## CONSIDERATION OF STUDENTS' SPECIAL EDUCATIONAL NEEDS IN PRIMARY-LEVEL SWIMMING INSTRUCTION

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Cite: Idézés: Ari, Dóra, Patkó, Katalin, & Biró Melinda (2025). Consideration of Students' Special Educational Needs in Primary-Level Swimming Instruction. Különleges Bánásmód Interdiszciplináris folyóirat [Special Treatment Interdisciplinary Journal], 11(4), 7–16.

DOI https://doi.org/10.18458/KB.2025.4.7



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Ethics Permission / Etikai engedély: KB/2025/0038

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EP / EE:

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### **Abstract**

In our research, we examined the consideration of students' special educational needs (SEN) in primary-level swimming education. The choice of topic was motivated by the increasing number of students with SEN and the importance of swimming instructors' professional preparedness. Our aim was to explore the extent to which swimming instructors are able to accommodate the individual needs of SEN students, to identify the challenges they encounter during swimming instruction, and to map the differences between the swimming education of SEN and typically developing students, as well as the factors that support learning. The research method was an online questionnaire survey. A total of 77 professional swimming instructors participated in the study (n = 77). The results reveal that the majority

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of instructors do not possess specialized qualifications, and their knowledge is primarily based on personal experience. Although many feel adequately prepared, uncertainty occasionally arises in practice. Teaching swimming to children with SEN requires specific methodological tools, increased attention, and differentiated approaches. Additional difficulties include maintaining attention, discipline, and motivation. Providing differentiation and accommodating individual learning paces remain challenging, whereas small-group, play-based sessions promote more effective progress.

**Keywords:** special educational needs, swimming instruction, inclusive education, differentiation

Discipline: Educational Science

#### **Abstract**

A TANULÓK SAJÁTOS NEVELÉSI IGÉNYEINEK FIGYELEMBEVÉTELE AZ ALSÓ TAGOZATOS ÚSZÁSOKTATÁSBAN

A kutatásban a tanulók sajátos nevelési igényeinek figyelembevételét vizsgáltuk az alapfokú úszásoktatásban. A témaválasztást az SNI tanulók számának növekedése és az úszásoktatók felkészültségének fontossága indokolta. Célunk volt feltárni, hogy az úszásoktatók milyen mértékben tudják figyelembe venni az SNI tanulók egyéni szükségleteit, és milyen nehézségekkel találkoznak az úszásoktatás során, valamint célunk volt feltérképezni az SNI és ép tanulók úszásoktatása közti különbségeket, valamint a tanulást segítő tényezőket. A kutatás módszere az online kérdőíves kikérdezés volt. A vizsgálatban 77 úszást oktató szakember vett részt. Az eredményekből kiderül, hogy az oktatók többsége nem rendelkezik speciális végzettséggel, tudásuk főként személyes tapasztalatokon alapul. Bár sokan felkészültnek érzik magukat, a gyakorlatban előfordul a bizonytalanság. Az SNI gyermekek úszástanítása speciális módszertani eszközöket, nagyobb figyelmet és differenciált bánásmódot igényel. Nehézségként jelent a figyelem, a fegyelem, és a motiváció fenntartása. A differenciálás és az egyéni tempó biztosítása kihívást jelent, míg a kisebb létszámú játékos foglalkozások elősegítik a hatékonyabb fejlődést.

Kulcsszavak: sajátos nevelési igény, úszásoktatás, integrált oktatás, differenciálás

Diszciplína: neveléstudomány

#### Introduction

The number of children with special educational needs (SEN) has been increasing year by year, a trend that warrants heightened attention (Mező & Mező, 2022; Hegedűs, 2023). The number of students diagnosed with autism spectrum disorder (ASD) has risen dramatically, approximately tenfold, between 2005 and 2023. According to data from the Hungarian Central Statistical Office (KSH, 2025), the number of SEN students has increased by 27% since 2005, reaching 100,000, while the number of children diagnosed with autism has grown even more significantly. Compared

to the 2005/2006 academic year, the number of autistic students has risen from 934 to 9,737. The number of students with severe learning disabilities has also grown substantially, from 24,600 to 45,000.

In recent years, the education and integration of children with SEN have received increasing emphasis (Mező et al., 2015; Laoues et al., 2020). This approach encourages educators to provide developmental opportunities tailored to each child's abilities and needs. Such considerations are particularly important in swimming instruction, where supporting safe movement in the aquatic

environment is of paramount importance (Biró et al., 2015).

The literature on swimming instruction is extensive. The earliest specialist publications (Bárány, 1964; Székely, 1963; Rajki, 1978; Arold, 1979) primarily addressed swimming techniques and pedagogical approaches. Later, numerous authors (Kiricsi, 1993; Kiss, 2005; Biró, 2007; Tóth, 2008; Tóvári and Prisztóka, 2015) discussed swimming instruction, but without specific consideration for the needs of students with SEN. In Hungary, there is currently a notable lack of scientific publications or books dedicated specifically to the swimming education of SEN students. Existing research mainly focuses on general motor development (Erdei, 2015; Fótiné et al., 2015), physical education performance, or integration status of SEN students (Mező et al., 2015; Laoues et al., 2020), but there is no direct empirical data on swimming instruction. Erdei (2015) compared the anthropometric and motor characteristics of SEN and mainstream students using the NETFIT system and later examined the group cohesion index of SEN students (Erdei, 2015). His findings indicated that SEN students typically possess significantly weaker physique and motor abilities compared to their peers. Although the research did not focus specifically on swimming, the identified motor deficits clearly support the developmental potential of targeted swimming instruction for SEN children. Moreover, SEN students tend to have lower group cohesion and are more frequently socially isolated from their peers, which in the long term may hinder their integration into group physical activities such as swimming and other cooperation-enhancing contexts (Erdei, 2015).

Laoues, Czimbalmos, and colleagues (2020) investigated the necessity of early intervention for children with SEN. Their results showed that 76.7% of parents and 71.7% of professionals believe that integrated education "fully" or "strongly" supports the development of SEN children.

Their findings emphasize that early intervention and integrated environments fundamentally benefit the development of SEN children, with positive feedback from both families and educators. This further reinforces the importance of inclusion and support in the developmental pathways of SEN students.

Learning to swim is a challenge for all children; however, for SEN children, these challenges take on a more individualized form. The various types of needs, whether musculoskeletal, sensory impairments, autism spectrum disorder, or learning difficulties-require differentiated handling, methodological approaches, and tailored instruction from swimming educators. The effectiveness of swimming instruction depends greatly on the instructtor's ability to recognize and appropriately address the child's condition and needs, and to adapt to the child's individual requirements.

Since the early 2000s, a new international trend has emerged in school swimming instruction: concepts such as swimming literacy, water safety, aquatic skills, and water competence have undergone continuous transformation, and school curricula have evolved accordingly (Kovács and Prisztóka, 2020). Swimming instruction now places the learner at the center, regardless of age or ability. Modern approaches emphasize inclusive teaching, allowing students with and without disabilities to practice together while also receiving individualized tasks when necessary. The encouraging attitude of trained instructors, assistants, and parents is critical, while the contribution of support staff is essential for maintaining motivation and fostering effective learning (Tóvári and Prisztóka, 2015).

### Purpose and Method of the Research

Students with special educational needs (SEN) require individualized support due to various physical, intellectual, or psychological challenges. Tailored educational methods assist them in progressing at their own pace. It is essential that

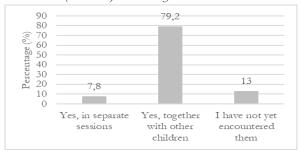
teaching practices flexibly adapt to diverse learning needs. The aim of this research is to examine whether swimming instructors are able to recognize and accommodate the individual needs of SEN students, and to identify the specific characteristics of teaching SEN students in comparison to their typically developing peers. The study also seeks to explore the unique challenges instructors encounter when working with SEN students.

A questionnaire was used to answer the research questions. The questionnaire was voluntary and anonymous. It included both open and closed questions, as well as Likert-scale questions, asking respondents to rate their level of agreement with the statements on an attitude scale of 1 to 5. The questionnaires were sent out in a targeted way.

A total of 77 individuals participated in the study. Of the sample (N=77), 45.5% were male and 54.5% were female. The majority of professionals (40.3%) held a university degree. Among the participating swimming instructors, 18.2% had more than 20 years of experience, 9.1% had between 16 and 20 years, and 7.8% had between 11 and 15 years. A further 13% reported between 6 and 10 years of experience, 32.5% had between 1 and 5 years, while 19.5% had been working as swimming instructors for less than a year.

In terms of qualifications, 6.5% of respondents (5 individuals) held a degree in special education (Figure 1).

Figure 1. Percentage distribution of swimming instructors based on their encounters with students with special educational needs (N = 77). Source: by Authors



Among participants, 79.2% taught SEN students in integrated settings together with other children, while 7.8% worked with SEN students in separate sessions. A total of 13% reported never having taught SEN students during their careers. This distribution indicates that integration is widely implemented in pedagogical practice, although separate sessions are also present in instructional settings (Figure 1).

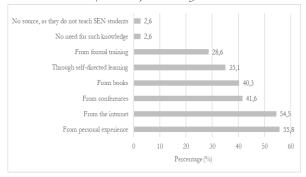
#### Results

## Knowledge Related to the Education of Children with Special Educational Needs

The findings of the research indicate that swimming instructors acquire knowledge related to the education of children with special educational needs from a variety of sources. The most commonly cited source of information was personal experience, marked by 55.8% of respondents. The internet also plays a prominent role, with 54.5% of instructors indicating it as a regular source of information. This is followed by participation in conferences, where 41.6% of instructors reported engaging to enhance their professional development in this area. Self-directed learning was indicated by 35.1% of the participants, while 28.6% reported attending formal training programs to expand their expertise. In addition, 40.3% of the instructors rely on academic literature to inform themselves about the topic. A small proportion of respondents (2.6%) stated that they do not consider such knowledge necessary, while an equal percentage (2.6%) reported that they do not teach SEN children and thus do not engage with this area (Figure 2).

Instructors were also asked to assess how prepared they feel to teach children with special educational needs (SEN) using a Likert scale ranging from 1 to 10. A score of 1 indicated a complete lack of preparedness, while a score of 10 signified full confidence in their readiness. The average rating was 5.76, with a standard deviation of 2.07.

Figure 2. Percentage distribution of sources of information related to the education of children with special educational needs (N = 77) Source: by Authors.



The most frequently selected value was 5, chosen by 22.1% of respondents, reflecting a moderate level of self-assessed preparedness. This suggests that the majority of instructors perceive their readiness as average.

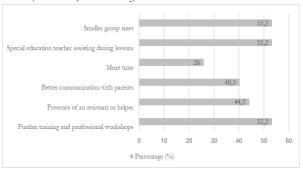
Only 5.2% of respondents rated their preparedness at the highest level (10), indicating complete confidence in their ability to teach SEN students. Conversely, 9.1% rated themselves at level 3, 7.8% at level 4, and 3.9% at level 2. A small proportion—2.6%—indicated a score of 1, meaning they do not feel prepared at all. Participants were also asked what types of support they would consider most beneficial for teaching swimming to SEN students.

A total of 53.2% of instructors identified the presence of a special education teacher who could assist during lessons and work directly with SEN students as the most helpful form of support. An equal proportion (53.2%) believed that smaller group sizes and access to further training and professional workshops would provide significant assistance.

According to 44.2% of respondents, the presence of an assistant or helper during sessions—someone who may not be a special education professional but could contribute to the smooth running of the learning process—would be valuable. Additionally,

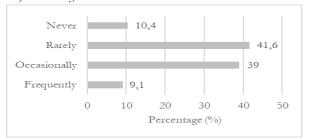
40.3% of instructors emphasised the importance of improved communication between parents and professionals, while 26% stated that having more time allocated for teaching SEN students would also be beneficial (Figure 3).

Figure 3. Percentage distribution of perceived helpful support measures for teaching students with special educational needs (N = 77). Source: by Authors.



We were also interested in whether instructors had ever experienced a situation during the swimming instruction of a student with special educational needs (SEN) where they felt unable to provide adequate support. According to the responses, 9.1% of instructors reported experiencing this feeling frequently, while 39% indicated that it occurs occasionally. A further 41.6% reported rarely feeling this way, and 10.4% stated that they had never encountered such a situation (Figure 4).

Figure 4. Percentage distribution of the occurrence of perceived lack of support during swimming instruction (N = 77) Source: by Authors.



# Participation of Children with Special Educational Needs in Swimming Instruction

Instructors were asked about the proportion and types of students with special educational needs (SEN) they work with. The results indicate that the most frequently encountered group—reported by 90.9% of respondents—consists of children with attention deficit hyperactivity disorder (ADHD). The second most common group includes children diagnosed with autism spectrum disorder (ASD), encountered by 59.7% of instructors during their lessons. The third most frequently reported group consists of students with learning disabilities, with 57.1% of respondents working with them during swimming sessions.

Students with intellectual disabilities were identified by 42.9% of instructors, making them the next most commonly present group during swim lessons. A further 27.3% of instructors reported working with children who have physical disabilities, while 26% indicated that they teach students with visual or hearing impairments. Only 1.3% of respondents reported working with students who have other types of special educational needs.

In addition, instructors were asked to estimate how many SEN students might be present in a group of 10 children. Based on the responses, 80.5% of participants believe that, on average, 1–2 students in such a group have special educational needs, while 16.9% estimated 3–4 SEN students per group. Only 2.6% of respondents believed that there would be no SEN students in a group of 10 (Figure 5).

We examined the instructional approaches employed by professionals in teaching children with special educational needs (SEN). The majority (77.9%) provide instruction within mixed-group settings, meaning that SEN and non-SEN students are taught together in an integrated manner. A smaller proportion (13%) work with these children in small-group settings, offering separate instruction. The proportion of individual instruction is relatively low, with only 3.9% of professionals employing this method. Additionally, 5.2% of educators utilize other forms of teaching to support these children (Figure 6).

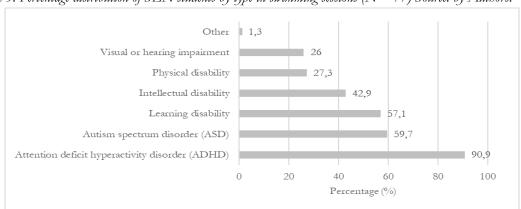


Figure 5. Percentage distribution of SEN students by type in swimming sessions (N = 77) Source: by Authors.

100

80

77,9

80

77,9

40

20

Individual instruction Small-group instruction Mixed-group Other (separately) instruction (SEN and non-SEN students together)

Figure 6. Percentage distribution of instructional formats used for teaching children with special educational needs (N = 77) Source: by Authors.

## Challenges in Teaching Swimming to Children with Special Educational Needs

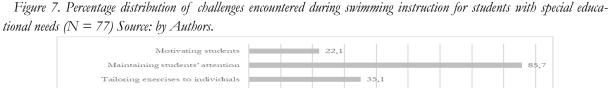
Swimming instructors face numerous challenges when teaching students with special educational needs. The most significant difficulty reported is maintaining the attention of students, cited by 85.7% of respondents.

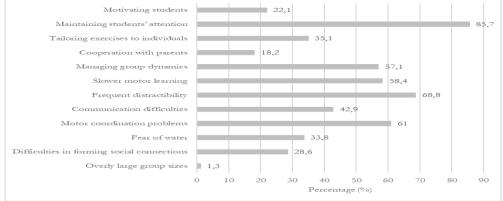
The second most common issue is frequent distractibility, experienced by 68.8% of instructors. Problems with motor coor-dination affect 61% of instructors, while slower motor learning poses challenges for 58.4%.

Group dynamics management also presents a considerable obstacle, with 57.1% of instructors encountering related difficulties. Communication

barriers impact lesson effectiveness for 42.9% of respondents, while tailoring exercises to individual needs is a challenge for 35.1%.

Other issues, though less frequently mentioned, still represent notable challenges. These include fear of water (33.8%) and difficulty in establishing social connections (28.6%). Motivating students is considered challenging by 22.1% of instructors, while cooperation with parents was noted as a difficulty by 18.2%. Although less commonly reported, these factors can still influence students' progress. The least problematic factor was the issue of overly large group sizes, which only 1.3% of swimming instructors identified as a difficulty (Figure 7).





We used a 5-point Likert scale to examine the perceived differences between students with special educational needs (SEN) and their typically developing peers. A score of 1 indicated complete disagreement, while a score of 5 indicated complete agreement. The statements began with: "Teaching students with special educational needs differs from teaching typically developing students in that..."—followed by specific assertions.

The results show that the statement most strongly agreed with was that teaching SEN students requires greater flexibility from the instructor (mean = 4.21, SD = 0.82), followed by the belief that working with them results in slower progress (mean = 4.05, SD = 0.95). A similarly high level of agreement was observed regarding the claim that SEN students require more discipline (mean = 3.57, SD = 1.11). The statement that SEN students often have motor coordination problems that distinguish their instruction from that of their peers also received high agreement (mean = 3.56, SD = 0.94). Ranked fifth was the view that SEN students are more difficult to manage (mean = 3.52, SD = 0.99). Many professionals also reported communication difficulties (mean = 3.39, SD = 0.93) and

disruptions caused to other students (mean = 3.36, SD = 1.06). Less agreement was found with the statements that SEN students form social connections with more difficulty (mean = 3.13, SD = 1.04) or that they may pose a danger to themselves (mean = 2.92, SD = 1.00). Perceptions related to excessive fearlessness showed similar scores (mean = 2.76, SD = 1.09), while the lowest level of agreement was associated with fear of water (mean = 2.71, SD = 1.22) (Table 1).

# Recommendations for Teaching Swimming to Children with Special Educational Needs

In the swimming instruction of students with special educational needs (SEN), several key factors and methodological tools were identified as important, based on assessments using a 5-point scale.

The highest-rated elements were ensuring physical safety (mean = 4.55, SD = 0.75), main-taining student motivation (mean = 4.43, SD = 0.82), the use of playful activities (mean = 4.25, SD = 0.89), providing individualized attention (mean = 4.25, SD = 0.76), and incorporating varied, non-monotonous exercises (mean = 4.23, SD = 0.90).

Table 1. Differences in the Instruction of Students with Special Educational Needs Compared (Source: Own research)

The instruction provided to students with special educational needs	Rank	Mean	SD
differs from that of their typically developing peers in that			
Teaching SEN students requires greater flexibility from the instructor	1	4,21	0,82
Progress is slower	2	4,05	0,95
They require much more discipline	3	3,57	1,11
They have motor coordination problems	4	3,56	0,94
They are more difficult to manage	5	3,52	0,99
Communication difficulties may arise	6	3,39	0,93
They disturb the work of others	7	3,36	1,06
They find it difficult to establish social relationships	8	3,13	1,04
They may pose a danger to themselves	9	2,92	1
They tend to be overly brave, putting themselves at risk	10	2,76	1,09
They are more afraid of water	11	2,71	1,22

Although the mean score for inclusive teaching in small-group settings was slightly lower (mean = 3.97, SD = 0.90), it still ranked high, reflecting the respondents' appreciation of inclusive education. By contrast, segregated group instruction received the lowest average score (mean = 3.26, SD = 1.34), accompanied by the highest standard deviation, indicating considerable divergence of opinion on this approach (Table 2.).

#### Conclusion

Learning to swim presents challenges for all children; however, for those with special educational needs (SEN), these challenges manifest in more individualized forms. The diverse characterristics of SEN—whether musculoskeletal or sensory impairments, autism spectrum disorder, or learning difficulties—require differentiated treatment, methodological approaches, and individualized instruction from swimming educators.

The effectiveness of swimming instruction largely depends on the instructor's ability to recognize and appropriately address the child's condition and needs, as well as to adapt to the child's individual requirements. For SEN students, differentiation represents a particularly significant challenge, demanding heightened attention, empathy, and professional preparedness from instructors.

Differentiation is essential to ensure that every child can learn at their own pace within a safe environment. The inclusive approach in swimming instruction offers an opportunity for personalized, experience-oriented development tailored to each child.

Swimming instructors face a wide range of difficulties in their work, with the most prominent being maintaining student attention and managing frequent distractibility. Teaching SEN students requires greater flexibility on the part of the instructtor and typically results in slower progress. For effective instruction, it is vital to consistently ensure physical safety, sustain motivation throughout the lesson, employ playful tasks, provide individualized attention, and introduce varied exercises that avoid monotony.

Overall, our findings indicate that the integration of SEN students is widely implemented, though separate sessions are also pre-sent in pedagogical practice.

Instructors considered integrated but small-group teaching to be particularly beneficial. We believe that these results provide valuable insights and feedback for enhancing the support of SEN students and may serve as useful guidance not only in swimming instruction but also in the planning of other physical activity programs.

Table 2. Importance of Specific Factors in the Swimming Instruction of Children with Special Educational Needs (Source: Own research)

I consider the important.	Rank	Mean	SD
Ensuring physical safety	1	4,55	0,75
Maintaining motivation	2	4,43	0,82
Providing individualized attention	3	4,25	0,76
Use of playful tasks	3	4,25	0,89
Applying varied, non-monotonous exercises	5	4,23	0,9
Use of short, simple instructions	6	4,17	0,87
Personalization of exercises	7	4,1	0,93
Incorporation of additional playful elements	7	4,1	0,93
Inclusive teaching in small groups	9	3,97	0,9
Teaching in separate groups	10	3,26	1,34

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