



# Journal of Exceptional People

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**Institute of Special Education Studies**  
Faculty of Education – Palacký University Olomouc



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## **Journal of Exceptional People**

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# Introduction

Hello, dear readers of our magazine, you have a printed issue of our Journal of Exceptional People lying in front of you, it is also possible that you are reading its online version. We publish our professional journal twice a year, and our editorial board strives to provide space for articles that are not only readable, but also inspiring and meet professional criteria. In this issue, you will find seven main contributions, which are divided according to their focus and formal point of view into scientific papers, overview essays and pilot studies. As usual, this autumn issue of JEP closes with a review of an interesting publication that is focused on the area of special education that is in the centre of our interest. Here is a short list of what the selected articles contain:

We received the first three contributions from Czech authors. The first article by the authors M. Hlina and S. Schallerová introduces us to the experiences of visually handicapped people dealing with the online space. The following one is a contribution by T. Telekyová, which is focused on assessing the effectiveness of art therapy intervention for emotionally and behaviorally disabled clients. An interesting pilot study was sent to the editorial office by a group of authors from the Faculty of Education of the UJEP in Ústí nad Labem (Czech Republic). It is focused on an exploration of the impact of regular participation in snoezelen sessions on children with multiple disabilities.

Next contribution is an article by the English authors S. Moore and B. Farrow (University of Northampton, UK), who focused their attention on the area of autism and on the emotional regulation of behavioral manifestations of such affected children. Another text reflects the problems accompanying the integration of children with special educational needs in Slovakia. L. Nováková sent it to us. On the following pages, M. Růžička from the Faculty of Education of the Palacky University of Olomouc (Czech Republic) introduces us to the implementation of well-being in

schools using the GROW method. The final two contributions are focused on the area of speech therapy in preschool and younger school children (E. Šlesingrová, K. Vitásková, L. Lavička, J. Kameník).

The given overview of contributions proves that we have once again selected and included in our issue topics that we assume will be of interest to the professional and lay public. We wish you a pleasant reading and believe that you will be satisfied with our magazine.

Pavel Svoboda, executive editor of JEP

# The experiences of pupils with visual impairments with socio-pathological phenomena in the online space

(overview essay)

Marek Hlina, Simona Schallerová

## **Abstract:**

### **Introduction**

*As digital technologies increasingly influence everyday life, awareness of sociopathological phenomena online, which can negatively affect individuals, especially vulnerable groups like pupils with visual impairment, becomes crucial. Cyberbullying, fraud, and stalking are among the risks that could confront them in the digital realm. These risks necessitate specific strategies for prevention and intervention to ensure the safety and protection of visually impaired individuals online.*

### **Materials and Methods**

*The study utilized a questionnaire as the primary method of data collection, featuring items formatted as both open and closed questions, which were distributed to pupils with visual impairments, with prior consent of legal guardians. The sample comprised pupils from special and inclusive schools across Western Slovakia, emphasizing the geographic and specific needs of the target group.*

### **Results**

*The results indicated that mobile phones, followed by computers, and tablets, are the most commonly used devices among pupils with visual impairment. Cyberbullying was recognized by the majority of pupils with visual impairment, but only 7.7% had direct experiences of cyberbullying, suggesting a superficial understanding of the issue. The findings highlight the high online engagement of pupils with visual impairment and their basic awareness of potential risks like online bullying, fraud, and data protection.*

### **Discussion**

*This study sheds light on the experiences of pupils with visual impairment with cyberbullying and other sociopathological phenomena online. While pupils with visual impairment show a basic level of awareness and are well-informed by parents and*



teachers, the depth and breadth of their knowledge vary, indicating the need for more targeted informational programs tailored to their specific needs. Moreover, the study underscores the importance of continuous improvement in educational and preventive measures to ensure pupils with visual impairments are well-prepared to navigate and utilize digital technologies safely.

### **Conclusion**

*Pupils with visual impairments are active internet users who seek educational materials, communicate with friends, and use digital media for entertainment. Despite their awareness of cyberbullying, many lack a comprehensive understanding of its various forms, highlighting the need for deeper educational focus on what constitutes cyberbullying and how to counteract it effectively. The study calls for further research to understand these phenomena better and to enhance the preventive and intervention strategies tailored to the needs of pupils with visual impairments.*

**Keywords:** *cyberbullying, pupils with visual impairment, online space*

## **1 Introduction**

With the increasing impact of digital technologies on everyday life, awareness of socio-pathological phenomena in the online space, which can negatively affect individuals, especially vulnerable groups such as people with visual impairments, is also becoming more important. Cyberbullying, fraud and stalking are just some of the risks they may face in the digital environment. These risks require specific prevention and intervention strategies to ensure the protection and safety of visually impaired individuals online. Technology is a part of our lives, and it is no different for students with visual impairments, for whom it forms an important element of information and knowledge acquisition (Hatton, Blakenship, 2014). Given the nature of mobile devices and advances in technology, there is much to be gained from the use of new technologies in education. Certain advances in mobile technology can bridge the gap between fully sighted students and the visually impaired. However, by incorporating technologies such as motion sensors that are now standard on many modern smartphones, the prospect of developing new inclusive mobile learning applications for students with visual impairments can be achieved. Mobile devices are easily portable compared to computers and can encourage individuals to be active anytime, anywhere (Kamei-Hannan and Lawson 2012).

Nowadays, as digital technology permeates all areas of our lives, the phenomenon of cyberbullying, which is a serious socio-pathological problem, is receiving more and more attention. Cyberbullying is defined as repeated and deliberate aggressive behaviour carried out through electronic media, with the aim of harming an individual who is perceived to be weaker (Cerna, 2013; Kowalski & Limber, 2013). This

phenomenon can take many forms, ranging from spreading gossip, to sharing embarrassing photos or videos, to sending threatening messages (Mukhtar et al.).

Vulnerable groups, such as individuals with visual impairments, are at particular risk. These individuals, despite their specific needs, are active users of the internet and social media, where compensatory technologies such as screen readers allow them to actively engage in online communities (Heiman, Olenik-Shemesh, 2017, Gennadi et al., 2020). However, this interaction also carries an increased risk of cyberbullying, which is associated with an inability to interpret non-verbal cues and a partial or complete lack of visual perception, which can make it difficult to defend against potential attacks (Kirsty, Hill et al., 2021).

Anonymity, a common characteristic of online interactions, plays a key role in cyberbullying. It allows perpetrators to remain hidden, which can lead to increased aggression and decreased accountability for their actions (Chomczynski, 2020; Kowalski et al., 2014, Tahani, Atieh, 2022). This is particularly problematic for children and adolescents with special educational needs, who are often more likely to be victims of bullying due to their communication and social limitations (Mukhtar et al., 2023). According to research by Nocentini et al. (2008), intent to harm is key to categorizing behavior as cyberbullying. Cyberbullying is characterised as deliberate, repeated behaviour intended to harm an individual perceived to be weaker. This concept is consistent with definitions by Ahmad and Kamran (2019), who describe cyberbullying as the use of technology to harass, humiliate, or threaten. In addition to these types of behaviours, stalking people or posting content that is sensitive can also be considered cyberbullying.

Research and studies show that uncontrolled behaviour in the online space can lead to various forms of addiction and psychosocial problems, and individuals spending excessive amounts of time on social media may be particularly vulnerable (Sitzer et al., 2012; Wrzesinska et al., 2021). In this context, it is important to highlight the need for effective prevention measures and educational programs that shed light on the risks of cyberbullying and teach young people how to defend themselves against it.

At the same time, it should be noted and recalled that in the Slovak Republic, cyberbullying is classified as a criminal offence (236/2021 Z. z.), for which an individual may face imprisonment.

Based on the above findings, it is clear that there is a need to create a more inclusive and safer online environment where the behaviour of bullies is adequately monitored and punished, which could contribute to reducing the incidence of cyberbullying and improving the quality of online interactions for all users, including those with visual impairments.

## 2 Research part

Based on the data and potential research questions we have discussed, here are suggestions for research objectives for a study focused on the experiences of students with visual impairments with sociopathological phenomena in online environments. The main aim of our work was to analyse and understand the experiences of pupils with visual impairments with online socio-pathological phenomena, with an emphasis on identifying the frequency, characteristics and impacts of these phenomena on their daily lives and learning. In addition to the main objective, we also set out to find out how often and in what forms pupils with visual impairments experience bullying in the online environment.

### 2.1 Material and Methods

Based on the data and potential research questions we have discussed, here are suggestions for research objectives for a study focused on the experiences of pupils with visual impairments with sociopathological phenomena in online environments. The main aim of our work was to analyse and understand the experiences of pupils with visual impairments with online socio-pathological phenomena, with an emphasis on identifying the frequency, characteristics and impacts of these phenomena on their daily lives and learning. In addition to the main objective, we also set out to find out how often and in what forms pupils with visual impairments experience bullying in the online environment.

The main method used in the implementation of the present research was a questionnaire. This instrument contained a total of 14 items which were formulated as both open and closed questions. The questionnaire items were systematically divided into four main areas: (1) collection of respondent data, (2) use of technology, (3) elicitation of experience with the subject matter, and (4) outreach activities focused on the research topic. The choice of a questionnaire as the data collection method was determined by the characteristics of the target group and the practicalities of conducting the research. The questionnaires were distributed to the pupils' legal representatives or directly to the pupils, but always with the prior consent of the legal representative. This approach was considered to be the most effective way of obtaining relevant information, given the geographical distribution and specific needs of the target group, which were pupils with visual impairment from the Western Slovakia region.

Special attention was paid to pupils with visual impairment attending the primary school for pupils with visual impairment in Bratislava. For pupils who had limited computer skills, we provided the opportunity to complete the questionnaire in the presence of an assistant. A total of nine pupils chose this method, with the assistant completing the questionnaire based on verbal instructions given to the pupil. This

adaptive approach allowed for more accurate and efficient data collection in accordance with the individual needs and abilities of the respondents.

Once all the questionnaires were collected, the evaluation phase proceeded, which involved quantitative and qualitative data analysis. The quantitative analysis focused on the statistical treatment of the closed-ended questions, while the qualitative analysis was used to interpret the open-ended questions, where respondents were free to express their views and experiences. The results were systematically organized and presented to reflect the main thematic areas of the questionnaire and to provide an in-depth look at respondents' experiences and insights related to cyberbullying and Internet use.

In the research carried out, the research population consisted of pupils with visual impairment in the age group of 10 to 20 years. The criterion for inclusion in the research population was exclusively present visual impairment, pupils with other associated disabilities were not included in the selection. The age criterion was set because of the active use of technology; pupils already acquire skills related to the use of technology through screen readers or screen magnifiers during the educational process.

The selection of respondents was made thanks to access to the internal register of clients of the Specialized Centre for Counselling and Prevention for Children and Pupils with Visual Impairment. This register contains data on clients who are also users of the services of the facility. Based on predefined criteria such as age, type of disability and technological skills, a list of potential respondents who could be included in the research was generated.

The process of approaching respondents consisted of informing legal guardians of the objectives and nature of the research. This step was carried out in order to obtain their consent for their children to participate in the research. Out of the total number of legal guardians approached, 13 of them gave their consent to participate in the research. This procedure ensured the ethical integrity of the research while taking into account the legal and ethical standards regarding research with minors.

The research population consisted of pupils from mainstream primary schools, primary schools for pupils with visual impairment, grammar schools and vocational secondary schools. The total sample consisted of 13 respondents, 7 respondents were boys and 6 respondents were girls. In terms of type of school, the majority of respondents were from a primary school for pupils with visual impairment (8), with three respondents from a mainstream primary school and one respondent each from a grammar school and a vocational secondary school. The highest number of respondents was from a primary school for pupils with visual impairment. This is due to the location of the SCPP, which is located in the premises of the United School for Children and Pupils with Visual Impairment. Due to the increased concentration of

pupils with visual impairment in this school, we were able to conduct the research with such a relatively large sample of respondents who primarily had severe visual impairment (ranging from severe low vision to complete loss of vision without photocoellitis).

We gathered information from the participants aimed at answering the questions:

How informed are students with visual impairments about risks and safety on the Internet?

What experiences do pupils with visual impairments have with cyberbullying?

Preparation for our research began in January 2024 with a consultation on the feasibility of conducting a study to explore the experiences of pupils with visual impairments in primary schools for pupils with visual impairments in relation to the social pathologies that can occur when using the Internet. Having established the research objectives, we grounded the theoretical basis of the project by formulating the research questions and selecting an appropriate research method. We then proceeded to the development of the questionnaire, which, once approved, was distributed to the legal representatives at the e-mail addresses they provided.

The distribution of the questionnaires took place in the second half of February and during March we moved on to the data evaluation phase. The completion of the questionnaires took place with the assistance of the researcher in the afternoon in the premises of the special school. Our meetings with respondents were organized individually to ensure that anonymity was maintained, to avoid influencing responses and to minimize possible interference from others. This approach allowed respondents to express themselves freely and without undue stress, contributing to the authenticity and reliability of the data obtained.

## 2.2 Results

The survey results show that the most commonly used device was a mobile phone (92% of users) followed by a computer (69%) and a tablet (23%). The mobile phone currently provides the fastest as well as the most convenient access to information due to its features and ergonomic characteristics. The visually impaired group can use these technologies as effectively as the able-bodied population thanks to assistive technologies (various software for magnifying or pre-reading texts).

In terms of the amount of time that pupils with visual impairments spend on the Internet during the day, the largest proportion of respondents (46%) reported spending between 2 and 3 hours on the Internet per day. A further breakdown of time shows that 15.4% of respondents spend between 1 and 2 hours online, the same number spend between 3 and 5 hours online per day, while none of the respondents spend more than 5 hours online per day. Respondents may not have included time

spent during school hours in the time spent, and in the case of students staying in dormitories, the time may have been shorter due to limitations imposed by tutors.

In terms of the purposes of internet use, the most common activity for which pupils with visual impairments use the Internet is watching videos (92%), followed by listening to music (84.5%). Communicating with friends through chatting (69.2%) and educational activities (61%) also represent a significant part of their online activities. Less frequent are online games (30.8%) and communication with family.

Pupils with visual impairments mainly obtain information about Internet safety from their legal guardians (46.2%), from the media (30.8%) and from teachers (23.1%). Information from educators or friends was not obtained, especially in the case of educators, we perceive a need to improve the situation, given their frequent contact with pupils with visual impairments on the premises of the school for pupils with visual impairments in the afternoons, in their free time.

Cyberbullying is a significant socio-pathological phenomenon that is currently used in discussions about safe behaviour online, so it is natural that our respondents have also encountered it. The majority of respondents (92.3%) said they were familiar with the term, but their responses suggest a superficial understanding of the problem. Respondents perceived verbal attacks and insults, threats and intimidation, ridicule as part of cyberbullying. Some respondents simply stated that it was 'cyberbullying', without further explanation of how it might take place.

With regard to individual participants' perceptions of cyberbullying, 7.7% of respondents reported direct experience of cyberbullying. The lower percentage of responses could also be due to the lack of understanding of cyberbullying by specific respondents but also due to less time spent on technological devices on a daily basis. The research further shows that all students with direct experience of cyberbullying believed that they knew the person who bullied them via the Internet.

The results of the study showed that instances where respondents had personal acquaintances who had been cyberbullied online were less common. The majority of respondents, namely 61.5%, reported that they did not know anyone who had been cyberbullied. On the other hand, approximately one-sixth of the respondents (15.4%) had an experience of having classmate, schoolmate, friend or acquaintance being cyberbullied. A smaller proportion, 7.7% of respondents, had observed bullying among their siblings or other family members. These data suggest that although some respondents have direct experience of cyberbullying in their immediate environment, general awareness of cyberbullying may be lower among this population.

Respondents with visual impairments use a variety of applications to access the Internet and social networking sites, similar to the intact population. Specifically, the study found that platforms such as Facebook, TikTok, and Instagram are places where 15.4% of respondents reported encountering bullying. The remaining majority

of respondents (61.5%) experienced cyberbullying through other, less specified apps. Conversely, there were no incidents of bullying through email services and the Snapchat app.

In addition to bullying, a significant proportion of respondents (61.5%) also face fraud attempts in the online environment, indicating a high prevalence of efforts to deceive users online. This highlights the need for increased digital safety education and prevention among visually impaired students, who may be more vulnerable targets for online scammers. Based on respondents' answers to an open-ended question regarding attempts to scam or deceive online, it is possible to identify a number of key strategies used by scammers. Respondents reported situations where they were sent links to fake competitions or prizes, which is a common tactic to spread malware or obtain personal information. Some respondents had experienced scammers posing as members of their families in an attempt to raise funds, particularly pupils who use boarding accommodation and whose socio-economic background is unsatisfactory. Girls in particular have faced requests for photographs or other personal details from men who have approached them via social media. Two respondents reported setting up security measures to protect their accounts and data, such as multi-level authentication when logging in. This is a relatively small number of respondents; poor security settings and possible naivety in behaviour were reflected in the higher number (76.9%) of respondents who reported that someone had misused their personal data online. The most common was the misuse of the respondents' name to open an account. Respondents reported that someone had appeared on their behalf in various discussions.

The concept of stalking, which is relatively new and closely related to cyberbullying, is familiar to most respondents, reflecting the high level of awareness in this area. Up to 69.2% of respondents confirmed that they were familiar with the term. Stalking was understood by respondents as a general understanding of the term 'stalking' (30.7%); specific situations were mentioned by four participants (30.7%), such as stalking through eavesdropping via microphones or by following a person in the real world. 23.1% of the respondents had direct experience of this, they reported situations where persons in their environment had monitored information that the respondents had posted online and further disseminated or distorted it. One participant described an unpleasant situation with a woman who tried to find out his location and activity through all the social networks he used.

Discussions about cyberbullying among respondents with visual impairments were predominantly with family members, specifically parents, with up to 61.5% of respondents reporting that they had discussed these issues with them. A high proportion of respondents (38.5%) also mentioned that they had discussed cyberbullying issues with teachers, but these conversations were not part of the formal teaching process. Instead, these interactions took place in a more relaxed, informal

context, such as during breaks, field trips or school outings. A further 30.8% of respondents reported that the issue of cyberbullying had been discussed as part of various awareness-raising and bullying prevention programmes. Only a small number of respondents (one respondent) mentioned that they had discussed these issues with an educator. This variance in communication suggests that while family and school teachers play a key role in providing support and advice in addressing cyberbullying issues, there is a need for further structured and regular discussions within the school setting.

According to the findings, respondents with visual impairments were relatively well informed about the resources available to help them deal with cyberbullying issues. The majority of respondents, namely 69.2%, indicated that they knew exactly who to contact if they needed intervention or support. This fact points to the positive aspect of their awareness and access to support resources, which is a prerequisite for dealing effectively with such problems. However, there is still a significant proportion of respondents, 23.1% to be precise, who do not know where to seek help in case they are victims of cyberbullying. This uncertainty may increase their vulnerability and reduce their ability to respond effectively to bullying. One respondent stated that they would deal with cyberbullying problems on their own, which may indicate a lack of confidence in the support systems available or a lack of information about their existence.

Most respondents would turn to their parents if they needed support, indicating the importance of the family as the first point of support in dealing with problems. Friends were also frequently named as a source of help, indicating the importance of social networks and peer support. An interesting case is that of a respondent who would seek solutions via the Internet, which may indicate independence in seeking information, but also the potential risk of obtaining unreliable or unverified information.

### 3 Discussion

The results of the study reveal the experiences of pupils with visual impairments with socio-pathological phenomena in the online space, namely cyberbullying. The findings provide us with a deeper insight into both their experiences and how equipped pupils are to manage potential risks in the online environment.

In general, pupils with visual impairments demonstrate a basic awareness of the risks associated with using the internet, such as online bullying, scams and privacy. Parents and family members are the main source of information about online safety, but teachers and school staff also play an important role, particularly in schools for pupils with visual impairments. They provide computer science lessons that include safe online behaviour.



These findings suggest that pupils with visual impairments are relatively well informed about basic Internet safety through a combination of family support and school resources. However, the extent and depth of their knowledge may vary depending on individual circumstances. These findings suggest the need to continue to improve and expand access to information programmes that are specifically tailored to the needs of pupils with visual impairments, so that all are equally well prepared to use digital technologies safely and effectively.

Based on respondents' answers, we can note an imperfect understanding of the term "cyberbullying". When asked directly, only 1 respondent answered positively, but as can be seen, almost every respondent had experienced some form of cyberbullying. We see it as important to further explore the experiences of pupils and also focus on identifying their participation in cyberbullying, as Heiman and Olenik-Shemesh (2016) found in their research that pupils with visual impairments, although more likely to be the victim of cyberbullying, were also significantly involved in the bullying process itself.

Research shows that the Internet use among pupils with visual impairments has a long-term trend. Research (Wolffe and Kelly, 2012) suggests that the Internet use amongst the visually impaired group is frequent, particularly for emailing, this trend has not changed at present but the way pupils use the Internet has been transformed to some extent. Our respondents are more likely to communicate via social networking chats, a contemporary reflection of their preferred mode of interaction.

Consistent with this observation, the study by Inan et al. (2016) shows frequent use of the Internet for educational purposes, which corresponds with our respondents' answers. In our research, 61.5% of respondents reported that they use the Internet for educational purposes. This research also reports that students spend a high amount of time on social networking sites, which was confirmed in our case, where almost 70% of respondents reported chatting through apps as time spent on the Internet. These data suggest that the Internet is not only a means of education for students with visual impairments, but also an important platform for social interaction.

We see it as important to include activities that would convey information to pupils about cyberbullying and what they can think of as cyberbullying, but most importantly, who they can turn to. The majority of respondents said that they would turn to their parents if they had a problem. Positive relationships between parents and children can also act as a prevention of cyberbullying (Elsaesser et al. 2017, Bauerová, Koprřivová, 2023), but given the family background, the relationship between students with visual impairment and educators from the Centres for Children and Families needs to be supported.

Future research should focus on a deeper understanding of the concept of cyberbullying and analysis of their experiences through qualitative research to provide a more comprehensive understanding of the issue among pupils with visual

impairment. We also see a need to obtain information from computer science teachers, prevention specialists or school psychologists themselves on the implementation of prevention activities or interventions in case of the occurrence of this behaviour.

### 3.1 Limits

The results of our research constitute only partial findings of the project. However, we still perceive that due to the low feedback from the legal representatives of pupils with visual impairment, the number of respondents was smaller and the results of the research cannot be generalised to the whole population of pupils with visual impairment in Slovakia. We are aware that in the future it is necessary to expand the number of respondents, not only to include pupils with visual impairment from all over Slovakia, but also with other types of special educational needs.

## 4 Conclusion

Pupils with visual impairments are very active on the Internet, where they search for educational materials, communicate with friends and use digital media for entertainment. Mobile phones and social networks are their main platforms for these activities. The study showed that pupils with visual impairments have a basic awareness of the potential risks associated with using the Internet, including online bullying, scams and privacy. Although pupils are aware of the existence of cyberbullying, many have a limited understanding of its different forms. This suggests a need to focus on deeper education about what cyberbullying involves and how to defend against it.

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# The effectiveness of integrating psychoeducation and expressive arts therapy in school-based interventions for intact students/pupils and students with emotional and behavioral disorders

(overview essay)

Tereza Telekyová

***Abstract:** In the given article, it is an attempt to point out the absence of psychotherapeutic-expressive therapeutic intervention approaches in education as a means of supporting the development of the personality of the child/adolescent in the school environment as part of the educational process from a broader perspective: acquiring new knowledge in classic subjects such as civic education, natural sciences, history..., but also in the context of teaching to acquire social skills (self-expression, assertiveness, the art of dialogue...) and also as prevention against the emergence of mental illnesses, aggression, bullying or as a tool for detecting unwanted influences that negatively affect a healthy child development and as a support tool for pupils with special educational needs, especially for pupils with behavioral disorders. The given article summarizes the opinions of experts and their research in the field of psychoeducation, psychotherapy/art therapy in education.*

***Keywords:** psychotherapy, expressive therapy, social skills, education, psychoeducation, student/ pupils, Emotional and Behavioral Disorder*

## 1 Introduction

School plays a key role in an individual's overall education and life success. Creating an environment that supports holistic personality development includes not only an approach to cognitive growth, but also emotional, social and moral aspects. This support has many important influences that affect a child's life and future. First, it is important to realize that a child's personality is formed from an early age and continues even during school age. Primary and secondary school is a place where

educators and other experts can significantly influence this process. Supporting personality development helps children build self-confidence, self-esteem and the ability to communicate effectively. Emotional aspects are an integral part of personality development. By providing appropriate tools to understand and regulate emotions, schools can contribute to the creation of an emotionally stable environment, which is key to a child's success not only in school, but also in life in general. Children who are able to manage their emotions effectively make better schoolmates and are better able to cope with stress and pressure later in life (Fountain, 2003).

Social skills are another important element of personality development. Interaction with peers, cooperation in a team and the development of empathy are skills that not only influence children's relationships at school, or motivate students in education, but also have an impact on future professional and personal success. Quality education should therefore include programs and activities that support these social aspects of development, an equally important element is moral education and the building of value attitudes. Schools should be environments that promote ethical decision-making, respect for others, and responsible citizenship. This provides children with a solid foundation for a moral and ethical framework of orientation, which has a long-term effect on the formation of their character (Andreas, 2005). It follows from the given text that it would be appropriate to introduce psychotherapeutic principles into the educational system or to include a subject in the educational curriculum that would deal with and educate pupils in social skills, this is recommended by a number of experts from the ranks of academic workers, psychotherapists, psychologists, school psychologists, pedagogues, which you can see in the following text (Andreas, 2005).

## **2 Psycho education in school curriculum**

The school is an educational institution, imparting knowledge to pupils within academic subjects, but we should not forget to teach social skills, according to Professor Jan Sokol, modern education should fulfill the following: 1. Education – Imparting knowledge, skills and basic information within academic subjects (natural, social sciences) which students will further use in their professional orientation and civic life. 2. Personalization – Development of the pupil's personality, equipping the pupil with basic social and personal skills that are important for functioning in society, which directly follows the third task of the school, which is socialization. 3. Socialization – Safely bringing pupils from their private family sphere into wider community where I aim to strengthen the student's ability to establish relationships, cooperate with others and find adequate solutions to problems.

If we are dealing with questions of the development of the pupil's personality, the so-called personalization, this function can also be found in scientific subjects that

primarily fulfill the function of education, then we are talking about fields that are focused directly on this area, such as Civic Education, Ethical Education, Primary Education, Man and the World of Work, Man and His Health and others. These subjects often work with methods of experiential pedagogy, group work, provide feedback and support reflection. Many of the activities, techniques and games used in these areas have their origins in therapeutic methods. It is therefore important that educators carefully consider their use and be aware of their limitations. Furthermore, some schools provide programs such as school in nature, preventive programs, school trips, all of which can serve to support the student's social skills, but this is not regular and directly therapeutic intervention-oriented work with the student, as is the case in science subjects (Veselý, 2013).

## **2.1 Why psychotherapy in education**

After the family, school is by far the most important area of socialization for a child determines the development and application of his abilities, relating to authorities and peers, establishing close relationships with the same and opposite sex. School quality the environment is related to whether it manifests itself in the child currently and in his further development psychological difficulties and to what extent these difficulties can be managed. Many children enter the schools with already significantly disrupted previous development (children from orphanages, significantly unsuitable family environment, with a history of early trauma), for those school represents an additional burden, and they also represent a burden for education itself. Of course, even for children with more "normal" destinies, school presents significant challenges (adaptation to new environment, demands for performance and its evaluation, the necessity to obey the rules, involvement in a peer group), many of which need support in coping. Psychotherapy-psychoeducation is one of the ways of supporting children and adolescents as well as education itself (Jedlička, 2015).

Psychoeducation strives for the overall strengthening of emotional intelligence and by teaching social skills such as assertive behavior, empowering teachers and students to respect each other regardless of race, gender, religion... guides pupils and students to know how to communicate and express their needs and opinions in a healthy way and rights so that both their own and other people's rights are respected. Assertiveness and general competence called soft skills try to prevent aggressive behavior by allowing individuals to express their thoughts and feelings without violating the rights of others or oppressing themselves (Andreas, 2005).

## **2.2 Psycho education and research**

The integration of psychoeducation and expressive arts therapy in school-based interventions is gaining attention in special education, particularly for students with



emotional and behavioral disorders (EBD). These students often encounter significant challenges that affect their academic performance and social development. Traditional educational approaches may not sufficiently address their complex needs, making innovative strategies necessary. Psychoeducation aims to educate students about their mental health conditions and teach coping strategies, empowering them to manage their symptoms effectively. Eckhart, Egger, and Mair-Raggautz's (2022) randomized controlled trial demonstrated that school-based psychoeducation and cognitive-behavioral therapy (CBT) significantly reduced anxiety and improved depressive symptoms in anxious children, highlighting psychoeducation's potential in addressing emotional disorders. Expressive arts therapy employs creative modalities such as art, music, drama, and dance to facilitate emotional expression and healing. Freilich and Shechtman's (2010) quasi-experimental study found that art therapy significantly improved self-concept and reduced loneliness in children with learning disabilities, underscoring its therapeutic benefits. Similarly, Coholic, Eys, and Loughheed's (2012) study on an arts-based and mindfulness-based program showed significant improvements in emotional regulation, focus, and social skills in vulnerable children. This review explores the effectiveness of integrating psychoeducation and expressive arts therapy in school-based interventions for students with EBD. By analyzing recent scientific research, it highlights the benefits, challenges, and best practices of these interventions. McLeod et al. (2017) identified psychoeducation as a common element in effective interventions targeting social, emotional, and behavioral outcomes in early childhood classrooms, emphasizing its foundational role in school-based mental health. Additionally, Felsman, Seifert, and Himle's (2019) study on improvisational theater's use to reduce social anxiety in adolescents provides promising evidence for creative performance-based approaches. The review aims to inform educators, therapists, and policymakers on how these integrative approaches can enhance educational outcomes and emotional resilience in students with EBD. By adopting a holistic approach that addresses both educational and emotional needs, schools can create a more inclusive and supportive environment, ultimately promoting students' overall well-being and success.

### **3 Psychoeducation in School-Based Interventions**

Psychoeducation in school-based interventions has garnered substantial attention due to its efficacy in addressing various mental health issues among students. This approach involves educating students about their mental health conditions and equipping them with coping strategies to manage their symptoms effectively. By fostering an understanding of their own psychological processes, students can develop resilience and improve their overall well-being.

### 3.1 Efficacy and Implementation

Eckhart, Egger, and Mair-Raggautz (2022) conducted a randomized controlled trial to evaluate the effectiveness of school-based psychoeducation combined with cognitive-behavioral therapy (CBT) for children experiencing anxiety. The study included 107 children aged 8–13, randomly assigned to either an intervention group or a waitlist control group. The results indicated significant reductions in anxiety symptoms and improvements in depressive symptoms among the intervention group, underscoring the potential of psychoeducation in mitigating emotional disorders in school settings.

Similarly, McLeod et al. (2017) identified psychoeducation as a prevalent practice element in interventions aimed at enhancing social, emotional, and behavioral outcomes for young children in early childhood classrooms. Their systematic review highlighted that psychoeducation for teachers was present in 71.4% of the studies, emphasizing its foundational role in effective school-based mental health interventions.

### 3.2 Benefits for Emotional and Behavioral Disorders

Students with emotional and behavioral disorders (EBD) face numerous challenges that can significantly impede their academic performance and social development. Traditional educational approaches often fall short in addressing these complex needs. Psychoeducation, however, offers a tailored approach by providing students with the knowledge and skills to understand and manage their conditions.

Eckhart, Egger, and Mair-Raggautz (2023) extended their research to examine the long-term effects of their psychoeducation and CBT intervention. Their follow-up study assessed outcomes 12 months post-intervention and found that the significant reductions in anxiety symptoms observed immediately post-intervention were maintained. Additionally, there were continued improvements in depressive symptoms, reinforcing the long-lasting benefits of psychoeducational interventions.

### 3.3 Challenges and Considerations

While the benefits of psychoeducation are evident, implementing these interventions in school settings presents several challenges. Ensuring that school staff are adequately trained to deliver psychoeducational content and fostering collaboration between mental health professionals and educators are critical components for success. Moreover, tailoring the content to be age-appropriate and culturally sensitive is essential to meet the diverse needs of the student population.

Despite these challenges, the integration of psychoeducation in school-based interventions offers a promising avenue to support the emotional and behavioral health of students. By empowering students with knowledge and coping strategies,

psychoeducation can play a crucial role in fostering a supportive and inclusive educational environment.

In conclusion, psychoeducation in school-based interventions has demonstrated significant efficacy in addressing mental health issues among students, particularly those with EBD. Studies have shown that such interventions can lead to sustained improvements in emotional and behavioral outcomes, highlighting the importance of incorporating psychoeducational approaches in schools. Future research should continue to explore innovative methods to enhance the delivery and effectiveness of these interventions, ensuring that all students have access to the mental health support they need to thrive academically and socially.

## 4 Expressive Arts Therapy in Education

Art is considered a fundamental aspect of human existence and is closely related to imagination, emotion, cognition, bodily experience and spirituality. The symbolic nature of artistic expression makes it possible to overcome the limitations of standard communication and shed light on internal and external conflicts on a deeper level, thus providing space for possible solutions to problems. Painting, musical improvisation, dance, story-making, or role-playing can open both verbal and non-verbal channels of communication between individuals. The artistic process affects the physiological, psychosocial and cognitive functions of the individual. When engaging in an artistic activity, there is an interaction between body, mind and emotions. In this way, art not only provides an aesthetic experience, but also contributes to overall comfort and mental balance. Artistic forms of communication allow individuals to express their feelings and thoughts, which can sometimes be difficult to express in words. Art therapy and expressive approaches use creativity to stimulate perception and understanding of oneself and interactions with the surrounding world. Overall, it can be said that artistic expression has extraordinary potential as a means for development and healing, it affects us comprehensively in the emotional and social as well as cognitive areas (Müller, 2005).

Expressive arts therapy is gaining prominence in educational settings for its effectiveness in addressing the emotional and behavioral needs of students. This therapeutic approach employs creative modalities such as art therapy of music, drama, bible therapy, dance ...and dance to foster emotional expression, self-awareness, and psychological healing. The integration of expressive arts therapy in schools is supported by research demonstrating its positive impact on students' emotional regulation, self-concept, and social skills (Valenta, 2001).

## 4.1 Efficacy and Implementation

Freilich and Shechtman's (2010) quasi-experimental study on the impact of art therapy on children with learning disabilities highlighted significant improvements in self-concept and reductions in loneliness among participants. The study involved 187 children aged 7 to 15, who participated in weekly art therapy sessions. The findings indicated that art therapy supports emotional well-being without hindering academic progress, suggesting its potential as a complementary educational intervention.

Coholic, Eys, and Lougheed (2012) examined an integrative arts-based and mindfulness-based program designed to enhance resilience in vulnerable children. Their mixed-methods study reported significant improvements in self-concept, emotional regulation, and social skills. Qualitative data from the study underscored themes of enhanced focus and emotional control, providing evidence for the program's effectiveness in promoting resilience among at-risk youth.

Felsman, Seifert, and Himle (2019) investigated the use of improvisational theater to reduce social anxiety in adolescents. Their study, which included 268 middle and high school students, revealed significant decreases in social anxiety and improvements in self-esteem and positive affect. These results highlight the therapeutic benefits of creative performance-based approaches, emphasizing their potential to foster emotional resilience and social competence in students.

## 4.2 Benefits for Emotional and Behavioral Disorders

Students with EBD often face significant challenges that impede their academic performance and social development. Traditional educational approaches may not adequately address these complex needs, whereas expressive arts therapy offers a holistic method that caters to their emotional and psychological requirements. By facilitating emotional expression and enhancing self-awareness, expressive arts therapies help students develop coping strategies and resilience.

Perryman, Blisard, and Moss (2019) provided a neuroscientific perspective on the use of creative arts in trauma therapy. Their review of literature discussed how trauma affects the brain and how creative activities, such as art-making and music, can activate neural pathways associated with emotion regulation and memory processing. This theoretical framework supports the incorporation of expressive arts in educational interventions, particularly for students dealing with trauma.

## 4.3 Challenges and Considerations

While expressive arts therapy offers numerous benefits, its implementation in school settings presents several challenges. Ensuring that school staff are adequately trained to facilitate these therapies and fostering collaboration between educators and mental health professionals are critical for success. Additionally, it is essential to tailor these

therapeutic activities to be age-appropriate and culturally sensitive to meet the diverse needs of the student population.

In conclusion, expressive arts therapy in education presents a promising approach to addressing the emotional and behavioral needs of students with EBD. Research has shown that these therapies can lead to significant improvements in emotional and social outcomes, highlighting the importance of integrating creative modalities into school-based interventions. By fostering emotional expression and self-awareness, expressive arts therapies contribute to a supportive and inclusive educational environment, ultimately promoting students' overall well-being and academic success.

## **5 Comparative Analysis**

In analyzing the integration of psychoeducation and expressive arts therapy within school-based interventions for students with emotional and behavioral disorders (EBD), it is crucial to understand the distinct and complementary roles these approaches play. Psychoeducation and expressive arts therapy, while both beneficial, operate through different mechanisms and offer unique contributions to the holistic development of students.

### **5.1 Effectiveness of Psychoeducation**

Psychoeducation focuses on educating students about their mental health conditions and teaching coping strategies. This approach empowers students by providing them with knowledge and skills to manage their symptoms effectively. Research has consistently shown that psychoeducation can lead to significant improvements in emotional and behavioral outcomes. For instance, Eckhart, Egger, and Mair-Rag-gautz's (2022) study demonstrated that school-based psychoeducation and cognitive-behavioral therapy (CBT) significantly reduced anxiety and depressive symptoms in children. The emphasis on understanding and managing one's own mental health is a cornerstone of psychoeducational interventions, which can lead to long-term benefits in students' emotional regulation and resilience.

### **5.2 Benefits of Expressive Arts Therapy**

On the other hand, expressive arts therapy uses creative modalities like art, music, drama, and dance to facilitate emotional expression and healing. This therapeutic approach allows students to explore and express their feelings in non-verbal ways, which can be particularly beneficial for those who struggle with traditional verbal communication methods. Studies such as the one conducted by Freilich and Shechtman (2010) have shown that art therapy can significantly improve self-concept and reduce feelings of loneliness in children with learning disabilities. Similarly, Coholic,

Eys, and Lougheed's (2012) research indicated that arts-based programs enhanced emotional regulation, focus, and social skills among vulnerable children.

### **5.3 Complementary Nature of the Approaches**

The integration of psychoeducation and expressive arts therapy offers a comprehensive approach that addresses both cognitive and emotional aspects of EBD. Psychoeducation provides the necessary knowledge and strategies for students to understand and manage their conditions, fostering a sense of control and self-efficacy. Expressive arts therapy complements this by offering a safe and creative outlet for emotional expression, which can facilitate emotional healing and personal insight. The combination of these approaches ensures that students receive a balanced intervention that supports their academic performance while promoting emotional and social well-being.

### **5.4 Challenges and Considerations**

Despite the evident benefits, integrating these approaches in school settings poses certain challenges. These include the need for trained professionals, adequate resources, and time within the school curriculum. Additionally, there can be variability in the effectiveness of these interventions based on individual student needs and school environments. Therefore, it is essential for schools to adopt a flexible and adaptive approach, tailoring interventions to the specific needs of their students and continuously evaluating the outcomes to ensure effectiveness.

In conclusion, the comparative analysis of psychoeducation and expressive arts therapy highlights the strengths and potential synergies of these approaches in addressing the complex needs of students with EBD. By integrating both methods, schools can create a more supportive and inclusive environment that promotes both academic success and emotional well-being. This holistic approach not only addresses immediate educational and emotional needs but also equips students with the skills and resilience needed for long-term success. Future research should continue to explore the best practices for integrating these approaches, ensuring that interventions are evidence-based and tailored to meet the diverse needs of students.

## **6 Conclusion**

The integration of psychoeducation and expressive arts therapy within school-based interventions presents a multifaceted approach to addressing the needs of students with emotional and behavioral disorders (EBD). Through psychoeducation, students gain crucial knowledge and coping strategies that empower them to understand and manage their mental health conditions. This approach has demonstrated significant

efficacy in reducing anxiety and depressive symptoms, as evidenced by studies such as those conducted by Eckhart, Egger, and Mair-Raggautz (2022).

Expressive arts therapy, with its use of creative modalities like art, music, drama, and dance, provides a complementary pathway for emotional expression and healing. Research by Freilich and Shechtman (2010) and Coholic, Eys, and Lougheed (2012) underscores the therapeutic benefits of this approach, highlighting improvements in self-concept, emotional regulation, and social skills among students.

A comparative analysis reveals that combining these approaches offers a comprehensive intervention strategy that addresses both cognitive and emotional aspects of EBD. Psychoeducation's focus on knowledge and self-efficacy, paired with the emotional and creative outlets provided by expressive arts therapy, ensures a balanced support system for students. However, the successful implementation of these interventions requires trained professionals, adequate resources, and a flexible, adaptive approach tailored to individual student needs.

In conclusion, the holistic integration of psychoeducation and expressive arts therapy in educational settings holds great promise for enhancing the academic and emotional outcomes for students with EBD. This combined approach not only supports immediate educational and emotional needs but also fosters long-term resilience and well-being. As schools strive to create more inclusive and supportive environments, the continued exploration and refinement of these integrative strategies will be crucial. By leveraging the strengths of both psychoeducation and expressive arts therapy, educators and therapists can work together to promote the overall success and well-being of students with EBD.

Peer reviewed articles suggest that supplementing the curriculum with the addition of arts-based methods would make the secondary and elementary school curriculum more effective and support students from culturally diverse backgrounds. Implications that emerged from this study could be addressed in future research, for example, benefits for social-emotional learning when using different elements of art. The effectiveness of this approach, although likely, is still hypothetical at this point as it has not been implemented within the school curriculum. From the point of view of future research, it would be useful to extend the current ideas through other studies that directly apply expressive art therapy in teaching and compare the effectiveness compared to a control group that did not undergo art-based education.

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# Exporation of the impact of regular participation in Snoezelen sessions on children with multiple disabilities as a tool for achieving pedagogical goals – a pilot study

(pilot study)

**Ilona Pešatová, Michal Vostrý, Barbora Lanková,  
Tereza Práglová, Ladislav Zilcher**

***Abstract:** This pilot study focused on analyzing the impact of regular participation in Snoezelen sessions on the responses of the tested subjects. Ten subjects were divided into experimental and control groups, with repeated stays of children in the multisensory Snoezelen room being monitored. The results suggest that this practice can positively influence changes in participants' responses. Five sensory areas stimulated in the multisensory Snoezelen room were considered during the experiment. The evaluation focused on the overall change in reactions to objects used during Snoezelen sessions. Since Snoezelen emphasizes the experience and development of the individual as a whole, the assessment was not limited to individual senses but reflected the individual responses of each participant. The research provides new insights into the potential benefits of regular participation in Snoezelen sessions, highlighting the multidimensional nature of this therapy. These findings can serve as a basis for further studies and optimization of the use of multisensory rooms for the benefit of individuals with various needs with recommendations for pedagogical practice.*

***Keywords:** Snoezelen, multiple disabilities, comprehensive approaches, special education, therapy*

## 1 Introduction

In recent years, Snoezelen has experienced unprecedented development. It focuses on sensory experiences, including hearing, sight, touch, smell, and taste. It is crucial to set up an appropriate environment and, if necessary, provide accompaniment. The use of Snoezelen has various effects on different target groups. In the 1970s, its application was primarily aimed at individuals with severe or profound intellectual

disabilities or multiple disabilities. This approach logically stemmed from the fact that these individuals primarily experience and understand the world around them through their senses. However, a theoretical framework or strict intervention guidelines have not yet been established (Cameron et al., 2020; Testerink et al., 2023).

Snoezelen is typically characterized by a specially adapted room that creates a multisensory environment. Such an environment aims to improve problematic behaviour or the overall quality of life for the individual. These rooms are technically and instrumentally equipped, offering a wide range of opportunities for stimulation. There are no clear rules for the architectural modifications of the room. One might encounter a single room divided into multiple sections or one large room creating a thematic unit. Regardless of the room's configuration, its primary purpose is to support joy and relief from the given condition or certain pressure exerted on the individual due to developmental disorders or other conditions (Stephenson, 2002; Matson et al., 2004; Singh et al., 2004).

The Snoezelen concept involves the attractive arrangement of space with various equipment. Besides this equipment, providing appropriate and balanced sensory stimulation, ensuring multisensory activation with a deep relaxation experience, is fundamental. This, however, depends on the relationship with an adequately qualified therapist. Ideally, the therapist should be present throughout the intervention (Smrokowska-Reichmann, 2013; Salamat et al., 2019; Novakovic et al., 2019).

Several studies have also identified the negatives associated with the effects of Snoezelen therapy. Typically, authors agree that the positive effects of multisensory stimulation (e.g., reduced anxiety, increased relaxation) were mostly limited to the current activity in the given room and were not transferable outside this adapted environment. This raises the question of how long-term Snoezelen can influence undesirable manifestations of the given condition. On the other hand, positive impacts on mental and physical relaxation and overall cognitive function improvement, for instance, through the mindfulness meditation technique, have been mentioned (Brown et al., 2007; Lotan & Gold, 2009; Toro, 2019).

Initially, Snoezelen was applied to groups of individuals at risk of insufficient stimulation (dementia, intellectual disabilities). The concept was based on the assumption that stimulation provides people with meaningful activity, positively affecting their physical and mental well-being by counteracting sensory deprivation (Ismail et al., 2021; Haigh & Mytton, 2016).

A common issue with multiple disabilities is autism and a certain type of intellectual disability. From a general perspective, individuals with intellectual disabilities often exhibit behavioral changes in stereotypical habits. Such behavior occurs in up to 40% of cases. Behavioral manifestations are accompanied by repetitive stereotypes, rhythmic, purposeless vocal behavior, and non-functional object manipulation.

Physical manifestations often include simple body movements, such as body rocking, hand, or finger movements. Facial pulling can also occur. In the case of vocal stereotypes, we can talk about echolalia or obsessive speech associated with laughter without a social goal. Several studies confirm that such behavior disrupts the acquisition of new competencies and hinders their professional application (Cuvo et al., 2001; Gardenier et al., 2004; Reed et al., 2011; Lopes et al., 2015).

Evaluating the use and effect of Snoezelen on the original target group, i.e., individuals with severe or profound intellectual and multiple disabilities, is challenging due to the limited number of studies (Vlaskamp & Nakken, 2008).

### **1.1 Education within the Snoezelen Concept in the Czech Republic**

The personnel responsible for the multisensory room play a crucial role in the correct utilization of this space. As Filatova (2014) emphasizes, the quality of the room's equipment depends on the skills and knowledge of the people working with it. It is essential that the staff demonstrate the ability to correctly arrange and use the equipment to avoid adverse effects on visitors. A common mistake, as noted by Filatova (2014) and Janků (2018), is turning on all devices simultaneously before the visitor enters the room. Staff should have a comfortable relationship with the multisensory room, know how to use it correctly, handle the aids, and be able to adapt the room to specific goals and the individual needs of visitors.

The educational requirements for staff in the Snoezelen room depend on their specific role. A Snoezelen therapist should have a university degree in neurology, psychiatry, psychology, special education, or education, supplemented by a state final exam. Filatova (2014) describes the requirements for completing various courses, from a basic Snoezelen course to specialized courses focused on specific areas such as dementia, ADHD, or autism. Snoezelen guides, both in therapeutic support and leisure activities, also have specific educational requirements, including at least a high school education and completion of Snoezelen courses. The staff must be not only academically qualified but also possess certain personal qualities such as empathy, creativity, motivational ability, and responsibility. Education in the field of Snoezelen also focuses on teamwork, which is key to maintaining the successful implementation of the concept in healthcare and educational institutions (Janků et al., 2023).

## **2 Methodology and Sample**

This pilot study focuses on the use of the Snoezelen room, considered a neutral space, distinguishable from the typical school environment. The concept aims not only to develop and stimulate individual senses but also to provide individuals with the opportunity to experience new situations or build relationships. To obtain relevant

results, we utilized a qualitatively oriented research investigation. The research techniques included document and product analysis (medical documentation, etc.) with the consent of the legal guardians. Additionally, we used participant observation and a natural experiment.

### **Objective and Hypothesis**

The objective of the pilot study was to determine the impact of regular participation in Snoezelen sessions on the responses of the tested subjects. The main hypothesis (H1): Subjects who regularly participate in Snoezelen therapy will achieve greater improvement in the observed areas than those who do not participate in this therapy. The alternative hypothesis (H1): There is a significant difference in the improvement of the observed areas between subjects who regularly participate in Snoezelen therapy and those who do not. The null hypothesis (H0): There is no significant difference in the improvement of the observed areas between subjects who regularly participate in Snoezelen therapy and those who do not.

### **Research Method**

Our research utilized several methodological approaches. We applied a case study design, which allowed us to thoroughly examine and understand specific cases in their natural environment. This design provided a detailed view of specific phenomena and their context. We also conducted participant observation, which enabled us to systematically observe social interactions and processes without disrupting them (Švaříček & Šedová, 2007). This method was ideal for studying the dynamics of a school classroom. Additionally, we employed an experimental approach, allowing us to manipulate variables and uncover causal relationships (Gavora, 2000). This way, we could systematically test hypotheses and establish causal links between observed factors.

### **Research Sample**

The research sample included a total of 10 children aged 3 to 6 years, attending a special kindergarten. This institution is a contributory organization that also includes a special elementary school and a special pedagogical center. The children were selected based on a diagnosis of Autism Spectrum Disorder (ASD) and concurrent intellectual disability. Although we adhere to the current International Classification of Diseases 11 (ICD-11), the participants were diagnosed according to ICD-10, hence we maintain this terminology. Due to regular attendance at the facility and the willingness of the legal guardians, 10 boys were involved in the research; the absence of girls in this selection is not due to a lack of them but rather to the targeted selection criteria. The legal guardians of the children received detailed information about their children's participation in the research, including consent to their involvement.

Within the facility, the children had the opportunity to use the Snoezelen room, which serves as an intervention and means to achieve pedagogical goals. This variable space is divided into four sections, with one part always remaining white while the other parts change according to the current theme. This variability contributes to the popularity of the multisensory room among children, as it constantly offers new discoveries and does not become monotonous. The research took place from February 2023 to June 2023. The participating children were randomly divided into two groups: experimental and control. The experimental group regularly attended Snoezelen sessions once a week, while the control group did not. During the given period, the experimental group participated in 17 Snoezelen sessions (an average of 13.6 hours per participant, taking absences into account; see attendance table in the results chapter). Before the start of the research, we used an observational questionnaire to record the reactions of both groups to stimuli within the Snoezelen sessions. After the period ended, we reapplied this questionnaire and evaluated the results from both measurements. The basic characteristics of the research sample are presented in Table 1.

**Table 1:** *Overview of the research sample characteristics (source: own)*

Proband	Diagnosis	Age (years)	Family History	Personal and School History
1	Childhood autism, moderate intellectual disability, speech development disorder, ADHD	6	Complete family, father abroad, live in a village with a garden	Developmental regression in communication, partially independent in hygiene, special kindergarten, no interest in group play, watches feathers and strings
2	Childhood autism, moderate intellectual disability	5	Complete family, lives with a healthy sister, father abroad, small town	Diagnosed at 3 years old, uses communication cards at school, shows dissatisfaction by crying, does not seek group play, plays with cars
3	Childhood autism, moderate intellectual disability, speech development disorder,	5	Complete family, only child, mother sick, father abroad on weekends	Diagnosed at 3 years old, uses communication cards at school, aggressive when dissatisfied, limited diet, no interest in group play
4	Childhood autism, delayed psychomotor development	3	Complete family, two older siblings, suspected autism in a cousin	Diagnosed at 2.5 years old, communicates by squealing, interested in plastic and cartoon animals, no interest in group play

Table 1 – *continue*

Proband	Diagnosis	Age (years)	Family History	Personal and School History
5	Childhood autism, moderate ID, hyperkinetic syndrome	5	Reconstructed family, withdrawal syndrome, under child social protection supervision	Diagnosed at 3 years old, uses a communication system at school, partially independent in self-care, plays with cars, lively and competitive
6	Atypical autism, lower range of mild intellectual disability	5	Reconstructed family, mother on parental leave, biological father incarcerated, lives in an apartment block	Diagnosed at 4 years old, verbal communication with limited vocabulary, independent in self-care, selective in social contact, interested in art activities
7	Atypical autism, moderate intellectual disability, speech development disorder, ADHD	5	Complete family, three siblings, mother under psychologist and psychiatrist care	Diagnosed at 4 years old, verbal communication with limited vocabulary, partially independent in self-care, interested in all offered activities and group play
8	Childhood autism, moderate intellectual disability	4	Complete family, no signs of autism in previous generations	Diagnosed at 3 years old, medicated for aggressive behavior, in diapers, rejects group activities, interested in puzzles and mazes
9	Childhood autism, specific developmental motor disorder	4	Complete family, both parents with secondary education	Diagnosed at 3 years old, does not respond to name, in diapers, interested in stereotypical play, cartoons, and songs on YouTube
10	Childhood autism, severe intellectual disability, speech development disorder	4	Complete family, mother with health issues (asthma, allergies), both parents with basic education, lives in an apartment block	Diagnosed at 5 months, limited communication, rejects offered activities, interested in cartoons and numbers

### 3 Data analyses

From February to June 2023, the selected children participated in regular weekly Snoezelen sessions, each lasting approximately 60 minutes and conducted in group settings. The participants were divided into two groups: control and experimental. The control group participated in only two Snoezelen sessions, specifically during the pre-test and post-test. In contrast, the experimental group attended Snoezelen ses-

sions weekly, with structured activities themed around “The Jungle” (see Appendix 3). Each session was meticulously prepared to meet the individual needs of the children, including a welcome ritual (approximately 5 minutes), an active part (approximately 30 minutes), a relaxation part (20 minutes), and a final farewell (5 minutes).

The research process involved analyzing medical reports, recommendations, and school records, leading to the preparation of 10 case studies with detailed family, personal, and school histories. To adhere to confidentiality agreements and GDPR principles, the anonymity of the children was ensured, and overly personal information that could identify families was omitted. Data from the research investigation were recorded and evaluated using a numerical rating scale, covering visual, tactile-haptic, olfactory, acoustic, and gustatory stimulation during the entry and exit assessments.

For statistical evaluation, we employed a non-parametric statistical method—the Wilcoxon signed-rank test. This test was used to compare values between the experimental group, which participated in regular Snoezelen sessions, and the control group, which only had pre-test and post-test sessions. Data analysis was conducted using R version 3.6.3. The Wilcoxon signed-rank test is suitable for data that are not normally distributed and compares differences between two measurements within the same sample group. In interpreting the results, we set the significance level at  $\alpha = 0.05$ , meaning that we would reject the null hypothesis if the p-value was less than 0.05, indicating statistically significant differences between the groups.

## 4 Results

The subjects were divided into two groups: control and experimental. The control group did not undergo Snoezelen therapy, while the experimental group participated in this therapy regularly. For the purpose of this study, two measurements were conducted for each group:

- Control group – 1st measurement (BZ)
- Experimental group – 1st measurement (BK)
- Control group – 2nd measurement (SZ)
- Experimental group – 2nd measurement (SK)

### Hypothesis

The main hypothesis (H1): Subjects who regularly undergo Snoezelen therapy will achieve greater improvement in the observed areas than those who do not participate in this therapy.



## Statistical Test

We hypothesize that if the main hypothesis holds, the difference in mean values for samples  $X = BK - BZ$  and  $Y = SK - SZ$  will be statistically significant. The null and alternative hypotheses are:

- Null hypothesis ( $H_0$ ):  $\mu_1 = \mu_2$  (the difference in mean differences is zero)
- Alternative hypothesis ( $H_A$ ):  $\mu_1 \neq \mu_2$  (the difference in mean differences is not zero)

## Data Collection

Recording the measurement results for both groups at both time points.

## Calculating Differences

Calculating the differences between the first and second measurements for each group ( $BK - BZ$  and  $SK - SZ$ ).

## Hypothesis Testing

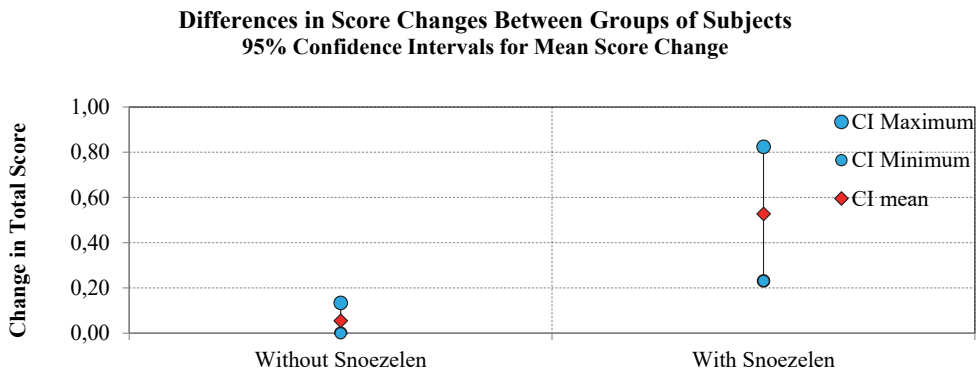
Using an appropriate statistical test (e.g., t-test for two independent samples) to compare the mean differences  $X$  and  $Y$ .

The presented results are shown in Table 2 and Figure 1. The analysis demonstrated that the difference in mean score changes for the individual groups of subjects was identified as statistically significant ( $p$ -value  $< 0.001$ ). Therefore, we can reject the null hypothesis. It can be stated that the improvement in evaluation for the group of subjects who regularly attended Snoezelen sessions is statistically significantly higher than for the group of subjects who did not participate in Snoezelen sessions. Hence, we can accept hypothesis  $H_1$ .

**Table 2:** Analysis of Score Change Differences for Individual Groups of Subjects (source: own)

Analysis of Score Change Differences for Individual Groups of Subjects								
Group	n	$\bar{x}$	sd	95% CI of the Mean		med.	min.	max.
				min	max			
Control Group	36	0,06	0,232	0,00	0,13	0	0	1
Experimental Group	36	0,53	0,878	0,23	0,82	0	0	4
Wilcoxon Non-Parametric Test for Median Equality								
Test Statistic (W)	446							
Conclusion	The difference in median values is statistically significant.							
p-value:	$\leq 0,001$							

**Graph 1:** *Difference in Score Changes Between Experimental and Control Groups of Subjects* (source: own)



In our research, we investigated the impact of regular participation in Snoezelen therapy on children's response changes. The study included 10 subjects who were divided into experimental and control groups. The experimental group participated in Snoezelen therapy regularly, while the control group did not. The results suggest that repeated sessions in the Snoezelen multisensory room can positively influence children's responses. We monitored the overall change in reactions to objects used during Snoezelen sessions, rather than individual senses, as Snoezelen therapy affects individuals holistically. The reaction evaluation was based on a scale from 0 to 2 points:

- **0 points:** Inadequate reaction (the child reacts inappropriately, shows fear).
- **1 point:** No reaction (the child does not react or perceive the object).
- **2 points:** Adequate reaction (the child takes the object, shows interest).

Statistical analysis showed that the differences in mean values between the groups are statistically significant, which confirms our hypothesis. The experimental group, which regularly attended Snoezelen therapy, showed significantly greater improvement in reactions to stimuli than the control group. These results indicate that Snoezelen therapy can be an effective tool in the education of children in special kindergartens. The subjects in the experimental group exhibited positive changes in all observed sensory areas, highlighting the comprehensive benefits of this therapeutic method.

## 5 Discussion

Snoezelen is a therapeutic method that finds applications across various target groups, but research primarily focuses on its application in individuals with intellectual disabilities and dementia. This method is often applied individually with an emphasis on a non-directive approach and the active participation of supportive individuals. Study results suggest that Snoezelen has the potential to positively impact mental health and support individuals' interaction with their social and physical environment. During reviews, ten main characteristics of Snoezelen application were identified, which often vary across different studies. These characteristics include the frequency of use (at least twice a week), session length (usually 30 minutes), and focus on visual, auditory, and tactile senses (Hope et al., 2004; Cameron et al., 2020). Key roles are also played by preference assessments and session structures, which may involve gradual introduction and calming of participants. Studies indicate that Snoezelen is not only a relaxation technique but can also have activating effects, with an individual approach being crucial for achieving positive outcomes. Another important aspect is the role of supportive persons, who have a key influence on the effectiveness of Snoezelen. A significant topic is also the potential impact of Snoezelen on the supportive persons themselves and their relationships with participants. These findings highlight the need for further research and a thorough understanding of the mechanisms of how Snoezelen works and how this therapeutic method can be used more effectively in various contexts and for different target groups (Scanlan and Novak, 2015; Novakovic et al., 2019; Testerink et al., 2023).

## 6 Conclusion

From the results of this study, we can conclude that regular participation in Snoezelen therapy has a positive impact on children's responses to stimuli. The experimental group of children, who attended Snoezelen sessions once a week, showed significant improvement compared to the control group, which only participated in the therapy twice. This difference in mean values between the two groups was statistically significant, confirming the initial hypothesis that Snoezelen therapy can be an effective intervention. The Snoezelen room provides comprehensive stimulation of all senses, contributing to the overall development of children. Children who participated in this therapy demonstrated a greater willingness to interact with offered objects, indicating that the therapy can be beneficial for their emotional and cognitive development. The results of this study also suggest that Snoezelen therapy can be an effective tool in special education processes, which has practical implications for educators and therapists in special kindergartens. This pilot study provides a foundation for further research that could confirm and expand its results and better understand the long-term

effects of Snoezelen therapy. Future studies should include larger samples and longer follow-up periods to better evaluate the effectiveness and sustainability of the positive changes brought about by this therapy. The educational opportunities for individuals with multiple disabilities are influenced by their mental level, volitional properties, and interest in learning. Because it is very challenging to motivate and engage these individuals, it is necessary to seek alternative methods that gradually allow for the greatest possible development and support for these individuals. Snoezelen sessions clearly belong to these alternatives. Based on the findings from our research, we offer the following recommendations for practice: Each structured session must be properly prepared both in terms of time and content. The goals of the session must be clearly defined, and the tools to be used in the session must be prepared. During the stay in the Snoezelen room, it is important not to overwhelm the client with stimuli. When working with a given stimulus, it is advisable to remove distracting influences, such as lights or vibrations from other objects. If the client is agitated or unfocused during a group session, they should not be forced into activity. It is advisable to offer another type of stimulation, such as a swing, and return to the original activity after calming down. It is highly recommended to include rituals during welcoming and ending the stay in the Snoezelen room. Welcoming and saying goodbye can be done, for example, by ringing a bell, drumming, or clapping. Each session in the Snoezelen room should include relaxation to sort out impressions and fully process the stimuli. The sensory offer should always be tailored to the needs of the clients. It is possible that the activating part will prevail over the relaxation part, but relaxation must always be included in the session. For educational institutions, we recommend setting up a Snoezelen room with a variable character. Thanks to the variability of the room, Snoezelen remains interesting for children and students, and different tools and devices are used in each thematic block.

## 7 Study limitations

In our research examining the impact of Snoezelen therapy on children's reactions, we identified several statistical and methodological limitations:

1. **Sample Size:** The study included only 10 subjects, which is a very small sample. This limits the statistical power of the analysis and increases the risk that the results are not representative of the broader population.
2. **Random Selection:** Although the groups were randomly divided, the small number of participants can lead to uneven distribution of characteristics between the experimental and control groups, potentially affecting the results.
3. **Short-term Follow-up:** The study monitored the effects of Snoezelen therapy over a short period. Long-term effects are unknown and were not considered.

4. **Heterogeneity of Subjects:** Children may have varying degrees of sensory needs and responses to therapy, which was not accounted for in detail in the analysis.
5. **Subjective Assessment:** The evaluation of children's reactions was based on subjective observations, which can be influenced by personal biases and variability among evaluators.
6. **Control of External Influences:** The study did not account for other factors that could influence the results, such as home environment, school activities outside of Snoezelen therapy, or individual approaches by teachers.
7. **Maturation Effect:** Maturation effects refer to the natural changes that occur in participants over time, independent of the experimental intervention. This can be particularly relevant in developmental research or studies involving significant life changes. For example, children's cognitive and emotional development can progress naturally during the study period, which might affect their responses and confound the results. In this study, the maturation effect could have influenced the observed changes, making it challenging to attribute improvements solely to Snoezelen therapy.

## 8 Future Directions

To further validate and expand the results of this pilot study, we propose the following steps for future research:

1. **Increase Sample Size:** Including a larger number of subjects would enhance the statistical power and generalizability of the results.
2. **Long-term Follow-up:** Conducting a long-term study that monitors the effects of Snoezelen therapy over an extended period to determine if the achieved positive changes are sustainable.
3. **Control and Stratification of Variables:** Taking into account additional variables such as age, gender, diagnosis, home environment, and previous sensory experiences. Stratifying these variables could help identify specific subgroups of children who benefit the most from this therapy.
4. **Objective Measurements:** Implementing more objective assessment methods, such as standardized tests or technologies for monitoring physiological responses, to validate the outcomes.
5. **Control of Evaluator Influence:** Introducing multiple evaluators and using blinded assessments to reduce subjectivity in evaluating children's responses.
6. **Expanding Research Scope:** Exploring the impact of Snoezelen therapy on other areas of children's development, such as social interactions, cognitive functions, and emotional regulation.

By addressing these recommendations, future research can provide a more comprehensive understanding of the long-term effects and broader applicability of Snoezelen therapy for children with various needs.

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# Exploring the usefulness of the Process Model of Emotion Regulation with three children with autism in a primary special school setting

(overview essay)

Sophie Moore, Brenna Farrow

**Abstract:** *In this article we explore Gross' (1998) Process Model of Emotion Regulation and seek to discover how it may inform school staff about emotional regulation and children with autism. This small-scale study, which was conducted as part of an undergraduate degree dissertation, centres on the staff in a special school who support three children with autism of primary school age. Data comprises interviews and questionnaires to staff and observations of the emotion regulation approaches the adults use and the children's self-regulation strategies they developed. As we seek insight into Staff members' implementation of emotion regulation strategies, we also aim to determine the children's developmental stages of self-regulation and if there are any such stages, therefore, we not only seek to offer potential reasons for why emotional dysregulation occurs in the children but put forward alternative suggestions of strategies that potentially enable the children's metacognition development. We also aim to determine a clear structure for increased staff understanding. Our findings show that adults use supportive child centred strategies unique to each child. These support strategies, however, also reveal three staff traits which can be learned, namely staff experience, knowledge of the child and knowledge of evidenced based regulation strategies. Furthermore, our findings emphasise the benefits of a good in-school support system for staff that includes peer observations, discussions about the children amongst staff members, and staff taking an objective stance about the children and emotional regulation support in the classroom. Our recommendations centre on a deeper understanding of staff needs for collegiality and increased staff knowledge and practice of regulatory processes. Overall, we find that Gross' model is a useful tool to understand emotional regulation and children with autism at the school.*

**Keywords:** *Autism, emotional regulation, strategies, staff confidence*

## 1 Introduction

Sainsbury (2009, p. 112–113) provided insight into her experience of being autistic and what emotional regulation meant to her. She described her “meltdowns” where she could go from being “apparently articulate and controlled” to head-hitting or hand-biting within minutes. This sensation gave her a physical sensation that she was able to control and helped her to shut out her feelings of anxiety. It is with Sainsbury’s experiences in mind that we sought to understand ER and how it was experienced by three of the children with autism attending our special school. From the schools perspective, we feel it was important to understand and recognise when the children were unable to remain emotionally regulated and to pick up on the signs of the children in need of emotional regulation, as well as recognition of any potential causes of emotional dysregulation and then to apply Evidenced Based Strategies (EBS) for ER. By exploring a well-researched model of ER, we hoped to discover its usefulness in supporting adults understanding of ER and improve their self-confidence in using EBS, in addition to improving practice for primary aged children with autism.

### A definition of ER

ER according to Gross (2013, p. 6), shapes which emotions are experienced by an individual, which then determines how an individual expresses their emotions (Gross, 1998, p. 275). Emotions are regulated through intrinsic or extrinsic processes according to Thompson, (1994, p. 27). Intrinsic regulation occurs when an individual monitors, evaluates and modifies emotional responses “to accomplish one’s goals” (Thompson, 1994, p. 27). Extrinsic ER on the other hand, involves assisting an individual to regulate their emotions (Gross and Jazaieri, 2014, p.388; Ford et al., 2018, pp. 3–4). The Difficulties in Emotion Regulation Scale, devised by Gratz and Roemer (2004, p. 43) describes four areas that are important for an individual to be able to regulate their emotions:

1. an understanding and awareness of the emotion being experienced,
2. an acceptance of this emotion,
3. an ability to refrain from impulsive behaviour whilst experiencing this emotion,
4. the ability to implement effective strategies to self-regulate.

### Emotion Regulation and children with autism

Mazefsky and White (2014, p. 16) pinpointed some of the emotional difficulties that children with autism may have and labelled these difficulties as disrupted emotion regulation. They related the disrupted ER behaviours could be meltdowns and self-injury, which might be a result of the child being in a stressful situation or from them being overstimulated. These types of behaviours are often perceived to be challenging behaviours by adults (Emam and Farrell, 2009; Peters, 2012). Disrupted ER

often included descriptions of rigidity and inflexibility of thought and “sensitivity to change” (Mazefsky and White, 2014, p. 17). Prizant and Fields-Meyer (2015, p. 19–20) further attributed disrupted ER to “sensory-processing differences” including, but not exclusively, hypersensitivity or hyposensitivity to light, sound and touch.

Children with autism were noted to use “a different repertoire of coping strategies” than their peers, and Jahromi et al., (2012, pp. 1255–1256) believed that “physical venting” helped the children’s self-regulation. Samson et al., (2014) considered that ER was linked to the severity of autistic symptoms experienced by the individual, and more recently Fenning et al., (2018, p. 3865) stated “ASD symptom severity” is “the strongest predictor of dysregulation” ( Fenning et al., 2018, p. 3865).

### **Further signs of deregulated emotion regulation**

Prizant and Fields-Meyer (2015, pp. 20–26) contended that the behaviours of an individual with ASD when emotionally dysregulated were misinterpreted as “autistic behaviours”. These behaviours included flapping, body rocking, repetitive speech and dominating conversations with no regard to the listener. These identified behaviours concurred with Berkovits et al. (2017, pp. 76–79) observations that children with ASD “behaviour problems” were a sign of emotion dysregulation. Additionally, Nuske et al. (2018, p. 1287) referred to several studies of children with autism having difficulties with emotion regulation which resulted in a person’s anxiety and depression, “externalising behaviours, aggression and hyperactivity”.

### **Strategies for disrupted ER**

Jacobs and Gross (2014, p.197) cautioned about selecting prescriptive ER strategies for individuals, although antecedent-focused modification strategies were found to be more effective than “response-focused” strategies. EBS implemented during times of stress or anxiety were found to be less effective for children with autism (Cibralic et al., 2019), and according to Zantinge et al., (2017, p. 2654) supporting adults tended to favour situation avoidance over any other known strategy. Being able to “actively seek to change situations for their own good” was difficult for autistics according to Nuske et al. (2018, p. 1295), and regulation strategies such as self-soothing and stimming offered individuals sufficient distraction, thus aiding ER ( Kapp et al., 2019, p. 1789). The ability to distract oneself, according to Macklem (2008, p. 163), was incredibly useful. Activities such as exercising, watching television, or listening to music requires focus, which can help divert one’s attention from experiencing uncomfortable emotions. Often how situations are perceived requires understanding (Gross, 1998, p. 284), which Samson et al. (2015, p. 3429) reported as a difficulty for individuals with autism due to their low “cognitive reappraisal” rates.

## The ER processes model

As an expert in the field of emotional regulation (ER), Gross identified five regulatory processes (1998, pp. 281–285):

1. *Situation selection* which entailed “approaching or avoiding” certain experiences, people or places because of their predicted emotional affect.
2. *Situation modification* which involved modifying the environment to change an emotional response.
3. *Attentional deployment* linked to distracting the individual and taking their attention away from the cause of dysregulation.
4. *Cognitive change* focused on changing how the situation was viewed by the individual, turning a negative situation into a positive one.
5. *Response modulation* was defined as “directly influencing physiological, experiential, or behavioural responding.” In these situations, emotional responses had already been initiated and were managed as they arose.

The regulatory processes were considered central to understanding and effecting change when children were dysregulated. Understanding Gross’ process model, therefore, offered further potential and insight into ER, dysregulation and children with autism.

The “Extended Process Model” (Gross, 2015, p. 9–12) had three stages to emotion regulation:

1. *Identification* – deciding whether or not to regulate the emotion.
2. *Selection* – choosing the appropriate emotion regulation strategy from the processes previously identified.
3. *Implementation* – using the most suitable strategy.

D’Agostino et al. (2017, p. 816) additionally stated that emotional experiences were context-specific, therefore, understanding the situation was important when “ascertaining the appropriateness of emotional responses.” We considered these factors to be highly significant for teachers of children with autism.

The model has particular implications for the support and management of dysregulation and children with autism in school settings. Additional research findings from a number of authors, indicated the following good practices for teachers working with children with ASD.

1. A person-centred approach to understand the child with autism and their preferences in the classroom (Osgood, 2020, p. 58).

2. Support for children “from the ground up” so they were able to learn to manage their own behaviours as they learned to recognise their own emotions and emotional regulation techniques (Berkovits et al., 2017, p. 76).
3. The reasons behind the behaviour, as opposed to simply managing or modifying it, should be addressed (Sainsbury, 2009, p. 112).
4. Teachers have an understanding of and practice patience in order to work effectively with children with autism. As empathic teachers it was considered important to take time to understand a situation from the child’s perspective, and then demonstrate a more positive response to a pupil’s negative emotions (Swartz and McElwain, 2012, p. 221).
5. Training in good autism practice can support experienced teachers who may lack confidence in supporting children with autism (Šegota et al., 2022, p. 23).
6. Volkmar and Wiesner (2009, p. 427) warned of task avoidance and suggested that practitioners engage the children in an activity for a brief period of time and praise their success before allowing them to move onto something else. This is known as “active efforts to directly modify the situation” (Gross, 1998, p. 283).

The purpose of the research therefore was to apply the Model of Emotion Regulation (Gross, 2013) to explore emotion regulation in three children with autism who attended a special primary school.

## 2 Method

We adopted an interpretivist paradigm and used interviews, questionnaires, and observations to gather rich data. Participants were selected based on their knowledge and experience of working with children with autism. In addition, their deep understanding of classroom situations and the three children being observed in the study was a key criterion for their inclusion into the study. Consent from the participants was obtained prior to data collection in accordance with the University of Northampton’s guidelines (2018, p. 8), and BERA guidelines (2018, p. 9) concerning informed consent. Parents of the children were informed of the details of the study and their child’s involvement. Parental consent was sought for observations.

The participants were given three weeks to complete the questionnaires. This was to ensure timely collection of data and staff well-being regarding time to complete the questionnaire. Much consideration was given to the welfare of the children with autism, and so observation protocol ensured that if the children experienced distress the observation period was shortened. Interviews comprised 11 questions and concluded with participants rating their confidence levels in employing ER strategies with the children with autism. Participants also completed a questionnaire about each child, which enabled an easy comparison of data between staff experiences.

Three ten-minute observations of staff members interactions with each child over a three-week period were conducted. The spacing of observation data collection helped to reduce any discrepancies in findings due to atypical circumstances, such as illness. The first researcher understood the environment in their professional capacity and observations were part of daily practice in the class. The risk of disruption to the children’s usual school experience, as noted by Denscombe (2021 p. 253), meant that the primary researcher could easily “fade into the background”. As specified by Newby (2014, p. 350), there should be “no conditions or variables that are not usually present”, which could “influence or disrupt” normal behaviours.

To ensure transparency, participants were informed they could request a copy of the main findings on completion of the study, thus maintaining an open and honest researcher and participant relationship.

### 3 Results

#### ***How do the children with autism display disrupted emotion regulation?***

Through our observations we were able to determine the types of behaviours associated with the children’s disrupted emotion regulation. We provided a list of disrupted emotional regulation behaviours constructed from the works of Prizant and Fields-Meyer (2015, pp. 20–26), Berkovits et al. (2017, pp. 76–79) and Nuske et al. (2018, p. 1287) and participants identified the children’s behaviours

**Table 1:** *Class behaviours related to a child’s disrupted emotion regulation*

Behaviours	No of children
Irritability	3
Low mood	2
Hyper arousal	3
Aggression	2
Drop to the floor	3
Hand flapping	3
Body rocking	2
Covering ears	2
Repetitive utterances	3
Repetitive movement	3
Screaming	2
Self-harm	2
Hitting others	1
Eating issues	1

These findings were similar to those of Berkovits who observed aggression, irritability, screaming, shouting, self-harm, and harming others et al. (2017, pp. 76–79).

Our findings showed that in addition to the behaviours listed, the context where disrupted emotion regulation occurred was a key factor for consideration.

Table 2 shows each child’s situation where disrupted emotional regulation occurred

*Table 2: Disrupted ER situation where it was most likely to occur*

Child A	Child B	Child C
Participating in group/adult led task Being around other children that are loud Transitioning Finishing an enjoyable activity Playing outside with another class	Lack of or change of routine Lack of engagement	The type of activity Finishing an enjoyable activity

Table 3 shows the regulatory processes from Gross’ model, the innate emotion regulation strategies the children used, and the external emotion regulation strategies employed by staff.

*Table 3: Emotion Regulation Processes of the children*

	Innate ER	External ER
<b>Situation selection</b>	Child avoids the group table. Child requests the safe space. Child says No. Child runs to safe space.	Adults go for a walk with Child. Adults stop child from putting things in the bin.
<b>Situation modification</b>		Adults give Child a drink whilst she waits for her dinner. Adult gives Child her lunch one minute early.
<b>Attentional deployment</b>	Stimming. Stimming in the safe space or outside. Child initiates singing a counting song with TA. Use of pecs book to choose a puzzle.	Adult gives Child a chew toy. Adult distracts Child with book. Adult continues the song. Spinning in OT provided equipment. Puzzle on entry to class. Popper toys. Deep massage.
<b>Cognitive change</b>	Child tidies up.	Adult uses a timer and explains what is happening and uses now and next board. “Choose first, then dinner.” Adult explains what is happening. Use of words and symbols.
<b>Response modulation</b>		Adult labels Child’s emotion, “name of child feels sad”.



Findings of emotion regulation processes in line with Gross's model were *Situation modification* that comprised the use of a weighted lap pad, whereas *situation selection* meant the child could choose to go to a safe place. *Cognitive change* strategies involved now and next boards and verbal reassurance. A variety of distractions were also employed, for example gross motor activities, massages and favourite books in addition to using PECs ( Bondy and Frost, 2001, p. 727) books to communicate needs, fidget toys and favourite items for self-soothing.

Successful strategies outside of the model also involved structure and routine and allowing time for the individual to process information. More sensory based ER activities included deep breathing, blowing bubbles, body massage, and chewy toys although the latter could cause inattention if overused. An example of an unsuccessful strategy was the sand timer, which caused the child concerned to experience increased anxiety.

Staff confidence in using ER strategies with the children varied. Those who were the most confident using EBS were the teachers and one TA. Interestingly, their confidence derived from past experiences of working with children with similar issues. Other findings indicated that staff confidence increased when they had a good relationship with the child. As a result of the good relationship staff were able to anticipate situations that potentially triggered the children's dysregulation.

## 4 Discussion

The children in the study have a diagnosis of autism and displayed disrupted emotion regulation. According to Samson, et al. (2014, p. 1766) disrupted emotion regulation is not a defining feature of autism, although Thomson et al. (2015, p. 3487), Baker et al. (2019, p. 4332), and Conner et al. (2020, p. 932) clearly state that individuals with autism are predisposed to becoming emotionally dysregulated.

We observe that each child attempts self-regulation strategies although extrinsic emotion regulation and staff intervention is the default position when the children experience disrupted emotional regulation. We could not determine whether this is because staff feel they have assisted the child with ER. The finding of the children's self-regulation is consistent with the findings of Fenning et al. (2018, p. 3865). Similar to the work of Cibralic et al. (2019, p. 14), we find that the children in the study are unable to implement effective emotion regulation strategies whilst anxious or stressed. Our findings additionally indicate that staff employ a variety of regulation strategies, which seemed to be in alignment with the Model of Emotion Regulation (Gross, 1998, pp. 281–285).

## Situation Selection

Staff identify avoidance as one of the children's innate ER strategies. The children use avoidance in social interaction situations that involve certain other children, especially when their peers are loud. This finding is also an observation made by Cibralic et al. (2019, p. 14), and Zantinge et al. (2017, p. 2654) who state that autistic individuals use avoidance strategies to remain emotionally regulated. There are times when staff members in our study make calculated decisions to use situation selection techniques. These typically comprise going for a walk in order to complete a learning task. There seems to be an overlap with *attentional deployment* strategies, however, in these instances staff are in control of where the child goes and for how long. We surmise that staff must be mindful that pupils with ASD cannot avoid important activities (e.g., Volkmar and Wiesner, 2009, p. 427), therefore, it is important for adults to use cognitive change techniques to improve the child's social interaction and communication wherever possible.

## Situation Modification

Situation modification is an external ER strategy exercised by staff in assisting the children with ER. Situation modification involves giving the child the opportunity to eat lunch earlier than others, which is of benefit to the child and allows them to settle. Another example is the removal of a toy that triggers the child's dysregulation. Situation modification is also one of the findings of Nuske et al. (2018, p. 1295) who advocate that children with autism cannot independently change a situation to benefit themselves.

## Attentional deployment

In the study, *attentional deployment* is the most frequent strategy used by adults. This means distracting the child either with a favourite toy or a book, a sensory toy or helping them to focus their attention through the use of TEACCH activities. When using sensory toys as attentional deployment, staff offer the toy as a reward for completing the learning activity, and/ or the toy is offered to satisfy the child's sensory needs so that learning is enabled. This finding is supported by the work of Macklem (2008), where special interests are used to refocus attention.

## Cognitive change

There is little evidence of the children attempting to engage in *cognitive change* in the study. This strategy is also more difficult for staff to identify as according to the model it involves enabling the child to perceive a situation differently, often turning a perceived negative situation into a positive one. A simple example used by staff is to explain what is happening now, and the use of a timer to show the child it would

only take a short amount of time to ‘feel better’. This finding is unsurprising as Samson et al. state that children with autism have difficulty altering their perceptions and opinions (2015, p. 3429), which Mazefsky and White (2014, p. 16) advocate is due to the children’s rigidity of thought.

### **Response modulation**

Although staff members believe response modulation is a good strategy to use with the children, *response modulation* is only seen to occur once during our observation period and comprises staff labelling the emotion experienced by the child. The importance of labelling emotions is featured by Gratz and Roemer (2004, p. 43) who believe that children cannot implement emotion regulation strategies if they are unable to recognise their emotions. In a similar vein Berkovits et al. (2017, p. 76) argue that children with autism will begin to self-regulate if they are able to recognise their own emotions.

Incidental findings in our study include staff being able to identify the most likely times of day to cause the children’s disrupted emotion regulation. These times relate to transitions and changes to the school routine. This finding is supported by Mazefsky and White’s observations that an autistic individual’s “sensitivity to change” could be a cause of dysregulation (2014, p. 17). Prizant and Fields-Meyer, however, also identify internal conditions such as hypersensitivity and/or hyposensitivity as probable causes of disrupted emotion regulation in children with autism (2015, pp. 19–20), which we did not investigate. We did, however, determine behaviours to cause disrupted emotion regulation in our children. These behaviours feature flapping and repetitive movements and are reminiscent of the findings of Prizant and Fields-Meyer (2015, pp. 20–26).

## **5 Conclusions**

The overarching aim of the study was to gain a better understanding of emotion regulation in three of the children who attend our special school. In order to gain that understanding we applied Gross’ model of ER. We also felt that in order to better support the children with ASD at our school we should consider The Extended Process Model of Emotion Regulation (Gross, 2015, pp. 9–12). This proved to be useful in defining how children with autism self-regulate. The model, therefore, provides us with clarity and a deeper understanding of the types of strategies that the children employ. Through using the model, we find that the frequency of disrupted emotional regulation and the intensity of disrupted emotion regulation could be determined. In addition, the model helped us to understanding the triggers for ER.

By employing the ER model, we are able to identify staff practices in helping the children to regulate. This suggests that we might also be able to determine how practice could be improved by following the models different stages.

It was not a surprise to find out that the staff knew the children well and that they had a good understanding of which emotion regulation processes the children could manage and when the children needed an adult to step in to provide support. Knowing the child was a key factor in staff confidence, as was staff experience of implementing strategies. Although staff repertoire of strategies to promote ER was extensive, it was useful to identify which strategy related to areas of the ER model. Saying that, we find that attentional deployment is the most frequent strategy used. We also find that staff felt the least confident with the children who had the greatest number of sensory sensitivities. This was because of the unpredictability of the child's triggers and how they react within the environment.

The research has highlighted the complexities of understanding ER and children with autism. The data we collected did not indicate the severity of ER experienced by the children. This information, however, would be useful for child profiles. We also state that although emotion regulation strategies can be successful for one child, they may be unsuccessful with another, therefore, having a repertoire of techniques has the potential to not only build staff confidence, but also may benefit the child. Long term research in the field of emotion regulation in children with autism would advance practice as it may provide an insight and the development of models of good practice, which in our opinion should include strategies for cognitive change and response modulation.

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# Support for pupils with special educational needs in inclusive education in Slovakia

(scientific article)

Lenka Nováková

**Abstract:** *In connection with legislative changes in the field of inclusive education and the support of students with special educational needs, the education system of the Slovak Republic is currently facing several changes. The introduced changes respond to long-term practical needs, among other things caused by the increasing number of students who require support during their education, which may arise for various reasons. Educational institutions should have the resources to ensure the education and development of each child with regard to their individual needs. For this purpose, a number of changes have been made in the legislation, and a Catalogue of Support Measures has been created. The article discusses the education of students with special educational needs in Slovakia and the current changes in the available support. It presents the opinions of special educators from elementary schools. The aim is to provide an overview of the current state of support for students with special educational needs in primary education, considering the changes that have taken place in this area.*

**Keywords:** *inclusive education, support measures, school special educator, education, student with special educational needs*

## 1 Introduction

Currently, the concept of inclusive education is supported on an international scale. There is also increasing attention being paid to child development and the developmental period of childhood. The development and contemporary concept of inclusive education represent a broad issue, which is already the subject of numerous professional publications and scientific researches. The availability of support, services, and educational programs aimed at ensuring quality education for all is also growing.



The right to education is one of the fundamental human rights and also an indicator of the maturity of a given society.

The Constitution of the Slovak Republic guarantees the right of every individual to education. The key legal regulation governing education in Slovakia is the School Act No. 245/2008 Coll. on Upbringing and Education (hereinafter referred to as the School Act), as amended. This law also contains provisions regulating the education of children and students with special educational needs and their support in education. The core of inclusive education is the support provided to students with special educational needs (SEN), which promotes not only their full integration into the educational process but also the development of their potential. Despite differences in the form of inclusive education and available resources in individual countries, the essence of inclusive education is identical on an international scale. These differences arise from different legislation and variations in the structure of the education system (Slee, 2011; Mulholland, O'Connor, 2016; Slowík, 2022).

In the last two years, the Slovak Republic has made significant strides towards moving the educational system towards inclusive education. The innovations primarily involve the support system for students with special educational needs. Along with legislative and general conceptual changes, there have also been organizational changes that educators in educational institutions are dealing with. This article addresses the issue of inclusive education and, based on a small-scale qualitative study, presents the opinions of special educators working in primary schools in Slovakia.

### **1.1 Development and current concept of inclusive education**

The education of students with special educational needs (SEN) in both Slovakia and the Czech Republic has undergone and continues constant changes. In connection with the gradual development of inclusive education, several key international activities and documents have been accepted leading to achieve the aim to transform the educational system. A significant initiating document of European and global scope appeals for inclusive education is the UNESCO Salamanca Statement from 1994 (Slowík, 2022). By adopting the UN Convention on the Rights of Persons with Disabilities in 2010, Slovakia accepted the pledge to ensure inclusive education. According to the Article 24, the signatories are obliged to ensure that every individual has an access to education under inclusive conditions that respond to individual needs (Harčaríková, Lopúchová, Vančová, 2019).

The principles of inclusive education are based on an educational environment that supports diversity, mutual understanding, and enables all students to reach their full potential. That is irrespective of disability, social and cultural conditions, or emotional and intellectual differences (Mag et al., 2017). The implementation and fulfillment of inclusive education bring various questions and challenges that the pedagogical community faces. These include the demands on organizing lessons

considering the composition of the class, the requirements for professional knowledge of teachers and other educational staff. It may connect with the need for training and aimed at support to ensure education which will meet the needs of all students. There can also be social or institutional barriers (Florian et al., 2010). Many studies already demonstrate that inclusive education brings positive aspects to education, such as the development of empathy, support for cooperation, and mutual understanding within the classroom (Mag et al., 2017). With the advancing inclusion and increasing demands on the educational process, it is suitable to specifically support the social and emotional competencies of students in the educational environment. These competencies positively influence personality development, learning ability, school and later work success, and personal life success. The educational environment should develop the ability to build healthy personal relationships, mutual respect, cognitive abilities, and problem-solving skills (Greenberg, 2023).

Support for students with specific educational needs is crucial for their successful education. Bartoňová et al. (2016) state that the success of special educational support depends not only on the timely and accurate identification of the problem but also on the subsequent appropriate approach, i.e., intervention and support provided to the individual. The support system to educate students with the special educational needs in Slovakia is undergoing significant changes, primarily lead from legislative amendments to the School Act. It also relates to the formation of the Catalogue of Support Measures, which compactly regulates the support for the diverse needs of children and students. These changes were preceded by the transformation of counseling facilities and the dividing the support into five levels. In view of the fact that educational institutions are also undergoing organizational changes, educators have been dealing with since the beginning of the 2023/2024 school year. The Slovak educational system now faces challenges that need to be addressed in practice, as they involve organizational, content, and ultimately financial changes. The educational system in Slovakia has been and still continues to be in many respects similar to the educational system in the Czech Republic. However, the most significant changes in the field of inclusive education in the Czech Republic were adopted in connection with the amendment of the School Act and related implementing regulations already in 2016. Thus, we can speak of an established educational concept that has been undergoing and continues to undergo changes which respond to finished findings and practical needs.

According to the available data from the statistical yearbook of education, the number of children, pupils, and students with special educational needs has an increasing trend. In the 2023/2024 school year, the number of students with special educational needs in state educational institutions was:

- 34,130 students in regular elementary schools,
- 978 children in kindergartens,

- 11,216 students in secondary schools.

In the 2022/2023 school year, the numbers were:

- 31,596 students in regular state elementary schools,
- 884 children in kindergartens,
- 10,257 students in secondary schools.

In the 2021/2022 school year, the numbers were:

- 29,270 students in regular state elementary schools,
- 764 children in kindergartens,
- 9,350 students in secondary schools (Centrum vedecko-technických informácií SR, 2024).

The presented data demonstrate the need to pay appropriate attention to this issue to ensure quality education that can respond to the requirements of heterogeneous classes and the individual needs of both typical and inclusive education students.

The definition of inclusive education is legislatively regulated. The amendment of the School Act replaced the original term „integration“ with „inclusive education,“ which, according to § 2 a, g is characterized as the joint upbringing and education of individuals based on equal opportunities and respect for individual needs. It also promotes the active involvement of everyone in the educational process. The definition of segregation in education has also been newly adjusted, delineating actions characterized by segregation and strictly prohibiting such behavior. Educational institutions are required to take measures to prevent segregation (§ 2 School Act).

The amendment to the School Act also brought changes in the terminology of special educational needs, which are understood as needs in education arising from diagnostics in counseling and prevention facilities. These needs pertain to children and students whose health status, social conditions, language abilities, talents, cognitive abilities, behavior, motivation, emotional expressions, creativity, and skills require the provision of support measures (§ 2 School Act).

The law also defines the category of children and students with special educational needs. These include children and students with disabilities, health disadvantages, illnesses and health weaknesses, developmental disorders, or behavioral disorders. The School Act specifies individual categories in § 2 letters j–p. These categories include children and students:

- with disabilities (mental, hearing, visual, physical, communication impairments, autism and other pervasive developmental disorders, multiple disabilities),
- with illnesses and health weaknesses (either long-term or short-term), or those educated in schools within healthcare facilities,

- with developmental disorders (attention disorders, learning disabilities),
- with behavioral disorders, emotional or social function impairments,
- from socially disadvantaged backgrounds, or living in environments lacking sufficient stimulus and socialization, leading to underdeveloped mental, volitional, and emotional qualities,
- with talents (exceptional abilities in areas of intellect, arts, sports), or achieving extraordinary results in these areas compared to their peers (School Act).

A significant novelty introduced by the amendment to the School Act effective from 1. 9. 2023, is the introduction of support measures and the right to their provision by the school or educational facility. The support measure is defined in detail, described as a measure provided by the school or educational facility necessary for the child or student to fully engage in education and develop their knowledge, skills, and abilities (§ 145a, School Act). In this context, a Catalogue of Support Measures was created, comprising 21 support measures, available to both educators and the general public on the Ministry of Education's website. The catalogue includes a detailed list, target group, characteristics, and recommendations for each support measure, methodically supported by implementation materials. The goal is to respond to the diverse educational needs of children and students and improve the quality of inclusive education. Support should be available to anyone who needs it, whether the reasons are temporary or permanent (Ministerstvo školstva, výskumu, vývoja a mládeže, 2023). The School Act further specifies the conditions under which support measures are provided. According to the School Act, support measures include (§ 145a par. 2):

- a) adjustments to goals, methods, forms, and approaches in education,
- b) adjustments to content and evaluation in education,
- c) provision of intervention activities to develop individual areas such as motor skills, sensory perception, communication and cognitive skills, social communication skills, as well as emotionality and self-care,
- d) activities supporting school readiness,
- e) language courses of the school's language of instruction or other support,
- f) provision of tutoring aimed at achieving the highest possible individual cognitive potential,
- g) ensuring quality conditions for the education of students from socially disadvantaged backgrounds, and activities supporting social inclusion,
- h) enabling education in a higher grade,
- i) ensuring communication forms considering disabilities,
- j) activities preventing early school dropout and career counseling,
- k) ensuring the presence of a teaching assistant in the classroom,
- l) provision of healthcare and self-care activities according to the relevant law,
- m) provision of special textbooks and compensatory aids,

- n) adjustments to spaces supporting perception and skill acquisition,
- o) removal of physical or organizational barriers in educational institutions or during education,
- p) provision of dietary meals in school food facilities,
- q) prevention of risky behavior, aimed at supporting physical and mental health,
- r) crisis intervention.

These changes in support measures in education were preceded by the transformation of the counseling and prevention system, effective from 1. 1. 2023, by the amendment to the School Act. According to the current legislation, support for students is implemented within five levels of support. The first and second levels of support are provided by educational staff and the school's support team. The third and fourth levels of support are provided in counseling and prevention centers, whose services are available to every child regardless of diagnosis. The final, fifth level of support is provided in special counseling and prevention centers, focusing on individuals with specific disabilities (Drangová, Harčariková, Ivanovová, Nadányi, 2023).

## 2 Methodology and the object of research

A small-scale research study was conducted to provide insights into the issue of supporting students with special educational needs (SEN) in the context of recent changes in education over the past year. The aim was to determine how special educators in primary schools evaluate the support for students with SEN in inclusive education. In connection with the research the following research question has been given.

*Research Question:* What are the experiences of the school special educators with the support of students with SEN in inclusive education?

### 2.1 Procedure

To obtain relevant information, a qualitative research design was utilized, specifically through the method of semi-structured interviews. The advantage of qualitative research methods is the ability to look into the core of the examined issues and focus on understanding the perceptions and experiences of individuals. The collected data are not quantified but are thoroughly analyzed to understand the examined phenomena under study to gain a comprehensive preview (Reichel, 2007).

The semi-structured interview consisted of 10 questions, structured as follows:

1. How do you evaluate the changes in the education of students with special educational needs, particularly those that occurred in the past year?
2. How do you assess the level of inclusive education in Slovakia?

3. What do you think is missing in the Slovak educational system for the successful inclusion/education of students needing support in education?
4. How would you evaluate the education conditions of students with special educational needs in the Slovak education system?
5. How do you evaluate the support means for students with special educational needs?
6. What difference do you perceive between inclusive education and special education?
7. What improvements in the education of students with special educational needs would you appreciate in the future?
8. What do you, as special educators, miss most in your work with students with special educational needs?
9. Try to evaluate the conditions and experiences with working with students with special educational needs at your school.
10. How do you evaluate the cooperation with the school, counseling facility, and the parents of students with special educational needs?

## 2.2 Research sample

Selecting the research sample is a crucial phase of the entire research inquiry. Participants were selected using a combination of occasional and intentional choice. The selection criteria (Skutil, 2011) included professional focus and place of practice:

- Special educator,
- Place of practice in a mainstream primary school.

The research sample is consisted of 6 special educators working in primary schools. This target group has been chosen because they are key figures in the education of students with special educational needs. They can provide sights into the current setting of educating students with special educational needs, reflect recent changes, and possible support considering individual student needs. Participants were invited to join the research based on personal contact, email communication, or social networks. The research and subsequent data analysis were conducted during April and May 2024. For the purposes of the research, information on gender, age, length of practice, or city of practice are not relevant and therefore will not be included.

The ethical aspects of the research were ensured. Participants were informed about the research's intent, data evaluation methods, and the recording of the interview via a mobile application. They were assured of the anonymization of the collected information and the preservation of their anonymity. Each participant was also informed of their right to refrain from answering any question during the interview or to withdraw from the research. None of the participants exercised this option. Participation in the research was conditioned upon signing an informed consent

form for the audio recording of the interview. To maintain anonymity, details about the participants and their institutions are not provided. Anonymity was ensured by coding the participants by the letter I as for an informant and a number.

### 2.3 Data analysis

The conducted interviews were transcribed verbatim and subsequently analyzed. The process of analyzing and interpreting the data was carried out using qualitative content analysis, a method suitable for deep processing of collected information. This method involves identifying key themes in the text, uncovering their meanings, revealing categories, and ultimately understanding their significance in the overall context (Bryman, 2012). One way to present the results is through main significant categories, key identified concepts, or the most prominent themes (Gavora, 2015).

## 3 Results and discussion

### Content analysis revealed three categories:

1. *Gradual transformation towards inclusive thinking.*
2. *Strengthening communication and collaboration for comprehensive support.*
3. *Ensuring individual needs of each student.*

#### *Gradual transformation towards inclusive thinking*

In the past year, the Slovak Republic has implemented extensive changes in education aimed at supporting students with special educational needs (SEN) and moving towards inclusive education. These changes were supported by various legislative and organizational adjustments. Educational institution staff now have access to a Catalog of Support Measures, along with other related methodological guides, for working with students with SEN.

Special educators view these changes as long-awaited and fundamental transformations in the educational system. They see these changes as potentially leading to a broader social change in attitudes towards individuals with disabilities. The changes are seen as a necessary step that was missing and could move the education of students with SEN in the right direction. Although special educators unanimously view these changes as beneficial, there are certain challenges and questions associated with their implementation. This new situation requires time and mutual support to be fully embraced and utilized as intended.

#### *Strengthening communication and collaboration for comprehensive support*

Another significant category identified in the interviews is the consensus on the necessity of mutual collaboration among the entities involved in educating students with SEN. This includes cooperation with educational counseling centers, speech

therapists, and especially with teachers within the educational institution. Informants differed in whom they deemed essential for cooperation and where collaboration needs to be strengthened or expanded.

Most special educators consider internal collaboration, particularly between themselves and the teachers of the educational institution, to be crucial. They would also appreciate improvements in communication with teachers, mutual sharing of information, and openness regarding the education of students with SEN. Three special educators noted that teachers do not always follow their recommendations, which can be quite challenging. However, they also acknowledge that it is very demanding for teachers as they face many changes and may feel helpless.

Special educators also emphasize the importance of communication with educational counseling institution staff. They perceive the support from this side as very beneficial and view the collaboration as contributing positively to effective inclusive education. Having someone to turn to with questions or to share information about a student and optimal support methods is seen as very valuable.

There were also individual suggestions from special educators about what they currently lack in this area. One suggestion was for regular meetings of the counseling team-school special educator and professional staff from educational counseling centers. These meetings could be used to share experiences, recommendations, and questions regarding the education of students with SEN. Establishing a consultant position specialized in specific disabilities, who would be above the school special educator and provide regular methodological guidance for a particular area, was also suggested.

#### *Ensuring individual needs of each student*

This category includes suggestions for improving the conditions for inclusive education. The needs mentioned focus on organizational support for students with SEN. These include securing personnel support such as teaching assistants, school special educators, psychologists, or school speech therapists.

Half of the informants also recommended focusing on prevention in several aspects. This includes strengthening targeted prevention in the area of preventing school failure and providing psychological support. Supporting the development of social and emotional competencies in both students with SEN and the entire class is essential. Students with SEN recognize their uniqueness, specific needs, and the specific approach from teachers. Special educators see support in shaping the self-concept of students with SEN, building the class community, and working with the class as necessary. They agree that inclusive education is important and needs to be built on specific aspects.



## 4 Conclusion

The education and needs of students with SEN remain a relevant issue internationally. The form of education for students with SEN and inclusive education in general is constantly evolving. Based on legislative changes in the past two years, the educational system in the Slovak Republic has significantly transformed. Special educators, like teachers, are grappling with the new system of support for students with SEN. This situation demands the involvement of the entire support team engaged in education. The support provided to this group of students should respond to individual needs arising from specific disabilities or impairments. Ensuring quality inclusive education also involves securing uniform and stable funding to provide support to everyone who meets the conditions and needs it. Further and long-term research is needed in this area to map the development of inclusive education in practice and reflect the needs of teachers, special educators, and students with SEN.

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# Implementation of well-being in schools using the GROW method

(overview essay)

Michal Růžička

**Abstract:** *The aim of this article is to present a practical case study demonstrating the implementation of well-being in schools using the GROW coaching method. The focus of the article is on highlighting the critical importance of well-being in the context of the Ministry of Education's strategy in the Czech Republic. In the first part, the article provides an overview of well-being's role within educational systems and why it is becoming an essential component of school management and student success. Various theoretical perspectives on the concept of well-being in education are explored, offering a broader understanding of how it can positively influence not only students, but also teachers and the entire school community. In the final section, the article outlines a step-by-step approach to implementing well-being in schools using the structured GROW coaching model, detailing the practical actions involved and how they align with achieving specific well-being goals. This detailed description of the action method demonstrates how the GROW model can be a powerful tool for school leaders to implement sustainable well-being practices, ensuring long-term benefits for both students and staff.*

**Keywords:** *Well-being, GROW coaching method, School management, Mental health in schools. Sustainable school development*

## 1 Introduction

The Ministry of Education, Youth, and Sports in Czech Republic (MŠMT) has introduced new measures aimed at improving the mental health and well-being of children and students. The goal of these measures is to create an environment where children and students feel comfortable and can reach their full potential. These measures are part of the Czech Republic's Education Policy Strategy until 2030+.

Supporting well-being is not a new topic for MŠMT. According to a report by the Czech School Inspectorate, Czech students are among those who enjoy school the least compared to other OECD countries and do not feel good in the school environment. Therefore, the ministry recognizes the need to focus more on this issue within the education process. This is why the topic is being incorporated into the revised Framework Education Program for elementary schools.

For the 2024/2025 school year, the measures include the implementation of support staff positions such as school psychologists and special education teachers in regular elementary schools, negotiations with universities to increase the capacity of psychology and special education programs, and the introduction of bullying monitoring in schools. Unlike accidents, schools currently do not have an obligation to record cases of bullying, and bullying is not yet defined in the legal system. MŠMT is preparing a proposal for its monitoring and will assess the necessity of legal regulation.

Collaboration with the Police Presidium of the Czech Republic is also planned to share anonymized data on student suicide attempts. This initiative aims to contribute to creating a safer environment in educational institutions.

By 2027, a model minimum preventive school program and a model school code will be developed, based on proven approaches to addressing challenging student behavior. The role of homeroom sessions will also be strengthened, and personal-social education and well-being support will be incorporated into the revised Framework Education Program for elementary schools. ([www.pedagogicke.info](http://www.pedagogicke.info))

## 2 Definition of well-being in the context of education

A collective approach to promoting well-being in schools has proven to be an effective way to create an environment that supports the mental and emotional health of students, teachers, and the entire school community. One of the key aspects is collaboration between all stakeholders – from school leadership, teachers, and students to families and the wider community.

A study from Chile, which examined the well-being of school communities during the COVID-19 pandemic, showed that effective mental health support strategies require coordinated efforts. Schools that successfully supported well-being focused on working with families and communities, with key elements including ensuring digital connectivity, adapting curricula, and providing emotional support to teachers, students, and their families (López et al., 2022). This collective approach is an example of how schools and communities can work together to create a sustainable and healthy environment.

Another important factor in improving well-being is **collective leadership**, which has proven to be a significant tool in enhancing students' academic outcomes.

Research shows that schools that distribute leadership among various members of the school, parents, and students achieve better results. Collective leadership in these schools led to higher academic performance and increased responsibility among all participants (Leithwood & Mascall, 2008). This underscores the importance of sharing power and responsibility within school communities to improve educational outcomes and well-being. (“Various theoretical perspectives highlight the growing importance of well-being in educational systems and how structured coaching methods like GROW can support its implementation (ChatGPT, 2024).”

A similar approach, known as **Collective Impact**, has been shown to be very effective in rural and small-town communities. Research indicates that successful initiatives of this kind require authentic community engagement and active participation, not just formal consultation. Understanding power dynamics within the community is critical for successfully addressing complex educational and social challenges within school systems (Zuckerman, 2022). This highlights the need for deeper integration of schools with the wider community to ensure the sustainability of well-being initiatives.

Finally, the entire process is supported by **whole-school approaches**, which include all levels of the school, from students to leadership. These approaches are promising as they take into account the complexity of the school system and promote collective action across all school components. Research shows that schools that integrate well-being into all aspects of education are more likely to improve both the academic and personal outcomes of students (Hoare et al., 2017). ChatGPT. (2024). *Theoretical perspectives on well-being in schools and the GROW coaching method*. OpenAI.

## 5 ways to well-being as the method aof enrichment

5 Ways to Well-being was developed by the New Economics Foundation (NEF) in 2008. It was created as part of a government-commissioned project in the UK, aimed at identifying simple, evidence-based actions that individuals could take to improve their mental well-being.

5 Ways to Well-being is a simple framework developed to improve mental health and well-being through five key actions:

1. Connect with others to build relationships.
2. Be Active to enhance physical and mental health.
3. Take Notice by being mindful and present.
4. Keep Learning to boost self-esteem and confidence.
5. Give to promote positive emotions and a sense of purpose

The **5 Ways to Well-being** framework is built around five key principles: **Connect**, **Be Active**, **Take Notice**, **Keep Learning**, and **Give**. This approach can effectively

complement the previously discussed theories and enrich school well-being programs by integrating these principles into collective leadership, collective impact, and whole-school approaches.

### 3 Collective Leadership and Connection

One of the pillars of the 5 Ways to Well-being is **Connect**. Research on collective leadership shows that schools where leadership is shared among teachers, parents, and students achieve better outcomes. Engaging all stakeholders in school decision-making fosters a sense of belonging, trust, and collaboration, which are essential for overall well-being. The 5 Ways to Well-being could enhance these efforts by emphasizing the importance of regular relationship-building and communication within the school and between the school and the community (Leithwood & Mascal, 2008).

### 4 Collective Impact and Giving

The principle of **Give** is central to the Collective Impact approach, which emphasizes collaboration between schools and their communities. The 5 Ways to Well-being can enrich Collective Impact by promoting active student and teacher involvement in community projects, encouraging mutual support, and embedding giving as a core part of the school culture. This would not only enhance student well-being but also help sustain long-term changes in both school and community environments (Zuckerman, 2022).

### 5 Whole-School Approaches and Activity

Whole-school approaches, which involve all members of the school community, can be strengthened by integrating the principle of **Be Active**. Physical activity is a crucial component of well-being, and incorporating it regularly can boost energy, improve mood, and enhance overall mental and physical health. Schools could expand their well-being programs by encouraging both students and staff to engage in regular physical activity, whether during school hours or after, contributing to better mental and physical well-being for all (Hoare et al., 2017).

### 6 Pandemic Resilience and Mindfulness

In relation to the COVID-19 pandemic, studies showed that schools focusing on well-being and emotional support had better outcomes in crisis management. The 5 Ways to Well-being principle of **Take Notice** can complement these approaches by encouraging schools to cultivate mindfulness among students and teachers—helping

them become more aware of the present moment, improve emotional intelligence, and reduce stress. This approach would aid in managing the emotional challenges of similar crises (López et al., 2022).

## 7 Learning as a Pathway to Long-Term Well-being

The principle of **Keep Learning** aligns well with long-term school development strategies. Fostering a culture of lifelong learning for both students and teachers contributes to building confidence and a sense of fulfillment, which is essential for well-being. Schools that support personal and professional growth for all members of the community are more likely to improve overall quality of life and mental health. This also ties in with approaches that focus on the holistic development of students (Hoare et al., 2017).

Incorporating these five principles into programs that already support collective leadership, collective impact, and whole-school approaches can significantly enhance well-being not only within the school environment but also in the broader community context. (The GROW model provides a structured approach to implementing well-being strategies in schools (ChatGPT, 2024).

## 8 Sample practice: project description

### **Project for the implementation of well-being in schools using the GROW method**

Selected primary schools are collaborating with the author of this article to implement well-being through the proven GROW coaching method. This method, commonly used in management and personal development, has been adapted to meet the specific needs of the school environment, where it has proven to be an effective tool for fostering positive change. The collaboration focuses not only on improving the well-being of students, who often face stress and emotional challenges related to school attendance, but also on the well-being of teachers, who may suffer from high levels of burnout. The goal is to create a healthy and supportive environment for the entire school community, including administrative staff and parents.

Within the project, a strategy has been developed that combines the systematic approach of the GROW coaching model with tools designed to support well-being. This model is valuable due to its clear and structured nature, making it easier to identify goals, analyze the current situation, explore potential solutions, and create a concrete action plan. The GROW method provides school leaders with a step-by-step framework for implementing strategies to enhance well-being while offering the flexibility to adapt to individual schools and their unique needs.



The combination of GROW with well-being tools holds significant potential, as it effectively links a guided coaching process with specific mental health interventions. While the GROW model helps schools plan and structure the steps for implementing well-being, the well-being tools ensure that interventions are practical, targeted, and promote sustainable change. This synergy provides schools with not only a strategic plan but also the practical tools necessary to support mental well-being, minimizing the risk of ineffective implementation.

### **Definition of the GROW Coaching Method:**

The **GROW** model is a structured coaching method that helps individuals achieve their goals through four key steps:

1. **G (Goal)** – Define a clear, specific, and measurable goal that needs to be achieved.
2. **R (Reality)** – Assess the current situation, resources, obstacles, and what has already been done towards achieving the goal.
3. **O (Options)** – Explore and brainstorm different options available to overcome obstacles and reach the goal.
4. **W (Will/Way forward)** – Set specific actions and create a plan with a timeline for moving forward (Whitmore, J., 2009).

### **Training Plan for School Principals Using the GROW Model to Implement Well-being in Schools:**

#### **1. Phase – Goal:**

- **Training Goal:** Ensure that school principals understand the importance of well-being in schools and are equipped to effectively implement it.
- During the first part of the training, principals will define specific well-being goals for their schools. They will set clear objectives, such as improving teacher mental health, increasing student satisfaction, or reducing stress within the school environment.

#### **2. Phase – Reality:**

- Principals will analyze the current situation in their schools. They will discuss what factors are already contributing to well-being (e.g., existing programs, teacher support) and identify major challenges (e.g., high stress levels, lack of support for teachers and students).
- It is crucial for them to recognize the barriers that might prevent the successful implementation of new well-being strategies.

#### **3. Phase – Options:**

- In this phase, principals will explore various options and strategies to improve well-being in their schools. The coach will lead discussions on possibilities such as introducing school psychologists, organizing well-being activities for both teachers and students, or collaborating with parents and the community.

- Principals will be encouraged to consider different approaches based on the specific needs and resources of their schools, while also fostering creativity and innovative ideas.

#### 4. Phase – Will/Way Forward:

- In the final phase, principals will develop a concrete action plan for implementing well-being in their schools. This plan will include the steps to be taken, a timeline, and a method for measuring success.
- Principals will be encouraged to commit to the plan and regularly assess progress to ensure continuous improvement.

Through this training, principals will not only learn the basics of the GROW model but also how to create a structured and sustainable plan to enhance well-being in their schools.

## 9 Conclusion: Risks and Challenges of Using the GROW Model for Implementing Well-being

While the GROW model offers a structured and effective approach to implementing well-being strategies in schools, there are several risks and challenges that could limit its effectiveness. One of the primary obstacles is **insufficient understanding and training**. If school principals and staff are not fully familiar with the GROW methodology, the implementation may be superficial or poorly guided. A lack of proper training can result in GROW becoming a mere formal exercise, without a real impact on the school's well-being.

Another significant risk is **lack of support or leadership changes**. Successful implementation of well-being through the GROW model requires strong and ongoing support from school leadership and the broader community. However, if leadership is not consistently engaged or if there are frequent changes in leadership, the continuity of well-being initiatives may be disrupted, leading to a loss of focus and reduced effectiveness.

**Time constraints and organizational burden** are also key challenges. The GROW model demands time for planning, analysis, and evaluation, which can be difficult to allocate within already busy school schedules. Without proper allocation of resources and time, it may be challenging to implement a long-term and sustainable well-being program.

Another factor is the **lack of measurable outcomes**. Well-being is a complex and multi-dimensional concept that is not easily quantified using traditional performance indicators. This lack of quantifiable results may lead school leadership, under pressure to improve academic performance, to deprioritize well-being as an area of focus.

Finally, there is the risk of **failing to adapt to the individual needs of each school**. Every school has its own unique cultural and organizational characteristics. If the GROW model is applied without sufficient adaptation, it may fail to address these specific needs and be perceived as a one-size-fits-all approach that overlooks the unique challenges faced by individual schools.

In conclusion, while the GROW model represents a powerful tool for structured planning and implementing well-being, its success depends on adequate training, organizational support, resource allocation, and adaptation to the specific needs of each school. Without these factors, implementation may be ineffective or superficial, reducing the overall impact of well-being initiatives.

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# The use of nasometry in speech therapy in preschool and younger school children – results of a preliminary study

(preliminary study)

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**Abstract:** *The paper describes the use of the Nasometer II Model 6400 in speech-language therapy in the Czech Republic and the Sandtray in the context of solution-focused therapy. Both of these approaches are combined by the possibility of working with preschool and younger school-aged children in the field of speech-language therapy, special education and medicine. The paper presents the results of two preliminary studies – in using the nasometer, it was identified which adjustments need to be made to the vocabulary and the differences in nasalance scores between the first and second measurement in children. The preliminary research on the Sandtray and solution-focused therapy identified the possible linking of therapeutic and speech-language goals and the advantages of this approach, including, for example, in a comparison with the Scenotest method. Both of these techniques – the use of the nasometer in speech-language therapy prevention and for the early detection of hyponasality as well as the link between the Sandtray and solution-focused therapy approach are unique in the Czech Republic and bring new knowledge in this area. The preliminary studies reported in this paper work with the same research sample and the same children who were involved in using the nasometer as well as the Sandtray and solution-focused therapy concept.*

**Keywords:** *children, resonance disorders, solution-focused sandtray therapy, speech-language therapy, special education*

## 1 Introduction

### 1.1 Measurement of resonance using the nasometer, its specifics and use

The computer-based nasometer is a globally used tool, especially in speech-language therapy and medicine for diagnosis and therapy. The portable computer-based

instrument was developed at the University of Alabama in Birmingham by Samuel Fletcher, Larry Adams and Martin McCutcheon (Kay Elemetrics Corporation, 2003). The current device was preceded by the TONER and TONER II operating on a similar principle, which were described in more detail by Fletcher in his research study (1972).

The Nasometer is an easy-to-assemble and controllable device that detects the degree of involvement of the nasal cavity resonance (nasality) and the degree of involvement of the oral cavity resonance (orality) during speech production. This is done by precisely positioned microphones in the mouth and nose which pick up acoustic signals from the nasal and oral cavity. These are subsequently evaluated by the computer and recorded for later analysis of specific speech segments. However, speech can also be evaluated as a whole using the so-called degree of nasalance. As described in the manual for the Nasometer II Model 6400 manufactured by Kay Elemetrics Corporation (2003, p. 1), the main point is that: "As the speech signal enters the system, the ratio of the nasal acoustic energy to the oral plus nasal acoustic energy is calculated in terms of the percentage and is displayed on the host computer screen in real time."

Thus, we can say that this is a calculation where we first add the nasal and oral resonance and then divide the nasal resonance by this sum. The resulting number is multiplied by 100 to get the nasalance score. It can also be concluded that: "Nasality is represented by a numerical value called nasalance, which is defined as the percentage of the total acoustic energy that is nasal," (icSpeech, a division of Rose Medical Solutions Ltd., n.d.).

Diagnosis performed using these instruments brings a number of advantages, as noted, for example, by Fletcher (1972), who states that, in general, the use of an instrument allows the professional to make better use of his or her skills and knowledge and to focus on the problem at hand. The instrument also makes demands on the professional in the sense that the researchers must know exactly what they want to measure and how to do it using the instrument. These demands inevitably lead to the necessity of continuously expanding the knowledge and competence of professionals and thus push them further, regardless of whether or not they use the instrument for its originally intended purpose. Fletcher (1972) also points out that: "Nasality in speech has been a rather elusive problem in rehabilitation," (p. 344), which is evidenced by the degree of diversity of individual accents, dialects and other specifics of a given language and its variants.

This is also why, when working with nasometers in other countries, the degree of nasalance was determined for particular languages. (For example, Hirschberg et al. (2006) for Hungarian; Brunnegård & van Doorn (2009) for Swedish; Okalidou et al. (2011) for Greek; Park et al. (2014) for Korean; etc.)

Nasalance scores were also measured in sentences with a predominance of nasal consonants, in sentences with a predominance of oral consonants and in sentences with no nasal consonants. For English, standards were set together with the test method – for example, see The MacKay-Kummer SNAP Test, which is suitable for children aged 3 to 9 and which relies, among other things, on visualisation. This test was also translated into many other languages, as described by Alfwaress et al. (2022), who noted the absence of standards for English for children over the age of 9 and adolescents under the age of 25. Therefore, they conducted a research study in the USA to collect nasality standards for adolescents and young adults using a nasometer in an intact American population (one of the criteria was the absence of previous speech-language therapy).

Specifically, this research sample included 100 young people who were monolingual and their age ranged from 10 to 18 and from 19 to 25. Nasalance was measured by the Nasometer II Model 6400. Statistically significant differences were observed in terms of age and gender. Alfwaress et al. (2022) concluded that nasality scores were higher in women than in men.

In other countries, the nasometer is most commonly used in relation to the measurement of hypernasality and with respect to the issue of clefts – see e.g. Swennen et al. (2004) who addressed the issue of clefts and using the nasometer in the German language or Bressmann et al. (2006), Sinko (2017), and many others.

## **1.2 Use of Nasometer II Model 6400 in speech-language therapy in the Czech Republic**

In the Czech Republic, the computer-based Nasometer II instrument can also be used for speech-language therapy diagnosis in the area of resonance disorders. It appears to be an ideal tool also from the research point of view because it allows a unique acquisition of objective data, in contrast to the traditional (mostly perceptual) tests used in the Czech Republic (for example, Face Inflation Test, Gutzmann A-I Test, Czermak Test).

The use of the Nasometer II, which is quite common abroad, is rather rare in the Czech Republic (especially in outpatient clinics of clinical speech-language therapists). It is more used in ENT clinics and in cooperation with ENT specialists or phoniatricians.

It was already Kerekrétiová (2008) who mentioned the possibility of using a computer-based nasometer as an objective means that provides information about the velopharyngeal mechanism, but which, in her opinion, should also be supplemented by other, especially perceptual examinations. The effectiveness of using a nasometer was also confirmed by research described by Watterson (2020).

Lewis & Watterson (2003) compared the results of the nasometer and the Nasal-View instrument and concluded that the two instruments showed different measurement values. A similar research study was also conducted by Bressmann (2005), who compared the use of the nasometer to measure nasality with two other instruments (NasalView and the OroNasal System) and also concluded that the instruments were not interchangeable and that each of these instruments measured nasality in a different way and also resulted in different measurements for each subtest (subtest without nasals, subtest with a balanced ratio of nasals to orals, and subtest with nasal sentences).

In the Czech context, the collection of nasometer standards (specifically in pre-school and younger school-aged children) was addressed by Čermáková (2014) and Ilgnerová (2015). Their research also produced interesting results in terms of the age range at which children were more and less cooperative, with the best results for children between 5 and 8 years. Children younger than 4 years (inclusive) were already very difficult to cooperate or did not cooperate at all. Both intact children and children with mild hyponasality (in the form of rhinitis) were included in the research.

However, Hahm and Bressmann (2022) also point out the potential pitfalls of using the nasometer as a diagnostic tool. They emphasise that frequent recalibration of the instrument could increase its measurement error. In their study, they investigated the effect of recalibration on the quality of measurements and concluded that too frequent recalibration of the nasometer can slightly increase the differences in pretest-posttest surveys. Therefore, they proposed an alternative procedure to verify the microphone balance without recalibration.



**Figure 1:** *Nasometer II Model 6400 used in this preliminary research*

## 2 Material and Methods

This paper presents a preliminary study conducted on the children in a speech-language therapy outpatient department in the Czech Republic. The advantage of this setting is a possible subsequent comparison (see Table 3). The methodology was chosen with regard to the subsequent research.

### Preliminary research using the nasometer

The data presented below are the result of a preliminary research, the main aim of which was to find out whether the selected words, sentences and phrases represented a suitable basis for further work with the nasometer in speech-language therapy in the Czech Republic and with regard to the specifics of the Czech language.

The preliminary research should be followed by a major study, for which the key will be the use of the findings from the preliminary research presented below, especially in the area of the suitability of the chosen words (word bank), but also the specifics when working with children in the context of repeated measurement of their nasality using the nasometer.

A total of 23 children in the Czech Republic were gradually involved in the preliminary research during the data collection period from the beginning of January 2024 to the end of February 2024. Those children who could not be re-measured using the nasometer by the specified date (due to illness) were excluded.

As shown in Table 2 below, which summarizes the results of the first and second measurements, a total of 11 children were excluded. However, the results of these children are described in the text below – the information obtained from these children was particularly useful in the area of using words and the suitability of the choice of words for the subsequent research.

A detailed analysis is shown in the following table (Table 1), including words and sentences evaluated as unsuitable for further research use. In Table 1, these are words marked as “excluded = X”. These words were very difficult for children to articulate, and there were frequent confusions with other words but with different numbers of nasal and oral consonants (e.g., the word “černokněžník” was confused with “čaroděj”, or children did not know how to name the picture at all and therefore left it out, or remained silent for a long time, which could bring a negative data bias – too long pauses). Another disadvantage was the poor memorability of these words and sentences when children were supposed to articulate words only by visualizing pictures and confused words or left out parts of phrases (for example, in the case of “meruňková zmrzlina” children said only: “zmrzlina”, or for: “Na každém domě je sníh” children said: “Domy v zimě” or just: “Domy”).

Therefore, all 23 children were assessed for the appropriateness of the words and phrases used in terms of the difficulty of articulation and the risk of more frequent



confusion or excessively long silent pauses that could bias the results of the planned follow-up research – see information on confusions and pauses in the User Guide for the Nasometer manufactured by Kay Elemetrics Corporation (2003).

The word bank deliberately contained a higher number of nasal consonants, given the main research focus of the forthcoming study (which will build on this preliminary research) – especially focus on early detection of children with hyponasality (reduced nasal resonance), most commonly due to the presence of adenoid hypertrophy.

Children were first introduced to the word bank in the form of printed cards with a picture and a text (naming the picture – see Figure 2). In the first phase, children did not wear the headset and were not connected to the nasometer. The speech-language therapist first showed them each card and pronounced the word on the card. The child was asked to repeat the word in order to immediately exclude words that the child could not pronounce or would pronounce with an error (in the sense of a change in the ratio of nasal and oral consonants). In this way, the entire word bank of 24 words/sentences was introduced.

The cards were then shown to the child again and the child was asked to say what was on the card. The method deliberately relied on the child's short-term verbal-acoustic memory because reciting words by the examiner during nasometer measurement is not possible – the microphones would capture and record not only the child but also the speech-language therapist, thus invalidating the data. In the Czech Republic, this problem was previously addressed by Čermáková (2014) and Ilgnerová (2015), who came up with the method of playing words to the child in separate headphones – the child heard what word to repeat but the microphone captured only the child. However, a limitation of this method is the inability to slow down the words being played back into the child's headphones.

Therefore, in this preliminary research, the child's working verbal-acoustic memory was used and the child was asked to first remember what was in the picture using initial training and then to pronounce the word using a visual cue. Younger school-aged children could also use a hint in the form of a written text on each card. For this reason, it was necessary to select for the next phase of the preliminary research (using the nasometer) only those words and sentences that the child could articulate correctly using only memory and visual cues. According to the frequency of the child's errors in this initial phase, the frequency of repetition of the word bank was determined. For all children, however, the entire word bank was verified at least twice. If an error occurred, the word bank was repeated several times. If an error reoccurred in more children, the word was labelled as follows: "Excluded = X" and was removed from the word bank.

This was followed by a stage where the Nasometer II Model 6400 instrument was used. The instrument was introduced to each child in the form of a space trip game. The child was shown the headset and explained that the microphones could

be used for sending messages and communications to other planets in the Universe. All children responded positively to the initial motivation. No child was afraid of the instrument, on the contrary, all children showed interest, which persisted throughout the measurement. This also allowed for seamless retesting using the nasometer (pretest-posttest design) with an interval of at least two (or more) weeks.

After familiarizing the child with the instrument, the child was reintroduced to the word bank. From the word bank, the words labelled as followed were removed: “Excluded = X”. As a result, the word bank used with the nasometer contained a total of 20 words/sentences. (Most of them are shown in Figure 2.) Again, it was verified for all children that they remembered the words and that they were able to name the picture using the appropriate word expression/phrase. If an error occurred, the word bank was repeated.

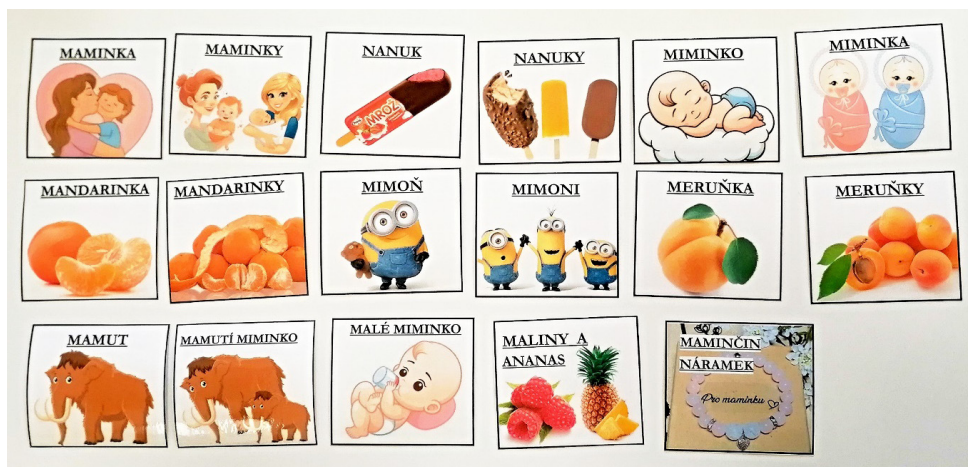


Figure 2: Vocabulary (word bank) distribution for articulation

The last part was the actual measurement of nasality using the nasometer. The nasometer was calibrated at the beginning of each measurement day but it was not recalibrated during the course of the day and during the measurement (e.g., after each child). This was due to the results that pointed to the undesirable effect of too frequent recalibration (see Hahm and Bressmann, 2022).

Subsequently, the measurements were repeated for each child with a time interval (except for children who were ill and could not participate in the repeated measurements at the scheduled time).

**Table 1:** *The entire original word bank (vocabulary) for preschool and younger school-aged children in the Czech Republic*

Selected diagnostic word/sentence	Number of nasal consonants in the Czech language (+ during articulation)	Number of oral consonants in the Czech language	Difficulty of articulation of words/sentences by the child	Position of the nasal consonant in the word/sentence
Maminka	3	4	Low	1-1-1-0
Maminky	3	4	Low	1-1-1-0
Nanuk	2	3	Low	1-1-0
Nanuky	2	4	Low	1-1-0
Mimoň	3	2	Low	1-1-1
Mimoni	3	3	Low	1-1-1
Miminko	3	4	Low	1-1-1-0
Miminka	3	4	Low	1-1-1-0
Mandarinka	3	7	Medium	1-1-0-0-1-0
Mandarinky	3	7	Medium	1-1-0-0-1-0
Meruňka	2	5	Medium	1-0-1-0
Meruňky	2	5	Medium	1-0-1-0
Mamut	2	3	High	1-1-0
Mamutí miminko	5	8	High	1-1-0→1-1-1-0
Malé miminko	4	7	Medium	1-0→1-1-1-0
Maliny a ananas	4	9	Medium	1-0-1→1-1-1-0
Maminčin náramek	6	9	Medium	1-1-1-0-1→1-0-1-0
Mám moc kamenů	5	7	High	1-1→1-0→0-1-1
Malý kamenný most	4(5)	10	High, recommended for exclusion	1-0→0-1-1(-1)→1-0-0
Domy, stromy a most v zimě	4 + 1	16	High	0-1→0-0-0-1→1-0-0→0→0-1+1
Černokněžník	3	9	Very high, <b>excluded = X</b>	0-0-1-0-1-0-1-0
Meruňková zmrzlina	4	13	Very high, <b>excluded = X</b>	1-0-1-0-0→0-1-0-0-0-1
Smetanová zmrzlina	4	13	Very high, <b>excluded = X</b>	0-1-0-1-0→0-1-0-0-0-1
Na každém domě je sníh	4 + 1	14	Very high, <b>excluded = X</b>	1→0-0-0-1→0-1+1→0→0-1-0

### 3 Results

#### Results of nasometer measurement in preschool and younger school-aged children

A total of 12 children had their nasality measured twice using the nasometer with a time interval of at least 2 weeks. The measurements and results included both intact children (see Table 2 – white without markings) and children with mild speech-language difficulties (articulation confusion or mispronunciation, in Table 2 these children are also white without markings), children with specific language impairment who have attended speech-language therapy for a longer period of time were able to manage the task and did not have impaired articulation of any of the nasal consonants (in Table 2 these children are marked in light grey).

Finally, a child with cognitive, language and intellectual deficits who failed to complete the task was included in Table 2 for comparison (able to pronounce only the following words from the word bank: Maminka, Maminky, Nanuk, Nanuky, Mimoň, Mimoni, Miminko, Miminka, Mandarinka, Mandarinky – the child was unable to articulate any other words either during the first or the second measurement, in both cases the last word was “Mandarinky”).

Another decisive criterion was the sickness rate of the examined children – if the child had a cold and showed signs of rhinitis, for example, he or she was not included in the measurement. All children were also observed to carefully fit the headset of the nasometer so that the microphones were positioned correctly over the upper lip, as described in the user guide of the nasometer manufactured by Kay Elemetrics Corporation (2003), but also according to the guidelines by Čermáková (2014) mentioned in her research conducted in the Czech Republic.

Regarding the values obtained in this preliminary research, it is interesting to note that children with diagnosed specific language impairment achieved higher measured percentages of nasality both in the first and repeated measurements.

From the point of view of the usability of the vocabulary (word bank), based on the results of the work with all 23 children, it is recommended to leave out the following phrases in the subsequent research: “Malý kamenný most” – this was very difficult for most children to remember and repeat. The following words could be potentially problematic: “Mandarinka, Mandarinky and Meruňka, Meruňky” – despite visualization, these words were confused with different fruit, for example oranges. Further use of these words for subsequent research is therefore given for consideration.

**Table 2:** Results and scores of nasalance for each child in the preliminary research. (White without markings are children who are intact or have very mild speech-language disorder; Light grey markings are children with diagnosed specific language impairment; Dark grey are children with cognitive deficit, reduced intellect and language difficulties.)

Child:	Nasalance score measurement 1 (percentage)	Nasalance score measurement 2 (percentage)	Age of child at nasalance measurement 1 (years; months)	Age of child at nasalance measurement 2 (years; months)
Girl EM	67	75	8;09	8;09
Boy DP	56	46	9;03	9;04
Girl JD	50	42	6;08	6;09
Girl JM	55	42	7;01	7;02
Girl KJ	55	60	7;07	7;08
Boy MV	64	51	10;01	10;02
Boy AF	71	77	6;06	6;07
Boy MDV	40	58	10;04	10;04
Boy RL	61	63	6;11	6;11
Boy SV	64	46	6;05	6;06
Boy TŠ	37	56	6;09	6;09
Boy TT	51	54	6;11	6;11

## 4 Discussion and Conclusion

The results indicate an interesting possibility of comparing the method and approach (which are shown in more detail in Table 3) in terms of their usability, accessibility, specifics of training and data collection, but also in terms of attractiveness for the children involved, etc.

### Early detection of hyponasality in children using the nasometer

The preliminary research using the nasometer verified the possibilities of further use of the proposed word bank for work with preschool and younger school-aged children in the Czech Republic. The principle of using the nasometer and introducing it to the child was based on previous research findings and built on the findings described by Čermáková (2014) and Ilgnerová (2015) for the specifics of the Czech language. For example, based on their findings, children over the age of 5 were selected for the research. The difference in approach was mainly in not using headphones (playing the recited words into the child's headphones), but in focusing on short-term verbal-acoustic memory (associated with visualization of words and sentences). The advantage of this approach was greater flexibility and not overloading the child with technical inputs. The disadvantage was the higher demands on the correct naming of the picture by the child. A separate word bank was also newly created, focusing on

nasal words and sentences. This adjustment was made mainly because of the focus of the planned follow-up research on children with hyponasality.




From the point of view of the above-mentioned results (see Table 2), the decisive criterion for inclusion in the follow-up research should be mainly the ability of good short-term verbal-acoustic memory, perfect articulation of Czech nasal consonants (i.e. M, N, Ň) and age-appropriate cognitive abilities.

The exclusion criterion for children should therefore be primarily cognitive deficits, memory impairment or a significant language or articulation disorder (making the task impossible). At the same time, it is necessary to continue to exclude children with upper respiratory tract diseases, children with rhinitis or otherwise ill, where the results could be biased.

However, bilingual and multilingual children, as well as children with diagnosed specific language impairment are deliberately not excluded from the research if it is possible to work with them and if they meet the other criteria for nasometer measurement. These children are not excluded mainly because of the main research objective – early detection of hyponasality in preschool and younger school-aged children. Hyponasality (very often due to overgrown adenoid vegetation) may also be present in children diagnosed with specific language impairment.

This approach is quite innovative in speech-language therapy in the Czech Republic, the nasometer is mostly used with children suffering from hypernasality (e.g., children with clefts), however, based on the conducted preliminary research, it is possible to summarize that using the nasometer in the field of speech-language therapy in the Czech Republic is an effective tool not only in the field of speech-language therapy diagnosis, but also in the possible prevention of reduced/increased nasality. The effectiveness of using the nasometer was also demonstrated in more recent studies, such as those conducted by Perta et al. (2023), which focused in detail on the resonance balance of speech and the effect of learning.

The parents of all children involved were also present during the preliminary research. Some of the parents confirmed the child's history of overgrown adenoid vegetation and the need to monitor the current status of their nasality. For details on overgrown adenoid vegetation see for example Ballikaya (2018) or Šlesingrová & Vitásková (2021; 2022) with an emphasis on possible risks and correlations.

**Table 6:** Comparison of the methods and approaches used in the preliminary research with the Scenetest method (explanation of the symbols used:  = limited extent;  = acceptable;  = unacceptable)

Key categories/approaches in speech-language therapy	Nasometer II Model 6400
Possibilities of speech-language therapy diagnosis	
Possibilities of intervention/therapy	
Effectiveness of therapy/speech-language therapy approach	
Attractiveness for the child	
Repeatability of the approach	
Possibility to work with a non-verbal client	
Possibility of a connection with speech-language therapy	
Accessibility of resources/availability of the tool	
Financial costs	
Difficulty of training in using the method	
Flexibility of the approach	
Time/duration of work with the child	
Existence of standards applicable to the instrument	

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from a speech-language therapist's perspective" (Principal researcher: Assoc. Prof. Kateřina Vitásková, Ph.D.) at the Faculty of Education, Palacký University Olomouc.

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# Therapeutic sandbox as an innovative approach in speech therapy for preschool and younger school children

(scientific paper)

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**Abstract:** *The paper describes the use of the Sandtray in the context of solution-focused therapy. The approach combined by the possibility of working with preschool and younger school-aged children in the field of speech-language therapy special education and clinical environment. The paper presents the results of the preliminary study on the Sandtray and solution-focused therapy identified the possible linking of therapeutic and speech-language goals and the advantages of this approach, including, for example, in a comparison with the Scenotest method. The link between the Sandtray and solution-focused therapy approach are unique in the Czech Republic and bring new knowledge in this area.*

**Keywords:** *children, solution-focused sandtray therapy, speech-language therapy, special education*

## 1 Introduction

### 1.1 Pragmatic level of language in the context of speech-language therapy and psychotherapy in the Czech Republic

Speech-language diagnosis and therapy in the Czech Republic uses a variety of tools (Lechta et al., 2011; 2013), methods and techniques. Through them, we can analyse the different levels of language in order to detect a disorder in one or more of them and to design appropriate therapy. The pragmatic level of language synthesizes the previous language levels with an emphasis on practical application in everyday communication. Among other things, it reflects the individual's ability to adequately assess the communication situation, fluently respond to replicas, maintain a thematic-rhetorical structure and take into account the social context (status, role or position

in society). More on the pragmatics of the Czech language can be found, for example, in Hirschová (2013) or Huang (2019).

For some types of speech disorders, professionals from different disciplines are actively involved in the therapy process to make the therapy as effective as possible. Often, psychotherapy enters the process to intervene in different aspects of the personality to achieve both speech-language therapy and psychotherapeutic changes – e.g. in stuttering therapy or in elective/selective mutism therapy (Lechta, 2004; Hartmann & Lange, 2008).

The aim of the preliminary research is to describe and analyse the pragmatic level of language of communication by combining multiple approaches into one speech-language therapy session. The means and techniques of solution-focused therapy (Solution-Focused Therapy – SF, and Solution-Focused Brief Therapy – SFBT) in the context of the Sandtray create a framework for speech-language therapy intervention.

The Sandtray is a projective therapeutic method that uses the knowledge of play therapy and client-centred approach. It could also be defined as a play therapy with figures in the sandbox (Galusová, 2020).

Research uses the Sandtray concept mainly through its principles (Galusová, 2020):

1. Do not touch the sand – it is the “sacred” space of the client.
2. Do not remove anything from the Sandtray.
3. Do not add anything to the Sandtray without the client’s permission.
4. Do not propose any figures even if the client is “stuck”.
5. Keep a neutral tone of speech.
6. Do not interpret anything, only describe.
7. Always finish work in the Sandtray with a positive change.

The method of conducting Sandtray in research is mostly non-directive. However, there is also room for a directive approach (Galusová, 2020).

Solution-focused therapy (Zatloukal & Žákovský, 2019) belongs to the group of family and systemic therapies. This paper is based on the concept of solution-focused therapy according to the classification by DALET<sup>1</sup>, a company based in the Czech Republic. This concept is based on the following principles represented by the RESENI acronym<sup>2</sup>:

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<sup>1</sup> <https://www.dalet.cz/>

<sup>2</sup> Note. The word “RESENI” shall not be translated from Czech to English because it is an acronym.

1. R – Rozvíjení řešení (Developing a solution). It is an effort to focus the conversation on the desired change in the patient's life through resources that are linked to the desired change. The "growth orientation" is consistent, that is, what there is to be more in life.
2. E – Efektivita (Effectiveness). Focusing the conversation on therapeutic change. The principle of Occam's razor.
3. S – Spolupráce, spoluvytváření (Collaboration, co-creation). Negotiation of cooperation goals not only with patients, but also – in the context of child patients – with parents, close persons or interested institutions. Maximum involvement of patients in the process of change.
4. E – Expertnost na proces (Expertise in the process). Cultivation of therapeutic curiosity and minimal expert comments.
5. N – Nevyhnutelnost změn (Inevitability of change). The assumption that changes happen even in situations that clients describe as given and unchanging. This principle is also associated with the targeted search and use of constructive change.
6. I – Individuální přístup (Individual approach). The principle emphasizes the search for clients' specific resources and the therapist's creativity in the therapeutic process.

Despite the combination of the above psychotherapeutic concepts, the aim is not to carry out psychotherapy in the environment of a speech-language therapy outpatient department.

The aim is to use the safe potential of both approaches in speech-language therapy intervention. The safe potential of the Sandtray environment means the limitation of undesirable and threatening content by the child (if the child does not feel safe, he or she stops the content or moves to another topic). It is clear that the speech-language therapist does not purposefully return to these topics and does not force the child to address them. In the case of SF, a safe potential is to focus on the positive aspects of the situation (e.g., what helped the child achieve the goal, positive exceptions to the topic, using a wonder question to emphasise the positive aspects of an already resolved situation).

## 2 Material and Methods

### **Preliminary research using a synthesis of solution-focused therapy in the Sandtray therapeutic environment**

The analysis of the pragmatic level of communication is based on an interview between the researcher and the preschool child (child aged 6 years). The inclusion criterion was mainly age – the focus of the study was on preschool and younger

school-aged children. The research included a total of 6 children. This study presents in detail the work with a single child. Another criterion for inclusion in the preliminary research was the child's active participation in working with the speech-language therapist.

Exclusion criteria were as follows: persons with specific language impairment, persons with cognitive deficits, persons with autism spectrum disorders. The sample did not include persons with a different mother tongue.

## **Sandtray**

The main intervention method is the Sandtray therapeutic concept, in which a solution-focused therapeutic approach (SF, SFBT) is embedded. Through this synthesis it is possible to capture both verbal and non-verbal aspects of communication with an overlap into emotional and physical experience. The advantage of this connection in solution-focused therapy is the conversational direction focusing on the positive and resource areas of the client's life. Moving away from the problem is manifested not by ignoring or downplaying it, but by purposefully developing solutions. Conversational areas may include, for example, resource exploration and utilization, preferred futures, the so-called Miracle Question, etc.

Sandtray's contribution to the process is that it brings the opportunity to work with the non-verbal aspects and transfer the thought content into the 3D space of the therapeutic Sandtray. The communication framework itself is enriched by the patient's verbal comments, but an integral part of it is also the selection of stimulus material in the form of figures and environmental elements (natural objects, miniature furniture, housing equipment, etc.). The result is a "picture" in the Sandtray depicting a scene from the patient's life with verbal comments on what is happening in the picture. The creation of the picture itself includes a complex process of choosing the figures, their placement and a description of their interaction.

The patient has a Sandtray with ideal dimensions of  $57 \times 72 \times 7$  cm. These dimensions were designed with respect to the child's visual field. In the process of creating the "picture", the child has the whole scene in front and can think about it in all its complexity. If the scene was larger and the child had to turn the head to capture the whole scene, it could be imaginatively split in two and its consistency could thus be reduced. In research, a smaller scene of  $40 \times 30 \times 24$  cm is used with regard to the size of the portable Sandtray. Due to the nature of a portable Sandtray, a few compromises had to be made regarding the process of working in a therapeutic Sandtray. Under normal conditions, the patient has all toys in sight and these are placed in a visible and accessible location.

In our case, a portable box was used (see Figure 3). The box consists of 4 floors – each containing specific aids for easier patient orientation. In the first two floors, there are two separate sands. The first sand is traditional, without small stones,

a suitable material is for example sand for lock tiles. The other sand is kinetic sand. The advantage of this type of sand is the ability to maintain shape without adding water. The third floor contains figures of different categories according to Roxana Rae (2013) and Veronika Galusová (2020).

The choice of specific figures is not exactly defined for Sandtray (unlike Sandplay), but it is necessary that the following categories are represented: plants, animals, people, human environment, emotions, natural elements – stones, wood, natural fruits, etc. The last floor contains natural elements, wood and scaled-down furniture to create a specific room. Furniture is an additional part and is not primarily included in the Sandtray concept.



Figure 1: Picnic box for a portable sandpit

### **Solution-focused therapy**

The analysis of the pragmatic level of communication then necessarily includes the interaction between the therapist and the patient, as both co-create the final picture of the application of the pragmatic level of language.

The objectives of such intervention can be divided into communication and therapeutic objectives. It depends on the specific intervention as to which aspect will stand out and which will be suppressed.

During the therapy, naturally, other linguistic levels of communication (i.e. phonetic-phonological, morphological-syntactic or lexical-semantic) can also be diagnosed. For greater efficiency, we recommend recording the meeting upon the patient's consent for more effective analysis of the material obtained.

During this therapy, it is important to focus on the ethical aspect. During speech-language therapy, in conversation with clients we often get into personal questions which are often not part of speech-language therapy. This aspect needs to be emphasized especially when working with children who do not yet have an insight into the



adequacy of the topics discussed. The child may not be able to distinguish between general social topics and personal or intimate information.

There are several ways to ensure safety in this speech-language therapy process. First of them is the presence of the parent during therapy in the outpatient department of the speech-language therapist/clinical speech-language therapists. The advantage of the parent's presence in speech-language therapy (assuming a secure bond with the caring person – parent) is the opportunity of the child to relax in dialogue with the therapist. At the same time, however, there are limiting factors in the form of “control” from the parent towards both the child and the therapist. The same factors may occur if the speech-language therapist believes that he or she could be controlled by the parent despite the fact that this may not be the case at all. The resulting form of the interview is then influenced by the presence of the parent.

Another way to ensure safety is the choice of approaches and techniques. The Sandtray approach incorporates the principle of the patient choosing the topic and its “depth”, thus minimizing the risk of opening up topics that are threatening to the child. The child controls the topics by making choices and has quite a large spectrum of possibilities to escape from unpleasant topic, e.g. into free play. Solution-focused therapy then addresses and seeks developmental areas in which the client focuses not on the problem, but on the solution and pathways to it.

The framework of the entire interview can be defined by different conversation topics.

The material obtained was analysed using the Atlas.ti programme (2024). The programme allows an analysis of video and audio recordings with the possibility of integrating transcripts. The user can create codes, categories and perform qualitative and quantitative analysis (for example, in the form of frequency or sequence analysis).

The combination of the methods used allows great variability in the collection, analysis and interpretation of results. The weakness lies in the necessity to choose the ratio between the methods used and the accentuation of the speech-language therapy or psychotherapeutic aspect in the goal of the intervention itself and the subsequent analysis and interpretation of the results.

At the same time, however, these methods can serve as a tool for self-reflection of the speech-language therapist (researcher). Thanks to the recordings, the speech-language therapist (researcher) has the opportunity to revisit the interventions, refine the questions and evaluate the process of change even in the therapeutic Sandtray.

### 3 Results

#### Results of the synthesis of solution-focused therapy in the Sandtray therapeutic environment

An example of the application of the above methods is a meeting during a speech-language intervention. The patient is a girl (6 years old, according to ICD 10: F 80.0 – Dyslalia). The intervention lasted for about 60 minutes. The main goal was to tell stories that the patient had depicted in the Sandtray. The therapeutic goal is suppressed and the communication goal is preferred.

#### Analysis of categories and codes in communication

Atlas.ti was used to analyse the interview results for consistency. Atlas.ti is an objective method to identify key codes and categories. Tables 2 and 3 contain codes, parallel codes and categories.

The codes are dominated by concepts such as fantasy, creativity, but also resilience, imagination, memory or adventure. Compared to the Sandtray approach, consistency is confirmed for adventure, resilience of the main heroes and focus on relationships. In the case of solution-focused therapy, the codes are combined with resilience and the effort to find creative solutions. Furthermore, the patient relies on relational resources on several levels, fantasy and creativity. The codes also explicitly include solution-focused tasks.

**Table 1:** *Categories of communication topics*

Name	Grounded	Density	Groups
○ ◆ Accident	1	0	[AI codes]
○ ◆ Adventure	2	0	[AI codes]
○ ◆ Achievement	1	0	[AI codes]
○ ◆ Creativity	1	0	[AI codes]
▷ ○ ◆ Discovery	2	0	[AI codes]
○ ◆ Fantasy	1	0	[AI codes]
○ ◆ Imagination	2	0	[AI codes]
○ ◆ Memory	2	0	[AI codes]
▷ ○ ◆ Relationships	2	0	[AI codes]
▷ ○ ◆ Resilience	6	0	[AI codes]
○ ◆ Self-doubt	1	0	[AI codes]
▷ ○ ◆ Task-oriented	2	0	[AI codes]
○ ◆ Uncertainty	1	0	[AI codes]

**Table 2: Most frequent codes (left) and Table 3: Parallel codes (right)**

Top applied codes			Top co-occurring codes		
1	◇ Imagination	2	1	◇ Creativity + ◇ Imagination	
2	◇ Adventure	2	2	◇ Creativity + ◇ Fantasy	
3	◇ Memory	2	3	◇ Imagination + ◇ Fantasy	
4	◇ Creativity	1	4	◇ Relationships... + ◇ Relationships...	
5	◇ Fantasy	1	5	◇ Relationships... + ◇ Resilience:...	
6	◇ Relationships: Family	1	6	◇ Relationships... + ◇ Resilience:...	
7	◇ Relationships: Friendship	1	7	◇ Adventure + ◇ Discovery:...	
8	◇ Resilience: Connection	1			
9	◇ Discovery: Discovery	1			
10	◇ Accident	1			
11	◇ Discovery: Surprise	1			
12	◇ Resilience: Perseverance	1			
13	◇ Resilience: Success	1			
14	◇ Achievement	1			
15	◇ Task-oriented: Goal-oriented	1			
16	◇ Resilience: Challenge	1			

### Role of the therapeutic Sandtray – plot of the story

In this case, the therapeutic Sandtray served primarily as the setting for a fictional story. A minimum amount of Sandtray elements were used – the focus was on the patient’s narrative and her ability to respond to the dynamics of the plot.

The interview was dominated by the themes of friendship, family, wishes and joint adventure. There were quite a lot of animals (dogs, cats, owls, rabbits) and common characters (mum, dad, baby). Interestingly, the client (despite the large number of figures) remembered all their names from the beginning to the end (many of them were based on the English language – e.g. “bunny” instead of “králíček”, or: “kitty” instead of “koťátko” – here we can see a transfer of words from English to Czech in preschool and younger school-aged children).

The central point of the adventure was to find a treasure, where the whole family had to overcome obstacles and defeat an evil monster. The patient spontaneously focused on the pitfalls of finding the treasure and the need for cooperation between animals. According to her, the most difficult was the search for the key to the treasure chest. The patient also devoted her efforts to describing the traps, which were very dangerous for all figures involved. In case of stepping on the trap, there was a risk of falling into the abyss or swamp. Another danger was the presence of a monster who wanted to eat the animals.

The patient described the denouement and the way of defeating the monster as follows: *Well, they defeated it by using all their strength and putting their... their hearts into it, and the monster completely like became extinct, it completely dissolved, it was completely dismembered.*

Throughout the work, the aesthetic value of the final picture (adding natural objects, ribbons or stones) was very important for the child, which at times overlapped the story itself, but at the same time added authenticity to the narrative, added scenery and created other possible interactions.

In the case of accentuating the therapeutic goal, even in the free narrative, several themes emerged for us to explore: relationships (family, friendships), changing the picture in which the animals are content, the picture in which they are happy and have everything they need. Or a fight with a monster in which they will be able to change the position of the animals and each will be able to do something to win, something to help.

### **Research questions in the context of SF**

The aim of this part was to identify the elements in the test that help develop solutions. The solution elements were evident throughout the entire consultation. The very need to respond to the questions raised by the speech-language therapist requires an active way of creating solutions in the context of the story being told. Not only did the patient have to remember the animals' names, but she also had to maintain an imaginary storyline. The whole process involved the need to refine the picture in the Sandtray and add more elements, which created more interactions between the actors and the environment that the author of the story had to deal with.

The biggest focus of the solution in this story is overcoming traps and finding the path to treasure. The patient chose a solution in a positive way, without the need to describe the process of destruction – the monster simply disappeared. The central point of the solution was to use animal resources in the “power of friendship” and their relationships (opening the heart). The power of the relationship proved to be the source theme as well as the ability to collaborate.

## 4 Discussion and Conclusion

The results indicate an interesting possibility of comparing the different methods and approaches (which are shown in more detail in Table 4) in terms of their usability, accessibility, specifics of training and data collection, but also in terms of attractiveness for the children involved, etc.

### **Emphasis on the therapeutic aspect of the synthesis of solution-focused therapy in the Sandtray therapeutic environment**

The aim of this preliminary research was to analyse the pragmatic level of language in communication in the context of solution-focused therapy in a therapeutic Sandtray setting. The nature of the communication situation primarily followed speech-language therapy goals – ability of narration and verbal fluency. The results describe the codes and categories of a fictional story. The therapeutic goal was achieved in the preliminary study only at the end of the consultation by mapping the resources and their utilization.

In the following speech-language therapy interventions, it will be possible to accentuate the therapeutic goal in the following ways:

1. *Stories with challenging life situations.*

In the preliminary study, the choice of the story depended entirely on the imagination of the patient. In the case of a reinforced therapeutic goal, a story with a theme of seeking and utilizing one's own resources, a theme of scaling progress or a preferred future may be deliberately chosen. Sticking to fairy tale motifs, we can look for sources in various characters (Snow White on the run in the enchanted forest, the Lion King and the inner and outer resources, or Rapunzel and the vision of her preferred future). The advantage of the chosen fairy tale motifs is the possibility to guide the child patient through a familiar story, asking for his/her own perspective, ideas, thoughts or solutions. The potential risk of this option is that the patient will demonstrate knowledge of the solution in the fairy tales without self-identification.

2. *A story in which the speech-language therapist actively enters the Sandtray.*

Another option is a more directive way to conduct a consultation by active co-creation of the story. This co-creation can take place either through the use of figures that actively enter the story or through other aids (cards with pictures, verbal descriptions of the situation, etc.). The advantage of this approach is that the speech-language therapist actively intervenes in the story and deliberately creates obstacles that the child client must overcome through the chosen character. It is therefore easier to create the desired situation and to elaborate and utilise

resources, to look for positive exceptions or to scale up signs of progress. The disadvantage is the disruption of the principles of the therapeutic Sandtray and thus the suppression of the Sandtray principles. The Sandtray then loses the possibility to transform negative emotions by a positive change in the scene on the sand through one's own resources. The therapeutic goal will therefore be fulfilled by the principles of solution-focused therapy but without using the Sandtray concept.

3. *Using real-life challenging situations from the patient's life.*

During speech-language interventions, patients often come with their life problems, which often become the initial part of the therapy process. This situation is difficult to plan in advance, but if it occurs, it can be transformed through the use of the methods mentioned above. The advantage of this situation is the authenticity of the patient's reality, and therefore we can assume that the situation in the therapeutic Sandtray will correspond to the actual emotions. On the other hand, the therapeutic goals will become so dominant that speech-language therapy goals will inevitably be suppressed. There is potential for positive therapeutic change from both the Sandtray and solution-focused therapy perspectives. The disadvantage of this alternative is the complicated way of obtaining material for the analysis of the pragmatic level of language. The interview in this context will probably not be recorded and thus the subsequent analysis will have to be based on the researcher's notes. This will result in the loss of the data obtained. A different situation is in the therapeutic context in the therapy room, where the recordings may become part of the therapeutic work. However, in the context of a speech-language therapy outpatient department, the same practice is inconsistent with a primarily speech-language therapy order from the patient.




Therefore, the aim of the follow-up research is to:











1. Optimize the ratio between therapeutic and speech-language goals.
2. Create the conditions for the application of the therapeutic goal while maintaining the conditions of a safe (and ethical) environment for the patient and speech-language therapist.
3. Consistent with the goals of SF and Sandtray, ensure that the patient always leaves the speech-language therapy intervention with a positive therapeutic change (albeit partial).

### **Comparison of the methods and approaches used with the procedures under consideration**

One of the methods considered was the Scenetest. The advantages of the Scenetest include the possibility of diagnosis and the presence of test standards and flexible interpretation. The disadvantage is its usability primarily for psychodiagnosis and the limited expression possibilities of the child client through the figures. At the same

time, the creativity of the client is limited – the Scenetest is based on manipulation with miniatures according to predetermined rules and tasks. Another disadvantage is the relatively high acquisition cost of the entire equipment and the need to undergo adequate training. For these reasons, the Scenetest was ultimately excluded from this preliminary study, but is included for comparison in Table 4 below along with the methods used in this preliminary study: Solution-focused therapy, Sandtray. The resulting table is based on the experience of the authors of the paper with the methods.

**Table 4:** Comparison of the methods and approaches used in the preliminary research with the Scenetest method (explanation of the symbols used:  = limited extent;  = acceptable;  = unacceptable)

Key categories/approaches in speech-language therapy	Solution-focused therapy	Sandtray	Scenetest
Possibilities of speech-language therapy diagnosis			
Possibilities of intervention/therapy			
Effectiveness of therapy/speech-language therapy approach			
Attractiveness for the child			
Repeatability of the approach			
Possibility to work with a non-verbal client			
Possibility of a connection with speech-language therapy			
Accessibility of resources/availability of the tool			
Financial costs			
Difficulty of training in using the method			
Flexibility of the approach			
Time/duration of work with the child			
Existence of standards applicable to the instrument			

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# The psychology of victory

Petraš, V. (2022) | *The psychology of victory: and 111 exercises for the development of the psyche* | Portal

Reviewed by Nella Hrdá

Václav Petraš is a sports psychologist who has helped many athletes on their way towards the dream title. He helps his clients through expertly guided interviews with their current or long-term difficulties. He often works with their feelings, pointing out the importance of communication and sharing, and using appropriately chosen questions he shows the client a path that could be the right one for them. But he always works so that the client can understand him, understands what is happening and what concrete he can do for the change.

The Psychology of Victory is not a textbook that presents a theory of how to achieve success. Rather, it is a practical guide on the way to achieving the goal that will help you strengthen your psyche. It is a “sherpa that will constantly support you during your ascent, but you have to climb yourself” (p. 7). The author works with stories from his own practice, which help the reader understand the given issue better. Each chapter deals with one key topic that is essential in building mental resilience. The book is intended primarily for athletes of all levels. It is divided into two parts, where the first part can be called theoretical, where the author elaborates on the issues he encounters during his practice. The second part is more practical and in it you can find a database of exercises that support the development of individual resistance in the sphere of motivation, concentration, self-confidence and self-esteem, pressure and consistency.

The publication consists of eight chapters. The opening chapter is devoted to motivation. It works with the concepts of demotivation, will and personal growth. In this context, the slogan “the easy way is not the growth way” caught my attention. The author works here with the idea that if an athlete deliberately chooses more difficult paths for him, situations he does not know, or opponents who are better than him, it will push him further, even if he fails in the given situation. Although he will not overcome a better opponent, he will learn how to behave in these situations, he

will learn how to do it differently next time. This example can be used e.g. even in pedagogical practice, when it is possible to explain to the pupil that not being the most talented pupil in the class is an advantage. They will always have someone in front of them who will motivate them to achieve better results.

After studying the second chapter, you should be able to work better with your concentration. Here, the author describes a system of refocusing – i.e. refocusing of attention. This part of the book contains a large number of examples and different stories in which the author tries to demonstrate how attention can drift, what mode we are probably in and what can be done. However, the large number of examples is rather distracting and it is difficult to maintain concentration. Is this author's intention? Are the exercises to strengthen concentration hidden in the chapter on concentration?

The Self-Esteem and Self-Confidence chapters complement each other, and the author again shows examples how to work with the given areas of the human psyche. At the same time, he also considers them to be the most important parts of the book, as they connect already acquired knowledge and experience that the reader takes away from the publication. This is also confirmed by the reviewer. The mentioned chapters are clear, they follow on from previously described phenomena, which they expand even further and present them in the context of a complete personality. Pressure – the name of the fifth chapter – describes the path from the organism's alarm phase to performance. At the same time, it also answers the question: How to better manage nervousness? The answer may be “turning the wheel of adrenaline”, looking for things we look forward to, or relaxation techniques. The chapter also emphasizes the importance of therapy in cases where the client cannot handle excessive pressure.

The penultimate chapter describes consistency. It goes back to the issue of pressure, which can be confusing, but it is all explained later. The author uses elements of exposure therapy, where he helps the client get used to unpleasant situations. He also works with pressure and with the right amount of “excitement”, and he also mentions techniques that support self-confidence. He puts all his know-how together and tells the client how to work effectively with himself and how to become a better athlete. Or even a person?

The last chapter, The Way Forward, covers the whole book with the idea that we always have to have a plan, to have a goal that we can reach step by step. And we can start tomorrow. “You have a well-marked path forward, and I'll keep my fingers crossed that it eventually leads to that star on the horizon” (p. 225). Individual parts of the book are supplemented with links to specific exercises, the list of which is in the second part of the book. The reader can thus go through the book at will and try individual exercises immediately.

As already described above, the book is primarily intended for athletes, but it can also be used in other professions that are stressful and demanding. In this case, the sports theme brings us an example of how to work on yourself. Due to specific situations, which are described in the book, the reader can imagine a difficult situation in detail and, with the help of specific exercises, see how they can deal with the problem.

Reserve more time for reading this book. If you really want to make use of it, it will be better to read it in parts, do all the recommended exercises responsibly, and sometimes you will certainly appreciate a certain distance from it. You should have time for this book and you should give it your full attention. It will pay you back later.

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# Information for authors



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