, G. (2018) Educational approaches and contexts in the development of a heritage museum. *The Journal*

- of *Experimental Education*, 41, 170–186. Available from: <https://doi.org/10.1177/1053825917740155>
- Fetters, M.D., Curry, L.A. & Creswell, J.W. (2013) Achieving integration in mixed methods design principles and practices. *Health Services Research*, 48(6), 2134–2156.
- Fiorilli, G., Di Cagno, A., Iuliano, E., Aquino, G., Calcagnile, G. & Calcagno, G. (2016) Special Olympics swimming: positive effects on young people with down syndrome. *Sport Sciences for Health*, 12(3), 339–346.
- Hanif, N.A., Mustafa, M.C. & Yusof, H. (2020) Kebolegunaan model pengurusan bilik darjah prasekolah berasaskan empat dimensi pengurusan bilik darjah. *Muallim Journal of Social Sciences and Humanities*, 4(3), 90–98.
- Horner, S.L., Mrachko, A., O'Connor, E.A. & Yasik, A.E. (2020) Pre-service teachers' knowledge of special education laws. *Mid-Western Educational Researcher*, 32(1), 48–70.
- Hutzel, Y., Chacham, A., Bergman, U. & Szeinberg, A. (1998) Effects of a movement and swimming program on vital capacity and water orientation skills of children with cerebral palsy. *Developmental Medicine and Child Neurology*, 40(3), 176–181.
- Idris, A. & Shaari, A. (2017) Pembinaan, kesahan dan kebolehpercayaan Modul Bimbingan Terapi Realiti Teori Pilihan. *Jurnal Pembangunan Sosial*, 20, 77–87.
- Ikart, E.M. (2019) Survey questionnaire survey pretesting method: an evaluation of survey questionnaire via expert reviews technique. *Asian Journal of Social Science Studies*, 4(2), 1.
- Jakovchevska, A. (2024) Sensitization of parents of children of peers involved in the inclusive process in Macedonia and Bosnia and Herzegovina. *Multidisciplinarni Pristupi u Edukaciji i Rehabilitaciji*, 6(7), 22–33. Available from: <https://doi.org/10.59519/mper6103>
- Jasmi, K.A. (2012) Metodologi pengumpulan data dalam penyelidikan kualitatif. *Kursus Penyelidikan Kualitatif Kumpulan*, 1, 28–29.
- Jie, O.L. (2020) Kesan Strategi Pengajaran Timbal Balik terhadap kemahiran membaca dan minat membaca murid. *Journal of Research, Policy & Practice of Teachers and Teacher Education*, 10(1), 63–76.
- Jorgic, B., Dimitrijevic, L., Aleksandrovic, M., Okicic, T., Madic, D. & Radovanovic, D. (2012) The swimming program effects on the gross motor function, mental adjustment to the aquatic environment, and swimming skills in children with cerebral palsy: a pilot study. *Specijalna Edukacija i Rehabilitacija*, 11(1), 51–66.
- Katsiyannis, A., Conderman, G. & Franks, D. (1996) Students with disabilities: inclusionary programming and the school principal. *NASSP Bulletin*, 80(578), 81–86. Available from: <https://doi.org/10.1177/01926365960805781>
- Khalid, F.A.M., Rozaimi, N.N.A.A. & Taha, H. (2020) Perlakuan metakognitif pelajar tingkatan empat di Sekolah Hulu Selangor dalam menyelesaikan masalah matematik. *Journal of Science and Mathematics Letters*, 8(2), 74–85.
- Kharani, S.U. (2019) Self-confidence of college students. *Science*, 40(27.23), 8–21.
- Lacruz-Pérez, I., Sanz-Cervera, P. & Tárraga-Mínguez, R. (2021) Teachers' attitudes toward educational inclusion in Spain: a systematic review. *Education in Science*, 11(2), 58.
- Lan, K. (2024) Level of acceptance of mainstream pupils towards special education needs pupils (MBPK). *Special Education*, 2(1), e0013. Available from: <https://doi.org/10.59055/se.v2i1.13>
- Ministry of Education Malaysia. (2005) *Garis panduan pembelajaran luar bilik darjah (LOC) Pusat Perkembangan Kurikulum*.
- Ministry of Education Malaysia. (2013) *Malaysia education blueprint 2013–2025: preschool to post-secondary education*. Putrajaya: Kementerian Pendidikan Malaysia.
- Moore, D., Simpson, L., Goholler, A. & Hughes, P. (2019) Special educators' confidence in managing challenging behaviors of students with disabilities. In: *Society for Information Technology & teacher education international conference*. Waynesville, NC: Association for the Advancement of Computing in Education (AACE), pp. 2384–2389.
- Murphy, K.L. & Hennebach, K.R. (2020) A systematic review of swimming programs for individuals with autism spectrum disorders. *Journal of Disability Studies*, 6(1), 26–32.
- Nolan, A. & Molla, T. (2017) Teacher self-confidence and professional capital. *Teaching and Teacher Education*, 62, 10–18.
- Othman, M. S. & Kassim, A.Y. (2018) Kesahan dan Kebolehpercayaan Instrumen Komposisi Pengajaran Guru Pendidikan Islam Sekolah Rendah yang Mengintegrasikan Kemahiran Berfikir Aras Tinggi (KBAT) Menerusi Pengajaran Akidah. *Sains Humanika*, 10(3), 1–8.
- Pan, C.Y. (2010) Effects of water exercise swimming program on aquatic skills and social behaviors in children with autism spectrum disorders. *Autism*, 14(1), 9–28.
- Penang State Education Department. (2023) Analisis & tinjauan aktiviti terapi PPKI Pulau Pinang Tahun 2023, dilayari di. Available from: https://docs.google.com/forms/d/1hrSqaMtdpPHclyYXodq2AFf_2YMLS2TKgX5B8VSshk/edit [Accessed 12th April 2023].
- Poncette, A.S., Glauert, D.L., Mosch, L., Braune, K., Balzer, F. & Back, D. (2020) Undergraduate medical competencies in digital health and curricular module development: mixed methods study. *Journal of Medical Internet Research*, 22(10), 22161.
- Rohn, S., Novak-Pavlic, M. & Rosenbaum, P. (2021) Exploring the use of Halliwick aquatic therapy in the rehabilitation of children with disabilities: a scoping review. *Child: Care, Health and Development*, 47(6), 733–743. Available from: <https://doi.org/10.1111/cch.12887>
- Sallin, A. (2021) Estimating returns to special education: combining machine learning and text analysis to address confounding. <https://doi.org/10.48550/arxiv.2110.08807>
- Samsudin, N.A. (2025) Effects of AquaExplorers module on special education teachers' knowledge in aquatic activity management. *Asia Pacific Journal of Educators and Education*, 40(1), 73–91. Available from: <https://doi.org/10.21315/apjee2025.40.1.5>
- Saper, M.N., Daud, N.A.M. & Ahmad, N. (2016) Kesahan dan Kebolehpercayaan Modul I-Sc (Islamic Spiritual Counseling) ke atas Pelajar Bermasalah Tingkah Laku. *International Journal of Islamic Thought*, 9, 32–43.
- Shariza, S. (2017) *Pembangunan modul latihan pendidikan seksualiti untuk guru Program Pendidikan Khas Integrasi (PPKI) peringkat Sekolah Rendah* (Doctoral dissertation, University of Malaya). University of Malaya, Kuala Lumpur.
- Silva, L.A.D., Doyenart, R., Henrique Salvan, P., Rodrigues, W., Felipe Lopes, J., Gomes, K. et al. (2020) Swimming training improves mental health parameters, cognition and motor coordination in children with attention deficit hyperactivity disorder. *International Journal of Environmental Health Research*, 30(5), 584–592.
- Son, S.M. (2020) Changes in the self-efficacy, exercise commitment, and health-related quality of life of the adults with intellectual disability through the participation of swimming program. *Journal of the Korean Applied Science and Technology*, 37(5), 1454–1464.
- Suarez-Villadot, B., Luna-Oliva, L., Acebes, C. & Villagra, A. (2020) The effect of swimming program on body composition levels in adolescents with down syndrome. *Research in Developmental Disabilities*, 102, 103643.
- Sulaiman, W.I.W., Mahbob, M.H. & Azlan, A.A. (2011) Learning outside the classroom: effects on student concentration and interest. *Procedia - Social and Behavioral Sciences*, 18, 12–17.
- Sun Daily. (2020) 93,000 special needs children in public schools. Available from: <https://thesun.my/home-news/93000-special-needs-children-in-public-schools-DC9040775> [Accessed 4th June].
- Syafiril, S. & Yaumas, N.E. (2018) Menyiapkan Protokol Interview, Memilih Informan dan Melakukan Probing dalam Penelitian Kualitatif.
- Tirosh, R., Katz-Leurer, M. & Getz, M. (2008) Halliwick-based aquatic assessments: reliability and validity. *International Journal of Aquatic Research and Education*, 2(3), 224–236.
- UN (United Nations). (2015) *Transforming our world: the 2030 agenda for sustainable development*. Available from: <https://sustainabledevelopment.un.org/>

- development.un.org/post2015/transformingourworld [Accessed 5th April 2024].
- UNESCO (United Nations Educational, Scientific and Cultural Organization). (2017) *A guide for ensuring inclusion and equity in education*. Paris: UNESCO. Available from: <https://unesdoc.unesco.org/ark:/48223/pf0000248254> [Accessed 5th April 2024].
- UNICEF (United Nations Children's Fund). (2020) *Inclusive education: every child's right to quality education*. Available from: <https://www.unicef.org/education/inclusive-education> [Accessed 5th April 2024].
- Vaščáková, T., Kudláček, M. & Barrett, U. (2015) Halliwick concept of swimming and its influence on motoric competencies of children with severe disabilities. *European Journal of Adapted Physical Activity*, 8(2), 44–49.
- Young, K. (2018) Co-create: teachers' voices to inform special education teacher education. *Issues in Educational Research*, 28(1), 220–236.
- Zahir, M.Z.M., Saper, M.N. & Bistamam, M.N. (2019) Kesahan dan kebolehpercayaan modul kelompok bimbingan integrasi REBT-Tazkiyah An-Nafs. *Journal of Research, Policy & Practice of Teachers and Teacher Education*, 9(1), 58–69.

How to cite this article: Samsudin, N.A., Supermaniam, M., Izhar, N.A. & Rozaimi, F.Q. (2025) The effect of Aquaexplorers module implementation on special education teachers' self-confidence: A mixed-methods analysis. *British Journal of Special Education*, 00, 1–12. Available from: <https://doi.org/10.1111/1467-8578.70051>



Source details

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Formerly known as: Special Education: Forward Trends

Years currently covered by Scopus: from 1974 to 2025

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