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Changing Approaches in the Education of Visually Impaired High School Students

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Abstract

This paper will focus on the teaching of visually impaired students and their preparation for intermediate- and advanced-level examinations. The teaching attitude needed to achieve this outcome, which contributes to young people finding their place in the world and discovering their intrinsic value. The theoretical introduction includes definitions of visual impairment and its degrees. Physical impairments are complemented by social integration issues, such as adjusting to a new environment. The main part presents 4 years of teaching experience from a teacher's perspective in a natural environment, in an integrated high school classroom with sighted students. The teacher needs to be familiar with the initial period of acclimatization at the beginning of Year IX, as well as the myriad challenges of a stimulating environment, which span the whole period from getting to school to arriving on time for classes in different classrooms, through to the full duration of the education. The question is whether the teacher, upon entering the classroom for the first time, is aware of these circumstances. Should they be aware of this, or is it just a matter of delivering the lesson and holding them to account? What kind of teacher attitude is required for successful cooperation? The practical implementation of the topic should include the people and tools involved in the teaching, i.e., the teacher, the student, and the parent, and the advantages of using different literacy tools (NVDA, Jaws, Braille keyboard, etc.). This is necessary to make the lessons, especially the Hungarian lessons, successful. As teachers, we need to identify the qualities of visually impaired people that are not typical of sighted people, and how receptive they can be in an optimal educational environment. For example, they can read lyrical works through a reading program with an emphatic, expressive interpretation and recite the text aloud while hearing the following line read.

Keywords: teacher attitudes, integration, discrimination, education of the visually impaired

Introduction

To sum up, it is crucial to understand the perspective of young people with these problems in depth, to see in it the world they have constructed, a world that is rounded and livable for them in its entirety. Of the four students mentioned, two are now studying at a liberal arts university, one is training to be an event organizer, and the one who passed the Hungarian A-levels with a 77% (and is grateful that his blindness has allowed him to escape the toxic community and abject poverty he was born into) is now studying for a short course in IT at law school. It is important to note that their achievements are largely due to their struggles, their ability to overcome setbacks, and their personalities. The success of inclusive education largely depends on teachers' attitudes and knowledge regarding students with disabilities (Dapudong, 2014). Although a substantial body of scholarly research examines teachers' attitudes toward educating students with disabilities, relatively few studies investigate teachers' attitudes and knowledge specifically related to students with visual impairments. Addressing this gap, Dimitrova-Radojičikj (2020) explores the perspectives of elementary and high school teachers on the inclusive education of students with visual impairments. Similarly, Ajuwon et al. (2020) examine the attitudes of secondary school teachers in selected Nigerian states towards students who are blind or partially sighted. Students with visual impairments remain particularly underrepresented in the fields of science, technology, engineering, and mathematics (STEM). Although they are cognitively comparable to their sighted peers, they encounter unique challenges because STEM instruction often relies heavily on visual representations. To ensure equitable access, these students require alternatives such as enlarged or audio versions of text, tactile graphics, and opportunities for hands-on experimentation. Responding to these needs, Rule et al. (2011) implemented a program to increase teacher awareness and provide financial support for adaptive resources, supplies, and equipment. Over the course of a year, the authors examined changes in the attitudes and instructional practices of 15 science and mathematics teachers who taught students with visual impairments. Supporting the development of disciplinary competence is also central to the work of Godfrey et al. (2015), who emphasize the importance of empowering blind students to become producers—not merely interpreters—of statistical information. This goal highlights the broader need for practical guidance and collaboration between sighted educators and visually impaired learners. The issue of accessible instructional materials is further examined by Brixius et al. (2022), who propose adaptations to activities from an English language textbook intended for blind students in the sixth year of Basic Education. Their qualitative study, situated within Applied Linguistics, identifies several recurring concerns: the scarcity of adapted materials and relevant research,

insufficient teacher preparation to address the specific needs of visually impaired learners, and ongoing challenges in fostering autonomy and inclusion in the classroom. A complementary perspective is offered by Akmalovna (2021), who presents methods, guidelines, and recommendations for beginner English as a second language teachers working with visually impaired or blind students. The article also offers valuable insights for parents and homeschoolers. Drawing on classroom observations and a social constructivist framework of disability, the study reveals that students often receive insufficient instructional modifications in foreign language learning. Nevertheless, learners make effective use of assistive technologies such as NonVisual Desktop Access (NVDA) and Job Access With Speech (JAWS). These findings suggest that visually impaired students develop unique, technology-supported strategies for language learning—strategies that should be acknowledged within disability-specific education and further explored in special education research. Finally, Teke et al. (2019) investigate the subject-specific needs of a 10th-grade congenitally blind student in an inclusive chemistry classroom. Using a single-case study design, they conducted detailed observations and interviews to identify students' learning needs. Based on these findings, the researchers developed 2D and 3D tactile instructional materials to teach the topic "energy in living systems," with particular attention to the symbolic language of chemistry. Taken together, these studies underscore that effective inclusive education for students with visual impairments requires well-prepared teachers, accessible instructional materials, appropriate technological support, and thoughtfully designed pedagogical adaptations.

The main theme of this study is to help visually impaired people make successful career choices by demonstrating the right teaching attitude. This positive, conscious attitude helps young people identify potential resources based on their knowledge of different subjects, which will help them find a career that enables them to succeed in life later. The four pillars of my work are: 1. difficulties due to visual impairment in the initial phase of education, 2. formulating teaching objectives and attitudes, 3. teaching in Hungarian class, and 4. reaching the exit point.

Methodology

The results of quantitative research, backed by empirical data, have supported many research hypotheses across many areas, but often only scratch the surface of the evidence and do not provide opportunities to understand problems, processes, and human behavior. Qualitative research aims to fill this gap. These are methods that use research to gain qualitative insights into phenomena and opinions, and to collect and analyze attitudes, perceptions, and opinions. These studies are based on an exhaustive exploration of the research

area, often using a small, non-representative sample. There are no predefined specific questions, as in survey research; only the central questions remain the same, as one of the main objectives of the essential task. Therefore, the typical qualitative research method is observation, which investigates the motivations that influence learners' cooperation.

Discussion

Difficulties due to Visual Impairment in the Initial Phase of Education

To get a comprehensive picture of the situation of people with visual impairments, we need to address key aspects, including the presentation of visual impairment by level and the physical and psychosocial aspects of the resulting situations that pervade everyday life.

A visual impairment is defined as a person whose visual acuity is between 0 and 33% of normal vision (100%) with both eyes and corrected vision, or whose visual field is significantly reduced (10 to 20 degrees). Based on the degree of residual vision, three groups of visually impaired people are distinguished: a. blind people, who have no residual vision, have a visual acuity of 0, and do not perceive light; b. people with low vision, whose visual acuity is between 0.01 and 0.1%, with a severe degree of eye disease, who need to be able to touch to gain information, people who are sensitive to light, finger-readers, whose visual acuity corrected by glasses is up to 0.1%, c. whose visual acuity is more than 0.1%, but whose field of vision is less than 20%. In this case, the small residual visual acuity, while invaluable for orientation and transport, is less valuable pedagogically.

Some causes of visual impairment are worth mentioning, since people with perfect vision are scarce today. According to current WHO measurements, about 2 billion people worldwide suffer from some kind of eye disease. However, in half of the cases, the visual impairment is due to lack of preventive measures or proper treatment, not to age-related glaucoma, macular degeneration, and others (World Health Organization, n.p., para. 2). In the present work, I focus on the school life of young people with irreversible vision loss, where, in addition to genetic causes, there is also the presence of retinal nerve damage in premature infants (ROP, Retinopathia Praematurorum).

Given the difficulties caused by these health problems, visually impaired pupils are classified as pupils with special educational needs under Article 4, Point 13, of Act CXC of 2011 on National Public Education, under the subheading "pupils with special educational needs." In this case, differentiated pedagogical work is also to be understood as a process encompassing the planning, organization, methodological implementation, and evaluation of learning and teaching, justified by the heterogeneity of pupil groups and the different learning

needs of each pupil. According to Act XXVI of 1998 on the Rights of Persons with Disabilities and Ensuring their Equal Opportunities, public services are accessible on an equal basis if they can be used, with the autonomy appropriate to the condition of the recipient, by all, in particular by people with disabilities, especially those with reduced mobility, visual, hearing, mental, and communication functions (Act XXVI of 1998, Section 4(h)).

The difficulties and obstacles that visually impaired students have to overcome are often invisible to sighted people, and we are talking about physical barriers as well as psychological ones. One such empirical problem is the transition to a new environment after a successful admission, when the environment they have been used to, through enormous effort and patience, is replaced by a completely different one. Consequently, organizing access to the institution (with parental assistance or independently, using public transport), getting to know the building's facilities (e.g., navigating the corridors in the middle of lunch or in the moments before ringing the bell) becomes a significant challenge for these students, raising the stress factor level. Among the social factors that cause psychological distress is the double novelty, where not only is the student unfamiliar with the environment in which they are placed, but they are also a novelty to the fellow students, teachers, special needs teachers, and other staff around them. It is imperative to explain the reasons for this special situation so that it is as alien as possible for as little time as possible. Although a few months of acclimatization may pass, the number of stress factors remains only partially reduced, as it is determined mainly by the classroom atmosphere and the way pupils express themselves (verbalization, grumbling, etc.). The development of relationships is initially unstable, often bipolar, since, after a good start, negative experiences can break the relationship.

The cardinal question is: what is the teacher's responsibility, and should they pay attention to how (or more precisely, overcoming what obstacles) a visually impaired adolescent gets to the classroom on time, what is the state of mind of the adolescent, and what or who motivates them to prepare for class? When we look at the trials and tribulations of everyday school life, it is clear that the boundaries blur for a sighted student and a visually impaired student. Yet the non-sighted face a more difficult situation among the sighted, which a sighted person cannot see or perceive.

Formulating Teaching Objectives and Attitudes

The general teaching objectives are essentially limited to fulfilling requirements to meet basic expectations, such as competence-based knowledge transfer and preparation for successful graduation. Perhaps in the hustle and bustle of everyday life, the desire to get to know the student (especially if the student is an introvert trying to play the role of

an extrovert), the need to be part of the student's inner world to a certain extent from the outside, and the need for the pleasure of working specially and collaboratively are overshadowed. In fact, each of these is a crucial, sometimes difficult, but by no means impossible problem. One of the key elements of these dilemmas is the teacher's attitude, which includes awareness and emotional responses towards the person(s), group(s), subjects, knowledge, etc. It has a significant impact on motivation to learn and can facilitate or hinder the achievement of learning outcomes and the acquisition of various competencies. According to the components of attitudes (cognitive, affective, and behavioral), the cognitive component refers to the individual's knowledge of the subject of the attitude. The affective component refers to the person's feelings about the object of the attitude. In contrast, the behavioral component refers to the behavior—approaching or distancing—that the person exhibits in the presence of the object of the attitude. The characteristics of the teacher's behavior to be maintained are the following: they strive to learn as much as possible about the world of young people, they respect students' differences and rights; they do not consider their professional education as permanent but are ready for continuous renewal in the field of science, methodology, and education. Furthermore, they can cooperate, reciprocate, assert themselves, and communicate helpfully in pedagogical situations; they are open to asking for and accepting professional help to resolve conflicts and problems. It is worthwhile to monitor the implementation of all these among young people who are not visually impaired and to assess the energy required to achieve them.

The problem raises new questions to be answered, if we consider the initial set-up, in our case, in the pedagogical work in a secondary school providing integrated education. Firstly, at the beginning of Year IX, the period of accommodation is characterized by integration, bonding, and the formation of first friendships, so that learning itself is somewhat overshadowed by the varied and changeable environmental influences. For the visually impaired, this stimulating environment presents many challenges, from getting to school to arriving on time for classes in different classrooms. The question is whether the teacher who first enters the classroom is aware of these circumstances? Is it just to deliver and account for the lessons, or should a teacher be mindful of this? The answer to the latter part of the question is a resounding yes, for at least two reasons: one is that the teacher should not feel pity for such a pupil, but should discover in them a personality capable of overcoming many more obstacles in everyday life than an adolescent with normal senses; the other is that we need to understand that what we, as sighted people, would consider to be a lack in the lives of the visually impaired—if it is not a loss of sight—from their perspective it may not be seen as such, for them their world is as complete and whole as ours. We can do this by allowing ourselves to be introduced to a dimension that may

be unknown to us. The realization of this gesture can be quite helpful in interactions as people approach and get to know each other. The Invisible Exhibition can be visited a few times, but the uniqueness and non-repeatability of the lessons can be a source of experience for the sighted, the non-sighted student, and the teacher alike. One way of doing this is the concept of adaptation: who and to whom should one adapt, when, and in what situation? It is shocking to think that a non-sighted person has to cope in a world of sighted people and therefore has to adapt in all possible ways, whereas sighted people have fewer problems in this area. The ideal adaptation of the teacher and fellow students also dwarfs the challenges that people with visual impairments must overcome. This is the context in which sensitization education arises. Still, a more appropriate term is 'expressive education' and its practice in a classroom lesson (e.g., trying out a white cane, learning about Braille, talking to computers and mobile phones, etc.). This approach affects each lesson and promotes student-to-student and teacher-to-student cooperation.

Indeed, positive and negative discrimination is a more complex issue, which shows significant differences in school life. Discrimination means differentiation: harmful discrimination is differentiation against, positive discrimination is differentiation in favor of a person or phenomenon. The ideal situation would be for students not to experience any harmful discrimination, but this is not within the teacher's control, so it is up to the teacher to ensure equality of opportunity in the classroom to the best of their professional knowledge and moral conviction. Visually impaired students, confronted for the first time with the situation of their sighted peers, are emotionally torn between too much help, discouragement, or even apparent indifference. In this situation, the teacher can act as a facilitator, helping the class optimize the problem by finding a compromise. If the teacher uses positive discrimination in favor of the visually impaired (e.g., less homework, better marks for a weaker oral answer, etc.), this can damage his/her relationship with the fellow students. A possible solution would be to adopt a consistent approach and conflict-management skills in the situation if the joint discussion method proves insufficient.

To summarize the topic of teacher goals and attitudes, it is essential to establish an appropriate connection with all students, regardless of their physical condition, as it is in the light of mutual knowledge that productive collaboration can take place.

Teaching in a Hungarian Class

Regarding the practical implementation of the theme, the people and means of teaching—namely, the teacher and various literacy tools—should be mentioned. Special needs teachers are prepared, sensitive, aware, persistent, and humble. Although they are helpers, they

cannot be forced into a servile position. Instead, they serve as partners for students in need. Their visible service often seems like that of an attendant, but they also do a tremendous amount of background work across all subjects, making learning for the visually impaired and teachers' work easier. Parents (if they share a household with their child or live at all) can find common ground with the teacher through frank discussion, informing the teacher of their child's educational goals. Consulting colleagues in micro-meetings can be helpful, allowing experienced colleagues to step out of the 'omnipotent' role and guide younger staff through difficult situations. They support teachers and visually impaired students of all abilities and can moderate situations such as school trips.

Information and communication technology tools can also be highly useful. A Braille keyboard is commonly used by visually impaired children in smaller classes, while in secondary school, portable computers become the preferred method for writing. Applications such as RoboBraille (since 2004), NVDA, and JAWS are widely utilized. TXT files are specifically preferred over Word and PDF because they are editable and easier to navigate. The depth and quantity of knowledge acquisition, as well as the development of the ability to apply knowledge, are achieved through participation in an active learning process involving these selected tools.

Both verbalism and literacy are used in the classroom. In the first case, oral performance proves an appropriate tool for argumentation, questioning, group work, and other activities. The reading program can also be used to read poetry, given the students' excellent memory and divided attention: while reciting what the reading program reads, the program continues to read what the student also hears and remembers, thus ensuring continuity of the reading. The secret to successful implementation is particularly fast speech listening and perception (the student's reproduction is slower, so it is understandable to anyone, but the speed at which the reader works is not). This allows a first-time reading of a poem to be a powerful, expressive performance.

Teacher communication and paraphrasing are essential during the lesson, although sometimes they can be a barrier, for example, naming colors for pupils born blind. An essential element of the lesson is the teacher's demonstration reading of a short work or an excerpt from a larger work of art. This is particularly important for non-sighted students, because the mechanical voice is inexpressive, monotonous, and lacks any source of experience, which is why they still like to listen to works of art read by volunteers or narrated by actors.

Note-taking works well when the teacher reads the text aloud while writing on the board, and students who cannot see write on their laptops. It should be noted that, due to their

very fast typing, they often write down much more information than what is written in the other students' notebooks, but they also sometimes record 80–90% of the teacher's discourse. Unfortunately, the ratio of oral to written expression can often be skewed towards speech, although apart from minor spelling mistakes, mispronunciations, and editorially specific solutions, this method works well.

Difficulties in the classroom may include a lack of independence with some subtasks, different stressors, difficulty accurately verbalizing visual information for sighted people, writing important information on the board without verbalizing it (e.g., homework, announcing a paper), or even drafting a sentence analysis graph. For the latter, the solution is to write out the parts of the sentence without a diagram. Strengths include an outstanding working memory and split attention, which allows the simultaneous activation of several communication channels. Understanding the text is not a problem either, because the task keywords are searched in the text, and the question is answered. There are no obstacles to recording the content of the essay, but rather some new features in the editing: sentences are written on separate lines, and paragraphs are marked with a blank line.

Reaching the Exit Point

The question arises as to whether an individual development plan is necessary to achieve measurable performance based on the student's abilities and potential, which includes the student's personal learning programme and all the development needs, tasks, and activities necessary for the student's progress. If so, should this programmed work plan be compulsory for all teachers, or only for the development teacher? Undoubtedly, for a conscientious teacher with in-depth knowledge in this field, this is not an obstacle, but it will certainly lead to more productive results if they follow the guidance of the special needs teacher. It is, therefore, crucial that there is ongoing, regular communication between the teachers, for example, on the format of files, preparation for an expected lesson, or even on difficulties that arise in the meantime, and how to resolve them.

The formal requirements for taking the high school final exam are less developed and less accessible in practice. The written part is replaced by an oral part (i.e., two items have to be drawn), but if the question paper contains pictures, tables, or matching exercises, the programme cannot interpret them. The teacher's explanations may be described as assistance from the examination board. This is a very delicate issue, because the fate of the pupil who takes the examination depends on the marks obtained. In the best case, young people with visual impairments continue their studies in the social sciences and humanities, or they may choose to study a foreign language or even computer science.

Conclusion

Finally, some thoughts on teacher attitudes and the education of people with visual impairments. In my view, it is an extraordinary and honorable task to set a young person on their path, even if they have been resisting it for years as an adolescent. An essential element of this achievement is a positive teaching attitude, a sense of vocation, determination, resilience, perseverance, and mentoring, that is to say, being present when a desire, a determination is born in the life of a young adult who is in some ways entrusted to us for a short period of time. The question is whether educating the blind and partially sighted is a difficulty or a challenge. If it is a difficulty, then it is a burden, a problem, an extra task, a nuance, a complication, or a disruption. Still, if it is experienced as a helpful challenge, then it is a test of strength, a task to be accomplished, or rather, a task to be completed. At least we have a choice.

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