ADAM MICKIEWICZ UNIVERSITY IN POZNAN

INTERDISCIPLINARY CONTEXTS OF SPECIAL PEDAGOGY

18

Academic Editor
MAGDALENA OLEMPSKA-WYSOCKA

Wydanie specjalne – angielska wersja czasopisma
Interdyscyplinarne Konteksty Pedagogiki Specjalnej nr 18/2017

WYDAWNICTWO NAUKOWE

POZNAŃ 2017

INTERDISCIPLINARY CONTEXTS OF SPECIAL PEDAGOGY
The scientific journal of the Faculty of Educational Studies
Adam Mickiewicz University issued as a quarterly

„Tłumaczenie zawartości 8 numerów czasopisma „Interdyscyplinarne Konteksty Pedagogiki Specjalnej" na język angielski i ich wydanie – zadanie finansowane w ramach umowy 792/P-DUN/2017 ze środków Ministra Nauki i Szkolnictwa Wyższego przeznaczonych na działalność upowszechniającą naukę".

Ministerstwo Nauki i Szkolnictwa Wyższego

ISSN 2300-391X

Contents

Preface

Within the context of current changes in terms of policy, a look on the issues of education and professional approaches to children, youths and adults with sensory disabilities as well as speech and communication impediments turn out to be important. Present provisions of education law in Poland provide disabled pupils with equal access to the general education system, specify the scope of psychological and educational aid, consideration for special education needs, and also indicate persons responsible for their implementation. The present publication is made up of ten articles. In the first article, Marzenna Zaorska describes the educational and professional situation of persons with sensory disabilities. Referring to the provisions of the Convention on the Rights of Persons with Disabilities of the United Nations, indicates many barriers as well as problems experienced by the circles of disabled persons. The article contains opinions from groups of the deaf and the blind concerning the limitations, signs of discrimination, as well as suggestions for the education system as well as concerning work and employment. In the next article, Małgorzata Czerwińska presents the specifics of the information sphere for persons with sight disabilities as a component of their information culture. Focusing on the systematic analysis of documents and long years of participatory observation, the Author presents legal solutions concerning the access of visually-impaired persons to information, the conditions of the orientation

and cognitive sphere of a blind user of information, the issues concerning the provision of information. The musings of the Author conclude with indications of limitations in the access to information by the visually impaired, which provokes on the one hand suggestions of practical solutions, but also on the other hand research proposals concerning multi-aspect analyses of the information culture of the visually impaired in Poland. These issues art in part followed on by the article by Kamila Miler-Zdanowska, the aim of which is the presentation of modes of movement of the visually impaired, with particular focus on the use of modern technologies. The article also includes a classification and description of electronic aids used in spatial orientation and independent movement by the blind. It shows off the advantages and difficulties stemming from the use of such modern devices. It also presents interesting research projects dealing with the design and testing of new technological solutions in Poland. Issues of visual disabilities are also dealt with by Izabella Kucharczyk. The author presents here quite interesting own research, the purpose of which was the determination whether there exist differences spanning school achievements between visually-impaired and well-sighted pupils during adolescence, and whether there exist relations between the self-awareness of emotional states in visually-impaired pupils during adolescence and their school achievements. As the author stresses, the awareness of, understanding of and ability to analyse the experienced emotions is very important in the process of shaping of relations with people, establishing relationships, acquisition of competences useful in adult life. Self-awareness of one's own emotional states permits self-development, improves the feeling of one's own effectiveness and assessment.

Issues of education and upbringing of persons with hearing disabilities are introduced by the article by Magdalena Olempska-Wysocka on the current trends in the choices of forms of education of pupils with auditory disabilities. The objective of the article is the presentation of changes in the education of persons with hearing loss and hearing disabilities that have occurred within the last seven

years. Tendencies in the education of children clearly indicate a departure from special education forms against general and integrated education. These changes constitute however a challenge both for teachers, parents, as well as the pupils with hearing disabilities themselves. The article also stresses the importance of sociocultural and emancipation issues, as well as the idea of bilingual education, which are eagerly advocated by people with hearing disabilities in Poland. A further article, by Magdalena Magierska-Krzysztoń, indicates that strong hearing disabilities emerged in the prenatal period or at birth are disabilities that significantly hinder full and fruitful functioning in a society of people without hearing disabilities. A particular consequence of a deep hearing disability is the lack or noticeable delay in the development of speech and language acquisition. The author had examined 54 children who were deaf from birth who were sequentially provided with bilateral implants. The implantations were done at the Otolaryngology and Laryngeal Oncology Hospital of the Poznań University of Medical Sciences. The obtained results show a steady, dynamic improvement of hearing as well as linguistic and communications abilities in the studied group.

The next article, by Aleksandra Rożek, presents issues of functioning of well-hearing siblings of people with hearing disabilities at different stages of development. The article also indicates factors decisive in terms of building positive relations between the siblings of the listener, and the deaf person. As the author stresses, they may imply the psycho-social functioning of hearing in adult life. Significant is accordingly the question, how to proceed in order for well-hearing siblings to get as much advantages as possible from their family and social situation, and what to do in order to minimise possible losses due to the fact of having siblings with impaired hearing.

The next article, by Renata Marciniak-Firadza, indicates important aspects concerning word-building competences of children with intellectual disabilities. As the author stresses, a description of understanding (acquisition, decoding, interpretation) and creation

(expression, encoding) of word structures by children with minor intellectual disabilities, and the description of how do word and formative structures exist in the language awareness of such children is of paramount importance within the context of development of their language and communications competences; they also permit e. g. responses to questions important for many educators, are intellectually-disabled children able to work with the same school curriculum as the others, gain knowledge from textbooks, participate in tests and competence examinations according to unified rules.

A detailed logopaedic diagnosis of a child with a moderate-level disability as the basis for effective therapy – a case study – constitutes the next article; it stresses the role of speech and language as the factors most strongly influencing one's intellectual and emotional development. Various speech impediments that hinder daily life communication and the satisfaction of basic needs contribute to disturbances in social functioning. The author – Mateusz Szurek – notes how important a detailed logopaedic diagnosis is, as it constitutes the foundation of subsequent therapy. He presents it based on a child with a moderate-level intellectual disability. The last part of the work includes a speech therapy programme.

The study is rounded off by an article by Noah Bar Gosen on model teachers. As the author indicates, over the years, researchers have been searching for the definition of a good teacher, attempting to describe his perfect properties. Through qualitative research, the author was able to discern between five key properties that determine the uniqueness of teachers: a holistic view of the pupil, the identification and satisfaction of the pupils' individual needs, focusing on relations between teachers and teachers, creative teaching, the feeling of the mission and an inspiring personality. As the author stresses, the key to better achievements in terms of education rests at the hands of teachers.

The volume is amended by a report from the scientific symposium „*Current tendencies in the support of the development of children and their families*", which took place at the Faculty of Educational Studies

in Poznań, and a review of the book by M. Bystrzanowska (217), *Selective mutism. A guide for parents, teachers and specialists* (Mutyzm wybiórczy. Poradnik dla rodziców, nauczycieli i specjalistów), „Impuls" publishing house.

Volume editor
Magdalena Olempska-Wysocka

ARTICLES

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

MARZENNA ZAORSKA

University of Warmia and Mazury in Olsztyn
Faculty of Social Sciences, Department of Special Education

The situation of the sensory disabled in the field of education and professional activity in the opinion of representatives of deaf and blind people

ABSTRACT: Marzenna Zaorska, *The situation of the sensory disabled in the field of education and professional activity in the opinion of representatives of deaf and blind people*. Interdisciplinary Contexts of Special Pedagogy, No. 18, Poznań 2017. Pp. 13-28. Adam Mickiewicz University Press. ISSN 2300-391X

The Convention on the Rights of Persons with Disabilities, adopted by the United Nations on December 13, 2006, signed by the Government of Poland on March 20, 2007, and ratified on September 6, 2012, obliges to respect all the provisions contained in this document, including those concerning access to universal education, the labour market and employment. However, from a practical point of view, there are many barriers and problems experienced by different environments of people with disabilities in the enforcement of their rights. Hence, the article includes the opinions of representatives of the deaf and blind people on current restrictions and discrimination, as well as proposals addressed to the education and work and employment spheres of those participating in the debates organized under the project „Convention on the Rights of Persons with Disabilities – a common cause", the main contractor of which is the Polish Forum of People with Disabilities.

KEY WORDS: disability, sensory disability, hearing impairment, visual impairment, education of persons with sensory disabilities, work and employment of deaf and blind people, Convention on the Rights of Persons with Disabilities

Introduction

The development of civilization defines new tasks for contemporary people, which were unknown in the past, new challenges, requirements as to the type and scope of necessary general or specific knowledge, the scope and level of individual and professional competencies preferred by society. In addition, it also refers to the expected skills, performance, attitudes and behaviours in relation to various areas of personal and collective activity. This means that a person living in the first half of the 21st century is faced with difficult choices and questions that require deep self-reflection and the provision of meaningful answers, taking into account his or her own possibilities and their translation into the reality of existing trends of the contemporary world.

The above-mentioned conditions and tendencies apply to all people, those who formally and functionally fulfil the norms of personal and social competences determined by the development of civilization, as well as those who, due to their somatic, psychophysical and psychosocial disability do not meet and cannot meet those standards. These include human environments that experience the consequences of disabilities, those that have been traditionally present in human development throughout the ages, as well as new disabilities, which appeared as a result of human development.

Similar problems, although more generalised as to their scale, possible strategies, directions and the extent of dealing with current civilization challenges, are experienced by specific societies, states and global populations in general. Hence, given the tasks, goals and historical mission of special education as a discipline of knowledge focused on disability, the need for discourse on the possibility of embracing the new realities in all spheres of human life and the extent, essence, changing personal and social roles attributed to people from a historical or socio-developmental point of view.

Preparing people for self-fulfilment, self-realization, gaining and acquiring satisfaction from their own existence, being valuable and meaningful for the general public, includes activities implemented

in the field of education and socio-occupational activation. That is why not only normative issues, which regulate the generally understood human rights, but also specific solutions for the adaptation of social systems to people's needs and the required standards of their functioning, are so important. In the case of persons with disabilities, this includes opening the education system for students with disabilities and, in the longer term, their way of life, equal access to work, equality of opportunity, taking into account all possible solutions that allow for equal opportunities.

The current provisions of the educational law in Poland provide for equal access for students with disabilities to the public school system, define the scope of necessary adaptations and the entities responsible for their implementation. The same refers to the area of occupational activation. The State Fund for the Rehabilitation of the Disabled (PFRON), appointed under the Act of 27 August 1997 on vocational and social rehabilitation and employment of people with disabilities (Journal of Laws 1997, No. 123, item 776), which is a special purpose fund performing tasks in the area of professional and social activation of disabled persons, with a noticeable focus on occupational rehabilitation, performs, and in any case should perform, the task of introducing disabled persons to the expectations of the present day, creating equal, as in comparison with non-disabled persons, opportunities for personal and socio-professional self-realization. PFRON's financial resources are derived mainly from compulsory monthly contributions from employers who employ at least 25 full-time employees, assuming that the employment rate of people with disabilities is less than 6%. In the case of state and non-state schools, teacher education establishments and care and education centres and rehabilitation centres, the required rate is 2%. Employers with a disability employment rate of at least 6% are exempted from PFRON contributions. Non-profit entities, which conduct activities exclusively in the field of social rehabilitation, medical care or education for persons with disabilities or care for persons with disabilities, are also exempted from the contributions. Another group are employers who are in liquidation or bankruptcy. This

means that the PFRON funds are paid by smaller entities, which do not really have an influence on their spending, in favour of larger entities, from payments made by smaller beneficiaries who decide about their spending.

Internationally, the rights of persons with disabilities are governed by the provisions of the Convention on the Rights of Persons with Disabilities, adopted by the United Nations (UN) on 13 December 2006. The Polish Government signed the Convention on 20 March 2007, whereas the ratification of the Convention by Poland took place on 6 September 2012.

On the basis of the above reflections, a question arises concerning the real situation of people with disabilities in the field of education and the situation on the labour market, in the perception and opinion of the persons concerned and people directly affected by the problem of disability due to family, private and professional relationships. Before referring to those opinions, reference should be made to the content of the said Convention and to specific articles regulating the activities of states and their governments in the aspect of education and labour market access for persons with disabilities.

Provisions of the Convention on the Rights of Persons with Disabilities in the Perspective of Education and Labour Market Access

The issue of education is regulated by Art. 24, whereas the issue of work and employment of persons with disabilities by Art. 27. Article 24, concerning education, obliges the states, which decided to ratify the Convention, not only to recognize the rights of persons with disabilities to equal opportunity education without discrimination, but also to integration, with the preference of the inclusion system, on all levels of education in the country concerned, including continuing education. The direction of educational activities should take into account the desire to develop the potential of

people with disabilities, their personality, talents, creativity, intellectual and physical abilities to the extent of their capability, their sense of dignity, self-esteem, respect for fundamental human rights, fundamental freedoms, the diversity of human nature, effective inclusion in social life.

These tasks oblige to the non-exclusion of people with disabilities from all existing levels of the national, universal education system, free education system, as long as legal solutions in a given country provide for such possibility, introduce solutions for individualization, the required educational and social support relevant to the needs of disabled learners. They also oblige to specific actions that take into account the difficulties or constraints experienced by disabled learners in the form of, for example, facilitating the learning of the Braille alphabet, alternative writing, supporting and alternative ways, means and forms of communication (e.g. sign language, other methods to facilitate communication end education of the deaf or deafblind), orientation, mobility, peer support, counselling. The measure supporting the said objectives is to employ specialists, train teachers who are already working in the field of disability to improve their skills and the skills to support the professional development of students with disabilities.

Art. 27, concerning work and employment, obliges states and governments which have signed the Convention to recognize the rights of persons with disabilities to work on the same basis as non-disabled people, the right to earn a living within a personally chosen form of employment in an open, inclusive and accessible work environment, to secure and promote the implementation of the right to work in the case of people who acquire disabilities during their existing employment. In view of the above, any discrimination due to disability, concerning the broadly defined issue of employment and work (recruitment, employment, continuation of work, promotion in the workplace, working conditions) is prohibited. Persons with disabilities should, just like non-disabled people, be legally protected at work, treated fairly with regard to their positions, working conditions, remuneration for the work performed, protect-

ed from abuse. In addition, they have the right to adequate remedies for possible abuse related to mobbing, the exercise of labour rights, listen to the opinion of trade unions (s) created by disabled people. People with disabilities also have the right to counselling and professional guidance, training, employment services, lifelong learning. Based on the above assumptions, the states and governments of the states are obliged to assist people with disabilities in seeking, obtaining, maintaining employment, returning to employment, and professional development. In addition, they are obliged to promote self-employment, entrepreneurship, employment in the public and private sectors, on the open labour market, vocational rehabilitation programs, implement rational improvements in the workplace. One of the possible ways of implementing the described laws is to protect the disabled from slave labour, forced labour or compulsory labour. Thus, the provisions of the Convention on the Rights of Persons with Disabilities cover the issues of equal rights and the rights of people with disabilities in the field of education and work and employment.

The above issue raises another question related to the opinions of the people concerned on the subject and persons affected due to family or occupational relations and other types of interaction with the analysed environment. The opinions will be presented on the basis of voices of people with sensory disabilities (deaf, blind) and persons who work with them, who participated in the so-called program debates carried out under the project „The Implementation of the Convention on the Rights of Persons with Disabilities – A Common Case" (project duration: 2015-2018) in the status of program adviser, in 2016. This project is implemented by the Polish Forum of People with Disabilities, together with four partners: the Warmia and Mazury Sejmik of the Disabled, the Lublin Forum of Organizations for the Disabled – Provincial Parliament, the Academy of Special Education and the Law Firm Domański Zakrzewski Palinka sp. k. The mission of the project is to involve Poland in the international movement of changes beneficiary to persons with disabilities, which are the result of ratification of the Convention. The

debates, constituting the background and sources of the analyses, covered a total of 68 people, including 14 people who participated in the debate concerning the problems of deaf people using sign language (the debate took place in Warsaw) and 54 people who participated in the debate on the problems of blind people (organized in Olsztyn and Poznań). The debates were recorded. A specialized company prepared the transcripts from the debates, and on their basis the so-called substantive expert prepared reports on specific debates.

The situation of the sensory disabled in the field of education and professional activity in the opinion of representatives of deaf and blind people

The first area of analysis is the area of education in the perception of deaf people using only sign language. These people pointed, among other things, to the following problems:

1. Discrimination: a low status of sign language as a means of communication, stigmatising deaf people as worse, less valuable, with lower capabilities and efficiency, including intellectual abilities, the stigma of the only possible level of education which closes at the level of vocational school, segregation of the education system in the existing forms of general education (integration, inclusion), lack of understanding of the need to support a hearing impaired learner with a sign language interpreter, isolation and lack of integration with the hearing community (the hearing impaired are left to themselves), lack or limited and incompetent educational support, lack, even among the deaf themselves, of the awareness of the role of the Polish sign language (PJM) in the education of deaf students.

An example statement of the participant of the debate: *Lack of awareness about education in PJM. Teaching in Polish is like teaching a person with hearing in Chinese or Hungarian. So let's talk about the education of deaf people in sign language. Because if you speak using the grammar of the Polish language, it is not available to deaf people who*

have not yet learned Polish sign language. This is not education. We teach the unknown through the unknown.

2. Factors that cause discrimination: lack of public awareness about the needs and specificities of the functioning of deaf people, lack of adequate funding for deaf education as compared to the actual needs, prejudices of people with hearing against deaf persons, lack of access to sign language education, treating deaf people as worse, stupid, failure to acknowledge sign language, the Polish Sign Language, as a real sign language, as a foreign language, leaving the decision whether or not sign language will be implemented in a given school to the school principal (the principal may allocate hours for such classes, provided that he/she has relevant means).

A statement of the participant of the debate: *Treating deaf people as worse, stupid. If a person is deaf, he/she is stupid. And all other people are smarter.*

3. Expectations on measures to improve the situation of people with disabilities: strengthening, intensifying the introduction of pro-integrative solutions to develop closer relations between people with hearing and deaf people, greater support for sign language, support for rehabilitation equipment, introduction of the obligation to learn sign language in schools for people with hearing, increasing the awareness of the hearing environment about deaf persons, more competent preparation of teachers to work with deaf students, professionalization of the profession of a sign language interpreter (e.g. by introducing higher education in the field).

A statement of the participant of the debate: *Poland needs to do something about the profession of interpreters of sign language. For example, the Netherlands and Belgium have special education programs for interpreters. The Netherlands has approx. 700 sign language interpreters, with diplomas. This was due to hard work and continuous struggle with the government to launch a special field of study or special courses that educate professional sign language interpreters. They must have a diploma.*

4. Suggestions, propositions and recommendations on how to improve the situation (fuller implementation of rights) in a given

area: greater support for sign language education programs, greater support for access to rehabilitation equipment, obligation to learn sign language in schools for people with hearing, increasing the awareness of people with hearing about deaf persons, obligatory training of all teachers on the issues concerning the deaf.

Blind people signalled the following issues:

1. Discrimination: lack of access to specialists (psychologists, educators, typhlo-pedagogists – educators working with the blind or visually impaired), barriers to employing such specialists (essentially financial barriers), lack of an individualized approach to planning the education pathway for children and youth with visual impairment, insufficient conditions of education at all levels of education (lack of adjustment to the needs and possibilities, e.g. architectural, urban, lack of facilities), lack of parental guidance and help in deciding on the most appropriate form of child education, limited access to an integrated education system on all levels, especially in small towns and in the countryside, limited access and unsuitable methods of language learning, methods of education in inclusive and public schools which do not take into account the specificities of visual disability, low educational subsidy, the difficulty of transferring educational subsidies from one province to another, full transfer of responsibility for education to local authorities, inappropriate adjustment of extra-curricular activities proposed by the school to the students (classes organized according to the so-called key, pro forma, i.e. classes the school is able to implement, not the ones that are really needed by the child).

A statement by a participant of the debate*: The financing of children's education is problematic. There is something called an educational subsidy. The educational subsidy is higher in the case of children with disabilities. Of course, the amount depends on the type of disability. The problem is the flow of funds. The educational subsidy goes to the municipal budget and is then transferred to the schools. The question is why is not passed directly to the school where the disabled child learns? Moreover, the flow of money itself is very complicated and unclear. Another situation is when children from one province are educated at a school in another*

province. This situation becomes even more problematic. The money goes to one province. Then it is transferred to another province. And I think this matter should be discussed in some way and arranged for the benefit of children with disabilities.

2. Factors that cause discrimination: lack of specialized and comprehensive support for families with a child with visual impairment, lack of assistants supporting children in the education system, lack of teachers-specialists in public education and the current limitations in integration education, lack of adaptation of educational facilities to the needs of such students and the required teaching aids, lack of adaptation of curriculum content and teaching methodology of particular subjects, hidden, informal, in spite of equality, limitations in the access to different levels of education, spending education subsidies for children with disabilities on other needs, also related to the maintenance of the facility.

A statement by a participant of the debate: *Parents of children with disabilities have no support in schools. There are no assistant teachers supporting disabled children.*

A statement by a participant of the debate: *There are funds for the education of children with visual disability, but often schools use these resources to buy something else, such as coal for the school. Parents are complaining.*

3. Expectations concerning the measures to improve the situation of people with disabilities: informing parents about the opportunities for child development, educational opportunities and the most appropriate system of child education, introduction of blind children's assistants, adaptation of school work organization, methods, methodology, curriculum content to the needs and abilities of students with visual impairments, equipping schools in modern teaching aids, employment of specialists, training of teachers in the field of the specifics of visual impairment, employing more assistant teachers in all institutions in which children with a given type of disability are educated, introducing the educational path of the child and his/her educational tasks into the broader perspective of personal and social life in adulthood.

A statement by a participant of the debate: *Children grow and they do not know how to live. This is the problem. They may not be able to cope in the future in dealing with various important matters*

4. Suggestions, propositions and recommendations on how to improve the situation (fuller implementation of rights) in a given area: improving or even reforming existing diagnostic and decision procedures (including procedures concerning the decisions for the need of special education), education on the rights of parents and children, introduction of systemic, lifelong support for people with visual impairment, real adaptation of public education and integration education to the needs and abilities of visually impaired students (e.g. in the field of language learning through the use of good practices), introduction of opportunities offered by modern technology (e.g. place of work, individually adjusted lighting, possibility of using electronic notes), elimination of architectural, urbanization barriers, preparing captions in Braille for facilities, actual observance of the rights of persons with disabilities included in the Convention.

Another area of analysis is the area of work and employment of people with disabilities (Art. 27 of the Convention on the Rights of Persons with Disabilities). Deaf participants of the reported debates pointed to the following difficulties in this field of human activity:

1. Discrimination: lack of access to work and promotion at work, lower wages, incomprehensible regulations concerning recruitment and employment (e.g. health and safety regulations), problems with preparing a CV, stereotypes in perceiving the deaf person's potential as a candidate for an employee and possible employee, communication difficulties, low educational attainment of deaf people, lack of sign language interpreters in the workplace and limited access to professional, competent career counselling, work assistants, inadequate spending of funds on creating work positions and employment of deaf people or spending funds on matters not related to the needs of the deaf people (for example, there are funds to buy laptops, hearing aids, intercoms, and not for other needs), lack of in-

formation about employment opportunities for deaf people and their rights.

A statement by a participant of the debate: *The problem is the CV of the deaf person, as compared to the CV of a person with hearing. We know that here we don't have a chance. The employer will choose a person with hearing because of easier communication. In this respect we are discriminated, as people with hearing don't even want to write text messages to us.*

2. Factors that cause discrimination: lack of knowledge about deaf culture, stereotypes, fears and avoiding interaction with a given environment, avoiding such contacts, difficulties in communication, lack of interpreters and the command of Polish by deaf persons, transferring to the employers the obligation to provide a sign language interpreter (PFRON does not pay for this full time, a deaf person may apply to PFRON for reimbursement of the funds spent on translation, but only for 20% of the amount spent), the Act on Sign Language includes a provision concerning an assistant supporting communication, but not a sign language interpreter, poor sign language skills among interpreters themselves due to the lack of specialization in translation, discrimination in work due to disability, inadequate legal regulations.

A statement by a participant of the debate: *PFRON gives one thousand one hundred and twenty five zlotys for a disabled person, a deaf person, with a moderate degree of disability. And what is the situation? What is the purpose of this playout? If the employer employs a person with a disability, generally disabled, this sum, one thousand one hundred and twenty five zlotys, is to compensate for his loss incurred by employing any other person. For example, to screw in the screws, that kind of work. But I have no manual skills and perform such work very slowly. The employer gets a refund of one thousand twenty five zlotys. And if the deaf person quickly performs piecework then he gets less and the employer benefits. Deaf people usually do basic work. They have no chance of promotion, personal development. Even if they are qualified to perform the job. Very often the deaf have better qualifications than people with hearing. They are educated. And those with hearing are not. But they always have priority in choosing the job, getting a job and promotion.*

A statement by a participant of the debate: *Lack of knowledge of deaf culture. A lot of people live and think according to stereotypes, they are afraid of the deaf. And often avoid them. So people with hearing do not want to get to know the deaf and their culture. They just prefer to avoid them. They feel safer that way.*

3. Expectations concerning the measures to improve the situation of people with disabilities: adaptation of the style, the language of the law to the deaf person's abilities, greater availability of translation specialists and competent sign language interpreters, opening of the labour market and of employers to hearing impaired persons, change of attitudes and stereotypes; reform of education and counselling with regard to the specificities of the deaf, education of society and employers on hearing impairment.

A statement by a participant of the debate: *The deaf, just like people with hearing, have a need to explain the rules to them using a simple language. Because, as we know, legal vocabulary is very complicated. Deaf people should also be activated to try to access the interpreter. If they do not have access to an interpreter, they still won't have access to information. It's a vicious circle. If a deaf person received a decision on disability before 2003, they have a disability pension. Nowadays, young people sometimes have pension, but usually not. Is it profitable for the state budget if the deaf sit at home for seven hundred or eight hundred zlotys? Or if they go to work and pay taxes? Well, which option is more profitable? Thanks to work, also the work of deaf people, the economic growth could be bigger.*

A statement by a participant of the debate: *A long time ago in the Netherlands, when the deaf worked as carpenters, locksmiths or mechanics, there was no work for these people. At that time the government paid them benefits. The deaf thought that they didn't need to work, because they had money. So they got money. Then the government announced it was enough and they should go to work. It was a very positive step when they told deaf people to go to work, started motivating them to work.*

4. Suggestions, propositions and recommendations on how to improve the situation (fuller implementation of rights) in a given area: combating stereotypes, development and improvement work-

shops for interpreters, training of interpreters at academic level, special workshops for employees with disabilities, for employers on the specificities of hearing disability, introduction of systematic support at various stages of life, different spheres of activity and the social roles that people perform.

A statement by a participant of the debate: *In many European countries people with hearing and deaf people work on the same level. They live on the same level. The Netherlands, Finland, Norway, Sweden, all Scandinavia are well developed countries. We know it is time for change also in other countries. Previously, deaf people did basic work. They were carpenters, locksmiths, bookbinders. But thanks to education they work in services, they can be business owners. They can influence the development of society.*

The opinions of blind people concerning work and employment in relation to the provisions of Art. 27 of the Convention on the Rights of Persons with Disabilities:

1. Discrimination: reluctance of employers to employ people with visual impairment, stereotypes in thinking about the abilities of such persons, discriminatory, when implemented directly, employment regulations, complex legislation language, bureaucratization of the labour sector, low competences of the officials, deficiencies in the preparation for work at the level of education, lack of counselling, professional pre-orientation, difficulties in interpersonal relations with employers and non-disabled colleagues, employment inadequate to the competencies held, generally in positions requiring physical work, change of the retirement age – earlier retirement, difficulties in commuting to work and limited access to guides, difficulties in professional promotion, architectural, urban planning barriers, lack of adjustment of the work position to the possibilities.

A statement by a participant of the debate: *The employers are unaware of the possibilities of blind people. As long as there is an employer market, the employer always has a choice, and he will rather employ a non-disabled person than a disabled person. The provisions concerning subsidies for a particular work position are unclear for many employers. And employers are simply afraid of bureaucracy, unclear regulations and therefore often do not employ disabled people.*

2. Factors that cause discrimination: the situation on the labour market, the attitudes of employers and non-disabled employees, bureaucracy, the lack of adaptation of legal regulations to the needs concerning the employment of blind people, the presence of hidden barriers, i.e. postulates concerning equality and problems with their realization in the social reality, the family situation of many people with visual disability impedes their active and effective work, low wages, limited access to information on recruitment, career and work-related counselling, limited requalification opportunities, insufficient job search assistance, the feeling of discrimination among disabled people, continuous changes in the laws.

3. Expectations for improving the situation of people with disabilities: creating opportunities to improve professional qualifications, providing more access to guides, job assistants, higher subsidies for employers employing disabled people, reducing working time to 7 hours a day, addressing the problem of access to information on recruitment opportunities, training, requalification, removal of architectural and urban barriers, adaptation of the workplace to the capabilities of the disabled, greater access to career counselling, specialized training concerning job search and behaviour at work.

4. Suggestions, propositions and recommendations on how to improve the situation (fuller implementation of rights) in a given area: creating a system for educating guides, assistants for the visually impaired, changing the legal provisions to increase the focus on hiring people with disabilities, reforming regulations on self-employment, monitoring the labour market and the needs of the labour market, including the employment of people with disabilities, the education of employers and non-disabled employees on visual disability, the use of modern media, modern methods of communication and modern technologies to provide information on job opportunities, creation of separate special-purpose funds, independent of government funds (as is the case in other western countries) targeted at the employment and work of people with disabilities (e.g. additional funding for adapting the workplace), combating stereotypes, creating a system of rehabilitation and psychological assistance for the unemployed and the working population.

Summary

In summary, there is generally one main conclusion: that in many areas of human life, legal regulations, even universal in nature (such as those included in the Convention on the Rights of Persons with Disabilities), do exist (i.e. they are physically there, because that is how it should be), whereas in real life, their actual implementation and declarative status is going a different way than that postulated. The realization of the rights of people with disabilities, depending on the dimension, encounters specific difficulties, limitations, sometimes is not even possible, and is related to the capabilities of a particular country or particular social environment. In the case of persons with sensory disability, there exist specific problems with the enforcement of both the right to education within the general education system, as well as the rights concerning work and employment. The signalled problems can be solved by listening to the opinions of the interested parties themselves, concerning the experienced barriers, their causes, and suggestions for modifying, reconstructing or building strategic, system and organizational solutions based on the rationalization of their needs. and current social opportunities (including financial possibilities).

References

United Nations Convention on the Rights of Persons with Disabilities, UN, New York 2006.

United Nations Convention on the Rights of Persons with Disabilities, Journal of Laws of 25 October 2012, item 1169.

Methodological report on the preparation of the Synthesis Report under the project „Implementation of the Convention on the Rights of Persons with Disabilities – a Common Cause", PFON, 2016.

Act of 27 August 1997 on occupational and social rehabilitation and employment of disabled persons, Journal of Laws 1997, No. 123, item 776.

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

MAŁGORZATA CZERWIŃSKA
University of Zielona Gora

Information culture of persons with visual disabilities in typhlology and information science reflections

ABSTRACT: Małgorzata Czerwińska, *Information culture of persons with visual disabilities in typhlology and information science reflections*. Interdisciplinary Contexts of Special Pedagogy, No. 18, Poznań 2017. Pp. 29-52 Adam Mickiewicz University Press. ISSN 2300-391X

The subject of this paper is the specificity of the information space of persons with visual disabilities as a component of their information culture, according to the concept proposed by M. Kisilowska.

Based on systematic analysis of documents and long years of participative observations, the deliberations focus on legal solutions governing the access of persons with visual disabilities to information, the navigation and cognition spheres of a blind information user and the specificity of providing information, in particular the Braille system, tactile graphics, audio description, alternative materials and augmentative technologies. The deliberations highlight obstacles in accessing information by persons with visual disabilities and suggest both practical solutions and research proposals for a complex analysis of the information culture of persons with visual disabilities in Poland.

KEY WORDS: information culture, person with visual disabilities, Braille system, tactile graphics, audio description, alternative materials, augmentative technologies

Foreword

An information society is characterised by advanced information and communication technologies that enable widespread use of information in production and service industries. It is assumed that an information society grants to its members access and possibilities to use information and communication technologies in order to broaden and update knowledge, work, enjoy culture, care for the health, entertain and use other services that affect the quality of life.[1]. One characteristic feature of this society is the cult of scientific knowledge and information and audiovisual culture, and common access to information and communication technologies and cyberspace. Unfortunately, the information society generates digitally excluded groups.

To quote D. Batorski, "*digital exclusion (e-exclusion) are the differences between those who have regular access to digital and information technologies and can actively use them, and those who do not have such access and abilities*"[2].

Digital exclusion is the cause and consequence of social exclusion understood as: "*a situation that prevents or significantly hinders an individual or group from performing their legal roles in accordance with the law, enjoying public goods and social infrastructure, collecting resources and earning income with dignity*"[3].

Among the socially and digitally excluded groups are, among others, persons with disabilities.

Even though new technologies generate and strengthen social inequalities for those persons, they may also serve to reduce those inequalities. In the case of persons with visual disabilities, they evi-

---

[1] Główny Urząd Statystyczny, Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2004-2006, Warszawa 2008, p. 7.

[2] D. Batorski, *Wykluczenie cyfrowe w Polsce,* „Studia Biura Analiz Sejmowych Kancelarii Sejmu" 2009, No. 3(19), p. 225-226.

[3] Ministerstwo Polityki Społecznej, Zespół Zadaniowy ds. Reintegracji Społecznej, *Narodowa Strategia Integracji Społecznej dla Polski,* Warszawa 2004, http://www.mpips.gov.pl/userfiles/File/mps/NSIS.pdf, p. 23 [accessed on: 15.11.2016].

dently broaden their access to information by "qualitatively" transforming their reading deficiency caused by sensory dysfunction. They introduce them to the information culture, understood, after M. Kisilowska, as: *"a way of conscious and active functioning of a person in the information space and the consequences thereof"*[4].

The crucial aspects of the development of information culture are: personal information competencies as the necessary condition for its development and the information environment as the space where said competencies are necessary to function.

Information competencies to a large extent determine a person's (also that with disabilities) position in the stratification of the information society: the proletariat, the cogitariat or the digitariat class[5].

In which of the above classes are positioned persons with visual disabilities? What is their information awareness and activity? What are the characteristics of information competencies? These questions inspire extensive information and typhlology research, which this paper forecasts, being only a short reflection on the specificity of information space of persons with visual disabilities.

The concept of "information space" means a "multidimensional, dynamic, open collection of content (data and information), media and users"[6] consisting of tangible information artefacts (media, devices) and intangible artefacts (language, behaviour – behavioural artefacts).

Based on an analysis of documents and participative observations, the deliberations focus on legal solutions governing the access of persons with visual disabilities to information, the conditions of navigation and cognition by a blind information user and the specificity of providing information, in particular the Braille system, tactile graphics, audio description, alternative materials and supporting technologies.

---

[4] M. Kisilowska, *Kultura informacji, W*ydaw. SBP, Warszawa 2016, p. 42.

[5] R. Tadeusiewicz, *Społeczność Internetu,* Akademicka Oficyna Wydawnicza „Exit", Warszawa 2002, p. 285.

[6] M. Kisilowska, *Kultura informacji*, Wydaw. SBP, Warszawa 2016.

Legal regulations governing access to information and their execution

The access to information of persons with disabilities (including visual disabilities) is governed by numerous international and national legal regulations. Among the international regulations the most noteworthy is the United Nations Convention on the Rights of Persons with Disabilities adopted in 2006 and ratified in Poland in 2012.

Article 9 of the Convention obliges States Parties to take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, among other things by: providing in buildings and other facilities open to the public signage in Braille and in easy to read and understand forms, ensuring live assistance and intermediaries, including guides and readers, promoting access to new information and communications technologies and systems, including the Internet.

Article 21, covering the freedom of expression and opinion, and access to information, recommends, among other things, to: provide information intended for the general public to persons with disabilities in accessible formats and technologies appropriate to different kinds of disabilities in a timely manner and without additional cost; accept and facilitate the use of sign languages, Braille, augmentative and alternative communication, and all other accessible means, modes and formats of communication of their choice by persons with disabilities in official interactions; urge private entities that provide services to the general public, including through the Internet, to provide information and services in accessible and usable formats for persons with disabilities; encourage the mass media, including providers of information through the Internet, to make their services accessible to persons with disabilities.

Article 24 on the right to inclusive education, recommends, among other things to: facilitate the learning of Braille, alternative script, augmentative and alternative modes, means and formats of communication.

Article 30 speaks of participation in cultural life, enabled, among other things by: access to cultural materials in accessible formats; access to television programmes, films, theatre and other cultural activities, in accessible formats; ensuring that laws protecting intellectual property rights do not constitute an unreasonable or discriminatory barrier to access by persons with disabilities to cultural materials[7].

A chance for ensuring broad access to books, newspapers and magazines is the Marrakesh Treaty to Facilitate Access to Published Works for Persons Who Are Blind, Visually Impaired or Otherwise Print Disabled developed by the World Intellectual Property Organization (UN agency), published in 2013 and signed by Poland in 2014. Its goal is to establish an international standard of use by persons with disabilities of published works that are available in print and are protected by law (permission to issue and distribute publications in an alternative format)[8].

The validity of the Treaty was confirmed by the provisions of the Resolution increasing the access of blind and visually impaired persons to printed publications, issued by the European Parliament Committee on Constitutional Affairs in 2017.[9].

The access of persons with disabilities to the Internet has been addressed since 1994 by the WORLD VIDE WEB CONSORTIUM – W3C – an association of more than four hundred organisations, companies, government agencies and universities from all over the

---

[7] Konwencja Praw Osób Niepełnosprawnych, http://www.unic.un.org.pl/dokumenty/Konwencja_Praw_Osob_Niepelnosprawnych.pdf [accessed on: 14.12.2016].

[8] Traktat z Marrakeszu, http://www.prawoautorskie.gov.pl/.../Traktat_z_Marrakeszu_-_polska_wersja_jezykowa_finalna.pdf [dostęp: 05.05.2017].

[9] Rezolucja Komisji ds. konstytucyjnych (AFCO) Parlamentu Europejskiego, http://www.infor.pl/.../754032,Lepszy-dostep-do-ksiazek-i-prasy-dla-niewidomych-i-slabowidzacych.html [05.05.2017].

world. The Standards developed by the Consortium have become the basis for legal regulations in many countries, including Poland. In 2008, the Web Accessibility Initiative (WAI) developed the international standard WCAG 2.0 (Web Content Accessibility Guidelines), together with supporting documents: Understanding WCAG, Techniques for WCAG, which remain in force to date.[10].

In Poland, the process of standardising the accessibility of websites started in 2010 with the Act on the Digitisation of the Activity of Institutions Implementing Public Tasks. It provides for the obligation to determine the method of making content accessible to citizens with disabilities[11].

Relevant provisions are also included in the Regulation of the Council of Ministers of 12 April 2012 of the National Interoperability Framework, Minimum Requirements for Public Registers and Exchange of Electronic Information and Minimum Requirements for Information and Communication Systems[12]. The Regulation obliges all public institutions and institutions implementing public activities to guarantee by the end of 2015 accessibility of its websites on the AA level according to WCAG 2.0 Guidelines.

Alternative reports of NOGs[13], monitoring and audits of the member organisations of the Forum of Accessible Space (e.g. the

---

[10] M. Gajda, WCAG 2.0 w skrócie – 25 najważniejszych zasad, http://dostepne strony.pl/artykul/753 [dostęp: 21.11.2016]; A. Marcinkowski, P. Marcinkowski, WCAG 2.0. Podręcznik dobrych praktyk, http://widzialni.org/wcag-20-podrecznik-dobrych-praktyk,m,mg,5,51 [accessed on: 01.12.2015].

[11] Ustawa o informatyzacji działalności podmiotów realizujących zadania publiczne, http://www.isap.sejm.gov.pl/Download?id=WDU20050640565&type=3 [accessed on: 05.05.2017].

[12] Rozporządzenie Rady Ministrów z dnia 12 kwietnia 2012 r. w sprawie Krajowych Ram Interoperacyjności, minimalnych wymagań dla rejestrów publicznych i wymiany informacji w postaci elektronicznej oraz minimalnych wymagań dla systemów teleinformatycznych, http://www.isap.sejm.gov.pl/DetailsServlet?id=WDU20120000526 [accessed on: 05.05.2017].

[13] *Dostępność witryn internetowych instytucji publicznych dla osób niepełnosprawnych. Ocena zgodności z międzynarodowym standardem WCAG 2.0 oraz polskimi regulacjami prawnymi,* ed. M. Dziwisz, P. Witek, Kraków 2013; D. Paszkiewicz, J. Dębski,

"Widzialni" Foundation) as well as the author's experience suggest that the above regulations are little known to those who commission or create websites.

Thus, the information space of persons with visual disabilities in Poland is characterised by: non-compliance with the WCAG 2.0 standards in website creation, dominance of printed documents (flat print), low number of TV broadcasts and films with audio description, general schools poorly supplied with technologies supporting the education of students with visual disabilities, not enough school books adapted to the perceptive possibilities of students with visual disabilities, general school teachers not trained to work with students with visual disabilities using alternative publications and augmentative technologies, limited use of new technologies (e.g. tactile graphics, audio description) in culture, non-compliance of publishers with the recommendations concerning accessibility of publications in alternative formats.

Cognitive reception of information by persons with visual disabilities

The perception and reception of information by persons with visual disabilities is determined by information overload (infobesity), the cognitive behaviour processes of an information person[14] and the specificity of the navigation and cognition of a blind person.

Dostępność serwisów internetowych. Dobre praktyki w projektowaniu serwisów internetowych dostępnych dla osób z różnymi rodzajami niepełnosprawności, Warszawa 2013; *Wykorzystanie technologii informacyjno-komunikacyjnych w aktywizacji osób niepełnosprawnych*, ed. B. Mioduszewski, Fundacja „Aktywizacja", Warszawa 2013; *Społeczny Raport Alternatywny z realizacji Konwencji o prawach osób z niepełnosprawnościami w Polsce*, ed. J. Zadrożny, Fundacja KSK, Warszawa 2015.

[14] W. Babik, *O natłoku informacji i związanym z nim przeciążeniu informacyjnym,* http://www.ktime.up.krakow.pl/ref2010/babik.pdf [accessed on: 31.04.2015]; Z. Melosik, *Mass media, tożsamość i rekonstrukcje kultury współczesnej*, [in:] Media – Edukacja – Kultura, ed. W. Skrzydlewski, S. Dylak, Polskie Towarzystwo Technologii i Me-

The cognitive processes in those persons are characterised by: multisensory perception covering a number of senses: touch, hearing, smell, taste; cognitive compensation on the sensory and perceptive levels – explained by the theory of the development of structural dynamic systems within the 1st and 2nd signal systems[15]; touch and multisensory cognitive schemes; surrogate imaging; and cognitive and compensatory role of the language (speech).[16].

The basic "information channels" are the senses of touch and hearing.

However, it should be noted that touching is not so good as seeing at perceiving constant lines, as it is a sense of broken sensations. The touch perception of a surface is more difficult than of raised points. The scope of attention is limited: the number of straight elements perceived in a single perceptive act is limited to six. It is easier to perceive orderly than chaotic sensations. The touch perceives sensations: toughness, softness, smoothness, roughness. It helps recognise the size and shape (inaccurately). It is a sequential sense (of subsequent sensations). It is a sense of contact (short range), detective and sensed through the skin (the same as temperature and pain). It may be passive or active (a sense of touch and movement), which makes it possible to perceive the characteristics of an object: roughness or smoothness and elementary spatial parameters (length, width, height, direction) as well as the size and shape.

The touch has a defensive reaction to an "overdose" of tactile stimuli[17].

The sense of hearing is equally important for cognition: it helps locate a sound, stimulates the development of speech, is the source

---

diów Edukacyjnych, Rzeszów-Poznań 2012, s. 32-49; I. Rotberg, *W morzu informacji*, http://www.psychologia-spoleczna.pl/porady/1506-w-morzu-informacji.html [accessed on: 01.15.2015].

[15] M. Grzegorzewska, *Wybór pism*, PWN, Warszawa 1964.

[16] T. Majewski, *Tyflopsychologia rozwojowa: Psychologia dzieci niewidomych i słabo widzących,* PZN, Warszawa 2002; M. Czerwińska, *Niewidomy, [in:] Encyklopedia pedagogiczna XXI wieku,* vol. 3: M-O, ed. T. Pilch, Wydaw. Akademickie „Żak", Warszawa 2004, p. 685-693.

[17] Ibid.

of verbal information (instructions) and provides information on the mood, character, personality and physical appearance of other persons[18]. It enables aesthetic experiences.

These cognitive conditions are the reason of problems with receiving, processing and effectively using information. Thus, they require the use of alternative materials and augmentative technologies.

The Braille system vs. digital technologies

Computer technologies help remove the shortcomings of the Braille system and also affect its morphology. In computer use, the Braille system has become a temporary representation of signs displayed on the screen. Computer technologies enable full text correction. They make it possible to read in Braille publications stored on digital media, which is particularly important in the case of multi-volume publications. With a Braille scanner and printer, it is possible to copy every "flat print" and Braille text. Sending Braille books via traditional mail has been replaced with electronic transmission[19].

The digital technologies affect the construction of the Braille system: its modern version is EUROBRAILLE or computer Braille. It is an eight-point system (two columns per four dots) and has the same numbering of the basic dots as the standard Braille. The dot combinations in the eight-point Braille give 256 different signs. The eight-point Braille makes it possible to create special signs to represent computer symbols and operate electronic Braille devices, e.g. screens or notebooks[20].

The Braille system, whatever its form is, is hugely important for the psychosocial functioning of the blind. It is the "key" to the skill

---

[18] Ibid.

[19] M. Czerwińska, *System Braille'a – rewolucja medialna czy inkluzja społeczna osób z niepełnosprawnością wzroku?*, „Przegląd Biblioteczny" 2015, no. 3, p. 365-381.

[20] Ibid.

of independent reading and writing. It enables learning the spelling, punctuation and grammar. It helps check how the text is arranged on a page. Unlike audio texts, it enables the reader to focus on details and better understand the context.

It provides access to various sources of information: textual, mathematical, musical, informational, tactile graphics. It prevents secondary illiteracy. It increases independence in everyday life. It creates equal chances in education and work. It enables participation is social, academic, technological and cultural life[21].

It is estimated that only 10% of blind persons know and effectively use the Braille system in learning, working, communicating and accessing information. This means that a vast majority of the blind globally do not use any kind of print. Using only speech synthesis in written communication leads to linguistic, spelling and punctuation errors[22].

Thus, engaging in the discourse (especially by general school teachers): the Braille system or the new audio technologies – is substantiated. Education of the blind without using the Braille system leads to illiteracy. The Braille is the basis for not only the literacy of the blind but also the teaching of sciences. However, it should be noted that, with the development of information, communication and augmentative technologies, the Braille system should not be

---

[21] M. Czerwińska, *System Braille'a – rewolucja medialna czy inkluzja społeczna osób z niepełnosprawnością wzroku?*, „Przegląd Biblioteczny" 2015, No. 3, p. 365-381; M. Czerwińska, *System Braille'a w edukacji i rehabilitacji dzieci z niepełnosprawnością wzroku – przyczynek do komunikacji i inkluzji społecznej,* [in:] Edukacyjne oblicza komunikacji. Dyskurs interdyscyplinarny, ed. J.J. Błeszyński, K.B. Kochan, Uniwersytet Zielonogórski, Zielona Góra 2016, p. 119-134.

[22] Quoted after: M. Paplińska, *Znaczenie czytania dotykowego i jego charakterystyka a bariery mentalne osób niewidomych i ociemniałych wobec pisma Braille'a,* [in:] Pismo Braille'a. Z tradycją w nowoczesność, ed. M. Paplińska, Fundacja Polskich Niewidomych i Słabowidzących „Trakt", Warszawa 2016, p. 89-100; E. Śmiechowska-Petrovskij, *Integrowanie technologii i technik brajlowskich w edukacji uczniów z niepełnosprawnością wzroku*, [in:] Pismo Braille'a. Z tradycją w nowoczesność, ed. M. Paplińska, Fundacja Polskich Niewidomych i Słabowidzących „Trakt", Warszawa 2016, p. 101-125.

regarded as the only means of communication, but instead, the blind should be educated to use diverse information and communication tools and systems.

Tactile graphics vs. access to information

To quote M. Jakubowski, tactile graphics should be understood as "*graphic representation of the reality, useful for a blind or visually impaired person, made in a convention and scale available to that person, edited in a way the enables and facilitates reading by touch and/or poor vision of the information conveyed in the graphics*"[23].

The informative value of graphics is determined by its correct adaptation, i.e. the process of converting flat presentation into a form suitable for a blind/visually impaired user. It involves: changing the convention – method of presentation (e.g. a blind person cannot understand the convergent perspective or oblique projection; change of scale (enlarging an image that is legible for sighted persons); changing the level of generalisation – providing more detail (abandoning less important content); dividing the content of an illustration into a number of presentations of the same object made in the same or different convention than the original (e.g. replacing the oblique projection of an object with a number of orthographic projections, splitting the content of a map into a number of maps in the same or different scales); replacing the lines, signs or colours of the original picture with diverse lines, surface structures and other, previously developed and tested, signage (tactile graphics); simplifying a picture to a presentation that can be read by touch and providing additional description[24].

---

[23] M. Jakubowski, *Tyflografika – historia i współczesność, metody i technologie*, „Tyfloświat" 2009, No. 1(3), p. 36–40, http://www.firr.org.pl/uploads/PUB/Tyfloswiat-01_2009.pdf [accessed on: 05.05.2017].

[24] E.Więckowska, *Zasady redagowania tyflografiki*, „Tyfloświat" 2009, No. 3(5), p. 7–13, http://www.firr.org.pl/uploads/PUB/Tyfloswiat-03_2009.pdf [accessed on: 05.05.2017].

Tactile graphics plays an important role in the information space of a person with visual disabilities.

It INFORMS: about spatial concepts (geometrical and directional concepts), about the shapes of objects (view, projection, cross section) and about spatial relations between objects (plan, map).

It HELPS: get to know and understand, and represent spatial concepts and physical reality, and convey information about objects and phenomena that cannot be perceived by touching (are too small, too delicate, too large, dangerous or moving)[25].

Audio description in the information space of persons with visual disabilities

According to M. Hopfinger, audiovisuality: *"is becoming, for the people of the 21st century, the dominant way of understanding culture. This is not, however, about the primacy of an image over text, which would mean departing from the culture of writing (print, book). The contemporary culture integrates into the audiovisual syndrome verbal and non-verbal, visual and audial information, words and images.* [...] *The audiovisual culture not only does not resign from the natural language but also it is unthinkable without a language as by all means the main code of the culture"*[26].

Audio description (AD) fully reflects this opinion. It attracts the interest of not only educators for the blind but also linguists, film experts, museum workers or culture animators. Accordingly, it has acquired a number of definitions. In the Radio and Television Act (1992), it is defined as: *"a verbal, audial description of an image and*

---

[25] M. Jakubowski, *Tyflografika – historia i współczesność, metody i technologie,* „Tyfloświat" 2009, No. 1(3), p. 36–40, http://www.firr.org.pl/uploads/PUB/Tyfloswiat-01_2009.pdf [accessed on: 06.05.2017]; E. Więckowska, *Tyflografika – konieczność czasu,* [in:] Środowisko Lasek w perspektywie historii i chrześcijańskiej myśli pedagogicznej, ed. J. Placha, Wydaw. UKSW, Warszawa 2011, p. 283-291.

[26] *Nowe media w komunikacji społecznej XX w.* Antologia, ed. M. Hopfinger, Oficyna Naukowa, Warszawa 2005, p.9-10.

visual content of an audiovisual broadcast for persons disabled because of visual dysfunctions, contained in the broadcast or disseminated together with the broadcast" [27].

The creators of audio description in Poland, founders of the Bialystok Foundation "Audiodeskrypcja" – B. Szymańska and T. Strzymiński, understand audio description as the translation of an image into words. A verbal description of the visual layer of theatrical performances, audiovisual productions, graphic arts or scenic events makes them available to the blind and visually impaired[28].

According to Anna Jankowska[29] and Agnieszka Szarkowska[30], it is a special form of audiovisual translation that enables persons with vision deficits access the content that sighted persons normally perceive using the sense of seeing. Thus, audio description is a narration, an audiovisual translation, an intersemiotic translation, an intralingual translation.

As a result of intensive research and practice, a number of basic types of audio description have been developed:

- Audio description in visual arts – used in museums and art galleries, usually in the form of audio files attached to audio guides – describes paintings, sculptures, photographs or installations; is used to describe the architecture or natural terrain;
- Audio description for the screen (films, television broadcasts) – as an additional soundtrack between dialogues, describing visual elements (the playing of actors, costumes, colours, lights, scenography);

---

[27] Ustawa z dnia 29 grudnia 1992 r. o radiofonii i telewizji, http://www.isap.sejm.gov.pl/DetailsServlet?id=WDU19930070034 [accessed on: 05.05.2017].

[28] B. Szymańska, T. Strzymiński, *Audiodeskrypcja. Obraz słowem malowany. Standardy tworzenia audiodeskrypcji do produkcji audiowizualnych*, Fundacja „Audiodeskrypcja", Białystok 2010.

[29] A. Jankowska, *Audiodeskrypcja –wzniosły cel w tłumaczeniu,* „Między oryginałem a przekładem" 2009, R. XIV, p 225-246.

[30] A. Szarkowska, *Przekład audiowizualny w Polsce – perspektywy i wyzwania*, Przekładaniec 2009, No. 1(20), p. 8-25.

- Audio description in live performances – in the theatre – read life between actors' dialogues; in the opera, at concerts, dance (ballet) performances;
- Audio description of sport events – differs from radio commentary by providing a detailed description of where the players are located or what is happening on the stands;
- Audio description in the newspapers and magazines (description of illustrations) – used in the electronic versions of newspapers and magazines;
- Audio description in teaching materials – used e.g. in multimedia teaching materials[31].

The informative value of audio description depends on its professional preparation according to the standards: thorough knowledge of the work/object to be described; the description should answer the following questions: Who?, What?, How?, Where?, When?; the description should move from general to detail; it should stimulate the imagination (using extensive vocabulary, comparisons, metaphors, epithets); it should be objective (no valuation, comments, interpretations or censoring); the description should be coherent and informed, and it should respond to the recipient's needs; it should be tailored to a specific user group, e.g. the children; the text of audio description should be proofread and reviewed by another editor/consultant; the recording/text reading quality should be very good[32].

---

[31] M. Ciborowski, *Znaczenie audiodeskrypcji dla niewidomych w Polsce*, „Przekładaniec" 2009, No. 20, p. 136-138; A. Walczak, M. Rubaj, *Audiodeskrypcja na lekcji historii, biologii i fizyki w klasie uczniów z dysfunkcją wzroku,* „Przekładaniec" 2014, No. 28, p. 63-79; K. Krejtz, I. Krejtz, A. Szarkowska, A. Kopacz, *Multimedia w edukacji. Potencjał audiodeskrypcji w kierowaniu uwagą wzrokową ucznia*, „Przekładaniec" 2014, No. 28, p. 80-92; A. Sadowska, *Audiodeskrypcja do ilustracji w prasie – wskazówki dla trenerów szkolących audiodeskryptorów,* „Przekładaniec" 2014, No. 28 p. 140-152; I. Michalewicz, *Audiodeskrypcja po Euro 2012 – zawrotne tempo akcji czy para w gwizdek?*, „Przekładaniec" 2014, No. 28, p. 153-162; M. Kalbarczyk, J. Mirowski, *Świat opisywany dźwiękiem*, Fundacja „Szansa dla Niewidomych", Warszawa 2015.

[32] Ustawa z dnia 25 marca 2011 r. o zmianie ustawy o radiofonii i telewizji oraz niektórych innych ustaw, http://www.isap.sejm.gov.pl/DetailsServlet?id=WDU20

Accordingly, a correct audio description should be concise (dense), objective and neutral.

Audio description prepared in line with the above standards is of vital importance for the psychosocial functioning of persons with visual disabilities. It enables access to visual and audiovisual culture. It makes educational audiovisual materials (multimedia) accessible. It provides descriptions of objects and phenomena that cannot be touched. It helps comprehend the specialist terminology of various fields of science – development of language skills. It stimulates the development of the navigation and cognition (e.g. the cognitive attention, memory, imagination). It enables blind and visually impaired persons to independently, actively and competently participate in the social and cultural life. It inspires aesthetic impressions and enables experiencing the beauty.

An example of professional audio descriptions are the products of the Fundacja "Audiodeskrypcja" Foundation[33], the "Katarynka" Foundation – the "Adapter" project[34], the Mazowieckie Stowarzyszenia Pracy dla Niepełnosprawnych "De Facto" – projects: "E-kiosk" and "Niewidzialna Galeria Sztuki" (The Invisible Art Gallery)[35].

Publications and augmentative technologies for persons with visual disabilities

Physical information artefacts are the media and devices adapted for use and operation according to the cognitive specificity of persons with visual disabilities.

The contemporary repertoire of publications in alternative formats includes: Braille publications, multisensory publications (e.g. tactile picture books, books in Braille and print), tactile graphics:

110850459; M. Kalbarczyk, J. Mirowski, *Świat opisywany dźwiękiem*, Fundacja „Szansa dla Niewidomych", Warszawa 2015.

[33] http://www.audiodeskrypcja.org.pl/ [accessed on: 05.07.2017].

[34] http://www. fundacjakatarynka.pl/ [accessed on: 07. 05.2017].

[35] http://www.defacto.org.pl/ [accessed on: 05.07.2017].

illustrated books, maps, plans, models, W. Moon publications, audio publications (analogue talking books, digital talking books, talking books, audio books), audio description for films, documentaries, art audio description, enlarged print, magnified graphics, digital files (TXT, RTF, DOC, PDF), graphic files (DJVU), digital audio and text publications (DAISY – Digital Accessible Information System).

Augmentative/assisting technologies include: speech synthesisers, modules (programmes): voice, Braille, voice and Braille systems, magnifying, magnifying and voice systems, reader devices and programmes, Braille monitors, Braille notebooks (with speech synthesis and Braille monitor), interactive tablets with sound and touch modules, Braille computer keyboards, Braille printers, 3D printers, tactile graphics printers, magnifiers and magnifying glasses (electronic), ORC, OGR and reader programmes, user programmes: e.g. for Braille editing and computer printing, music note translation to Braille music notation, Braille typewriters (mechanic and electronic), talking electronic dictionaries, digital book players, digital recorders, organisers, voice programmes for mobile phones (smartphones).

The above publications and augmentative technologies enable the education and work of persons with visual disabilities, increase their communication possibilities (including intermediate communication) and access to information.

Conclusion

Alternative publications, the computer, augmentative technologies, the Internet are all extremely important for the information culture of persons with visual disabilities. With them, those persons may use information and education resources, make contacts, develop social competencies, be professionally active and entertain.

Many years of the author's experience as well as participative observations, supported by standardised research[36] have revealed

[36] Np. http://www.kulturaslepych.farbb.com/ [accessed on: 07.05.2017]; *Wykorzystanie technologii informacyjno-komunikacyjnych w aktywizacji osób niepełnospraw-*

numerous limitations in the information space of persons with visual disabilities. They concern among other things: access to websites (that do not comply with the standards established by the W3C Consortium), production and dissemination of publications in alternative formats, screen readers for graphic files and multimedia publications (e.g. dictionaries and encyclopaedias), national funding for education institutions, libraries and individuals for information technologies for the blind or production of tactile graphic publications and audio description (e.g. television broadcasts, documentaries, visual art).

The above limitations result in practical postulates. They highlight, among other things, the need for: coordinated efforts to prepare in alternative formats science and popular science literature, adapting school books to the Braille system and enlarged print (especially for foreign language and science teaching), introducing uniform standards for editing and adapting graphics to read by blind persons, introducing a national web catalogue of tactile graphic materials available in Poland, close cooperation between libraries, publishers, NGOs and education institutions for the availability and high level of library and information services, creating a central catalogue (database) of library materials in alternative formats, awareness among international and domestic authors of digital libraries, the specificity of reader programmes, popular teaching and use of the Braille system and Braille abbreviations, teaching to read tactile graphics (raised images) and using them in the education process, professional production of tactile graphics and audio description, systematic, long-term teaching of technological literacy to students with visual disabilities, based on integrated teaching of the Braille system (including its digital form) and information and communication technologies.

---

nych, ed. B. Mioduszewski, Fundacja „Aktywizacja", Warszawa 2013; *Społeczny Raport Alternatywny z realizacji Konwencji o prawach osób z niepełnosprawnościami w Polsce,* ed. J. Zadrożny, Fundacja KSK, Warszawa 2015.

Sample academic research and case studies in the area of the education for the blind[37] and pilot studies[38] – do not exhaust the research needs in the area of the information and reading culture of persons with visual disabilities. They confirm the dangerous trends that are already known from observations and personal experience. The worrying phenomena are, for example, low competencies of teachers to teach blind students (not only in general schools) in terms of using Braille techniques, tactile graphics, audio description and augmentative technologies in the education process, which affects information competencies (information and reading culture of students with visual disabilities.

Young persons with visual disabilities tend to be more competent in using new technologies – than in basic skills: being able to move around independently, being self-sufficient, reading fluently and writing correctly, effective use of tactile graphics.

Also, persons with visual disabilities know quite well how to effectively use new technologies, but, as these skills improve, reading and writing skills deteriorate[39].

---

[37] E. Śmiechowska-Petrovskij, *Integrowanie technik brajlowskich i z zakresu technologii w edukacji uczniów z niepełnosprawnością wzroku,* [in:] Pismo Braille'a. Z tradycją w nowoczesność, ed. M. Paplińska, Fundacja Polskich Niewidomych i Słabowidzących „Trakt", Warszawa 2016, p. 101-125.

[38] M. Paplińska, *Pismo Braille'a wobec wyzwań współczesnej komunikacji osób niewidomych – komunikat z badań*, [in:] Pismo Braille'a. Z tradycji w nowoczesność, ed. M. Paplińska, Fundacja Polskich Niewidomych i Słabowidzących „Trakt", Warszawa 2016, p. 126-137.

[39] J. Faherty, *Proponents say the decline in braille instruction is leading to illiteracy*, "Braille Monitor" 2006, No. 9, p. 14-17; M. Paplińska, *Niewidomy czytelnik – cyfrowy tubylec czy brajlowski analfabeta?* O kryzysie umiejętności czytania dotykowego, [in:] *Tyflopedagogika wobec współczesnej przestrzeni edukacyjno-rehabilitacyjnej,* ed. K. Czerwińska, M. Paplińska, M. Walkiewicz-Krutak, APS, Warszawa 2015, p. 179-195; M. Paplińska, *Młode pokolenie osób z niepełnosprawnością wzroku w paradoksie informacyjno-komunikacyjnym,* [in:] *Tyflopedagogika wobec współczesnej przestrzeni edukacyjno-rehabilitacyjnej,* ed. K. Czerwińska, M. Paplińska, M. Walkiewicz-Krutak, APS, Warszawa 2015, p. 136-155.

It seems that broad research into the information culture of persons with visual disabilities is needed, focusing on the research categories proposed by M. Kisilowska[40].

In the category of "information awareness" (realising the importance of information, the size and complexity of its manifestations and the processes it is subjected to, the ability of the mind to reflect the information space in its diversity and dynamics), the important issues are, for example: access to education, new information technologies, products and services, individual borders of discovering information space (quantitative and qualitative).

In the category of "information activity" (the information behaviours of an individual or legal entity, their diversity and intensity), what matters is, for example, the border between information activity and passivity or information competencies.

The category "Information space" includes three research areas. Tangible information artefacts (objects of information space) include the media (alternative publications) and devices that serve the purpose of creating, storing and disseminating information (information and communication technologies as well as augmentative/assisting technologies).

An important issue here is the accessibility of potentially tangible artefacts to persons with visual disabilities: e.g. texts, various types of images, audio and video recordings, databases (bibliographies, full texts, statistics, etc.), library catalogues, the news, web portals and websites.

Among intangible artefacts, the most important is the language. Accordingly, the research in this area should focus on, e.g.: new vocabulary created to name new products, services or tools developed in association with the management of the information space of persons with visual disabilities, changes in the forms and conventions resulting from transformations in the broad social and cultural contexts (increasingly brief messages, decreasing significance of the

---

[40] M. Kisilowska, *Kultura informacji*, Wydaw. SBP, Warszawa 2016.

correctness of messages, using emoticons, democratisation of relations on the level of written communication).

In this research concept, of particular importance are behavioural artefacts that take into account, among other things, such behaviours of disabled information users, as: searching for information (level of awareness, engagement of emotions, intensity of activities, selection, etc.), creating information (publishing personal information using 2.0 tools, distributing (publishing) information via various channels, on specific media, to specific audiences or anonymously, e.g. blogs, increasingly frequent use of various information sources to check the "latest" news – so-called information imperative, personal information management for personal or professional purposes – so-called PIM, reaction to information that reaches the recipient unintended, aesthetics and visualisation or information, or behaviours associated with the visual value of the presented content, e.g. iconographics.

One should be aware that behavioural artefacts stimulate changes in social and private life, such as: changed patterns of behaviour in a group (family, peers – individualisation, isolation, mobile and electronic communication), certain daily activities (electronic banking, online shopping) and the structure of culture products. Here, the focus should be on the principles governing the functioning of persons with visual disabilities in the information space, and at the same time their information culture, i.e. the values respected and observed by them, the standards governing their behaviour as well as traditions, customs and lifestyle.

Considering the above, interdisciplinary research into the information culture of persons with visual disabilities on the level of civic, educational, translative and aesthetic discourses is postulated[41], according to the opinion expressed by Umberto Eco: "*Today,*

---

[41] E. Śmiechowska-Petrovskij, *Kultura haptyczno-werbalna. Osoby niewidzące a sztuki wizualne – między doświadczeniem poznawczym i estetycznym*, [in:] K. Krawiecka, E. Śmiechowska-Petrovskij, M. Żelazkowska, Sztuka/twórczość dostępna. Osoby z niepełnosprawnościami i chorobą psychiczną w kręgu recepcji i ekspresji sztuki, Wydaw. UKSW, Warszawa 2016, p. 57-126.

a person of culture is required to be familiar not only with books but also with new forms of writing and collecting information. This is the only way of guaranteeing democratic use of the new media without denying anyone access to new information resources, this is the only way of teaching everyone how to select and assess the information they receive [...]"[42].

References

Babik W., *O natłoku informacji i związanym z nim przeciążeniu informacyjnym,* http://www.ktime.up.krakow.pl/ref2010/babik.pdf [dostęp: 31.04.2015].

Batorski D. (2009), *Wykluczenie cyfrowe w Polsce,* „Studia Biura Analiz Sejmowych Kancelarii Sejmu" 2009, nr 3(19), s. 225-226.

Blak K., *Internet a przyszłość książki. Rozważania z perspektywy cyfrowego tubylca*, http://www.ktime.up.krakow.pl/symp2011/referaty2011/blak-l.pdf, s. 14 (dostęp: 31.04.2015).

Ciborowski M., *Znaczenie audiodeskrypcji dla niewidomych w Polsce*, „Przekładaniec" 2009, nr 20, s. 136-138.

Czerwińska M., *System Braille'a - rewolucja medialna czy inkluzja społeczna osób z niepełnosprawnością wzroku?*, „Przegląd Biblioteczny" 2015, nr 3, s. 365-381.

Czerwińska M., *Niewidomy, [w:] Encyklopedia pedagogiczna XXI wieku,* t. 3: M-O, red. T. Pilch, Wydaw. Akademickie „Żak", Warszawa 2004, s. 685-693.

Czerwińska M., *System Braille'a w edukacji i rehabilitacji dzieci z niepełnosprawnością wzroku – przyczynek do komunikacji i inkluzji społecznej,* [w:] Edukacyjne oblicza komunikacji. Dyskurs interdyscyplinarny, red. J.J. Błeszyński, K.B. Kochan, Uniwersytet Zielonogórski, Zielona Góra 2016, s. 119-134.

Paplińska M., *Znaczenie czytania dotykowego i jego charakterystyka a bariery mentalne osób niewidomych i ociemniałych wobec pisma Braille'a,* [w:] Pismo Braille'a. Z tradycją w nowoczesność, red. M. Paplińska, Fundacja Polskich Niewidomych i Słabowidzących „Trakt", Warszawa 2016, s. 89-100.

Faherty J., *Proponents say the decline in braille instruction is leading t illiteracy*, "Braille Monitor" 2006, nr 9, s. 14-17.

Gajda M., WCAG 2.0 w skrócie - 25 najważniejszych zasad, http://dostepnestrony.pl/artykul/753 [dostęp: 21.11.2016].

---

[42] Quotation after: K. Blak, *Internet a przyszłość książki. Rozważania z perspektywy cyfrowego tubylca*, http://www.ktime.up.krakow.pl/symp2011/referaty2011/blak-l.pdf, s. 14 (accessed on: 31.04.2015).

Marcinkowski A., Marcinkowski P., WCAG 2.0. Podręcznik dobrych praktyk, http://widzialni.org/wcag-20-podrecznik-dobrych-praktyk,m,mg,5,51 [dostęp: 12.01.2015].

Ustawy o informatyzacji działalności podmiotów realizujących zadania publiczne, http://www.isap.sejm.gov.pl/Download?id=WDU20050640565&type=3 [dostęp: 05.05.2017].

Główny Urząd Statystyczny, Społeczeństwo informacyjne w Polsce. Wyniki badań statystycznych z lat 2004-2006, Warszawa 2008, s. 7.

Grzegorzewska M., *Wybór pism*, PWN, Warszawa 1964.

http://www. fundacjakatarynka.pl/ [dostęp: 07. 05.2017]

http://www.audiodeskrypcja.org.pl/ [dostęp: 07.05.2017]

http://www.defacto.org.pl/ [dostęp: 07.05.2017].

http://www.kulturaslepych.farbb.com/ [dostęp: 07.05.2017];

Jakubowski M., *Tyflografika – historia i współczesność, metody i technologie,* „Tyfloświat" 2009, nr 1(3), s. 36-40, http://www.firr.org.pl/uploads/PUB/Tyfloswiat-01_2009.pdf [dostęp: 05.05.2017].

Jankowska A., *Audiodeskrypcja –wzniosły cel w tłumaczeniu,* „Między oryginałem a przekładem" 2009, R. XIV, s. 225-246.

Kalbarczyk M., Mirowski J., *Świat opisywany dźwiękiem*, Fundacja „Szansa dla Niewidomych", Warszawa 2015. Ustawa z dnia 25 marca 2011 r. o zmianie ustawy o radiofonii i telewizji oraz niektórych innych ustaw, http://www.isap.sejm.gov.pl/DetailsServlet?id=WDU20110850459

Kisilowska E., *Kultura informacji*, Wydaw. SBP, Warszawa 2016.

Kisilowska M. (2016), *Kultura informacji, W*ydaw. SBP, Warszawa.

Konwencja Praw Osób Niepełnosprawnych, http://www.unic.un.org.pl/dokumenty/Konwencja_Praw_Osob_Niepelnosprawnych.pdf [dostęp: 14.12.2016].

Krejtz K., Krejtz I., Szarkowska A., Kopacz A., *Multimedia w edukacji. Potencjał audiodeskrypcji w kierowaniu uwagą wzrokową ucznia,* „Przekładaniec" 2014, nr 28, s. 80-92.

Majewski T., *Tyflopsychologia rozwojowa: Psychologia dzieci niewidomych i słabo widzących,* PZN, Warszawa 2002.

Melosik Z., *Mass media, tożsamość i rekonstrukcje kultury współczesnej*, [w:] Media - Edukacja – Kultura, red. W. Skrzydlewski, S. Dylak, Polskie Towarzystwo Technologii i Mediów Edukacyjnych, Rzeszów-Poznań 2012, s. 32-49;

Michalewicz I., *Audiodeskrypcja po Euro 2012 – zawrotne tempo akcji czy para w gwizdek?*, „Przekładaniec" 2014, nr 28, s. 153-162.

Ministerstwo Polityki Społecznej, Zespół Zadaniowy ds. Reintegracji Społecznej, *Narodowa Strategia Integracji Społecznej dla Polski,* Warszawa 2004, http://www.mpips.gov.pl/userfiles/File/mps/NSIS.pdf, s. 23, [dostęp: 15.11.2016].

Paplińska M., *Młode pokolenie osób z niepełnosprawnością wzroku w paradoksie informacyjno-komunikacyjnym,* [w:] *Tyflopedagogika wobec współczesnej przestrzeni eduka-*

cyjno-rehabilitacyjnej, red. K. Czerwińska, M. Paplińska, M. Walkiewicz-Krutak, APS, Warszawa 2015, s. 136-155.

Paplińska M., *Niewidomy czytelnik – cyfrowy tubylec czy brajlowski analfabeta?* O kryzysie umiejętności czytania dotykowego, [w:] *Tyflopedagogika wobec współczesnej przestrzeni edukacyjno-rehabilitacyjnej, red.* K. Czerwińska, M. Paplińska, M. Walkiewicz-Krutak, APS, Warszawa 2015, s. 179-195.

Paplińska M., *Pismo Braille'a wobec wyzwań współczesnej komunikacji osób niewidomych – komunikat z badań*, [w:] Pismo Braille'a. Z tradycji w nowoczesność, red. M. Paplińska, Fundacja Polskich Niewidomych i Słabowidzących „Trakt", Warszawa 2016, s. 126-137.

Rezolucja Komisji ds. konstytucyjnych (AFCO) Parlamentu Europejskiego, http://www.infor.pl/.../754032,Lepszy-dostep-do-ksiazek-i-prasy-dla-niewidomych-i-slabowidzacych.html [05.05.2017].

Rotberg I., *W morzu informacji*, http://www.psychologia-spoleczna.pl/porady/1506-w-morzu-informacji.html [dostęp: 15.01.2015].

Rozporządzenie Rady Ministrów z dnia 12 kwietnia 2012 r. w sprawie Krajowych Ram Interoperacyjności, minimalnych wymagań dla rejestrów publicznych i wymiany informacji w postaci elektronicznej oraz minimalnych wymagań dla systemów teleinformatycznych, http://www.isap.sejm.gov.pl/DetailsServlet?id=WDU20120000526 [dostęp: 05.05.2017].

Sadowska A., *Audiodeskrypcja do ilustracji w prasie – wskazówki dla trenerów szkolących audiodeskryptorów,* „Przekładaniec" 2014, nr 28, s. 140-152.

Społeczny Raport Alternatywny z realizacji Konwencji o prawach osób z niepełnosprawnościami w Polsce, red. J. Zadrożny, Fundacja KSK, Warszawa 2015.

Szarkowska A., *Przekład audiowizualny w Polsce – perspektywy i wyzwania*, Przekładaniec 2009, nr 1(20), s. 8-25.

Szymańska B., Strzymiński T., *Audiodeskrypcja. Obraz słowem malowany. Standardy tworzenia audiodeskrypcji do produkcji audiowizualnych*, Fundacja „Audiodeskrypcja", Białystok 2010.

Śmiechowska-Petrovskij E., *Integrowanie technik brajlowskich i z zakresu technologii w edukacji uczniów z niepełnosprawnością wzroku,* [w:] Pismo Braille'a. Z tradycją w nowoczesność, red. M. Paplińska, Fundacja Polskich Niewidomych i Słabowidzących „Trakt", Warszawa 2016, s. 101-125.

Śmiechowska-Petrovskij E., *Integrowanie technologii i technik brajlowskich w edukacji uczniów z niepełnosprawnością wzroku*, [w:] Pismo Braille'a. Z tradycją w nowoczesność, red. M. Paplińska, Fundacja Polskich Niewidomych i Słabowidzących „Trakt", Warszawa 2016, s. 101-125.

Śmiechowska-Petrovskij E., *Kultura haptyczno-werbalna. Osoby niewidzące a sztuki wizualne - między doświadczeniem poznawczym i estetycznym*, [w:] K. Krawiecka, E. Śmiechowska-Petrovskij, M. Żelazkowska, Sztuka/twórczość dostępna.

Osoby z niepełnosprawnościami i chorobą psychiczną w kręgu recepcji i ekspresji sztuki, Wydaw. UKSW, Warszawa 2016, s. 57-126.

Tadeusiewicz R. (2002), *Społeczność Internetu,* Akademicka Oficyna Wydawnicza „Exit", Warszawa

Traktat z Marrakeszu, http://www.prawoautorskie.gov.pl/.../Traktat_z_Marrakeszu_-_polska_wersja_jezykowa_finalna.pdf [dostęp: 05.05.2017].

Walczak A., Rubaj M., *Audiodeskrypcja na lekcji historii, biologii i fizyki w klasie uczniów z dysfunkcją wzroku,* „Przekładaniec" 2014, nr 28, s. 63-79.

Więckowska E., *Tyflografika – konieczność czasu,* [w:] Środowisko Lasek w perspektywie historii i chrześcijańskiej myśli pedagogicznej, red. J. Placha, Wydaw. UKSW, Warszawa 2011, s. 283-291.

Nowe media w komunikacji społecznej XX w. Antologia, red. M. Hopfinger, Oficyna Naukowa, Warszawa 2005, S.9-10.

Ustawa z dnia 29 grudnia 1992 r. o radiofonii i telewizji, http://www.isap.sejm.gov.pl/DetailsServlet?id=WDU19930070034 [dostęp: 05.05.2017].

Więckowska E., *Zasady redagowania tyflografiki,* „Tyfloświat" 2009,nr 3(5), s. 7-13, http://www.firr.org.pl/uploads/PUB/Tyfloswiat-03_2009.pdf [dostęp: 05.05. 2017].

Wykorzystanie technologii informacyjno-komunikacyjnych w aktywizacji osób niepełnosprawnych, red. B. Mioduszewski, Fundacja „Aktywizacja", Warszawa 2013.

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

KAMILA MILER-ZDANOWSKA
Maria Grzegorzewska Paedagogical University in Warsaw

New technologies used in the spatial orientation of people with visual impairment

ABSTRACT: Kamila Miler-Zdanowska, *New technologies used in the spatial orien-tation of people with visual impairment*. Interdisciplinary Contexts of Special Pedagogy, No. 18, Poznań 2017. Pp. 53-66. Adam Mickiewicz University Press. ISSN 2300-391X

The fast development of electronic and information technologies makes them becoming ever more present in the lives of the blind and visually impaired people. The aim of this article is to present modes of mobility of people with visual impairment, with particular focus on new technologies. The article contains the classification and characteristics of electronic aids used in spatial orientation and mobility for blind people. It also presents the benefits and difficulties of using these types of new technologies. The article presents research projects related to the construction and testing of new technical solutions in Poland.

KEY WORDS: spatial orientation, visual disability, electronic orientation aids, electronic travel aids, electronic mobility aids

Persons with disabilities of sight come up against a multitude of hindrances in daily life, stemming from the inability to visually receive information. These limitations apply most often to areas such as: communication (acquisition, reception and exchange of oral and written information), spatial orientation, independent mobility, independent execution of daily activities (in particular those that

require visual control). The scope of the experienced limitations depends broadly on the level and time of eyesight loss, as well as the course of the rehabilitation process.

The main area subject to disturbances in persons with sight impairments is the ability to find their way around and move independently. The former of these pertains to processes taking part within the human mind, and entails the correct determination of one's own location with respect to other objects around them, while the latter is related to physically moving around[1]. An individual perfects both these abilities in course of own development, almost throughout one's entire life. However, the process of acquisition of the ability to find one's way and move around in persons with eyesight disabilities does not proceed as spontaneously as it occurs for well-sighted persons. It requires a directed, long-term education process[2]. The reinforcement and development of this area is of particular significance, as the ability to find one's way is necessary almost in every area of our functioning: when moving around one's own apartment, when cooking lunch, getting dressed, playing. Spatial orientation is also necessary during various activities related to social life (making social contacts, shopping, learning or working, etc.). Hence, issues in this area may lead to the loss of independence and various limitations of participation by persons with eyesight disability in social, professional and cultural life[3].

---

[1] In literature on the education of the blind, one can find many definitions referring to the understanding of the term of spatial orientation. In Polish literature, the broadest, most quoted definition is the one by J. and J. Kwapisz, J. Kuczyńska-Kwapisz, J. Kwapisz, Rehabilitacja osób niewidomych i słabowidzących. Przewodnik metodyczny. Wyd. Interart, Warszawa 1990, p. 5.

[2] A detailed characteristic of the development of abilities in spatial orientation in people with visual impairments over the course of life was included in the chapter: M. Walkiewicz-Krutak, „Od narodzin do dorosłości" – wspomaganie rozwoju umiejętności w zakresie orientacji przestrzennej i samodzielnego poruszania się dzieci i młodych osób niewidomych, [in:] K. Czerwińska, M. Paplińska, M. Walkiewicz-Krutak [ed.], Tyflopedagogika wobec współczesnych przemian przestrzeni edukacyjnej. Wydawnictwo APS, Warszawa 2015, pp. 259-288.

[3] K. Czerwińska, K. Miler-Zdanowska, Teaching model for students with visual impairments. [in:] Education of Students with Special Needs. World Experience.

Free, safe moving around is a challenge for persons with eyesight disabilities. This applies in particular to being able to move around an urbanised environment. In an urban setting, where noted must be the ever-growing increase of traffic volumes, an expanding transport network, and no unified architectural system, persons with sight disabilities experience problems with overcoming the present transport and architectural barriers[4].

When moving around, persons with sight disabilities can make use of several mobility modes. Subject literature indicates four basic methods of moving around: with a well-sighted guide, with a long cane, with a guide dog, with electronic mobility aids[5]. The choice of the mode of movement depends on many factors. The most important of these are: the age, level of eyesight loss, of physical fitness, of cognitive processes; skills relevant to the ability to find one's way around, personal preferences of the person with the sight impairment, knowledge and complexity of the area, etc.[6].

In Poland, persons with sight disabilities, when moving around, most often use the help of a well-sighted guide, and moving around using a long, white cane. These are the oldest, most broadly available, and hence the most practically proven mobility aids for the blind and those with weak eyesight that are best described in literature. The use of a guide dog is becoming ever more popular. This

---

Individualized Education and Therapy Programs (IETPs), ed. by E. Kulesza, Wydawnictwo APS, Warszawa 2013, p. 128.

[4] E. M. Guzik-Makaruk, E. Jurgielewicz-Delegacz, Badania nad bezpieczeństwem osób z niepełnosprawnościami, w tym osób niewidomych i słabowidzących, uczestniczących w ruchu drogowym, „Niepełnosprawność – zagadnienia, problemy, rozwiązania". 2016, no. 1, p. 36.

[5] W. H. Jacobson, The Art. And Science of Teaching Orientation and Mobility to Persons with Visual Impairments. AFB Press, New York 2013, p. 3.

[6] A list and classification of factors that influence the teaching of spatial orientation were included in the chapter: K. Miler-Zdanowska, Czynniki warunkujące nauczanie orientacji przestrzennej i samodzielnego poruszania się osób z niepełnosprawnością wzroku, [in:] K. Czerwińska, M. Paplińska, M. Walkiewicz- Krutak, [ed.], Tyflopedagogika wobec współczesnych przemian przestrzeni edukacyjnej. Wydawnictwo APS, Warszawa 2015, pp. 289-306.

form of aid for persons with sight problems during travel has been known for long[7]. However, it was only the emergence of specific legal and financial[8] solutions as well as improved knowledge on guide dogs that caused increased interest in this mode of mobility among persons with sight disabilities. The Polish *Guide Dog Foundation* (Pl. Fundacja Pies Przewodnik) estimates that in Poland about 200 persons with sight disabilities own guide dogs[9]. However, the number of such users in Poland as compared to other European countries remains unsatisfactory.

However, despite the fast development of electronic and computer technologies, moving around using electronic aids remains the least popular. This is most probably due to the insufficient knowledge about such equipment, both among those interested themselves, as well as among the teachers working with persons with visual impairments[10].

Characteristics of electronic tools used for spatial orientation of visually impaired persons

Ever more frequent use of modern technical and computer aids is visible in the lives of persons with sight disabilities. New solu-

---

[7] The history of training and usage of guide dogs in he context of support of persons with visual impairments was described in detail by M. Garbat, Wsparcie osób z niepełnosprawnością wzroku – krótka historia szkolenia psów przewodników i posługiwania się białą laską, Niepełnosprawność – zagadnienia, problemy, rozwiązania, Wyd. PEFRON, Warszawa 2013, no. III (8), pp. 81-107.

[8] Polish act of law of 21 November 2008 on changes to the act of law on professional and social rehabilitation and the employment of the disabled, the local taxes and fees act and the food and nutrition safety act, Journal of Laws of 2008, no. 223, item 1463.

[9] K. Domańska, Pies przewodnik osoby niewidomej, „Szkoła Specjalna", Wyd. APS, Warszawa 2014, no. 5, p. 345.

[10] E. Śmiechowska-Petrovskij, Kompetencje nauczycieli uczniów niewidomych i słabowidzących w zakresie wspomagających technologii informacyjno-komunikacyjnych, Niepełnosprawność. Dyskursy pedagogiki specjalnej, Wyd. UG, Warszawa 2016, no. 21, pp. 106-119.

tions and equipment are referred to as assistive technologies or aid technologies. These are all kinds of devices, systems, hardware and software that were manufactured for this purpose or which constitute generally-available aids. Their main task is the improvement of the level of functioning of disabled persons. They permit the improvement of simplicity of execution of tasks or raise the safety during its performance, and in certain cases, they constitute the condition of execution of a specific activity in the first place[11]. A specific group among these aid technologies are electronic aids used for spatial orientation and independent movement of blind and visually-impaired persons. In general, one differentiates among them between two basic groups. The first of these includes electronic mobility aid tools, or Electronic Travel Aids, ETA; the second are Electronic Orientation Aids, EOA[12].

Electronic Travel Aids are also referred to as obstacle detectors. These are relatively small devices which, by emitting ultrasounds or light, detect objects within one's transport corridor, warning the user through vibrations or sounds[13]. Thanks to such devices, it is possible for one to move around persons standing on the pavement, parked cars, advertisements, and find a free seat on a bus without the use of tough. Their biggest flaw are limitations in the distance of detection of obstacles along the route(between 0.5 m and 8 m)[14]. In practice, this means belated detection of thin obstacles (e. g. pillars), and premature detection of large surfaces (e. g. cars). A further issue

---

[11] Assistive products for persons with disability – Classification and terminology, ISO 9999, 4th ed., 2007, p. 8.

[12] W.R. Wiener, R.L. Welsh, B.B. Blasch [ed.], Foundations of Orientation and Mobility. Second Editions. New York: AFB Press, 1997, pp. 238-259.

[13] F. Farcy, R. Leroux, A. Jucha, R. Damaschini, C. Grégoire, A. Zogaghi, Electronic travel aids and electronic orientation aids for blind people: technical, rehabilitation and everyday life points of view, Conference & Workshop on Assistive Technologies for People with Vision & Hearing Impairments Technology for Inclusion CVHI 2006, pp. 1-12.

[14] L.F. Cuturi, E. Aggius-Vella, C. Campus, A. Parmiggiani, M. Gori, From science to technology: orientation and mobili ty In blind children and adults, Neuroscience and Biobehavioral Reviews, 2016, no. 71, p. 243.

is erroneous use of relevant sound patterns or tactile stimuli recreating the image of one's surroundings. In most cases it entails the wrong adaptation of the volume of the environmental information conveyed to the perceptive abilities of an individual (referring to auditory and tactile perception). Excessive volumes of information on space are conveyed to a blind person[15]. In practice this describes a situation, in which a blind person is unable to move because they are constantly trying to interpret stimuli that is conveyed to it. In many cases, thus there exists the necessity of selection of objects to be detected so that the movement could be effective.

Electronic Travel Aids can be found as stand-alone devices that due to their small size (of a matchbox) can be held in the hand or attached to the white cane. They can be also built into the white cane. They can be seen in the form of glasses or bands put around one's wrist. Many obstacle detectors have been constructed and manufactured (e. g. Miniguide, Minitact, Palmsonar, Ray, Teletact, Tom Pouce, Laser Cane, K-Sonar)[16]. Despite the use of the most modern achievements in engineering, none of the developed devices was commonly accepted by the community of the visually impaired. In view of Mr Rafał Charłampowicz, the cause of this lies in the lack of awareness on the subject of such mobility aids among teachers of spatial orientation, as well as lack of relevant training courses, as well as the difficulty among the visually-impaired to simultaneously acquire various stimuli[17].

---

[15] P. Strumiłło, Elektroniczne systemy wspomagające niewidomych w poruszaniu się i nawigacji, Ergonomia niepełnosprawnym w organizacji pracy i zarządzaniu – projektowanie. Łódź 2008, p. 163.

[16] A list of mobility-assistance devices in table form can be found in L.F. Cuturi, E. Aggius-Vella, C. Campus, A. Parmiggiani, M. Gori, From science to technology: orientation and mobility in blind children and adults, Neuroscience and Biobehavioral Reviews, 2016, no. 71, p. 243.

[17] E.M. Guzik-Makaruk [ed.]. Możliwości wykorzystania i wdrożenia nowoczesnych technologii do budowy narzędzi wspomagających codzienne funkcjonowanie osób niewidomych, Wydawnictwo PPBW Sp. z.o.o, Kraków-Białystok-Poznań 2011 (Publication created within the scope of the development project enti-

A second group of electronic devices used for spatial orientation and independent movement of visually-impaired persons is composed of electronic navigation tools. These are various systems based on the Global Positioning System, GPS. Initially, these were special purpose-built devices (e. g. Trekker Breeze, Navigator, NaviEye, etc.). By size and look, they were akin to television remote control units, fitting in the hand without much difficulty[18]. However, as smart phones became more prevalent, and with them the possibility of installation of appropriate navigation software, their usage dropped. The emergence of the iPhone, in turn, caused a unique revolution in the use of navigation applications by visually-disabled persons for the purpose of independent mobility. The applications available on the market all act quite similarly, e. g. they can describe the location, where the user is found, and indicate the direction, in which they should move. A blind person, when moving around, receives auditory information in the form of verbal descriptions, or tactile information in the form of vibrations, and based on these, chooses the direction, the path that they wish to take. The applications available on the market used for navigation can be software available generally for all mobile phone users (e. g. Google Maps), or software dedicated for the blind (e. g. BlindSquare). Doubtless the biggest advantage of navigation applications is their ubiquity and discretion. A blind person uses such a device (a mobile phone) just like a well-sighted person does. This device does not make her stand out from among other users. The biggest flaw remains the low precision of applications, as compared to the expectations of users[19] as well as limited sensitivity of the GPS to signal

---

tled „Legal and criminological aspects of the implementation and usage of modern technologies in the service of protection of internal security" no. 0R00003707).

[18] M. Rotnicki, Treeker Breeze – pomocnik w orientacji przestrzennej, Tyfloświat, 2010, no. 3(9), p. 20.

[19] Persons with sight disabilities require, in order to move around independently, beside information on the cardinal directions and distances, detailed information on objects in space (e. g. the arrangement of stops, names of buildings, pedestrian crossings, names of intersections, etc.).

reflections in areas with tall buildings, as well as the inability to use this solution within buildings[20].

Both Electronic Travel Aids as well as Electronic Orientation Aids are being used increasingly often by the visually-impaired. One could basically differentiate between two types of activity, where they are most commonly used. The first of these is route planning, which begins already at home, at the computer, and spans: acquisition of the topography, planning of the route and also getting to know the timetable of the transport resources available at the particular location. The second is already directly related to actually moving around in space, and entails the determination of the cardinal directions, controlling distances, determining the names of streets/ intersections, the names of the nearby orientation points, the locations of buildings, stops, etc. In both cases, the use of electronic tools is very helpful, primarily due to the ease and speed in which information about the surroundings can be obtained. Quite an important advantage of such aids is also their design, both in terms of size as well as aesthetics.

Research on the use of electronic tools in spatial orientation and independent mobility

Issues concerning spatial orientation and independent mobility are the object of interest of various groups of scientists. They are most commonly rooted in the area of special education and psychology. However, the development of technology, computer science, electronics, and the use of new solutions in designing of aids

[20] R. Charłampowicz, Mobilność bez wzroku. Problemy i potrzeby [in:] E.M. Guzik-Makaruk [ed.]. Możliwości wykorzystania i wdrożenia nowoczesnych technologii do budowy narzędzi wspomagających codzienne funkcjonowanie osób niewidomych, Wydawnictwo PPBW Sp. z.o.o, Kraków-Białystok-Poznań 2011 (Publication created within the scope of the development project entitled „Legal and criminological aspects of the implementation and usage of modern technologies in the service of protection of internal security" no. 0R00003707), p. 20.

for persons with sight disabilities had caused this area to be analysed by computer engineering and acoustics scientists.

In Poland, for several years now, attempts have been undertaken to create aid equipment for spatial orientation and independent mobility of blind persons and persons with sight disabilities. In the years 2009-2012 Rafał Kozik, a doctoral graduate of the University of Science and Technology in Bydgoszcz, headed by prof. Ryszard Choraś, implemented the research project *Complex image processing and computer-based vision algorithms for the support of blind persons* („Złożone algorytmy przetwarzania obrazów i komputerowej wizji dla celów wspomagania osób niewidomych")[21]. This project concerned the construction and testing of a device to register objects, identify them and determine their location, and translate the data obtained in this way into verbal information. The main goal is to warn the blind person ahead of collisions with obstacles and to detect hazardous objects. This is made possible by algorithms able to detect objects within images (e. g. mug with warm coffee, pot with boiling water, etc.). A similar project was conducted in the years 2007-2010 by professor Andrzej Materka and his team at the Technical University of Łódź[22]. The scientists had built a device the size of a mobile phone, with head phones, protruding keys and a camera, that permitted remote guidance for a blind person (the camera image is fed live to the guide computer of the blind person). Ten adult blind persons and their families were invited to test the equipment. The users' reviews indicated that the system is very useful for travelling in very crowded places. Presently, the team of scientists of the Technical University of Łódź is working on perfecting the device so that it would not require the aid of third parties

---

[21] A detailed description of the project and the constructed device as well as its mode of operation can be found under http://www.kujawsko-pomorskie.pl/index.php?option=com_content&task=view&id=18003&Itemid=533 [accessed on: 20.05.2015].

[22] Information on the project can be found at http://www.naviton.pl/ [accessed on: 21.05.2017] and in the article by P. Strumiłło, Elektroniczne systemy wspomagające niewidomych w poruszaniu się i nawigacji, Ergonomia niepełnosprawnym w organizacji pracy i zarządzaniu – projektowanie. Łódź 2008, pp. 160-169.

when the blind would like to move around. Engineers from the AGH University of Science and Technology of Kraków are presently also working on a „GPS for the blind". The system is supposed to aid moving around streets and detect obstacles. It is composed of three parts. The first is a sensor in the form of an antenna of any length and shape. Its purpose is to register a blind person in its vicinity. The second is a control device transmitting information on the presence of a blind person nearby, and feedback set to cause an appropriate reaction of the system. The third component is a watch-sized wristband. It emits signals permitting the detection of obstacles. On approaches to street crossings, it informs the blind person about this. Work on the system is ongoing[23]. Scientists of the University of Białystok headed by prof. Ewa M. Guzik-Makaruk, as part of the project *Development of a system of detection of safety hazards for blind and visually-impaired persons, with particular consideration for traffic. Legal, criminological and technical aspects* („Opracowanie systemu wykrywania zagrożeń bezpieczeństwa osób niewidomych i słabowidzących ze szczególnym uwzględnieniem ruchu drogowego. Aspekty prawno-kryminologiczne i technologiczne")[24], are designing a device aiding the mobility of blind persons. As part of the research work, designed were: a system analysing the image from cameras worn by the user that recognises key hazards (this can be e. g. approaching the edge of a platform), and informing of the types and numbers of vehicles approaching a stop; a system utilising depth of perception to evaluate the distance between the user and obstacles in the way; satellite navigation; an obstacle detector. All the proposed solutions are important to provide safety and comfort of movement of visually-impaired persons in an urban envi-

---

[23] Detailed information on the developed system can be found in I. Trębacz, Uczeni z AGH opracowują GPS dla niewidomych, Biuletyn AGH, 2011, no. 47, pp. 14-15.

[24] E.M. Guzik-Makaruk, E. Jurgielewicz-Delegacz, Badania nad bezpieczeństwem osób z niepełnosprawnościami, w tym osób niewidomych i słabowidzących, uczestniczących w ruchu drogowym, „Niepełnosprawność – zagadnienia, problemy, rozwiązania". 2016, no. 1, pp. 36-41.

ronment. The project is currently undergoing testing. Employees and students of the Technical University of Rzeszów have also made attempts at developing a device to aid the movement of the blind. As a result of the work, a light, GPS-equipped cane was constructed for persons with visual disabilities[25]. The tip of the cane – both the front as well as the sides – are equipped with reflection sensors to scan their vicinity. When a blind person comes close to an obstacle, the device sends out a warning tone. The closer to the obstacle, the higher the tone frequency. The device was praised, and its creator was invited to present their invention at the 45th International Exhibition of Inventions in Geneva.

Summary

Research work on the development and usage of systems aiding independent travel of blind persons have been going on for more than a dozen years now. However, despite the technological advancements in engineering and medicine, the developed systems are still not commonly used by the blind. Many potential users treat them as gadgets, not looking for real aid in them. Inventors and creators in turn see them as a chance to improve their own financial situation. Quite frequently, information on new aids is limited to their technical characteristics, and the constructed hardware does not leave the research facilities. There is no systematic verification of their usability by the visually impaired. And even if a device is to successfully pass laboratory tests and make it to the market, interested beneficiaries are not able to make themselves personally acquainted with the it, try it out before buying it. It needs to be remembered that most aids based on modern technologies do not facilitate spontaneous learning of their use. A blind person needs at times training in this regard, and then training on how to use the

[25] http://okulistyka.mp.pl/aktualnosci/158694,laska-z-gps-dla-niewidomych [accessed on: 15.05.2017].

aid in daily life. And here is where a further problem arises, spanning the lack of knowledge among specialists working with visually-disabled persons (teachers, specialists in education of the blind, teachers of spatial orientation and independent travel) with respect to the handling and use of such equipment. For this reason as well, they are distrustful of modern solutions and unwilling to implement them.

In many cases, the importance and the abilities of use of the electronic aids for independent travel are overestimated, as it is forgotten that in order to effectively use them, basic skills in spatial orientation are required. Basic training is needed entailing the mastering of the ability to move about with a white cane; the ability to interpret auditory and tactile information from the environment; obtaining knowledge about the structure of the environment, the ability to create a mental map of one's surroundings[26]. Thus, the use of traditional techniques is the basis for use of aid technologies. A further significant factor is the motivation of those learning. A blind person must want to be independent and determined to learn and painstakingly exercise so as to effectively use the new technologies.

Spatial orientation and independent movement by the blind and those with visual impairments may be supported through the implementation of modern tools utilising the newest technological advancements. However, in order for their application to be effective, the fulfilment of the few conditions mentioned above is necessary. It seems, however, that the best solution would be interdisciplinary work of several specialists in the construction and implementation of modern technologies (computer scientists, engineers, psychologists, neurologists, specialists in education of the blind as well as the blind and the visually impaired themselves.

---

[26] F. Farcy, R. Leroux, A. Jucha, R. Damaschini, C. Grégoire, A. Zogaghi, Electronic travel aids and electronic orientation aids for blind people: technical, rehabilitation and everyday life points of view, Conference & Workshop on Assistive Technologies for People with Vision & Hearing Impairments Technology for Inclusion CVHI 2006, pp. 6-7.

Such a procedure would permit the avoidance of many errors and would facilitate the process of implementation of technical solutions in everyday practice.

References

Assistive products for persons with disability – Classification and terminology, ISO 9999, 4th ed., 2007.

L.F. Cuturi, E. Aggius-Vella, C. Campus, A. Parmiggiani, M. Gori, *From science to technology: orientation and mobility in blind children and adults*, „Neuroscience and Biobehavioral Reviews", 2016, no. 71, pp. 241-251.

K. Czerwińska, K. Miler-Zdanowska, *Teaching model for students with visual impairments,* [in:] *Education of Students with Special Needs. World Experience. Individualized Education and Therapy Programs (IETPs)*, ed. by E. Kulesza, Wydawnictwo APS, Warszawa 2013, pp. 121-140

K. Domańska, *Pies przewodnik osoby niewidomej*, „Szkoła Specjalna", Wyd. APS, Warszawa 2014, no, 5, pp. 344-350.

F. Farcy, R. Leroux, A. Jucha, R. Damaschini, C. Grégoire, A. Zogaghi, *Electronic travel aids and electronic orientation aids for blind people: technical, rehabilitation and everyday life points of view*, Conference & Workshop on Assistive Technologies for People with Vision & Hearing Impairments Technology for Inclusion CVHI 2006, pp. 1-12.

M. Garbat, *Wsparcie osób z niepełnosprawnością wzroku – krótka historia szkolenia psów przewodników i posługiwania się białą laską*, „Niepełnosprawność – zagadnienia, problemy, rozwiązania", Wyd. PEFRON, Warszawa 2013, no. III (8), pp. 81-107.

E.M. Guzik-Makaruk [ed.]. *Możliwości wykorzystania i wdrożenia nowoczesnych technologii do budowy narzędzi wspomagających codzienne funkcjonowanie osób niewidomych*, Wydawnictwo PPBW Sp. z.o.o, Kraków-Białystok-Poznań 2011 (Publication created within the scope of the development project entitled „Legal and criminological aspects of the implementation and usage of modern technologies in the service of protection of internal security", no. 0R00003707).

E.M. Guzik-Makaruk, E. Jurgielewicz-Delegacz, *Badania nad bezpieczeństwem osób z niepełnosprawnościami, w tym osób niewidomych i słabowidzących, uczestniczących w ruchu drogowym*, „Niepełnosprawność – zagadnienia, problemy, rozwiązania". 2016, no. 1, pp. 27-41.

W.H. Jacobson, *The Art. And Science of Teaching Orientation and Mobility to Persons with Visual Impairments.* AFB Press, New York 2013.

J. Kuczyńska-Kwapisz, J. Kwapisz, *Rehabilitacja osób niewidomych i słabowidzących. Przewodnik metodyczny.* Wyd. Interart, Warszawa 1990.

K. Miler-Zdanowska, *Czynniki warunkujące nauczanie orientacji przestrzennej i samodzielnego poruszania się osób z niepełnosprawnością wzroku,* [in:] K. Czerwińska, M. Paplińska, M. Walkiewicz- Krutak [ed.], *Tyflopedagogika wobec współczesnych przemian przestrzeni edukacyjnej*. Wydawnictwo APS, Warszawa 2015, pp. 289-306.

P. Strumiłło, *Elektroniczne systemy wspomagające niewidomych w poruszaniu się i nawigacji*, „Ergonomia niepełnosprawnym w organizacji pracy i zarządzaniu – projektowanie". Łódź 2008, pp. 160-169.

E. Śmiechowska-Petrovskij, *Kompetencje nauczycieli uczniów niewidomych i słabowidzących w zakresie wspomagających technologii informacyjno-komunikacyjnych*, „Niepełnosprawność. Dyskursy pedagogiki specjalnej", Wyd. UG, Warszawa 2016, no. 21, pp. 106-119.

M. Rotnicki, *Treeker Breeze – pomocnik w orientacji przestrzennej*, „Tyfloświat", 2010, no. 3(9), p. 20.

I. Trębacz, *Uczeni z AGH opracowują GPS dla niewidomych*, „Biuletyn AGH", 2011, no. 47, pp. 14-15.

Polish act of law of 21 November 2008 on changes to the act of law on professional and social rehabilitation and the employment of the disabled, the local taxes and fees act and the food and nutrition safety act, Polish Journal of Laws of 2008, no. 223, item no. 1463.

W.R. Wiener, R.L. Welsh, B.B. Blasch [ed.], *Foundations of Orientation and Mobility. Second Editions*. New York: AFB Press, 1997, pp. 238-259.

M. Walkiewicz-Krutak, *„Od narodzin do dorosłości" – wspomaganie rozwoju umiejętności w zakresie orientacji przestrzennej i samodzielnego poruszania się dzieci i młodych osób niewidomych,* [in:] K. Czerwińska, M. Paplińska, M. Walkiewicz-Krutak [ed.], *Tyflopedagogika wobec współczesnych przemian przestrzeni edukacyjnej*. Wydawnictwo APS, Warszawa, 2015, pp. 259-288.

http://www.kujawsko-pomorskie.pl/index.php?option=com_content&task=view&id = 18003 &Itemid=533 [accessed on: 20.05.2015.].

http://www.naviton.pl/ [accessed on: 21.05.2017].

http://okulistyka.mp.pl/aktualnosci/158694,laska-z-gps-dla-niewidomych [accessed on: 15.05.2017].

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

IZABELLA KUCHARCZYK
Maria Grzegorzewska Pedagogical University in Warsaw

The awareness of emotional states and the educational achievements of students with visual impairments during early adolescence

ABSTRACT: Izabella Kucharczyk, *The awareness of emotional states and the educational achievements of students with visual impairments during early adolescence*. Interdisciplinary Contexts of Special Pedagogy, No. 18, Poznań 2017. Pp. 67-85. Adam Mickiewicz University Press. ISSN 2300-391X

The purpose of this article is to present the results of research of the relationships between awareness of one's emotions and the educational achievements of students with visual impairments during early adolescence. The study included 60 pupils from secondary schools in the region of Masovia. The study used the Emotion Awareness Questionnaire – Revised EAS-30-R. Rieffe, P. Oosterveld, A.C. Miers, M.M. Terwogt (2008) in the Polish adaptation by I. Kucharczyk and A. Dłużniewska, as well as school grades.

KEY WORDS: self-awareness, emotions, pupils with visual impairments

Introduction

Emotions play an important role in the development of every person. They influence social relations, modes of behaviour, the feeling of one's effectiveness, one's self-assessment, they enable

appropriate reactions in difficult situations. The period of adolescence is a time, when not only an emotional crisis, but also emotional instability due to hormonal changes, may occur. This is also a phase of physiological changes leading to the transformation of one's own image[1]. Emotions during adolescence activate themselves depending on the stimuli in action at any given moment, and the reactions depend on the excitation and restraining processes of the nervous system[2].

During adolescence up, a young person becomes more and more aware of the emotions they experience and live. This is related with the process of forming and perfecting of the ability to recognise one's own emotions and the achieved social competences. This takes place thanks to the role that emotional intelligence begins to play.

The concept of emotional intelligence

The concept of emotional intelligence in scientific literature was promoted in the 1980s. Howard Gardner is considered the forerunner who indicated the presence of interpersonal intelligence (the ability to understand people) and intrapersonal intelligence permitting insight into one's own emotions, their identification and consideration during the process of making various decisions, which translates to behaviour[3]. This term was introduced into social sci-

---

[1] I. Obuchowska, *Adolescencja*, [in:]: *Psychologia rozwoju człowieka. Charakterystyka okresów życia, red*. B. Harwas-Napierała, J. Trempała (ed.), Wyd. PWN, Warszawa, 2000, vol. 2, pp. 152-155; M. Radochoński, *Psychopatologia życia emocjonalnego dzieci i młodzieży. Wybrane zagadnienia*, Wydawnictwo Uniwersytetu Rzeszowskiego, Rzeszów 2009.

[2] R. A. Thompson, *Emotion regulation: a theme in search of definition*. "Monographs of the Society for Reaserch in Child Development" 1994, no. 2-3, pp. 25-52.

[3] M. Ledzińska, *Elementy poznawcze i metapoznawcze w inteligencji – od inteligencji poznawczej do emocjonalnej*. „Psychologia Wychowawcza", 1999, 42, pp. 1–10; H. Gardner, *Inteligencje wielorakie. Teoria w praktyce,* Media Rodzina, Poznań 2002.

ences and humanities by Petera Salovey and Johna D. Mayera[4], and popularised by D. Goleman[5]. In the opinion of the latter, the development of a pupil depends not only on their cognitive abilities, but mainly from the level of emotional intelligence understood as a set of abilities and competences increasing one's personal and interpersonal activity shining through in social relations with others.

Despite dozens of years of research on the topic, researchers have not yet been able to come up with a joint characterisation of emotional intelligence. Some characterise it as the ability (a set of abilities) composed of four groups of abilities: the ability to perceive and express emotions; emotional abilities supporting thinking; the ability to understand and utilise emotions in various situations; the ability of conscious emotional adjustment, meaning, the processes of excitation and restraining of emotions in social situations[6].

Others perceive emotional intelligence as knowledge, meaning, a set of experiences of emotional character integrated in cognitive structures[7]. Speaking of emotional intelligence as knowledge, one needs to remember that this knowledge is composed of information about the causes of emergence of emotions, words describing emotional states, data concerning emotional expression in social situations, the influence of emotions on the undertaken activities as well as self-awareness of emerging emotions and the modes of reaction[8].

---

[4] P. Salovey, J.D. Mayer, *Emotional intelligence,* "Imagination, Cognition, and Personality", 1990, 9, pp. 85–211.

[5] D. Goleman, *Inteligencja emocjonalna. Sukces w życiu zależy nie tylko od intelektu lecz od umiejętności kierowania emocjami*. Wyd. Media Rodzina, Poznań, 2012; S. Rietti, *Emotional Intelligence as Educational Goal: A Case for Caution*, "Journal of Philosophy of Education", 2008, 42 (3-4), pp. 631-643; M. Feldmann, P. Jeffery, *Co-curricular Assessment Scale Development,* "The Journal of General Education", 2011, 60, 1, pp. 16-42.

[6] P. Salovey, J.D. Mayer, *Emotional intelligence*. "Imagination, Cognition, and Personality", 1990, 9, pp. 185–211.

[7] C.E. Izard, *Emotional intelligence or adaptive emotions?* "Emotion", 2001, 1, pp. 249–257.

[8] A. Matczak, K.A. Knopp, *Znaczenie inteligencji emocjonalnej w funkcjonowaniu człowieka*, Wydawnictwo Stowarzyszenie Filomatów, Liberi Libri. 2013.

A third group of researchers, among them Konstantinos V. Petrides and Adrian Furnham, treat emotional intelligence as a property (set of various properties). This means that each person evaluates subjectively their emotional abilities in terms of their recognition, processing and usage in various situations[9].

The last group of researchers, e. g. Reuven Bar-On[10], considers emotional intelligence to be a competence or their set. In his opinion, emotional intelligence is a set of postcognitive abilities that enable a person to emotionally handle various more or less difficult social tasks. The author also hinted at five components of emotional intelligence that are necessary to achieve social success. They include: the interpersonal component, the intrapersonal component, the adaptive component, the component permitting the coping with stress and with the mood. Emotional intelligence as a competence is also handled by D. Goleman[11], who had differentiated between five of its constituent components: self-awareness (meaning, knowledge of the experienced emotions), self-adjustment (meaning, the ability to control emotions), motivation to act (with the use of emotions), empathy (the ability to feel in to the emotional states of others), social abilities (the ability to make contacts with other people and to invoke specific reactions in people).

Carolyn Saarni believes that instead of the term of emotional intelligence, the term of emotional competence should rather be used. In her concept, she distinguishes between eight different constituent components, whereby some of them are referred to as abilities, and other – as skills. The author is of the opinion that these competences

---

[9] Wytykowska, A., Petrides, K.V,. *Inteligencja emocjonalna jako dyspozycja. Polska adaptacja skali do badania inteligencji emocjonalnej jako cechy TEIque Petridesa i Furnhama,* „Psychologia, Edukacja i Społeczeństwo", 2007, 4, pp. 97–110.

[10] R. Bar-On, *Emotional Quotient Inventory. A measure of emotional intelligence. User's manual*. Multi-Health Systems Inc, Toronto 1997, p. 3.

[11] D. Goleman, *Inteligencja emocjonalna w praktyce,* Media Rodzina, Poznań, 1999; A. Jaworowska, A. Matczak, *Kwestionariusz Inteligencji Emocjonalnej INTE S. Schutte, J.M. Malouffa, L.E. Hall, D.J. Haggerty'ego, J.T. Cooper, C.J. Goldena, L. Dornheim. Podręcznik,* Pracownia Testów Psychologicznych PTP. Warszawa 2008.

are there to help the individual in various social situations to react appropriately under the influence of emotions, but they also provide the ability to use them in interactions with others. The higher the level of one skill, the more the level of a different one will rise.[12]

Emotional intelligence is not innate, and it takes shape with age. Analyses of subject literature indicate that researchers are not unified in their opinion on the factors determining emotional intelligence. Some believe that it depends on biological factors, while a different group of researchers says that its development is influenced by social factors[13].

To summarise, the present article assumes that emotional intelligence is a set of skills to cope in various social situations as a result of acquired abilities spanning emotions, as well as the knowledge on their subject[14].

Emotional intelligence and visual impairments

The period of adolescence is a time, when a pupil is learning to cope with difficulties stemming e. g. from emotional instability. At this stage, youths have to face changes related to their perception of themselves and others, seek social approval in their group of peers, compare themselves with others. For a pupil with a sight impairment, this is a period just as difficult as for one with perfect vision.

---

[12] C. Saarni, *Kompetencja emocjonalna i samoregulacja w dzieciństwie*. [in:] *Rozwój emocjonalny a inteligencja emocjonalna,* ed. by P. Salovey, D. J. Slyter, Dom Wydawniczy Rebis, Poznań 1999, pp. 75–125.

[13] D. Goleman, *Inteligencja emocjonalna. Sukces w życiu zależy nie tylko od intelektu lecz od umiejętności kierowania emocjami,* Wyd. Media Rodzina, Poznań, 2012; A. Matczak, *Zarys psychologii rozwoju. Podręcznik dla nauczycieli,* Wydawnictwo Akademickie „Żak", Warszawa, 2003.; J.D. Mayer, P. Salovey, *Czym jest inteligencja emocjonalna?* [in:] *Rozwój emocjonalny a inteligencja emocjonalna, ed.,* P. Salovey, D. Sluyter (ed.), Dom Wydawniczy Rebis, Poznań 1999, pp. 23–74.

[14] A. Jaworowska, A. Matczak, *Kwestionariusz Inteligencji Emocjonalnej INTE S. Schutte, J.M. Malouffa, L.E. Hall, D.J. Haggerty'ego, J.T. Cooper, C.J. Goldena, L. Dornheim. Podręcznik,* Pracownia Testów Psychologicznych PTP. Warszawa 2008.

They experience the same dilemmas and social dissonances as their perfect-sighted peers. Research on the emotional intelligence of adolescents with weak eyesight or those who are blind is relatively rare both in world as well as Polish literature.

The problem of development of emotional intelligence among pupils with sight impairments was taken on by Muhammmad Arshad and Muhammad Aslad Lodhi[15]. they have studied 30 blind pupils and 30 visually-impaired pupils aged between eight and 18 using the Emotional Intelligence Questionnaire by Bar-On EQ-1-YU, composed of 60 items subdivided into seven sub-scales (intrapersonal skills, interpersonal skills, adaptation skills, coping with stress, general mood, positive impressions and lack of consequence in behaviour). According to the authors, problems with sight exacerbate the difficulties in coping with daily challenges. Visually-impaired adolescent pupils, due to the limited resources concerning e. g. understanding their own emotions, are more sensitive, unsure of themselves, are more often than their peers characterised by reduced self-assessment and bad moods. Arshad and Muhammad Aslad Lodhi have also determined that this group is characterised by a reduced frequency of social contacts.

Studies conducted by Kumar and Singh[16] on a group of 150 students with sight impairments, and an equally-sized group of well-sighted peers studying at higher education facilities in India, have brought the conclusion that students with damaged eyesight are characterised by a lower level of emotional intelligence.

The research of Rani[17], in turn, concerning the emotional intelligence of visually-impaired and blind pupils conducted at special

---

[15] M. Arshad, M. Lodhi, *Congenital Blind and Sight; Emotional Inteligence Sighted.* "The Professional Medical Journal", 2015, 22(10), pp. 1336-1344.

[16] S. Kumar, J. Singh, *Emotional intelligence and adjustment among visually impairment and sighted school students*. "Asian Journal of Multi-Dimensional Research", 2013, 2(8), pp. 1-8.

[17] R. Rani, *Emotional intelligence and academic achievement of visually disabled students in integrated and segregated schools*. "Disabilities and Impairments", 2011, 25 (1&2), pp. 44-50.

and integration schools in Delhi had shown that pupils taught at integration schools have a higher level of emotional intelligence. A correlation had been shown to exist both between the type of school as well as academic success, and the level of emotional intelligence. The above conclusions are also confirmed by the research of S. Parween[18].

In the opinion of L. A. Beaty, lack of eyesight may contribute to the reluctance to undertake work in the future, low social approval, poor academic results and poor self-assessment. These difficulties among teenagers may often lead to the emergence of various psychological, mainly emotional, problems.[19]

Own research methodology

In order for a pupil to be able to develop themselves, they have to be provided with appropriate conditions. The educational and social environment plays one of the key roles. It allows one to explore oneself. The development of the emotional sphere conditions the development of emotional intelligence. The lack of sensory input data not only prevents, but delays the acquisition of abilities related to the analysis of the emerging and experienced emotions. This requires more self-development, but also teaches them the appropriate modes of reaction.

The purpose of the presented study was obtaining an answer to the questions: Do there exist differences in the area of school achievements between visually-impaired pupils and well-sighted pupils during adolescence, and what are these? Do there exist any relations between the self-awareness of emotional states emerging

---

[18] S. Parween, *Variables Influencing Emotional Intelligence of Visually Impaired Students in Higher Education.* "Disability Influencing Emotional Intelligence of Visually Impairments Students in Higher Education", 2015, vol. 26 (1), pp. 97-108.

[19] L.A. Beaty, *Adolescent self-perception as a function of vision loss*, "Adolescence", 1992, 27, pp. 707-714.

in adolescent visually-impaired pupils and their school achievements, and what are these?

Own research used the diagnostic survey method, and as the tool applied was the Emotion Awareness Questionnaire – Revised EAQ-30-R. of C. Rieffe, P. Oosterveld, A.C. Miers, M.M. Terwogt (2008) in the Polish adaptation of I. Kucharczyk and A. Dłużniewska[20]. This questionnaire is made up of 30 theses. It is foreseen for the study of awareness of own emotional states among youths aged between 12 and 17. The areas studied in the questionnaire span the following categories: *Identification of emotions* (7 items), *Verbal sharing of emotions* (3 items), *Not hiding emotions* (5 items), *Bodily awareness* (5 items), *Attending to others' emotions* (5 items), *Analyses of emotions* (5 items). The questionnaire uses the three-level Likert scale. In order to determine school achievements, the mean notes were considered that the pupils had been awarded in the individual classes.

The article below takes into account only certain constituent components of emotional intelligence according to the concept of Goleman. This stemmed from the structure and assumptions of the EAQ-30-R of C. Rieffe, P. Oosterveld, A.C. Miers, M.M. Terwogt utilised in the research below. Goleman had distinguished between five components of emotional intelligence (these being: self-awareness of emotions, self-adjustment of emotions, motivation to act, empathy, social skills). In questionnaire EAQ-30-R, in turn, the authors had distinguished the areas of *Identification of emotions*, *Verbal sharing of emotions* and *Analyses of emotions* as the counterpart of

---

[20] The reliability of the EAQ factors was checked by determining their internal coherence and absolute stability. The coefficients of coherence and stability were between 0.74 and 0.77. The questionnaire was translated into Polish and adapted in the scope of the research project titled *Emotional self-awareness and social competences as compared to educational achievements among lower secondary school youths with and without specific learning difficulties* („Samoświadomość emocji i kompetencje społeczne a osiągnięcia edukacyjne młodzieży szkół gimnazjalnych z i bez specyficznych trudności w uczeniu się") financed by the Maria Grzegorzewska Paedagogical University in Warsaw (BSTP WNP 16/17 I). During the conducted study Cronbach's α internal coherence coefficient exceeded 0.8.

Goleman's self-awareness; *Not hiding emotions* as the counterpart to self-regulation. Both D. Goleman as well as C. Rieffe, P. Oosterveld, A.C. Miers, M.M. Terwogt had distinguished *Empathy*. In addition, the factor of *Bodily awareness* was used, but the components of social skills and motivation to act, as indicated by Goleman, were not indicated.

Organisation and area of research

The conducted study spanned 30 pupils with visual impairments (persons with poor eyesight with a sight sharpness in the range of 0.03 to 0.01 without additional feedback) and 30 well-sighted pupils.

27 visually-impaired pupils attend the Zofia Galewska Special School and Education Facility in Warsaw, three pupils attended a general public integration school in Warsaw. The well-sighted pupils attended a general public lower secondary school in Warsaw. The choise of persons for the first group was purposeful (the group was selected to include visually-impaired pupils), and for the group of the well-sighted – random.

The groups were chosen so as to be equal – from 1st grade of the lower secondary school – seven pupils each; from 2nd grade – 11 pupils each, and from 3rd grade – 12 pupils each. The study was conducted in the period of February and March of 2017.

Results analysis and interpretation

Table 1 shows data concerning the descriptive statistics of the individual factors of questionnaire EAQ-30-R foreseen for the study of emotional awareness. A detailed analysis of the numerical data obtained in the research process lets one show that visually-impaired pupils had achieved the highest results of all six factors in the area of *Analyses of emotions* (the mean achieved result is 2.500;

Table 1. Descriptive statistics achieved by the analysed pupils per the Emotion Awareness Questionnaire – Revised EAS-30-R. C. Rieffe, P. Oosterveld, A.C. Miers, M.M. Terwogt (2008)

Factor	Pupil group	N	M	SD	M:M_{max} in %	r. min.	r. max	X_{typ} (M±SD)	k	g
Identification of emotions	PVI	30	2.100	0.547	70.00	1.20	3	1.553–2.647	–1.02	.081
	WSP	30	2.15	0.579	71.66	1.14	3	1.195–3.385	.819	1.628
Verbal sharing of emotions	PVI	30	1.800	0.610	60.00	1	3	1.190–2.41	–.380	.514
	WSP	30	2.222	0.555	74.00	1	3	1.667–2.777	–.610	–.145
Not hiding emotions	PVI	30	1.995	0.460	65.00	1	2.86	1.535–2.460	–.322	.112
	WSP	30	2.353	0.405	78.43	1.6	3	1.948–2.758	–.813	.181
Bodily awareness	PVI	30	1.646	0.483	54.86	1	2.6	1.163–2.129	–1.07	.427
	WSP	30	2.193	0.652	73.10	1	3	1.541–2.845	–1.44	–.140
Attending to others' emotions	PVI	30	1.793	0.513	59.76	1	2.6	1.28–2.306	–1.215	.833
	WSP	30	2.273	0.447	75.76	1.4	3	1.826–2.72	–.526	.179
Analysis of emotions	PVI	30	2.500	0.447	83.33	1.8	3	2.053–2.947	–1.415	.833
	WSP	30	2.233	0.100	74.43	1.2	3	2.133–2.333	–1.293	–.131

Explanations to the table: PVI – pupils with visual impairments; WSP – well-sighted pupils; M – arithmetic mean; SD – standard deviation; r. min. – lowest result achieved for the factor; r. max. – highest result achieved for the factor; Xtyp – border of typical area; k – curtosis; g – skewness (distribution asymmetry coefficient)

Table 2. Differences in the mean grades achieved for individual classes for the analysed group of adolescent visually-impaired pupils (N = 30) and well-sighted pupils (N = 30)

Variable	Pupils with visual impairments (N = 30)		Well-sighted pupils (N=30)		t	df	p
	M	SD	M	SD			
Conduct	3.766	1.040	4.793	1.322	–3.342	58	0.001*
Polish	2.700	1.055	3.016	1.163	–1.104	58	0.273
Foreign language	2.766	1.194	3.00	1.159	–0.768	58	0.466
History	2.666	0.088	3.233	1.330	–1.943	58	0.057*
Geography	2.866	0.899	3.536	0.905	–2.875	58	0.006*
Biology	3.100	0.994	3.250	0.953	–0.596	58	0.553
Chemistry	2.356	0.615	3.133	0.964	–3.718	58	0.001*
Physics	2.566	0.552	3.183	0.951	–3.070	58	0.003*
Mathematics	2.500	1.042	3.050	1.020	–2.066	58	0.043*
Computer science	3.646	0.802	5.233	0.597	–8.681	58	0.000*
Art	4.420	0.829	3.193	1.013	5.130	58	0.000*
Technical education	4.613	0.808	4.866	0.776	–1.238	58	0.022*

Clarifications to the table: M – arithmetic mean; SD – standard deviation; t – Student's *t*-test result; df – degrees of freedom; p – significance level; * statistical significance of 0.01

SD = 0.447; minimum result – 1.8; maximum result – 3). The lowest result in turn was achieved in the area of *Bodily awareness* (M = 1.646; SD = 0.483; minimum result – 1; maximum result – 2.6). In the group of well-sighted pupils, these values are slightly higher. The highest value was achieved in the factor of *Not hiding emotions* (M = 2.353; SD = 0.405; minimum result – 1,6; maximum result – 3), and the lowest in the factor *Identification of emotions* (M = 2.15; SD = 0.579; minimum result – 1,14; maximum result – 3).

A further item under analysis is the determination of the significance of statistical differences in the mean achieved for grades in the individual classes for pupils with visual impairments and well-sighted pupils (table 2). Considered were the mean grades achieved by the pupils for the end of the winter semester in the 2016/2017 schoolyear.

Pupils with visual impairments had achieved the best grades in *Technical education* (M = 4.613). It is lower than the result of well-sighted pupils by 0.253. The second place was taken by results in *art* (M = 4.420) and it is at the same time the only class, in which visually-impaired pupils obtain better results than well-sighted peers, by 1.227.

The best means were achieved by visually-impaired pupils in *chemistry* (M=2.356) and it is lower than the result for well-sighted pupils by 0.777; *mathematics* (M = 2.500) and *physics* (M = 2.566). These grades are typical exact sciences requiring from the pupils attention, but also observation of detail, focus on changes in events, changes in signs in calculations and great precision. A visually-impaired pupil is not always able to precisely focus mathematical calculations, because using magnifying glasses or equipment, they may not remember the individual signs, changes of symbols, and it is easier for them to lose track in the volume of calculations. They also require more time to read the mathematical, chemical or physical formulae.

The highest difference in the achieved mean grade between the groups was in *Computer science* and it is 1.587 in favour of the well-sighted pupils (visually-impaired pupils had achieved a mean result

of 3.464; the well-sighted M = 5 .233). Computer science is a class, where pupils learn to search for, collect and process information from various sources, processing of images, texts, numerical data, motifs, animations, multimedia presentations, furthermore to solve algorithmic problems. A pupil also gets to know various programming languages, or code. It is sufficient to omit a single character in a code, for the entire procedure to be required to be written anew. For a visually-impaired pupil, this is not only difficult, but also very tiring in terms of the amount of eye sight work on specific material.

Statistical calculations concerning the mean results in the individual classes, as achieved by adolescent visually-impaired and well-sighted pupils indicate that there exist statistically significant differences in the area of such classes as *geography* ($t = -2.875(58)$; $p < 0.006$); *chemistry* ($t = -3.718(58)$; $p < 0.001$); *physics* ($t = -3.070(58)$; $p < 0.003$); *mathematics* ($t = -2.066(58)$; $p < 0.043$), *computer science* ($t = -8.681$ (58); $p < 0.000$). However, results in the area of the mean in *history* are at the limit of statistical significance ($t = 1.943(58)$; $p < 0.057$). More information on this subject is yielded by the analysis of the obtained material, conducted based on the arithmetic means. Visually-impaired pupils had achieved worse results in all the listed classes. This may be caused by the fact that during these classes, the main requirement is work using sight, e. g. when writing down chemical formulae, substitution and changing of signs in equations, sketching out function graphs, designating vectors, which is possible if one organises their work space on paper well. The situation may wonder that in such a class as geography, visually-impaired pupils had achieved results worse by 0.67 of a grade. Geography does not require the sketching of graphs, indeed, but it is work with a map. Just like in physics, good spatial orientation in order to locate a specific place is required, meaning that not every visually-impaired pupil is able to cope with this.

In analysing the mean results, one can note that in the area of *technical education*, the groups of visually-impaired pupils and well-sighted pupils differ significantly ($t = -1.238(58)$; $p < 0.022$). In the group of visually-impaired pupils, a significantly lower mean result

(M = 4.613) was recorded as compared to the group of well-sighted pupils (M = 4.866). The base curriculum indicates that this is a class, during which pupils learn about and understand the need to construct various model types, develop solutions for typical technical problems emerging during design (draw block diagrams, compare the functions of the models built, present sketches), develop detailed design solutions, design e. g. models of various complexity levels, learn to use model design tools and equipment, and let the models they built run, if they build such models. Technical education classes can take the form of sewing, electronics, manual work. Noteworthy is the fact that irrespective of the form of the technical class, all require the use of sight from pupils. In case of visually-impaired pupils, these abilities are lower, the work progress speed is often reduced due to the time required to visually acquaint one with fine components. Technical classes require a very high degree of precision and exactness, measuring, calculating and checking whether each element, e. g. of a constructed model, is suitable with the rest. A visually-impaired pupil is not always able, even with the support of modern optical and non-optical equipment, to state whether their model does not work, at what point were the elements wrongly connected, and why fine components don't fit in with each other.

Considering the results of Student's *t*-test, one notes that in terms of the *art* class, a statistically significant difference exists between the visually-impaired and well-sighted groups ($t = 5.130(58)$, $p < 0.000$). Visually-impaired youths, compared to well-sighted youths, have achieved higher mean results in this class. The curriculum indicates that this class should be either related to one type of art or be interdisciplinary; this can be a class in visual arts, music, or a theatre group. The art class can be conducted in the form of a project or regular classes, depending on the abilities and resources of the school, as well as the interests of the pupils. As the study was conducted at a special education facility and a general public lower secondary school, visually-impaired pupils and well-sighted pupils were able to participate in differently-profiled classes, hence the

disparity of the mean results for the benefit of the visually-impaired. One needs to remember that the group of visually-impaired can be very varied – the sight sharpness for the visually impaired can range from –0.03 to + 0.05. This causes certain pupils to only require e. g. a magnified image, with others unable to work using their eyes for longer than 30 minutes, requiring a break from visual stimuli afterwards. If visually-impaired pupils had developed their graphic design skills in art classes, creating works that did not require the usage of eyesight (usage of techniques not requiring sight), relying instead on the other senses, hence they were able to receive better grades in this class than well-sighted pupils. The well-sighted receive over 80% of their data from visual data. If they are supposed to work e. g. with clay, it could turn out that it is a very difficult task for them, and lacking the feeling of visual security hay hamper the development of expression. Should the art class be related to music, then the visually impaired could utilise their good auditory memory, which may also contribute to them getting better results than the well-sighted pupils.

There also exists a statistically significant difference between the two groups in terms of conduct ($t = -3.342(58)$, $p < 0.001$) in favour of sighted pupils. This may bean that visually-impaired pupils do not always behave according to standards approved at a specific school, which causes a reduction in the conduct grades. Their socially unacceptable conduct need not necessarily stem from the lack of knowledge of social norms, but of the failure to imagine what would happen should they behave in this or that way, and the lack of foresight. A different explanation may be the fact that visually-impaired pupils have fewer chances to observe various modes of behaviour due to their limited field of vision.

An amendment to the analyses on the relationship between self-awareness of emotions and school achievements of visually-impaired and well-sighted pupils is the determination of statistically important relations in place between the individual variables.

The group of pupils with visual disabilities shows four significant relations. There exists a moderate negative, statistically signi-

ficant relationship between the level of *Not hiding emotions* and results from the *chemistry* class ($r = -0.528$; $p < 0.003$) and a negative, low, statistically significant relation between the level of *Not hiding emotions* and the results in *computer science* ($r = -0.365$; $p < 0.048$). Such relationships may indicate the fact that the better grades pupils achieve in these two exact science classes, the more probable it is that they have greater fear of disclosing their emotions. They do not want to show their emotions, because they fear the teacher's reactions. Whereby the level of *Bodily awareness* on the one hand and such classes as *computer science* ($r = -0.365$; $p < 0.48$) and *art* ($r = -0.365$; $p < 0.48$) show negative, low, statistically significant relations. This means that the better grades visually-impaired pupils get in these two classes, the less do they analyse the ways their bodies act, as they focus on the success, meaning, the good grades, not concentrating on the way their bodies react.

In the group of adolescent well-sighted pupils, there exists a negative, low, statistically significant relation between the level of *Not hiding emotions* and the results achieved in such classes as *Polish* ($r = -0.384$; $p < 0.040$) and *foreign language* ($r = -0.366$; $p < 0.046$), and there exists a negative, moderate, statistically significant relation between the level of *Bodily awareness* and the results achieved in *biology* ($r = -0.413$; $p < 0.023$).

Summary and conclusions

The purpose of the presented study was to determine, whether there exist differences in the area of school achievements between visually-impaired pupils and well-sighted pupils during adolescence, and what are they; and whether there exist any relations between the self-awareness of emotional states emerging in adolescent visually-impaired pupils and their school achievements, and what are these?

The analysed results indicate that there exist statistically significant differences between visually-impaired pupils and their well-

sighted counterparts in the period of adolescence in terms of the following classes: *history, geography, chemistry, mathematics, physics, computer science, art* and *technical education* as well as *conduct*. Beside art, visually-impaired pupils had received worse grades than their peers. The reasons need to be searched for in the fact that they often need to make use of various assistance tools in order to understand the relevant content. In addition, the usage of maps, e. g. during history or geography, when one is not able to look at an image globally but instead needs to subdivide information into parts, hay hinder the encoding of data. Chemistry, physics and mathematics are exact sciences requiring the pupil to note rows of digits, changing signs, and also have a global overview of the row of digits and symbols, vectors and diagrams. A pupil with limited visual perception may mainly focus on attempts to read the relevant strings using optical and non-optical aids, instead of focusing on a solution.

The analysed results indicate that for the studied adolescent visually-impaired pupil group, there exist statistically significant relationships between the level of *Not hiding emotions* and the level of *Bodily awareness* and the school results achieved in such classes as chemistry, computer science and art. The better results pupils achieve in these classes, the bigger fear may emerge of disclosing their emotions.

In relation to the above, it is very important to support pupils by drawing up appropriate aid in terms of schemes, classes, workshops concerning the discovery of the experienced emotions. It would also be appropriate to arrange training seminars to show how the body reacts in various situations, both the pleasant, as well as the difficult, stressful ones. Pupils, by conducting various chemical experiments, or succeeding in computer science, have a greater need to disclose their emotions, and become more aware in this area. A similar situation may also apply to art classes. Hence, it is advisable to provide visually-impaired pupils with opportunities to express themselves and for them to attempt to understand what they are feeling.

The cognition of, understanding of and the ability to analyse the experienced emotions is very important in the process of shaping of relationships with others, creation of relations, acquisition of competences useful in adult life. The self-awareness of one's own emotional states permits self-development, improves the ability of one's own effectiveness and one's self-assessment. Hence, educational and rehabilitation facilities, where adolescent pupils learn, should not only convey knowledge on the base curriculum, but should also take into account the emerging emotions, and provide the ability for them to be expressed, in order for attempts at their understanding to be made.

References

Arshad M., Lodhi M., Congenital Blind and Sight; Emotional Inteligence Sighted. "The Professional Medical Journal", 2015, 22(10), pp. 1336-1344.

Beaty L.A., Adolescent self-perception as a function of vision loss, "Adolescence", 1992, 27, pp. 707- 714.

Bar-On R., Emotional Quotient Inventory. A measure of emotional intelligence. User's manual. Multi-Health Systems Inc, Toronto 1997, p. 3.

Feldmann M., Jeffery P., Co-curricular Assessment Scale Development, "The Journal of General Education", 2011, 60, 1, pp. 16-42.

Gardner H., Inteligencje wielorakie. Teoria w praktyce, Media Rodzina, Poznań 2002.

Goleman D. Inteligencja emocjonalna. Sukces w życiu zależy nie tylko od intelektu lecz od umiejętności kierowania emocjami. Wyd. Media Rodzina, Poznań 2012.

Goleman D., Inteligencja emocjonalna w praktyce, Media Rodzina, Poznań 1999.

Izard C.E., Emotional intelligence or adaptive emotions? "Emotion", 2001, 1, pp. 249–257.

Jaworowska A., Matczak A., Kwestionariusz Inteligencji Emocjonalnej INTE S. Schutte, J.M. Malouffa, L.E. Hall, D.J. Haggerty'ego, J.T. Cooper, C.J. Goldena, L. Dornheim. Podręcznik, Pracownia Testów Psychologicznych PTP. Warszawa 2008.

Kumar S., Singh J., Emotional intelligence and adjustment among visually impairment and sighted school students. "Asian Journal of Multi-Dimensional Research", 2013, 2(8), pp. 1-8.

Ledzińska M., Elementy poznawcze i metapoznawcze w inteligencji – od inteligencji poznawczej do emocjonalnej. „Psychologia Wychowawcza", 1999, 42, pp. 1–10.

Matczak A., Zarys psychologii rozwoju. Podręcznik dla nauczycieli, Wydawnictwo Akademickie „Żak", Warszawa 2003.

Matczak A., Knopp K.A., Znaczenie inteligencji emocjonalnej w funkcjonowaniu człowieka, Wydawnictwo Stowarzyszenie Filomatów, Liberi Libri. 2013.

Mayer J.D., Salovey P., Czym jest inteligencja emocjonalna? [in:] Rozwoj emocjonalny a inteligencja emocjonalna, ed., P. Salovey, D. Sluyter ed.), Dom Wydawniczy Rebis, Poznań 1999, pp. 23–74.

Obuchowska I. Adolescencja, [in]: Psychologia rozwoju człowieka. Charakterystyka okresów życia, ed. by B. Harwas-Napierała, J. Trempała (ed.), Wyd. PWN, Warszawa 2000, vol. 2, pp. 152-155; M. Radochoński, Psychopatologia życia emocjonalnego dzieci i młodzieży. Wybrane zagadnienia, Wydawnictwo Uniwersytetu Rzeszowskiego, Rzeszów 2009.

Parween S., Variables Influencing Emotional Intelligence of Visually Impaired Students in Higher Education. "Disability Influencing Emotional Intelligence of Visually Impairments Students in Higher Education", 2015, vol. 26 (1), pp. 97-108.

Rani R., Emotional intelligence and academic achievement of visually disabled students in integrated and segregated schools. "Disabilities and Impairments", 2011, 25 (1&2), pp. 44-50.

Rietti S., Emotional Intelligence as Educational Goal: A Case for Caution, "Journal of Philosophy of Education", 2008, 42 (3-4), pp. 631-643.

Salovey P., Mayer J.D., Emotional intelligence, "Imagination, Cognition, and Personality", 1990, 9, pp. 85–211.

Saarni C., Kompetencja emocjonalna i samoregulacja w dzieciństwie. [in:] Rozwój emocjonalny a inteligencja emocjonalna, ed. by P. Salovey, D.J. Slyter, Dom Wydawniczy Rebis, Poznań, 1999, pp. 75–125.

Thompson R.A., Emotion regulation: a theme in search of definition. "Monographs of the Society for Reaserch in Child Development" 1994, no. 2-3, pp. 25-52.

Wytykowska, A., Petrides, K.V., *Inteligencja emocjonalna jako dyspozycja. Polska adaptacja skali do badania inteligencji emocjonalnej jako cechy TEIque Petridesa i Furnhama,* „Psychologia, Edukacja i Społeczeństwo", 2007, 4, pp. 97–110.

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

MAGDALENA OLEMPSKA-WYSOCKA

Department of Special Educational Needs
Faculty of Educational Studies, Adam Mickiewicz University,
Poznań

Current tendencies in choosing the form of education of students with hearing impairment in the current educational system in Poland

ABSTRACT: Magdalena Olempska-Wysocka, *Current tendencies in choosing the form of education of students with hearing impairment in the current educational system in Poland*. Interdisciplinary Contexts of Special Pedagogy, No. 18, Poznań 2017. Pp. 87-107. Adam Mickiewicz University Press. ISSN 2300-391X

The aim of this article is to present changes in the education of deaf and hard of hearing persons over the last 7 years. The trends in the education of children with hearing impairment clearly point to the departure from special forms of education in favour of public education and integration. These changes, however, are a challenge for both teachers, parents and students with hearing impairment.

KEY WORDS: hard of hearing student, deaf student, education of students with hearing impairment

Introduction

The development of technology and the widespread use of hearing aids, cochlear implants and, above all, the prevalence of hearing screening have led to the use of functional classification in the edu-

cation of the deaf and hard of hearing, which distinguishes two groups of children with hearing impairment. These include deaf children and hard of hearing children. Deaf children are children with hearing impaired to such an extent that it does not allow them to receive speech sounds naturally: i.e. by hearing. The characteristic feature of this group of children is the inability to master verbal speech in the natural way (by imitation). The second group, hard of hearing children (hearing impaired), includes children with hearing impaired to a degree that limits the reception of speech by hearing; hard of hearing children can learn verbal speech by natural means: through hearing (Szczepankowski, 1998). K. Krakowiak (2016) also emphasizes that the new circumstance of the education of the deaf and hard of hearing area a result of, among other things: changes in medical knowledge, achievements in neuroscience and developmental psychology, the development of speech therapy and practice, the development of new methods of language education, the development of new philological knowledge of sign language. In the case of children with hearing impairment, the simultaneous initiation of screening programs and a network of early developmental support institutions is very important (Podgórska-Yachnik, 2016).

These changes imply completely new opportunities in the field of education, early support for the development of children with hearing impairment, as well as psychological and pedagogical help. Due to the above, it is important to remember that special educational needs of children with hearing impairment have changed over the past 20-30 years and require the use of other systemic solutions.

Decisions, qualification procedure for the form of education

Students with hearing impairment have the possibility to study in public schools, in integration schools or schools with integration classes and in special schools. Pursuant to the *Regulation of the Min-*

ister of National Education of 18 September 2008 on decisions and opinions issued by multidisciplinary teams operating in public psychological and pedagogical counselling centres, as well as with the Regulation of the Minister of National Education of 1 February 2013 on the detailed rules of operation of public psychological and pedagogical counselling centres, including public specialist centres, along with the amending regulations,[1] decisions on the need for special education, for example, for hearing impaired children (hard of hearing or deaf), are issued by multidisciplinary teams organized in public psychological and pedagogical counselling centres[2].The multidisciplinary team is appointed by the director of the counselling centre. It includes: the director of the centre or a person authorized by him/her, a psychologist, educator, doctor, speech therapist, who develop an appropriate diagnosis[3].

At the request of the applicants[4], a decision on education is taken at the meeting of the multidisciplinary team, after the analysis of the medical documentation provided by the applicants and on the basis of specialized tests conducted at the counselling centre (psychological, pedagogical, speech therapy). The team decides on the need for special education or lack of such need. Decisions concerning the need for special education provided by a psychological and pedagogical counselling centre consist of a diagnostic part, of the resulting decision part, including the conditions for realization of educational needs, the form of stimulation, revalidation, therapy, improvement, development of the potentials and strengths of the child and other forms of psychological and pedagogical help. It is

---

[1] Regulation of the Minister of National Education of 25 August 2017 amending the regulation on detailed rules of operation of public psychological and pedagogical counselling centres, including public specialized centres.

[2] According to the regulation, decisions on the need for special education and decisions on the need for individual teaching of blind and visually impaired children, deaf and hard of hearing children and children with autism and AS are issued by teams operating in the counselling centres indicated by the education superintendent, with the consent of the authority in charge.

[3] According to the regulation, the team may also include other specialists, if their participation in the team is necessary.

[4] Parents, legal guardians of the child.

worth noting that the decision includes the recommended form of special education for hearing impaired students: either in a public school or in an integration school (or an integration class) or in a special school (or a special class). However, the final decision concerning the school in which the child will learn is taken by the parent. On the basis of the decision submitted to the authority in charge, the child is referred to the recommended form of education (see Chrzanowska, 2015; Dziurda-Multan, 2007; Szumski, 2004, 2011). A decision is issued for a period of one school year, the educational stage, the education period in the school concerned.

M. Chróścicka, W. Kodura et al. (2005) on the basis of many years of experience in the diagnosis and monitoring of effects in school education of children with hearing impairment, developed a scheme for qualifying the child to an appropriate form of education. If the child with a hearing impairment achieves above-average results in the WISC-R[5] full scale (verbal and non-verbal), communicates with the environment through verbal communication, has acquired basic school techniques and the parents/carers work with the child, we can predict success in the realisation of the public school program. It is also important that the teacher, who is working with the student, understands the complexity of hearing impairment. If a child with a hearing impairment achieves an above-average result, but only on a verbal scale, communicates through verbal communication, but to a limited extent, has acquired basic school techniques and the parents/carers work with the child, the child may attend compulsory schooling in an integration class and an individual program tailored to the child's ability may be requested. However, if a child with a hearing impairment achieves only mediocre results in the tests, communicates through verbal communication, but only to a very limited extent, has acquired poor school techniques, and the parents/carers are constantly working with the child, then it is recommended that the child attends

[5] WISC-R – (Wechsler Intelligence Scale for Children) – modified version. This is a psychological test used to measure general intelligence.

a school for children with a hearing impairment. In order for the form of education, proposed by a psychological and pedagogical counselling centre, be optimal, the following factors should be taken into account: the time of diagnosis, hearing and speech rehabilitation, the benefits of hearing aids (also cochlear implants), parental involvement in therapy, level of language development, level of intellectual ability, mastery of school techniques, concentration, the ability to work independently, emotional and social functioning (Chróścicka, Kodura et al., 2005).

Educational opportunities

According to the Law on Education[6], as well as relevant ministerial regulations[7], a student who is covered by special education (in all three forms – special, integrative, public) – must have a well-tailored pre-school education program and curriculum adapted to his or her individual developmental and educational needs, as well as psychophysical capabilities. The basis for adaptation is the Individual Education and Therapeutic Program (IETP), which includes recommendations for working with the child, as included in the decision on the need for special education. The program is devel-

---

[6] Law of December 14, 2016 – Educational Law (Journal of Laws 2016, item 59).

[7] Regulation of the Minister of National Education of 24 July 2015 *on the conditions for the organization of teaching, education and care for children and youth with disabilities, socially maladjusted and at risk of social maladjustment* (Journal of Laws 2015, item 1113), Regulation of the Minister of National Education of 28 August 2017 amending the regulation *on the conditions for the organization of teaching, education and care for children and young people with disabilities, socially maladjusted and at risk of social maladjustment* (Journal of Laws 2017, item 1652) and the Regulation of the Minister of National Education of 30 April 2013 *on the rules of granting and organizing psychological and pedagogical assistance in public kindergartens, schools and institutions* (Journal of Laws 2013, item 532), Regulation of the Minister of National Education of 28 August 2017 amending the regulation *on the rules of granting and organizing psychological and pedagogical assistance in public kindergartens, schools and institutions* (Journal of Laws 2017, item 1643).

oped by a team[8], on the basis of a multidisciplinary assessment of the level of functioning of the child or student, taking into account the recommendations contained in the decision on the need for special education and, as appropriate, in cooperation with the psychological and pedagogical counselling centre, including a specialist centre. The program is developed for a period of time specified in the decision on the need for special education, but not longer than the educational stage. The aim of the Educational and Therapeutic Program is to take into account the scope and method of adapting the pre-school education program and educational requirements to individual developmental, educational and psychophysical capabilities of the child through the uses of appropriate methods and forms of work. The program also defines the forms and duration of providing psychological and pedagogical assistance to the child or student (including the time dimension), parent support measures, the scope of cooperation with other centres, institutions, the scope of cooperation between teachers and specialists with the child's parents, and revalidation activities[9].

Taking into account contemporary educational trends, which are being observed in the reality of the inclusive system implemented in schools, as described by I. Chrzanowska (2007), it is expected that more and more children with special educational needs will attend classes in public schools. There is also a noticeable increase in the number of hearing impaired children in public and integrative education. This is caused by changes in educational regulations[10], an increased awareness of the parents concerning the educational

---

[8] Teachers, educators and specialists who teach children or students

[9] According to the regulation, in the case of deaf children, this may include, for example, sign language classes or other alternative methods of communication classes (Regulation of the Minister of National Education of 9 August 2017 on the conditions for the organization of teaching, education and care for children and youth with disabilities, socially maladjusted and at risk of social maladjustment).

[10] The Act on the Education System of the Ministry of National Education of September 7, 1991 and 1993, as further amended, the Act of 14 December 2016 – Educational Law (Journal of Laws, No. 2016, item 59).

possibilities of the children, but unfortunately also an increased pressure for the child to attend a public school. As J. Barańska (2003) observes, this trend is also the result of advances in medicine[11] and technology[12], an increase in the number of children covered by early developmental support[13], an increase in the number of institutions where audiological, surdo-pedagogical, surdo-psychological and surdo-logopedic diagnosis is performed, as well as an increase in the number of clinics and centres dealing with psychological and pedagogical help and support for the development of children with hearing impairment, dissemination of knowledge about developmental possibilities of students with hearing impairment.

M. Olempska's (2009) study on the educational pathways of students with hearing impairment conducted in the Łódź Province also shows the tendency of educating such children in public and integration schools. The study included 283 children and adolescents with hearing impairment, including 117 girls and 166 boys, who were subjected to specialized diagnoses (psychological, pedagogical, speech therapy, medical) for multidisciplinary teams in the

---

[11] In Poland, since 2002, almost 5 000 000 children have been screened thanks to the Universal Neonatal Hearing Screening Program, all neonatal units were equipped with screening equipment, not only the screening system was developed (performed in 416 centres of I referral level), but also centres of II and III referral (75 and 24 centres, respectively) to which new-borns with suspected hearing impairment are directed. As a result of the Program, approximately 278,955 children with suspected hearing impairment have been referred for treatment (source: http://www.wosp.org.pl/medycyna/nasze_programy/badania_sluchu, access 25.06.2017).

[12] The intensive development of technology leads to the development of better hearing aids – hearing aids, cochlear implants or the FM system, and due to early diagnosis they can be used very early.

[13] According to the SIO (Educational Information System) data, the number of children covered by psychological and pedagogical help is increasing every year, as well as the number of issued opinions on the need for early development support. The figures indicate that in 2008 there were 14021 children included in WWR, in 2011 – 18320, 2013 – 25592 (source: http://brpd.gov.pl/sites/default/files/wyst_2014_07_24_men_odp_01.pdf; access 25.06.2017).

Łódź Province. Student documentation was analysed[14], which allowed to determine in what form or forms of education the educational process took place. At the pre-school stage, we observe that the vast majority of children attend public facilities (135 children) or integration facilities (110 children), which may be dictated by the greater availability of these forms of education at this stage of education, the proximity to the place of residence and the choice of parents themselves. Children with a mild hearing impairment (18 children) and moderate hearing impairment (31 children) attend mostly public primary schools, and children with mild, moderate and significant hearing impairment attend special schools for children with hearing impairment. On the other hand, the vast majority of students with severe hearing impairment attend schools for deaf people. The analysis of the form of education on lower-secondary school level shows that the vast majority of students are educated in schools for hard of hearing and deaf children. According to the *Report on the situation of deaf people in Poland*[15], it is worrying that there is a systematic decline in the number of children in schools for the deaf and hard of hearing as far as the intellectual standard is concerned. As the authors of the Report point out, more and more children with additional disabilities, such as autism, intellectual disability attend such schools. The result is that special schools use a curriculum that does not take into account the specificity of deaf people and public schools are not prepared to effectively educate children with such disabilities and such communication problems.

The analysis of nationwide data, from the Educational Information System (System Informacji Oświatowej – SIO), also shows some trends in the education of children and young people with

---

[14] The collected data concern the years 2004/05 – 2008/09, decisions on the need for special education were analysed, as well as protocols from the multidisciplinary teams for hearing impairment in the Specialized Psychological and Pedagogical Counselling Centre for Professional Consultancy for Children with Developmental Defects in Łódź.

[15] *The Situation of Deaf People in Poland*. Report of the Panel for Deaf People at the Ombudsman, edited by Marek Świdziński, Warsaw 2014.

Table 1. Number of students with hearing impairment in the school years 2010/2011 – 2016/2017

School year	Number of students with hearing impairment in:					
	Public or integration kindergarten	Special kindergarten	Public or integration primary school	Special primary school	Public or integration lower-secondary school	Special lower-secondary school
2010/2011	528	30	2947	306	1732	327
2011/2012	618	30	3087	265	1904	266
2012/2013	684	25	3304	221	1959	227
2013/2014	808	34	3444	215	1964	217
2014/2015	861	35	3801	238	2025	205
2015/2016	957	43	4189	246	2131	187
2016/2017	1082	60	4297	267	2157	227

(Source: own elaboration based on information contained in the Educational Information System, http://www.cie.men.gov.pl/index.php/dane-statystyczne/139.html; access: 01.07.2017)

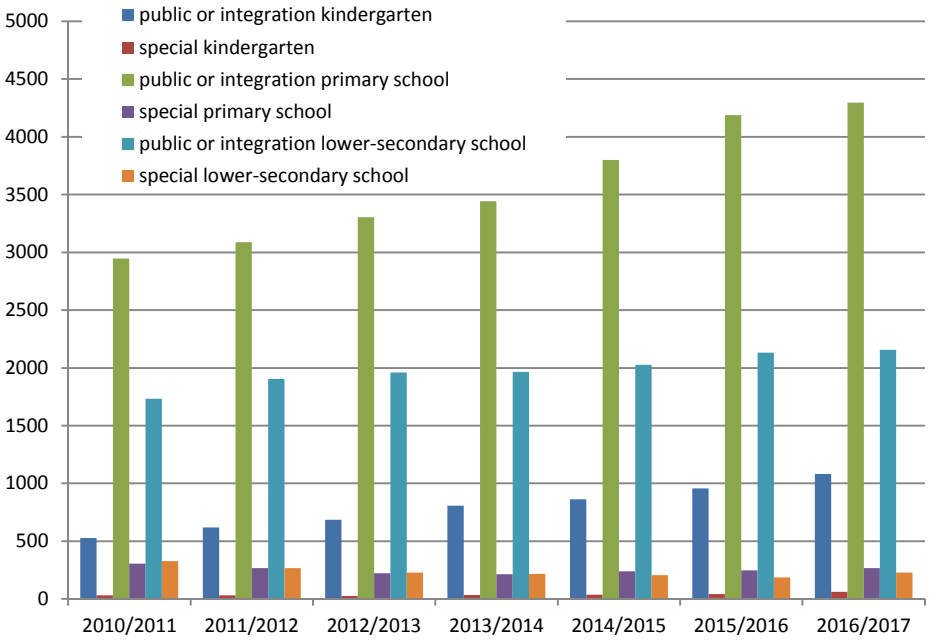


Fig. 1. The number of students with hearing impairment in the school years 2010/2011-2016/2017. (source: own elaboration on the basis of information contained in the Educational Information System,http://www.cie.men.gov.pl/index.php/dane-statystyczne/139.html; access: 01.07.2017)

hearing impairment. In the case of children with hearing impairment[16] there is an increase in the number of students in public and integration facilities – in kindergartens, primary schools and lower-secondary schools. In the last seven years, the number is quite high and accounts for, respectively: in the case of public and integration kindergartens – 554 children, in the case of primary schools – 1350 students and 425 in the case of lower-secondary school. The figures

[16] In accordance with the guidelines established by the International Office of Audio-phonology (BIAP), a hearing impaired student is a student with mild or moderate hearing impairment and a deaf student is a child with severe or profound hearing impairment.

also show the downward trend for special education – in the case of kindergartens – by 30 children, special primary schools – by 39, lower-secondary schools – by 100 students.

Graphic representation of figures showing trends in the education of students with mild to moderate hearing impairment is presented in Figure 1 below.In the case of deaf and hard of hearing children with severe and profound hearing impairment, growth tendencies are not as spectacular. There is an increase in the number of children attending public and integration kindergartens (by 92 children), but the growth tendencies are also visible in the case of special kindergartens (the growth in the number of children in the last 7 years is 32). At primary school level, there is a noticeable increase in the number of children educated in public and integration schools – by 246 students, to the disadvantage of special schools (a decline of 210 students in this form of education). It is worth noting that at the level of lower-secondary education, most of the deaf students attend special schools. These differences are clear and during the last seven years have not changed much[17].

Graphic representation of figures showing trends in the education of students with severe and profound hearing impairment is presented in Figure 2 below.

As emphasized by M. Kupisiewicz (2006), until recently it was thought that the education of children with hearing impairment should be segregated and compensatory. Today, this belief is giving way to inclusive education. This tendency is mainly the result of the demands placed on special education. These include, among other things, the over-protective and protective atmosphere that prevailed in special education centres, restrictions in communication with peers with similar (usually low) level of linguistic development[18], restrictions in stimulation towards normal development and social

[17] Similar trends in the education of children with hearing impairment are apparent in England, Israel, Australia and the United States. (Powers, 1996; Rower, Hyde, 2002; Zanberg, 2005).

[18] Taking into account the fact that about 90% of hearing-impaired children are born in hearing families, this problem is of great importance.

Table 2. Number of deaf students in the school years 2010/2011 – 2016/2017

School year	Number of deaf students in:					
	Public or integration kindergarten	Special kindergarten	Public or integration primary school	Special primary school	Public or integration lower-secondary school	Special lower-secondary school
2010/2011	126	49	168	499	108	380
2011/2012	156	59	198	449	107	391
2012/2013	174	71	258	436	131	382
2013/2014	197	85	310	390	133	366
2014/2015	225	89	349	358	143	307
2015/2016	188	99	404	319	157	302
2016/2017	218	81	414	289	162	229

(Source: own elaboration based on information contained in the Educational Information System, http://www.cie.men.gov.pl/index.php/dane-statystyczne/139.html; access: 01.07.2017)

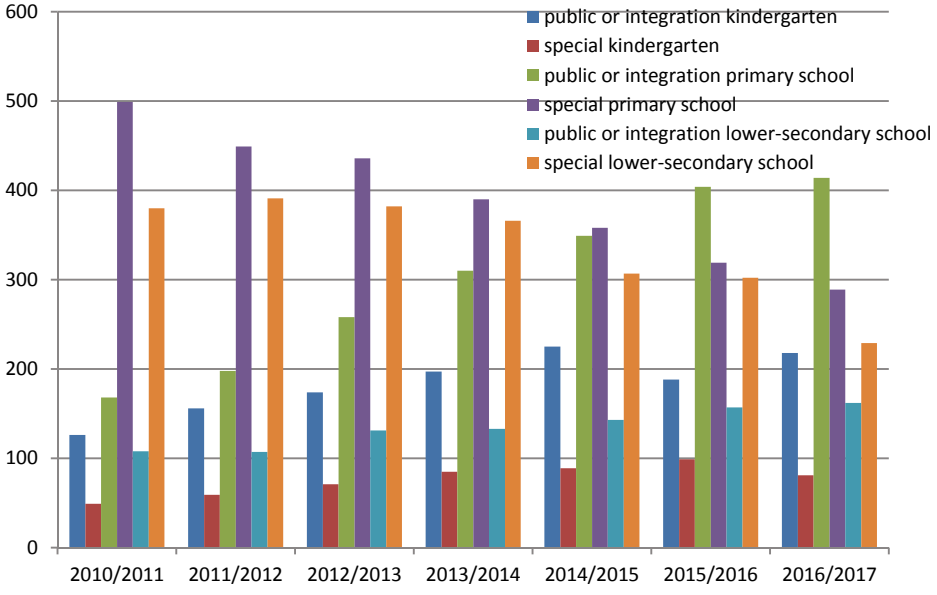


Fig. 2. Number of deaf students in the school years 2010/2011 – 2016/2017. (source: own elaboration based on information provided in the Educational Information System, http://www.cie.men.gov.pl/index.php/dane-statystyczne/139.html; access: 01.07.2017)

adaptation, development of social isolation attitudes. Despite the many difficulties encountered by hearing impaired students attending public schools, it is recognized that this is a desirable form of education. As emphasized by G. Dryżałowska (2015), public district schools are obliged to accept every student in their area. In the case of a hearing impaired students, the obligation to support the education process, especially at the beginning of the popularisation of inclusive forms of education, rested on the family environment, mainly on mothers, who often took the role of a second teacher. According to research (Sakowicz-Boboryko, 2001,2016), parents of children with hearing impairment often encountered difficulties, such as: the lack of appropriate competences of teachers of public

schools[19] to work with deaf children. As the author observes, the success of a student with impaired hearing in public education is the result of the hard and tedious work of the child and parents. As indicated by research, the most important factors determining the success of school children with hearing impairment include: the level of parental education, parental interest in the child's revalidation situation, parents' knowledge of their child's disability, the material status of the family.

As early as the 1970s, Kirejczyk (1970), based on empirical studies, found that teaching children with hearing impairment in public schools gives them the opportunity for optimal development, together with their peers, includes them in a normal environment, shows them that they are not different from people who hear – apart from their hearing impairment. As the author observes, modern teaching and education of students with hearing impairment should be based on integration rather than isolation. The literature on the subject includes numerous reports of empirical research relating to the positive influence of integration on the process of education and training of students with hearing impairment. U. Eckert (2000) mentions significant benefits of educating children with hearing impairment, which include the following:

- preventing the separation of the child from the family home, the environment which is closest to him/her,
- preventing differences between children,

[19] In 2009, a Leonardo da Vinci project was launched to examine the competence of teachers working with children with hearing impairment in Europe. Research has shown that although there were teachers and people working with deaf people in each of the partner countries, their level of qualifications, knowledge and roles were very different. In some countries, such as Denmark and England, it is mandatory to have specialist qualifications in order to be a teacher of deaf people. In other countries, there is no such requirement and there are no clearly defined criteria concerning the knowledge, skills or the understanding that teachers who specialize in working with children with hearing impairment should have appropriate qualifications. Studies have also shown that there are significant differences across the European Union in accessing the appropriate type of support that should be provided to the child and his/her family (http://www.batod.org.uk/downloads/leonardo.pdf, access: 12.2016).

- allowing for contact with peers,
- social development of a student with hearing impairment, development of his or her peer interaction skills,
- motivation to learn verbal speech – increase of the vocabulary and conceptual resources of speech, language development of the child,
- specialized educational care (education of deaf and hard of hearing children), speech therapy and psychological care, taking onto account the skills and abilities of the child,
- mobilization and motivation of parents to work with the child.

Today, one of the most important challenges facing special and general pedagogy is the realization of a concept of common, inclusive education of children with hearing impairment with their hearing peers. The success of this form of education for deaf and hard of hearing students depends on many factors, including: those related to the child itself (level of disability), his/her abilities, the attitudes of teachers and peers, the conditions under which the didactic process takes place, the preparation of teachers of public schools to perform revalidation functions (Kupisiewicz, 2006). At present, public schools will face the challenge of adapting to the student, also to the one who has a lower language level than his or her peers. A child with hearing impairment who begins school is usually characterized by a delayed language development. This delay is influenced by many factors, including: the individual characteristics of the student, the time of beginning speech therapy rehabilitation, etc. The bigger the deviation from the developmental standards, the greater the risk of school failure. School success of a student with hearing impairment also depends on the school. It is important to create conditions in which less competent students have the chance to experience success. It is also important for the school to develop conditions to acquire skills, competencies, knowledge, and understanding of the problems which students with hearing impairment face every day (e.g. relations with peers, teachers). Support given to the student in solving these problems has a decisive influence on the attitude of the child to the school (Dryżałowska, 2007).

Inclusive education can create pose organizational, substantive and technical problems. In the case of hearing impaired students, this is usually a barrier to communication, but also problems related to the lack of specialist knowledge of the teachers related to the education of deaf and hard of hearing children. These problems are the main reason for the lack of willingness to accept deaf and hard-of-hearing students in public or integration schools. As a result, it often happens that a student with hearing impairment cannot cope with the requirements and conditions of education in an integrated or public school. Then, after a few months, and sometimes even after a few years, the recommended form of education is reclassified and the child is transferred to a special school (Szczepankowski, 1998). However, the primary benefit of educating children with hearing impairment in a public school is the stimulating environment of their peers, which affects social integration and supports speech and thinking of hearing impaired students. In a public school the student is surrounded by verbal language, he must pay attention to the words that are addressed to him, but he also communicates by means of speech. This allows him to master language more quickly and use the language to gain new knowledge and skills. The main disadvantages include: verbal methods of work, lack of specialist knowledge of teachers who do not know the specificity of the development and learning of students with hearing impairment, and classes with too many students. The latter constitutes an important obstacle to satisfying the student's didactic needs and may be the cause of school failures. Educating a child with hearing impairment requires a strong involvement of parents in school work. Parents cannot limit themselves to helping their child during homework. They often play the role of a second educator, help with catching up on the school curriculum, explain many difficult terms, language phrases to the child, help them in understanding the contents of textbooks (Dryżałowska, 2007). It should be emphasized that the choice of school for the child is a difficult and responsible decision of the parents. There are many factors involved, such as the type of school (public, integration, special), its

location, educational offer, education costs, the competency of teachers working with the child, educational and therapeutic support, and the possibility of contact with peers without disability, but also with other children with disabilities, or the opportunity to exchange experiences with other parents. In the case of children with hearing impairment, the presence of other deaf children is particularly important, as it gives them the possibility to communicate in sign language, although not all parents see this as a benefit, but rather as the „death of verbal speech" – which may cause unreasonable fear of contact with other deaf children and their natural way of communication (Podgórska-Jachnik, 2011).

In the context of educational choices, important socio-cultural aspects should also be taken into account. As the authors of the *Report on the Situation of Deaf People in Poland* underline, the condition for improving the situation of deaf people in Poland is the introduction of bilingual education. In the education of deaf people, this idea is a result of the recognition of the deaf as a linguistic minority. A deaf child must learn the first language – the sign language, and the second step is to teach him/her the language of the majority – the audio language. As the authors emphasize, sign language is the only way to enable a deaf child to meet his/her basic needs (i.e. early communication with parents, cognitive development, knowledge acquisition). The bilingual doctrine works when the environment recognizes sign language as a full-fledged language. In Poland, the Act of 19 August 2011 on sign language and other means of communication (Journal of Laws 2011, No. 209, item 1243) defines sign language (Polish Sign Language – PJM) as the natural visual-spatial language of communication of the persons entitled, without specifying its psycholinguistic status (whether it is the first or second language), although it protects the basic rights of people with hearing impairment to use the services of an interpreter (Podgórska-Jachnik, 2016). However, as indicated by the *Report*, schools for deaf people are not prepared for bilingual education. There are a number of reasons, including: the language competence of the teacher (teachers use the language-sign system, which is not a natural language, but

a type of sign language of the Polish language.) The lack of language competence in the scope of PJM blocks communication between teachers and children, children teaching methodology (no PJM curriculum, no textbooks for bilingual children), teacher qualifications[20] (lack of requirements for teachers, lack of relevant subjects in study curricula), early intervention (concentration only on the development of the audio language)

The significance of the development of the socio-cultural identity of the deaf should also be emphasised. It is extremely important for people with hearing impairment to feel that they are valuable, that they are a driving factor, that they have a reference group that guarantees their identification and security and is a good starting point for shaping an individual identity without neurotic fear. In the case of children and adolescents, it is especially important to have role models of mature deaf adults, who are particularly important in education and provide an example of a courageous creation of their own development paths (Podgórska-Jachnik, 2007).

Summary

The hearing and language skills of deaf and hard of hearing children, which have changed in recent years, indicate a new era in education and therapeutic practice in this population. The benefits include: hearing screening, early development support programs, technology development, and educational assumptions that include

[20] According to M. Czajkowska-Kisil and A. Klimczewska (2007), there are few teachers in schools for the deaf who are familiar with the natural sign language, therefore a teacher with knowledge of PJM enjoys great authority among children because of the possibility of natural communication. According to D. Podgórska-Jachnik (2011), a teacher with hearing impairment: understands the situation of a deaf student, may be an excellent model of natural sign language, may be a role model of raising the level of educational aspirations of deaf students, offers the opportunity to develop the understanding of able children of other people, who are different because of their disability; weakens the fear of otherness and deafness.

the vast majority of hearing impaired children and the possibility to provide education in public and integration schools. We should not forget about the socio-cultural and emancipatory aspects in the education of deaf people, and, first of all, about sign language as an alternative to teaching in audio language, as well as bilingual education, which the deaf people strongly support in Poland.

References

Barańska J. (2003), *Dzieci z uszkodzonym słuchem w nauczaniu integracyjnym*, Special School No 4.

Chróścicka M., Kodura W., Kosmalowa J. (2005), *Uwarunkowania decyzji o wyborze szkoły dla dziecka z wadą słuchu, [in:] Standardy postępowania diagnostyczno-orzekająco-rehabilitacyjnego wobec dzieci i młodzieży. Poradnik dla pracowników pedagogicznych poradni psychologiczno-pedagogicznych oraz nauczycieli szkół*. The Ministry of National Education and Sport, Warsaw.

Chrzanowska I. (2007), *Poziom wrażliwości edukacyjnej uczniów upośledzonych umysłowo w stopniu lekkim jako predykator szans edukacyjnych,* [in:] (ed.) Kossakowski Cz., Krause A., Żyta A., *Osoba niepełnosprawna w systemie rehabilitacji, edukacji i wsparcia społecznego,* Wydawnictwo Uniwersytetu Warmińsko-Mazurskiego, Olsztyn.

Chrzanowska I. (2015), *Pedagogika specjalna. Od tradycji do współczesności*. Oficyna Wydawnicza Impuls, Kraków

Czajkowska-Kisil M., Klimczewska A. (2007), *Rola języka migowego w kształtowaniu tożsamości Głuchych w Polsce,* [in:] ed. Woźnicka E. *Tożsamość społeczno-kulturowa głuchych*, Polish Association of the Deaf Łódź Branch.

Czajkowska-Klisil M., Siepkowska A., Sak M. (2014), *Edukacja głuchych w Polsce*, [in:] *Sytuacja głuchych w Polsce. Raport zespołu ds.g/Głuchych przy Rzeczniku Praw Obywatelskich,* (ed.) M. Świdziński, Biuro rzecznika Praw Obywatelskich, Warsaw.

Dryżałowska G. (2007), *Rozwój językowy dziecka z uszkodzonym słuchem a integracja edukacyjna, model kształcenia integracyjnego*, Wydawnictwa Uniwersytetu Warszawskiego.

Dryżałowska G. (2015), *Integracja edukacyjna a integracja społeczna. Satysfakcja z życia osób niesłyszących,* Wydawnictwa Uniwersytetu Warszawskiego.

Dziurda-Multan A. (2008), *Edukacja dziecka niesłyszącego w szkole ogólnodostępnej wyzwaniem nie tylko dla surdopedagoga*, [in:] (ed.) Palak Z., Bujnowska A., *Kompetencje Pedagoga Specjalnego. Aktualne wyzwana dla teorii i praktyki*, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej in Lublin.

Eckert U. (2000), *Problemy wczesnego diagnozowania, poradnictwa i kształcenia integracyjnego dzieci z wadą słuchu*, [in]: (ed): Rakowska A., Baran J., *Dylematy pedagogiki specjalnej*, Wydawnictwo Naukowe Akademii Pedagogicznej, Kraków.

Kirejczyk K. (1970), *Nauczanie głuchych razem ze słyszącymi*, PWN, Warsaw.

Krakowiak K. (2016), *Propozycje zmian systemowych w zakresie kształcenia dzieci i młodzieży ze specjalnymi potrzebami edukacyjnymi spowodowanymi przez uszkodzenia słuchu (niesłyszących, słabosłyszących, niedosłyszących)*, Człowiek-Niepełnosprawność-Społeczeństwo, No 2(32).

Kupisiewicz M. (2006), *Kształcenie dzieci z wadą słuchu w systemie integracyjnym jako wyzwanie dla surdopedagogiki*, Special School No 5, pp. 330-337.

Olempska M. (2009), *Ścieżki edukacyjne uczniów z uszkodzonym słuchem,* [in:] Żółkowska T., Konopska L. (ed.) *W kręgu niepełnosprawności – teoretyczne i praktyczne aspekty poszukiwań w pedagogice specjalnej*. US Szczecin, Wyd. Print Group.

Podgórska-Jachnik D. (2007), *Głusi wśród słyszących – głusi wśród Głuchych. Problemy integracji społecznej osób z uszkodzonym słuchem w aspekcie tożsamościowym*, [in:] ed. Woźnicka E., *Tożsamość społeczno-kulturowa głuchych*, Polish Association of the Deaf, Łódź Branch.

Podgórska-Jachnik D. (2011), *Uwarunkowania i perspektywy edukacji włączającej osób z uszkodzonym słuchem*, [in:] ed. Twardowska E., Kowalska M., *Edukacja Niesłyszących*, Polish Association of the Deaf, Łódź Branch.

Podgórska-Jachnik D. (2016), *Zmiany we współczesnej edukacji osób niesłyszących w Polsce w kontekście wybranych rozwiązań polityki oświatowej*, Niepełnosprawność. Dyskursy Pedagogiki Specjalnej, No 22, pp. 132-152.

Power D., Hyde M. (2002), *The characteristics and extent of participation of deaf and hard-of-hearing students in regular classes in Australian schools.* Journal of Deaf Studies and Deaf Education, 7, 302–311.

Powers S. (1996), *Inclusion is an attitude not a place: Parts 1 and 2*. Journal of the British Association of Teachers of the Deaf, 20, 30-41, 65-69.

Regulation of the Minister of National Education of 1 February 2013 *on detailed rules for the operation of public psychological and pedagogical counselling centres, including public specialized centres.*

Regulation of the Minister of National Education of 25 August 2017 amending the regulation *on detailed rules for the operation of public psychological and pedagogical counselling centres, including public specialized centres.*

Regulation of the Minister of National Education of 18 September 2008 *on decisions and opinions issued by multidisciplinary teams operating in public psychological and pedagogical counselling centres.*

Sakowicz-Boboryko A. (2001), *Podmiotowa rola rodziców w edukacji integracyjnej uczniów z wadą słuchu,* [in:] (ed.) Osik D., Wojnarska A., *Wspomaganie rozwoju uczniów ze specjalnymi potrzebami edukacyjnymi*, Wydawnictwo UMCS, Lublin.

Sakowicz-Boboryko A. (2016), *Wspieranie rodziców w rehabilitacji dzieci z niepełnosprawnością słuchową. W kręgu odpowiedzialności,* Wydawnictwo Akademickie Żak.

Szczepankowski B. (1998), *Niesłyszący – głusi – głuchoniemi*, WSiP, Warsaw.

Szumski G. (2004), *Prawo rodziców do wyboru formy kształcenia dzieci niepełnosprawnych – mechanizm regulacyjny, wartość samoistna czy ideologia?*, Special School No 4, pp. 266-272.

Szumski G. (2011), *Teoretyczne implikacje edukacji włączającej* [in:] Z. Gajdzica (ed.), *Uczeń z niepełnosprawnością w szkole ogólnodostępnej*, Humanitas, Sosnowiec.

Świdziński M. (ed.) *Edukacja głuchych w Polsce [in:] Sytuacja głuchych w Polsce. Raport zespołu ds.g/Głuchych przy Rzeczniku Praw Obywatelskich*, Office of the Ombudsman, Warsaw.

Education Law. Act of 14 December 2016 (Journal of Laws 2017, item 59).

Act of 19 August 2011 on sign language and other means of communication (Journal of Laws 2011, No. 209, item 1243).

Zandberg S., (2005), Education of children with hearing impairment: Targets and their realization. Jerusalem: Israel Ministry of Education.

Internet sources

http://dera.ioe.ac.uk/9263/1/179_2.pdf (access: 12.2016)

http://www.cie.men.gov.pl/index.php/dane-statystyczne/139.html; (access: 01.07. 2017)

http://www.wosp.org.pl/medycyna/nasze_programy/badania_sluchu, (access: 25.06. 2017)

http://brpd.gov.pl/sites/default/files/wyst_2014_07_24_men_odp_01.pdf; (access: 25.06.2017)

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

MAGDALENA MAGIERSKA-KRZYSZTOŃ
Poznan University of Medical Sciences

Audio-linguistic functioning of children bilaterally implanted with cochlear implants in the sequential mode, a preliminary report

ABSTRACT: Magdalena Magierska-Krzysztoń, *Audio-linguistic functioning of children bilaterally im-planted with cochlear implants in the sequential mode, a preliminary report*. Interdisciplinary Contexts of Special Pedagogy, No. 18, Poznań 2017. Pp. 109-123. Adam Mickiewicz University Press. ISSN 2300-391X

Severe hearing damage in the prenatal period or when the baby is born is a disability that significantly impairs the correct functioning in the society of hearing people. A particularly perceptible consequence of severe hearing impairment is the lack or significant delay in the development of speech and language acquisition. Thanks to the use of cochlear implants, the Program Chirurgicznego Leczenia Głuchoty Metodą Wszczepów Ślimakowych [Program of Surgical Treatment of Deafness With the Method of Cochlear Implantation] allows children with *perceptive* deafness for the access to speech sounds through the auditory pathway. It gives them an opportunity to develop speech and language and in the future – the ability to satisfactorily communicate with other people. The study covered 54 born-deaf children, bilaterally implanted in the sequential mode. The implantation was performed at the Department of Otolaryngology and Laryngological Oncology of the *Poznan University of Medical Sciences*. The results indicate a constant, dynamic increase of auditory and linguistic-communication skills in the examined group.

KEY WORDS: audio-linguistic skills, deaf children, bilateral implantation with cochlear implants in the sequential mode

Introduction

Efficient hearing is one of the senses used by a child to explore the reality. It is a tool by which we can discover language and learn to communicate with other people. Proper hearing is responsible not only for the perception of speech through the auditory pathway and understanding of direct and indirect messages, but also for the control of our vocal production. Already in the foetal life, in the process ontogenesis – the child's brain is „prepared to pay attention" to human speech. Then, in the first few months of a child's life, listening to the sounds of the language that other people communicate through is sufficient to develop nerve structures responsible for the ability to understand and create functional language constructions.[1] Severe hearing impairment in the *prelingual* period is a very serious disability. It can limit interactions with other people and consequently prevent the child from the full, harmonious development.

The lack of development of the language used for communication and building the „inner speech" increases the processes of information deprivation, leading to cognitive deficits. The emerging social difficulties and psycho-emotional problems connected with the inability to interpret the world and attitudes of people from the nearest proximity can cause in a child and later in a young, deaf person – the feeling of isolation, alienation, anxiety and withdrawal. Therefore, it is important to detect and diagnose hearing loss and hearing disorders as early as possible in order to minimize the negative consequences of functional limitations. A rapid diagnosis and medical intervention, which provide the child with hearing aids, give an opportunity to initiate rehabilitation before the end of a period which is critical to the development of a given function, i.e., the period of maximum susceptibility and plasticity of the nervous system to certain environmental stimuli. The first years of a child's life are the basis for the future psycho-motor and emotional

[1] A. Smith, *„Umysł"* PZWL, Warsaw 1989, pp. 121-125.

development; this time is also important for the acquisition of speech and language. A cochlear implant may be used when the hearing defect is so great that classic hearing aids will not allow for the sufficient perception of hearing sounds through the auditory pathway. The Program Chirurgicznego Leczenia Głuchoty Metodą Wszczepów Ślimakowych is dedicated to people with severe bilateral *perceptive* deafness. Obliteration of the cochlea and anatomical anomalies of the inner ear, which can be detected only by specialist examinations, such as computed tomography or magnetic resonance imaging, are contraindications for implantation. A cochlear implant allows for the reception of sounds, like speech from the environment, and through acoustic-electrical stimulation provides stimuli to the auditory centres of the central nervous system where they are received as auditory sensations.[2] An efficient brain learns to interpret and give meaning to these stimuli. If the sensory access to speech and language through the auditory pathway is practically impossible, a cochlear implant gives children with *prelingual* deafness an opportunity to detect, differentiate, distinguish, identify and finally understand speech sounds. However, the use of this technique is not sufficient for the child to independently develop auditory and verbal skills. Systematic, planned therapy, which is based on hearing education, is necessary. Hoping that this surgical method will give the child an opportunity to discover a world rich in acoustic experience, parents usually quickly make a decision to provide a deaf child with a cochlear implant. They also hope that this way the child will get a chance to „be normal", just like its peers. The popularization of the knowledge that the need for rapid implantation, performed as early as possible, enables a hearing-impaired child to develop just like normally hearing children, often makes that their parents take a decision quickly, guided by emotions, with no specific expectations for the implant and the entire postoperative rehabilitation process. Therefore, there can be deep

[2] H. Skarżyński, *Wszczepy ślimakowe,* [in:] *Zarys audiologii klinicznej,* edited by A. Pruszewicz, Poznan 2000, 2, p. 517.

disappointment when the cochlear implant does not miraculously restore hearing, and the process of acquiring listening and verbal skills is very tedious and does not always bring the expected results.

In this situation, parents of unilaterally implanted children begin to consider the possibility of implanting a second prosthesis. In the Department of Otolaryngology of the *Poznan University of Medical Sciences*, a decision on bilateral implantation is made taking into account medical indications: other dysfunctions (for instance, Usher syndrome or a severe visual defect) and, for example, the lack of notable benefits of using a single prosthesis. This decision causes different dilemmas among parents: whether to provide a second implant to a child with very good hearing and speech function in the first prosthesis, or rather support with a second implant a child, that for a variety of reasons, does not benefit from the first prosthesis? Scientific studies conducted in numerous implant centres around the world clearly indicate that, when the conditions for proper treatment are met, children with cochlear implants are able to understand speech in open sets only through the auditory pathway and the functional language develops sufficiently to ensure communication.[3] Bilateral implantation can further enhance speech comprehension in acoustically difficult conditions, allows for the accurate localization of sounds and improves the quality of spatial hearing.[4] Improving the comfort and quality of „binaural" hearing in two cochlear implants opens new possibilities for users of the system. For a young child, who is probably inexperienced in auditory sensations, the newly acquired abilities are invaluable and can positively influence the level of socialization and the quality of everyday life. Bilateral implantation can be simultaneous when two implants are introduced at the same time, and this usually applies

---

[3] B. Szagun, *The acquisition of grammatical and lexical structures in children with cochlear implants: a development psycholinguistic approach,* "Audiol Neurootol", 2000, 5, pp. 39-47.

[4] J. Sarant, D. Harris, L. Bennet, S. Bant, *Bilateral versus unilateral cochlear implants in children: a study of spoken language outcomes,* „Ear Hear", 2014 Jul.-Aug., 35(4), pp. 396-409.

to patients after meningitis or in other medically justified cases. Under Polish conditions, implantation in the sequential mode is the most common form performed within the Program Chirurgicznego Leczenia Głuchoty Metodą Wszczepów Ślimakowych, which means that a minimum of one year has to elapse from an operation to a decision to perform another surgery. This decision is made by a team of specialists taking into account the results of psychological-pedagogical-speech therapy tests, individual predispositions and medical indications.

Material and Methods

The study included 54 children with *prelingual* deafness, bilaterally implanted in the sequential mode. The first and second cochlear implantation were performed in the Department of Otolaryngology and Laryngological Oncology of the Karol Marcinkowski *Poznan University of Medical Sciences*. All examined children had used hearing aids until the moment of implantation. Spontaneous vocal productions, which were observed in approximately 30% of subjects before the first operation, were not reflected in the linguistic system. All examined children had *normal intellectual* capacity, three children were diagnosed and later confirmed with autism spectrum disorder and four children had a serious defect of vision. The study group of bilaterally implanted children was homogeneous and used the Nucleus cochlear implant by Cochlear. All children were brought up in families of hearing people who used sound speech on a daily basis. The study group was provided with the first implant between 18 months and 5 years of age. At the time of the study, children differed in terms of physiological age: 70% were between 7 and 10 years of age, and the remaining 30% were between 10 and 18 years of age.

The children were provided with regular speech therapy at their place of residence, i.e. at school they attended to or in the immediate vicinity. The total duration of the use of one implant, which is equiva-

Table 1. The duration of the cochlear implant use in all patients – unilateral implantation

The duration of the use of a single cochlear implant	Number of patients
From 2 to 7 years	33
From 7 to 12 years	15
More than 12 years	6

Table 2. The duration of the simultaneous use of two cochlear implants (from the moment of the second implantation) – bilateral implantation in the sequential mode

The duration of the use of two cochlear implants	Number of patients
From 18 months to 3 years	30
From 3 to 5 years	21
More than 5 years	3

lent to postoperative rehabilitation time, ranged from two to seventeen years (Table 1), and the time that elapsed between the first and second implantation was a minimum of one year and a maximum of thirteen years. The duration of the simultaneous use of two active cochlear implants ranged from eighteen months to even six years (Table 2). The study used the TAPS (Test of Auditory Perception of Speech), translated and adapted to the conditions of the Polish language in the Department of Otolaryngology of the *Poznan University of Medical Sciences* and in the Department of Acoustic Phonetics of the Polish Academy of Sciences in Poznan. The test gives an opportunity to check how the child hears and understands spoken sounds in closed and open sets. The study was conducted under difficult acoustical conditions, in the presence of disturbing sounds. The children performed test tasks when using one (the second implant was inactive) and two active implants. In all patients, hearing maps, which were generated during the speech processor programming session, were stable. In addition, the Arkusz Badania Umiejętności

Językowych [Language Skills Test Sheet], which was created at the centre in Poznan, was used in the study. The sheet examines basic language skills in terms of understanding, speech production, conceptual resources and phonological awareness, which is necessary to create correct vocal articulation patterns.

Results

All the children who use the system for a minimum of time – flawlessly perform the *phoneme perception test* through the auditory pathway – both with one and two implants. The results of the TAPS-level II also show that all the patients, who already function in one implant, have mastered the perception of rhythmic speech patterns through the auditory pathway in the presence of disturbing sounds, and this is necessary to develop the ability to distinguish and differentiate suprasegmental speech components – both heard and those produced by oneself (Table 3). The results of the previous studies indicate that children need for this process about six months on average.[5] Only patients with coexisting developmental deficits, which may delay the formation of cognitive schemas, require a little more time to complete this process – about one to two years.[6]

Table 3. TAPS, level III (listening in noise)

Implanted patients	Perception of rhythm speech patterns
Listening with one implant	100%
Listening with two implants	100%

[5] W. Szyfter, A. Pruszewicz et al., *Ocena zachowań słuchowych dzieci posługujących się wszczepem ślimakowym,* „Otolaryngologia Polska", 1997, Volume L, Supplement 22, pp. 200-204.

[6] W. Szyfter, J. Kaczmarek et al., *Czy mnogie uszkodzenia uniemożliwiają zastosowanie wszczepów wewnątrzślimakowych,* „Rehabilitacja w Otologii", [in:] Conference materials, Poznan 8-10.10.1998.

Table 4. TAPS, level III (listening in noise)

Perception of speech features, speech identification	Number of patients – listening with 1 implant			Number of patients – listening with 2 implants		
	CI usage time			CI usage time		
	From 2 to 7 years	From 7 to 12 years	More than 12 years	From 18 months to 3 years	From 3 to 5 years	More than 5 years
70% >	20	15	6	25	21	3
50%	11	–	–	5	–	–
50% <	2	–	–	–	–	–

Table 5. TAPS, level IV (listening in noise)

Recognition, understanding of speech, closed sets	Number of patients – listening with 1 implant			Number of patients – listening with 2 implants		
	CI usage time			CI usage time		
	From 2 to 7 years	From 7 to 12 years	More than 12 years	From 18 months to 3 years	From 3 to 5 years	More than 5 years
70% >	20	14	6	22	20	3
50%	10	1	–	7	1	–
50% <	3	–	–	1	–	–

Table 6. TAPS – level IV (listening in noise)

Recognition, understanding of speech, open sets	Number of patients – listening with 1 implant			Number of patients – listening with 2 implants		
	CI usage time			CI usage time		
	From 2 to 7 years	From 7 to 12 years	More than 12 years	From 18 months to 3 years	From 3 to 5 years	More than 5 years
70% >	20	14	6	22	19	3
50%	10	1	–	6	2	–
50% <	3	–	–	2	–	–

Table 7. Language Skills Test Sheet

Linguistic-communication skills	Number of patients – listening with 1 implant			Number of patients – listening with 2 implants		
	CI usage time			CI usage time		
	From 2 to 7 years	From 7 to 12 years	More than 12 years	From 18 months to 3 years	From 3 to 5 years	More than 5 years
Understanding	58%	70%	90%	56%	70%	90%
Speech production	53%	65%	75%	60%	70%	75%
Conceptual resources	45%	60%	70%	58%	65%	72%
Articulation	65%	80%	85%	70%	75%	90%

The results obtained in the next part of the TAPS test, level III, perception of speech traits and speech identification – show that bilaterally implanted children, with the duration of the implant use – even 18 months, achieve a bit better results in language tasks they hear in artificially generated noise with the intensity of about 40 dB. The longer the time of functioning with two implants, the more similar the results of listening in children with both active implants become (Table 4). The study revealed that the identification of words/phrases with the same number of syllables through the auditory pathway was the most difficult for the children. In this case, the role of guessing was not as important as the level of linguistic competence, which represented the active „functioning in the language". Once again, the longer duration of the implant/implants use, the better the results in this respect. This was evident at the level IV of the TAPS when children were expected to recognize and understand speech provided in closed and open sets (Table 5, 6). Reception and interpretation of the tested material at this level requires both passive knowledge and the active use of the functional language in all aspects: semantic, syntactic, morphological and phonological. The results reveal disproportions between hearing

and understanding with one and two implants. With the use of two implants over 3 years, bilaterally implanted patients achieved the best results in this test category, heard in conditions analogous to the other stages – that is, acoustically difficult, in the presence of disturbing factors. The analysis of the remaining results from the Language Skills Test Sheet examination shows that this group of bilaterally implanted children using implants five or even more years achieves the best results in all tested spheres of the linguistic functioning (Table 7). The analysis of the results obtained by individual researchers demonstrates that the greatest delays occur in the sphere of speech production. In order to satisfactorily communicate with others, it is necessary to use language models that are appropriate for a given social situation and which should be creatively modified based on the knowledge of grammatical rules. Vocabulary chosen and used in specific situations results from conceptual resources that individual patients possess. It can also be observed that in the above-mentioned sphere children who use two implants for a long time (at least 4 years) achieve a slightly better outcome while listening compared to those with one implant. The extensive conceptual resources result from correct interpretation of the reality, while the lack of possibility to analyze co-existing acoustic characteristics (connected with different duration of deafness in individual patients) – objects, people, animals and various phenomena, can impair the process of the formation of concepts, and cause further difficulties and delay of the speech and language development. Patients with one and two implants obtained comparable results in the presented test tasks – in the area of articulation skills. This may be due to the fact that in many institutions the treatment of implanted patients is still performed by general speech therapists who are best prepared to work with patients requiring the correction of speech deficits at the level of proper articulation patterns. These interactions provide greater clarity of speech that is more understandable to others, however, such therapy has little to do with the overall *surdologopedic* effect in the linguistic-communication sphere. The results of the study show that children provided with two im-

plants achieve better hearing outcomes than those with one implant. Linguistic skills are acquired in the course of systematic rehabilitation, but the final result also depends on the child's hearing age, the level of cognitive ability and motivation to speak. The availability to the long-term access to the spoken language through the auditory pathway – supported by the functioning with two implants, gives an opportunity to minimize the phonetic barrier that children with *prelingual* deafness have to overcome due to their disability.[7] The increased ability to improve sound localization and better understanding of speech in noise due to bilateral implantation further encourage children to use their linguistic skills in the group of peers, reduce anxiety associated with communication in uncomfortable acoustic conditions, and give them the conviction that they can understand and be understood by others. The children are more likely to initiate contacts based on linguistic communication and do better in situations where a rapid lingual response to hearing stimuli is required.

Discussion

The analysis of the study results shows that children who use two implants simultaneously achieve better hearing and verbal outcomes in acoustically uncomfortable situations than those staying in the same environment and having only one implant. The duration of the implant use also has a considerable impact on the level of individual linguistic competencies. The longer it is – the better the linguistic skills and the more extensive conceptual and vocabulary resources. If the child has two cochlear implants, there is binaural stimulation of the auditory pathway and hearing centres. This has a positive influence on the functioning in the acoustic environment and achieving better results in speech comprehension in all condi-

---

[7] Z.M. Kurkowski, *Mowa dzieci sześcioletnich z uszkodzonym słuchem,* Wydawnictwo UMCS, Lublin 1996, pp. 60-70.

tions and the consequent effective communication with others. The main goal of post-operative rehabilitation within the Program Chirurgicznego Leczenia Głuchoty Metodą Wszczepów Ślimakowych, is to stimulate the progress in all developmental spheres, with particular focus on the sphere of speech, language and hearing. The results of the studies conducted in similar centres around the world show that it is possible that the child with *prelingual* deafness and using a cochlear implant will acquire speech and language and will use these skills in interpersonal communication.[8]

Many linguists believe that each human has a genetically determined natural ability to master the linguistic processes and grammatical rules governing a given community.[9] However, the sensory access to sounds and consequently staying in the environment full of many acoustic and phonetic processes is a condition necessary to reveal this ability. A cochlear implant ensures the normal sound reception and perception, which, can not be guaranteed using classic hearing aids in severe hearing impairments developed in the *prelingual* period.[10] Early implantation gives a chance to develop hearing, speech and language in a natural manner and within physiological norms. The younger the child, the greater the chance of independent discovering and mastering of the language of the community in which the child grows.[11] Molina et al. have noted that the longer the duration of the implant use and post-operative rehabilitation, the greater the ability to apply the information provided

---

[8] A. E. Geers, *Speech and language evaluation in aided and implanted children,* „Scand. Audiol.", 1997, 26, pp. 72-75.

[9] I. Kurcz, *Psychologia języka i komunikacji,* WSiP, Warsaw 2000; Shugar G., *Dziecko uczestnikiem dialogu w świetle badań z psycholingwistyki rozwojowej,* „Nowiny psychologiczne", 1996, p. 3.

[10] M. Kawczyński., W. Szyfter et al., *Postępy w rozwoju słuchowej percepcji mowy u dzieci zaimplantowanych wszczepem ślimakowym w różnych grupach wiekowych,* „Pediatria Polska", LXVII, No. 8, pp. 669-673.

[11] A.F.M. Snik, M.J.A. Makhdoum et al., The relations between age at the time of cochlear implantation and long term speech perception abilities in congenitally deaf subjects, "Int. J. Pediatr. Otorhin. Laryngol.", 1997, 52, pp. 214-217.

by the implant.[12] These observations coincide with the results obtained in children implanted in the centre in Poznan. Comfortable speech reception through the auditory pathway and understanding of heard information are conditioned by both the duration of the implant use and the quality of hearing with one and two implants. Sarant et al. notice a significant difference, in favour of bilaterally implanted children, in the quality of hearing in acoustically uncomfortable conditions, in which all hearing people exist and where the sounds overlap each other.

The results of the studies conducted among children implanted in the centre in Poznan coincide with the observations presented above.[13] Although the linguistic competencies of children bilaterally implanted in the sequential mode and using implants for a longer time (four years and more) usually deviate from the linguistic norm adopted for a particular physiological age in hearing children, they continue to develop dynamically. Two well-functioning cochlear implants ensure that the child will be able to hear and speak fluently – as good as possible – in every acoustic environment, in silence and in noise.[14]

Despite the high public awareness of the problem of deafness and its consequences, it is still necessary to educate people, because this may expand the knowledge provided to relatives who are interested in the Program Chirurgicznego Leczenia Głuchoty Metodą Wszczepów Ślimakowych. Parents of hearing-impaired children and deaf adults provided with reliable, substantive knowledge about the possibilities and limitations of using cochlear implants, will have an opportunity to make informed choices that can change their lives.

---

[12] M. Molina, A. Huarte, Development of speech in 2- years- old children with cochlear implant, „Int. J. of Ped. Otorhinolaryngol.", 1999, 47, pp. 177-179.

[13] J. Sarant, D. Harris., Bilateral versus unilateral cochlear implants in children; a study of spoken language outcomes, „Ear Hear", 2914, Jul.-Aug.; 35(4), pp. 396-409.

[14] R.M. Reeder, J.B. Firszt et al., A longitudinal study in children with sequential bilateral cochlear implants: Time course for the Second Implanted Ear and Bilateral Performance", „J Speech lang Hear Res. 2017 Jan. 1, 60 (1), pp. 276-287.

Conclusions

1. The development of speech, language and auditory perception in children bilaterally implanted in the sequential mode is subject to the continuous improvement.

2. The level of development of speech and language competence is related to the duration of the cochlear implant use, among others.

3. Children bilaterally implanted in the sequential mode and using two efficient implants show better auditory orientation under different, not always comfortable, acoustic environments – than those using one implant under similar conditions.

References

Geers A.E., *Speech and language evaluation in aided and implanted children,* „Scand. Audiol.", 1997, 26, pp. 72-75.

Kawczyński M., W. Szyfter et al., *Postępy w rozwoju słuchowej percepcji mowy u dzieci zaimplantowanych wszczepem ślimakowym w różnych grupach wiekowych,* „Pediatria Polska", LXVII, No. 8, pp. 669-673 J. Sarant, D. Harris., *Bilateral versus unilateral cochlear implants in children; a study of spoken language outcomes,* „Ear Hear".

Kurcz I., *Psychologia języka i komunikacji,* WSiP, Warsaw, 2000; Shugar G., *Dziecko uczestnikiem dialogu w świetle badań z psycholingwistyki rozwojowej,* „Nowiny psychologiczne", 1996, p. 3.

Kurkowski Z.M., *Mowa dzieci sześcioletnich z uszkodzonym słuchem,* Wydawnictwo UMCS, Lublin 1996, pp. 60-70.

Molina M., Huarte A., *Development of speech in 2- years-old children with cochlear implant,* „Int. J. of Ped Otorhinolaryngol.", 1999, 47, pp. 177-179.

Reeder R.M., Firszt J.B. et al., *Acongitudinal study in children with sequential bilateral cochlear implants: Time course for the Second Implanted Ear and Bilateral Performance",* „J Speech lang Hear Res. 2017 Jan.1, 60(1), pp. 276-287.

Sarant J., Harris D., Bennet L., Bant S., *Bilateral versus unilateral cochlear implants in children: a study of spoken language outcomes,* „Ear Hear", 2014 Jul.- Aug., 35(4), pp. 396-409.

Sarant J., Harris D., *Bilateral versus unilateral cochlear implants in children; a study of spoken language outcomes,* „Ear Hear", 2914, Jul.-Aug.; 35(4), pp. 396-409.

Skarżyński H., *Wszczepy ślimakowe,* [in:] *Zarys audiologii klinicznej,* edited by A. Pruszewicz, Poznań 2000, 2, p. 517.

Smith A., *Umysł,* PZWL, Warsaw 1989, pp. 121-125.

Snik A.F.M., Makhdoum M.J.A. et al., *The relations between age at the time of cochlear implantation and long term speech perception abilities in congenitally deaf subjects,* "Int. J. Pediatr. Otorhin. Laryngol.", 1997, 52, pp. 214-217.

Szagun B., *The acquisition of grammatical and lexical structures in children with cochlear implants: a development psycholinguistic approach,* "Audiol Neurootol.", 2000, 5, pp. 39-47.

Szyfter W., Pruszewicz A., Woźnica B. et al., *Ocena zachowań słuchowych dzieci posługujących się wszczepem ślimakowym,* „Otolaryngologia Polska", 1997, Volume L, Supplement 22, pp. 200-204.

Szyfter W., Kaczmarek J. et al., *Czy mnogie uszkodzenia uniemożliwiają zastosowanie wszczepów wewnątrzślimakowych,* „Rehabilitacja w Otologii" [in:] Conference materials of the 1st International Scientific Symposium, Poznan, 8-10.10.1998.

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

ALEKSANDRA ROŻEK

Adam Mickiewicz University in Poznań
Faculty for Educational Studies

Siblings of persons with hearing disabilities – a study of individual cases

ABSTRACT: Aleksandra Rożek, *Siblings of persons with hearing disabilities – a study of individual cases*. Interdisciplinary Contexts of Special Pedagogy, No. 18, Poznań 2017. Pp. 125-137. Adam Mickiewicz University Press. ISSN 2300-391X

The article describes the functioning of hearing siblings of persons with hearing loss in different developmental stages: childhood, adolescence and adulthood. It describes the key factors to the formation of positive relationships between deaf and hearing siblings. These may influence the psychosocial functioning of hearing people in adulthood.

KEY WORDS: siblings, deafness, relationships

Motherhood, just like fatherhood of children that are ill and disabled had become the subject of many studies. However, it needs to be remembered that the issues of child development influence the well-being and quality of life of all the family members. The underestimated difficulties experienced by the siblings of a disabled child can be considered a grave omission[1]. As I. Przybył notes, the relationship between the siblings is a particular one, as it is distin-

[1] E. Pisula, *Rodzice i rodzeństwo dzieci z zaburzeniami rozwoju*, Wydawnictwo Uniwersytetu Warszawskiego, Warszawa 2007, p. 122.

guished by its duration – it runs for decisively much longer than any other social relation. In addition, it „is an assigned relation, and at the same time, an egalitarian relation, permeated by a long history of unique intimate experiences, not to be recreated in any other community"[2]. It is noteworthy that according to Victor Cicirelli, siblings can be perceived from two perspectives: a formal-biological one and a psychological one. The former considers the fact that siblings are biologically related, with the latter stating that siblings constitute the sum of interactions between individuals having the same biological parents, in addition to common knowledge, opinions, a specific attitude towards perceiving each other[3].

Importantly, available theoretical sources indicate that the issue of the functioning of siblings of (adult) disabled children is enjoying increasing interest among researchers. Driven by the will to study the indicated topics, I have made siblings of deaf persons the main subject of my graduate paper studies. My strivings to authentically understand human experiences was conducted through direct and indirect discussions (interviews) with hearing adults who have deaf siblings.

Siblings with hearing deficiencies

Considering the expectations and attitudes of parents with respect to a child with good hearing, key issues are: the age of the deaf siblings against that of the hearing child, their gender and the order of births. Studies conducted up to now indicate that elder

---

[2] I. Przybył, *Siostry i bracia dzisiaj. Gwarancja i niepewność w relacji- nowe hipotezy na podstawie badań ankietowych,* [in:] *Role rodzinne między przystosowaniem a kreacją*, ed. by I. Przybył, A. Żurek, Wydawnictwo Naukowe Wydziału Nauk Społecznych Uniwersytetu im. Adama Mickiewicza, Poznań 2016, p. 165.

[3] I. Przybył, *Siostry i bracia dzisiaj. Gwarancja i niepewność w relacji- nowe hipotezy na podstawie badań ankietowych,* [in:] *Role rodzinne między przystosowaniem a kreacją*, ed. by I. Przybył, A. Żurek, Wydawnictwo Naukowe Wydziału Nauk Społecznych Uniwersytetu im. Adama Mickiewicza, Poznań 2016, p. 166.

sisters of children with hearing deficiencies have behind them experiences different than elder brothers of such children, which is the effect of social expectations of girls with respect to taking care of their siblings. In a situation, „when the hearing sibling is younger than the deaf child, then it comes into the world in a „good moment", when the world is already arranged in order, and when the family, even if to various extents, had arranged its mode of life, in which there exists, and which is co-created, by the elder deaf child". However, if the deaf child comes into the world as a subsequent child in the family, we are dealing with a different situation – for well-hearing children, the arrival of a sibling with a hearing deficiency constitutes a change „for the worse", a rearrangement of life, the appearance of negative emotions and tensions, an alteration of expectations with respect to them, lack of understanding as to why the hearing siblings behave differently than other children[4]. Research results indicate that sibling disability (irrespective of its kind and gravity) impacts most negatively the oldest of sisters, who compared to their peers with healthy siblings take on the roles of caretakers and teachers four times as often. Hearing sisters, among others, care for tidiness, arrange to the preparation of meals, bathe and feed the disabled sibling, walk it to school or preschool and bring it back, and go on walks with it. The imposed duties gravely reduce the possibility of attending to their own needs, developing their own interests or maintaining relations with their peers[5]. Older brothers with disabled siblings also significantly more often than their peers from the control group take care of their brother or sister, and do so as often as older sisters with properly-developing siblings. Both older brothers of disabled children, as well as brothers of children without health problems undertake often than elder

---

[4] J. Kobosko, J. Kosmalowa, *Słyszące rodzeństwo dzieci głuchych i słabosłyszących-spojrzenie z różnych stron*, „Słyszę. Dwumiesięcznik dla osób z problemami słuchu i mowy", wrzesień – październik 2010, p. 29.

[5] A. Twardowski, *Sytuacja psychologiczna rodzeństwa dzieci z niepełnosprawnościami (część 1)*, „Szkoła Specjalna", 2/2011, p. 96.

sisters work in the house garden, clean the yard or work in the garage. They do not take care of feeding and bathing the siblings. Moreover, older brothers of disabled siblings maintain relations with their peers and friends more often than older sisters do, both at home and outside of it[6]. „At times, the expectations [of parents] are not compatible with the individual developmental and emotional needs, and exceed the real abilities of the siblings. The situation becomes particularly difficult when the age difference between the well-hearing siblings and their disabled brother or sister is big. The assigned caretaker role may hinder the process of separation from the family to a young person entering adolescence. On the other hand, in certain situations, this process may paradoxically be sometimes made simpler for a young person who up to that point was part of the marriage dyad"[7].

With certainty, parents with hearing and deaf offspring experience numerous difficulties in the area of nurturing. A challenge is preventing mutual damage to the siblings, learning to understand, accept and love one another. The fear of the parents about hindrances to the development of the „healthy" child or the takeover of unwanted behaviour of deaf siblings are is odds with the need to strengthen the bond between the children[8]. It is not easy for parents to set out reasonable limits between duties and the fear of overburdening well-hearing children with the care for their hearing-deficient siblings. Parents (primarily mothers) entirely devoted to hearing education in general unconsciously and against the best intentions, in order to primarily help „the one in more need", focus

---

[6] A. Twardowski, *Sytuacja psychologiczna rodzeństwa dzieci z niepełnosprawnościami (część 1)*, „Szkoła Specjalna", 2/2011, pp. 96-97.

[7] A. Wzorek, *Rodzina z dzieckiem z zaburzeniem słuchu- spojrzenie systemowe*, „Psychoterapia", 4 (151) 2009, p. 57.

[8] A. Kucharczyk, *Kiedy w rodzinie nie wszystkie dzieci słyszą…*, [in:] *Młodzież głucha i słabo słysząca w rodzinie i otaczającym świecie dla terapeutów, nauczycieli, wychowawców i rodziców,* ed. by J. Kobosko, Stowarzyszenie Rodziców i Przyjaciół Dzieci i Młodzieży z Wadą Słuchu „Usłyszeć Świat", Warszawa 2009, pp. 137-138.

on the deaf child, marginalising at the same time the needs of the other children, and weakening their potential[9]. In certain families, well-hearing siblings function as an intermediary between the deaf brother or sister and the parents, when, contrary to the caretakers, they spontaneously learn sign language from their deaf siblings. It also happens that the parents implement a separate system of punishments and rewards, thus favouring the hearing-deficient child or its siblings. Comparing children, e. g. akin to the rule that „the deaf child was burdened by fate", or „one loves an ill child differently", as well as strong differentiation is destructive on the sibling bond, and indicates flawed relations within such a family[10].

Studies concerned with the situation of siblings of well-hearing children provide contradictory information: some suggest that hearing siblings is subject to stress and may experience difficulties adapting socially[11]. As Joanna Kobosko and Joanna Kosmalowa note, „at times, hearing siblings become naughty, disturbing, rebellious, may even start to cause trouble: they have problems in school or become aggressive against friends, clearly or covertly showing behaviour competitive against the deaf brother or sister, all to bring back the unbalanced order, its place within the family"[12]. Other authors stress that the siblings need not necessarily experience problems with adaptation and emotions. The fact of having a disabled brother or sister may contribute to the collection of positive experiences by the siblings – e. g. create the possibility of development of pro-social attitudes and tolerances for broadly understood

---

[9] J. Kobosko, J. Kosmalowa, *Nasze słyszące dzieci*, „Słyszę. Dwumiesięcznik dla osób z problemami słuchu i mowy", październik 2002, p. 22.

[10] J. Kobosko, J. Kosmalowa, *Słyszące rodzeństwo dzieci głuchych i słabosłyszących-spojrzenie z różnych stron*, „Słyszę. Dwumiesięcznik dla osób z problemami słuchu i mowy", wrzesień – październik 2010, p. 30.

[11] U. Bartnikowska, *Sytuacja społeczna i rodzinna słyszących dzieci niesłyszących rodziców*, Wydawnictwo Edukacyjne Akapit, Toruń 2010, p. 53.

[12] J. Kobosko, J. Kosmalowa, *Słyszące rodzeństwo dzieci głuchych i słabosłyszących-spojrzenie z różnych stron*, „Słyszę. Dwumiesięcznik dla osób z problemami słuchu i mowy", wrzesień – październik 2010, p. 29.

otherness[13]. Among the „gains" of siblings of deaf children, the following can be named: more independence, better developed empathy and the ability to cooperate. These divergent study results indicate a multi-factor basis for the situation of children in the family[14].

The condition of the family, in which a deaf child had come into the world is of key importance to the shaping of relations between the child (and later, the adult) and their deaf siblings. How this family dealt with emerging difficult situations, until the birth of the child with the hearing deficiency, what is the atmosphere within the family, how does the family now cope with adapting to the child's deafness. In addition, relevant is the parenting style in the family, the way emerging conflicts are solved, can they exhibit common experiences related to deafness, can they make use of the aid and support of those closest to them and of others[15]. Of importance for the adaptation of siblings with disabled brothers or sisters is also the knowledge base on the disability itself – the better the knowledge, the more positive the attitude of the child towards the ill sibling, and the less negative their evaluation of the influence of the disability/ illness on the functioning of the family, and the more frequent its experiences of positive moods[16]. The quality of the relations between the siblings is significantly influenced by the possibility of communicating. Experienced difficulties in communication hinder the formation and care for psychological bonds between the siblings, and also the acceptance of a deaf brother or sister by a well-hearing child[17].

---

[13] Ż. Stelter, *Realizacja ról rodzinnych w rodzinie z dzieckiem niepełnosprawnym*, [in:] *Rodzina z dzieckiem niepełnosprawnym – możliwości i ograniczenia rozwoju,* ed. by H. Liberska, Difin, Warszawa 2011, p. 83.

[14] U. Bartnikowska, *Sytuacja społeczna i rodzinna słyszących dzieci niesłyszących rodziców*, Wydawnictwo Edukacyjne Akapit, Toruń 2010, p. 53.

[15] J. Kobosko, J. Kosmalowa, *Słyszące rodzeństwo dzieci głuchych i słabosłyszącychspojrzenie z różnych stron*, „Słyszę. Dwumiesięcznik dla osób z problemami słuchu i mowy", wrzesień – październik 2010, p. 29.

[16] E. Pisula, *Rodzice i rodzeństwo dzieci z zaburzeniami rozwoju*, Wydawnictwo Uniwersytetu Warszawskiego, Warszawa 2007, p. 126.

[17] A. Kucharczyk, *Kiedy w rodzinie nie wszystkie dzieci słyszą…*, [in:] *Młodzież głucha i słabo słysząca w rodzinie i otaczającym świecie dla terapeutów, nauczycieli, wycho-*

The revalidation of a deaf child spans for the most part the formation of speech and language. Well-hearing siblings create a specific peer group around the brother or sister with a hearing disability, and in it they act as partners, companions during play. A disabled child, through contact with siblings, satisfies its needs, such as: the need for emotional closeness, for security, respect or movement[18]. Considering the good of all children in the family, parents should remember that hearing children have full right to their own childhood, and that they cannot be overburdened by duties over the deaf siblings[19].

It is difficult to provide a clear reply to the question *how is it, to be the brother or sister of a deaf person?* Some adult, siblings experience the emergence of the need to seek support and understanding for their deaf brother or sister. One of the sources of information and aid for deaf siblings are portals and websites concerned with SODA (Siblings of Deaf Adults). Hearing children growing up alongside deaf siblings have unique experiences. Some of these people would like to reach other hearing people with deaf siblings to share their experiences[20]. Hearing siblings often talk in on-line forums for the deaf, and participate in the affairs of the community of people with damaged hearing. In some cases, coping with difficulties occurs through the choice of surdopaedagogical studies or the writing of graduation papers centered around special education. Sometimes, the well-hearing brother or sister becomes a sign language interpreter or teacher to children with hearing deficiencies[21].

---

wawców i rodziców, ed. by J. Kobosko, Stowarzyszenie Rodziców i Przyjaciół Dzieci i Młodzieży z Wadą Słuchu „Usłyszeć Świat", Warszawa 2009, p. 140.

[18] A. Twardowski, *Sytuacja psychologiczna rodzeństwa dzieci z niepełnosprawnościami (część 2)*, „Szkoła Specjalna", 3/2011, p. 191.

[19] K. Bieńkowska-Robak, *Udział rodziny w terapii dziecka z wadą słuchu prowadzonej metodą audytywnowerbalną*, [in:] *Dziecko niepełnosprawne, jego rodzina i edukacja,* ed. by K. J. Zabłocki, Wydawnictwo Akademickie „Żak", Warszawa 1999, p. 183.

[20] J. Berke, Sibling of Deaf Adult, http://deafness.about.com/od/hearingbasic1/g/sodadef.htm, [accessed on: 17.01.2014].

[21] J. Kobosko, J. Kosmalowa, Słyszące rodzeństwo dzieci głuchych i słabosłyszących- spojrzenie z różnych stron, „Słyszę. Dwumiesięcznik dla osób z problemami słuchu i mowy", wrzesień – październik 2010, pp. 30-31.

Research methodology

The key problem in the undertaken study applied to *how and in what way does/did the fact of having siblings with hearing deficiencies influence the life situation of well-hearing siblings?* In order to provide an answer to this question, the method of individual cases was used. The studied population was selected with the use of the snowball method[22]. Six respondents participated – four women and two men (aged 20-50). These persons reside in various regions of Poland, differ by their education level and field, marital status and size of the locality, in which they reside. The interviews were based on a partially categorised interview questionnaire that permitted the adaptation of the content and order of the questions, as well as the introduction of additional questions. This choice was conditioned by the varied character of the functioning of persons with hearing deficiencies. The knowledge on the mode of communication of these people or the specific characteristics of the school they attended, among others, determined the mode, content and order of the questions posed during the interview with their well-hearing sibling. In order to faithfully record their statements during the conducted interview, recording hardware was used with the interviewees' consent.

Results of own research

Undertaking qualitative research, I needed to make the assumption that „limiting oneself to one or but a few cases may provide just the basis to formulate working hypotheses, and not one to make generalised conclusions"[23].

---

[22] E. Babbie, *Badania społeczne w praktyce*, Wydawnictwo Naukowe PWN, Warszawa 2003, pp. 205-206.

[23] U. Bartnikowska, *Sytuacja społeczna i rodzinna słyszących dzieci niesłyszących rodziców*, Wydawnictwo Edukacyjne Akapit, Toruń 2010, p. 167.

A retrospect view of adult siblings on the issue of personal experiences from childhood beside a well-hearing brother or sister can be varied[24]. Due to the limited volume of the present study, I present excerpts from statements of the interviewees. One of them – named Agnieszka, aged 24, a student of education science – had spontaneously learned (and continues to learn) sign language from her sister, something her parents did not to to that extent. Hence, in many situations she had become the „intermediary" in their mutual communication. Subject literature describes such cases, as I have mentioned in the introductory part of this article: „*It must have just happened like that. I knew she did not hear, that I cannot talk to her verbally, but that something else needs to be done; so there are gestures, so there is pointing, so there is something else. I think it must have been something like that. And I automatically, and she pointed to things for me, and when she learned sign language, she brought it home and I sort of happened to learn it along the way. I do not recall any item like „learn sign language already. Learn, you need to know it, you need to talk to me". It came fluidly and we did it just between us, by ourselves*".

In the opinion of one Marta, 24-year-old student of education science, having disabled siblings shapes personality traits in a certain way, and it makes one perceive themselves as being open to otherness. During her statement, she constituted that „*there's something about it, we look differently* (…). *And it must be that if somebody else comes, e. g. with a different flaw, some disability, then to a certain extent I approach them more normally, because I experience it daily… and it is just like normal for me* (…), *a person like any other*".

Tomasz, 24-year-old student at a post-secondary school in the field of computer science, had noticed the advantage of having deaf siblings in the form of development of his own independence: „*I was even satisfied by the fact that I could by myself… well, I couldn't be that independent,* (…). *I just learned to be independent through this* (…).

---

[24] Cyran A., *Słyszące rodzeństwo osób z zaburzeniem słuchu*, master's thesis written under the guidance of Adam Mickiewicz University professor dr hab. H. Krauze-Sikorska, Adam Mickiewicz University of Poznań 2014.

The parents trusted me, and I trusted them. (…). *And I never abused this trust.*"

During his statement, one Mirosław, 46-year-old sales manager, father to five well-hearing children, indicated the significance of the age difference between the siblings for the formation of the mutual relationship and the undertaking of care functions: „*I remember very well when my younger brother did not want to go to sleep, and when my friends would want to go play football and would call me, and I could not go out and I was very cross* [laughs], *but that was just this one time. We had a big age difference, after all* (…), *it was rather the older one who took care of me than me helping him in any way. As for the younger brother, as I said, well, it's clear, I was a bit older, at times he needed taking care of* [laughs] *be it to „lull" him or not to „lull him*" (…), *but in general everything was fine*".

Anna, 23-year-old student of national security spoke in her statement of the feeling of responsibility for the deaf siblings that accompanied her: „*recently I have given it a lot of thought, because I am the oldest and I feel very much responsible for these siblings of mine, and I am certain, I am ready to help them in the future as well. I thought that I would like to have a good enough job so as to be able to help them in everything if need be. One never knows how life will go. I mean, I don't have any specific education or professional choices with respect to them, but I know that in the future I will certainly also be responsible for them in some way*".

In case of Marzena, 48-year-old mother to three, the fact of having brothers with hearing deficiencies influenced the education, and then the professional choices, she made. Presently, the interviewee can prove long years of work at a school and education facility for deaf children. As she herself says: „i*t really influenced how my life went*". In the interviewee's opinion, having deaf siblings „*influences how one perceives people who can behave differently, whether I better understand certain situations and I have more distance to these situations. It must have had some influence, that I look at it differently, that I feel differently. Because I believe that if one does not experience certain things by themselves, then it is difficult to really accept all that just reading arti-*

cles or books, not having such experience, not keeping company with people generally disabled. Various people do in fact have some sort of acceptance at varied levels, and in case of further experiences one can have more acceptance than others, but I think that it also depends on the person." In addition, in the interview, she indicated the social attitude towards the deaf and the need to support people with hearing deficiencies arising from it: *„in general, the problem is, as usual, with people. The problem is that some are open and want to do something, while others are closed and believe that „I know best anyway, and you have nothing to say to me". In public offices everything depends on people, too* (…)".

Closing thoughts

The undertaken study was qualitative – the fate and thoughts of the interviewees can be treated but as an example constituting a point of reference. There must be noted, however, the motifs appearing in the interviewees' statements, determining the formation of positive relations with deaf siblings. These include: coherent parental attitudes towards well-hearing and deaf children, the knowledge of methods of communication available to the siblings with hearing deficiencies, as well as a coherent family atmosphere, full of love and understanding. Of importance in this respect is also the mentioned moment of birth of the dead child and the size of the family. Referring to the main problem of the presented research, one may conclude that in case of the described individual cases, the fact of having siblings with hearing deficiencies influenced the life situation of these people. It refers to the exhibited personality traits as well as the choices made in terms of education and work.

The present challenge is to seek answers to the questions: what to do for hearing siblings to get as much advantage from the family and social situation in which they have found themselves; what to do in order to minimise possible losses due to the fact of having siblings with hearing deficiencies? Doubtless, the key role in this

area is the emotional support provided to the well-hearing child (person) permitting the reduction of tensions and negative feelings[25] as well as broadly understood social support[26].

References

Babbie E., *Badania społeczne w praktyce*, Wydawnictwo Naukowe PWN, Warszawa 2003.

Bartnikowska U., *Sytuacja społeczna i rodzinna słyszących dzieci niesłyszących rodziców*, Wydawnictwo Edukacyjne Akapit, Toruń 2010.

Berke J., *Sibling of Deaf Adult*, http://deafness.about.com/od/hearingbasic1/g/sodadef.htm, [accessed on: 17.01.2014].

Bieńkowska-Robak K., *Udział rodziny w terapii dziecka z wadą słuchu prowadzonej metodą audytywnowerbalną*, [in:] *Dziecko niepełnosprawne, jego rodzina i edukacja*, ed. by K. J. Zabłocki, Wydawnictwo Akademickie „Żak", Warszawa 1999.

Cyran A., *Słyszące rodzeństwo osób z zaburzeniem słuchu*, master's thesis written under the guidance of Adam Mickiewicz University professor dr hab. H. Krauze-Sikorska, Adam Mickiewicz University of Poznań, 2014.

Kobosko J., Kosmalowa J., *Nasze słyszące dzieci*, „Słyszę. Dwumiesięcznik dla osób z problemami słuchu i mowy", październik 2002.

Kobosko J., Kosmalowa J., *Słyszące rodzeństwo dzieci głuchych i słabosłyszących-spojrzenie z różnych stron*, „Słyszę. Dwumiesięcznik dla osób z problemami słuchu i mowy", wrzesień – październik 2010.

Kucharczyk A., *Kiedy w rodzinie nie wszystkie dzieci słyszą…*, [in:] *Młodzież głucha i słabo słysząca w rodzinie i otaczającym świecie dla terapeutów, nauczycieli, wychowawców i rodziców*, ed. by J. Kobosko, Stowarzyszenie Rodziców i Przyjaciół Dzieci i Młodzieży z Wadą Słuchu „Usłyszeć Świat", Warszawa 2009.

Pisula E., *Rodzice i rodzeństwo dzieci z zaburzeniami rozwoju*, Wydawnictwo Uniwersytetu Warszawskiego, Warszawa 2007.

Przybył I., *Siostry i bracia dzisiaj. Gwarancja i niepewność w relacji- nowe hipotezy na podstawie badań ankietowych,* [in:] *Role rodzinne między przystosowaniem a kreacją,*

---

[25] H. Sęk, R. Cieślak, *Wsparcie społeczne- sposoby definiowania, rodzaje i źródła wsparcia, wybrane koncepcje teoretyczne*, [in:] *Wsparcie społeczne, stres i zdrowie*, ed. by H. Sęk, R. Cieślak, Wydawnictwo Naukowe PWN, Warszawa 2004, p. 19.

[26] M. Winiarski, *Pedagogika społeczna humanistycznie zorientowana*, [in:] *Pedagogika społeczna: dokonania-aktualności-perspektywy. Podręcznik akademicki dla pedagogów,* ed. by S. Kawula, Wydawnictwo Adam Marszałek, Toruń 2001, pp. 72-73.

ed. by I. Przybył, A. Żurek, Wydawnictwo Naukowe Wydziału Nauk Społecznych Uniwersytetu im. Adama Mickiewicza, Poznań 2016.

Sęk H., Cieślak R., *Wsparcie społeczne – sposoby definiowania, rodzaje i źródła wsparcia, wybrane koncepcje teoretyczne*, [in:] *Wsparcie społeczne, stres i zdrowie*, ed. by H. Sęk, R. Cieślak, Wydawnictwo Naukowe PWN, Warszawa 2004.

Stelter Ż., *Realizacja ról rodzinnych w rodzinie z dzieckiem niepełnosprawnym*, [in:] *Rodzina z dzieckiem niepełnosprawnym- możliwości i ograniczenia rozwoju*, ed. by H. Liberska, Difin, Warszawa 2011.

Twardowski A., *Sytuacja psychologiczna rodzeństwa dzieci z niepełnosprawnościami (część 1)*, „Szkoła Specjalna", 2/2011.

Twardowski A., *Sytuacja psychologiczna rodzeństwa dzieci z niepełnosprawnościami (część 2)*, „Szkoła Specjalna", 3/2011.

Winiarski M., *Pedagogika społeczna humanistycznie zorientowana*, [in:] *Pedagogika społeczna: dokonania- aktualności- perspektywy. Podręcznik akademicki dla pedagogów*, ed. by S. Kawula, Wydawnictwo Adam Marszałek, Toruń 2001.

Wzorek A., *Rodzina z dzieckiem z zaburzeniem słuchu- spojrzenie systemowe*, „Psychoterapia", 4 (151) 2009.

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

RENATA MARCINIAK-FIRADZA
University of Lodz

A few remarks on the status of research on the word-building competences of children with intellectual disabilities

ABSTRACT: Renata Marciniak-Firadza, *A few remarks on the status of research on the word-building competences of children with intellectual disabilities*. Interdisciplinary Contexts of Special Pedagogy, No. 18, Poznań 2017. Pp. 139-159. Adam Mickiewicz University Press. ISSN 2300-391X

A description of the understanding (reception, decoding, interpretation) and creation (expression, coding) of word-building structures by children with minor intellectual disabilities, and a specification of how these word-building structures exist in the linguistic awareness of such children, is important as there exists no research and therefore no studies related to the word-building skills of children with intellectual disabilities.

The only data related to word-building skills in children with intellectual disabilities available are the names of professions collected by A. Wątorek in her research on the linguistic competences responsible for the development of lexical skills. The data incorporated in the said study allowed the linguistic and word-building analysis, and hence made it possible to indicate the methods of coding the names of professions/ persons performing certain activities by children with minor intellectual disabilities.

KEY WORDS: intellectual disability, language competence, word-building competences

Word-building plays an important role in the linguistic and cognitive development of a child, as noted by Ewa Muzyka-Furtak[1]. A strict correlation is found between the knowledge of the rules of word-building and the level of mastery of language competences: „the shaping of the ability to interpret word-building formations, and subsequently the skills to actively utilise the awareness of rules of the creation of derivates are the key signs of the formation of language skills at the lexical level"[2].

Two facts support the notion that the role of word-building is marginalised and underestimated by researchers, particularly with respect to intellectually disabled children. First of all, even if there exists literature in Polish dealing (fully or partially) with the shaping of the basics of word-building in an intellectually properly developed child's linguistic system (conf. e. g. works by: Maria Zarębina[3], Leon Kaczmarek[4], Maria Chmura-Klekotowa[5], Stefan Szuman[6], Jan Baudouin de Curtenay[7], Helena Synowiec[8], Stanisław

---

[1] E. Muzyka-Furtak, *Kwestionariusz słowotwórczy w ocenie kompetencji językowej dzieci z zaburzeniem słuchu*, [in:] *Metody i narzędzia diagnostyczne w logopedii*, ed. by M. Kurowska, E. Wolańska, Dom Wydawniczy Elipsa, Warszawa 2015, p. 251.

[2] M. Pastuchowa, *O słowotwórstwie z perspektywy leksykalnej*, [in:] *Sztuka czy rzemiosło*? Nauczyć *Polski i polskiego*, ed. by A. Achtelik, J. Tambor, wyd. Gnome, Katowice 2007, p. 23.

[3] M. Zarębina, *Kształtowanie się systemu językowego dziecka*, Wydawnictwo Ossolineum, Wrocław, 1965; M. Zarębina, *Język polski w rozwoju jednostki. Analiza tekstów dzieci do wieku szkolnego. Rozwój semantyczny języka dziecka*, Wydawnictwo Naukowe Wyższej Szkoły Pedagogicznej, Kraków 1980.

[4] L. Kaczmarek, *Nasze dziecko uczy się mowy*, Wydawnictwo Lubelskie, Lublin, 1966.

[5] M. Chmura-Klekotowa, *Neologizmy słowotwórcze w mowie dzieci* (I), „Poradnik Językowy" 1967, no. 10, pp. 433-445; M. Chmura-Klekotowa, *Neologizmy słowotwórcze w mowie dzieci*, „Poradnik Językowy" 1968, no. 1, pp. 19-25; M. Chmura-Klekotowa, *Neologizmy słowotwórcze w mowie dzieci*, „Prace Filologiczne"1971, no. 21, pp. 99-235.

[6] S. Szuman, *Rozwój treści słownika dzieci. Zagadnienia i niektóre wyniki badań*, [in:] *O rozwoju języka i myślenia dziecka*, ed. by S. Szuman, Wydawnictwo PWN, Warszawa 1968, pp. 19-95.

[7] J. Baudouin de Courtenay, *Spostrzeżenia nad językiem dziecka*, selected and analysed by M. Chmura-Klekotowa, Wydawnictwo Ossolineum, Wrocław 1974.

[8] H. Synowiec, *Z badań nad słownictwem dzieci przedszkolnych*, [in:] *Z teorii i praktyki dydaktycznej języka polskiego*, vol. 3, ed. by J. Kram, E. Polański, Wydawnictwo

Grabias[9], Krystyna Gąsiorek[10], Alicja Rakowska[11], Kazimiera Krakowiak[12], Maria Przybysz-Piwkowa[13], Łucja Dawid[14], Ewa Haman[15], Małgorzata Mnich[16], Ewa Muzyka-Furtak[17], Amelia Dziurda-

---

Uniwersytetu Śląskiego, Katowice 1980; H. Synowiec, *Rozwój słownictwa nazywającego rozwój osobowości w języku dzieci i młodzieży*, Wydawnictwo Uniwersytetu Śląskiego, Katowice 1985.

[9] S. Grabias, *O ekspresywności języka. Ekspresja a słowotwórstwo*, Wydawnictwo Lubelskie, Lublin 1981.

[10] K. Gąsiorek, *Rozumienie przez dzieci i młodzież szkolną rzeczowników abstrakcyjnych z uwzględnieniem czynników wiekowych i środowiskowych*, [in:] *Zagadnienia komunikacji językowej dzieci i młodzieży*, ed. by J. Porayski-Pomsta, Dom Wydawniczy „Elipsa", Warszawa 1991.

[11] A. Rakowska, *Rozwój systemu gramatycznego u dzieci głuchych*, Wydawnictwo Naukowe Wyższej Szkoły Pedagogicznej, Kraków 1992.

[12] K. Krakowiak, *Fonogesty jako narzędzie formowania języka u dzieci z uszkodzonym słuchem*, seria: *Komunikacja językowa i jej zaburzenia*, vol. 9, ed. by S. Grabias, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 1995.

[13] M. Przybysz-Piwkowa, *Wyodrębnianie znaczeń form językowych w neologizmach dziecięcych*, [in:] *Językowy obraz świata dzieci i młodzieży*, ed. by J. Ożdżyński, Wydawnictwo Wyższej Szkoły Pedagogicznej, Kraków 1995.

[14] Ł. Dawid, *Neologizmy przykładem kreatywności językowej uczniów klas młodszych*, [in:] *Problemy edukacji lingwistycznej*, ed. by M.T. Michalewska, Oficyna Wydawnicza „Impuls", Katowice 1999.

[15] E. Haman, *Status wyrazów pochodnych w słowniku dziecka – analiza psycholingwistyczna* (unpublished thesis written under guidance of prof. dr hab. Barbara Bokus, Faculty of Psychology of the University of Warsaw), 2000; E. Haman, *Semantic vs. formal determinants of derivational morphology development*: *The case of derived nouns in Polish*, „Polish Psychological Bulletin" 2000, no. 31 (2), pp. 123-136; E. Haman, *Early productivity in derivation. A case study of diminutives in the acquisition of Polish*, „Psychology of Language and Communication" 2003, no. 7 (1), pp. 37-56; E. Haman, *Słowotwórstwo dziecięce w badaniach psycholingwistycznych*, Wydawnictwo Lexem, Warszawa 2013.

[16] M. Mnich, *Sprawność językowa dzieci w wieku wczesnoszkolnym*, Wydawnictwo Impuls, Kraków 2002.

[17] E. Muzyka, *Sposoby interpretowania konstrukcji słowotwórczych przez dzieci niesłyszące*, „Logopedia" 2007, no. 36, pp. 95-115; E. Muzyka, *Acquisition of word-formation categories by children with hearing loss*, „Psychology of Language and Communication" 2008, no. 12 (2), pp. 45-68; E. Muzyka-Furtak, *Głuchota i niedosłuch – mechanizmy nabywania wyrazów pochodnych*, „Logopedia" 2009, no. 38, pp. 149-172;

Multan[18], Alicja Giermakowska[19]), publications concerning word-bulding in intellectually disabled children is missing. Second of all, even though speech and language in children with intellectual disabilities have already been the subject of scientific descriptions and studies (conf. e. g. speech impediments in intellectually disabled people were studied by Anna Szuniewicz[20] and Elżbieta Minczakiewicz[21]; studies of the abilities of speaking and writing at schools for children with minor-level intellectual disabilities were conducted by Sławomira Sadowska[22]; vocabulary was studied by Lucyna

---

E. Muzyka-Furtak, *Konstrukcje słowotwórcze w świadomości językowej dzieci niesłyszących*, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin, 2010; E. Muzyka-Furtak, *Konstrukcje słowotwórcze a kategorie poznawcze dzieci niesłyszących*, [in:] *Język a kultura*, vol. 22, *Idiolekty w różnych sferach komunikacji*, ed. by A. Żurek, Wydawnictwo Uniwersytetu Wrocławskiego, Wrocław, 2011, pp. 117-132; E. Muzyka-Furtak, *Jakościowa charakterystyka zaburzeń leksykalnych dzieci z uszkodzonym słuchem*, „Logopedia" 2013, no. 42, pp. 135-150; E. Muzyka-Furtak, *Kwestionariusz słowotwórczy w ocenie kompetencji językowej dzieci z zaburzeniem słuchu*, [in:] *Metody i narzędzia diagnostyczne w logopedii*, ed. by M. Kurowska, E. Wolańska, Wydawnictwo Dom Wydawniczy Elipsa, Warszawa 2015, pp. 251-267.

[18] A. Dziurda-Multan, *Dziecięce sposoby tworzenia nazw*, Wydawnictwo KUL, Lublin 2008.

[19] A. Giermakowska, *Ocena kompetencji słowotwórczej uczniów z trudnościami w czytaniu i pisaniu na poziomie edukacji wczesnoszkolnej*, „Szkoła Specjalna" 2012, no. 5, pp. 356-366.

[20] A. Szuniewicz *Próba badania wad mowy dzieci upośledzonych umysłowo w warszawskich szkołach specjalnych*, „Logopedia" 1967, no. 7, pp. 112-117.

[21] E. Minczakiewicz, *Z badań nad zaburzeniami mowy u dzieci upośledzonych umysłowo*, [in:] *Z zagadnień oligofrenopedagogiki*, vol. 2, ed. by J. Pańczyk, Wydawnictwo WSPS, Warszawa, 1989; E. Minczakiewicz, *Zaburzenia mowy i ich odbicie w piśmie uczniów młodszych klas szkoły specjalnej dla lekko upośledzonych umysłowo*, „Logopedia" 1993, no. 20, pp. 113-119; E. Minczakiewicz, *Zaburzenia mowy u osób z upośledzeniem umysłowym*, „Scholasticus" 1993, no. 1, pp. 57-63; E. Minczakiewicz, *Rozwój języka mówionego uczniów młodszych klas szkoły specjalnej dla lekko upośledzonych umysłowo w toku zamierzonych oddziaływań stymulacyjnych*, „Logopedia" 1994, no. 21, pp. 37-46.

[22] S. Sadowska, *Uczeń z niepełnosprawnością intelektualną w stopniu lekkim w szkolnej sytuacji komunikacyjnej. O realizacji zadań wspomagania rozwoju umiejętności mówienia i pisania*, [in:] *Nauczanie uczniów z niepełnosprawnością intelektualną w stopniu lekkim. Wybrane problemy z teorii i praktyki*, ed. by S. Sadowska, Akapit, Toruń 2006, pp. 127-151.

Błeszyńska[23], agrammatisms in speech by Zbigniew Tarkowski[24], and narrative skills by Hanna Nadolska[25]; speech skills of children with minor-level intellectual disabilities were discussed in a study headed by Józefa Bałachowicz and Jan Paluszewski[26], and language and communication skills in a monograph by Alicja Rakowska[27]; among studies on the development of speech in intellectually disabled persons, of particular note are the works by Elżbieta Minczakiewicz[28]; the linguistic image of emotions in the expressions of intellectually disabled children were handled by Urszula Jęczeń[29]; linguistic competences of the pupils of a special school on the basis

---

[23] L. Błeszyńska, *Zasób słownictwa uczniów z niepełnosprawnością intelektualną w stopniu lekkim klas gimnazjalnych – diagnoza i propozycje rozwiązań*, [in:] *Nauczanie uczniów z niepełnosprawnością intelektualną w stopniu lekkim. Wybrane problemy z teorii i praktyki*, ed. by S. Sadowska, Akapit, Toruń 2006, pp. 153-162.

[24] Z. Tarkowski, *Agramatyzm u uczniów lekko upośledzonych umysłowo*, [in:] *Rewalidacja dzieci ze złożonymi upośledzeniami*, ed. by Z. Sękowska, Wydawnictwo UMCS, Lublin 1988, pp. 81-108.

[25] H. Nadolska, *Poziom inteligencji a sprawność relacjonowania zdarzeń. Wybrane aspekty badań nad kompetencją narracyjną dzieci pełnosprawnych i upośledzonych umysłowo w stopniu lekkim*, „Kultura i Edukacja" 1993, no. 4, pp. 91-102; H. Nadolska, *Poziom inteligencji a sprawność narracji. (Z badań nad mową narracyjną dzieci upośledzonych umysłowo w stopniu lekkim i pełnosprawnych umysłowo)*, „Roczniki Pedagogiki Specjalnej" 1994, no. 5, pp. 43-61; H. Nadolska, *Kompetencja narracyjna uczniów o różnym poziomie intelektualnym. Przejawy, uwarunkowania, tendencje rozwojowe*, Wyd. Erbe, Białystok 1995.

[26] J. Bałachowicz, J. Paluszewski (red.), *Sprawności językowe dzieci upośledzonych umysłowo w stopniu lekkim*, Wydawnictwo WSPS, Warszawa 1995.

[27] A. Rakowska, *Język – komunikacja – niepełnosprawność. Wybrane zagadnienia*, Wydawnictwo Naukowe Akademii Pedagogicznej, Kraków, 2003.

[28] E. Minczakiewicz, *Kształtowanie i usprawnianie mowy dzieci upośledzonych umysłowo w stopniu umiarkowanym i znacznym*, „Szkoła Specjalna" 1984, no. 3, pp. 186-191.

[29] U. Jęczeń, *Językowa projekcja emocji na przykładzie wypowiedzi dzieci upośledzonych umysłowo i dzieci w normie intelektualnej* (niepublikowana rozprawa doktorska), Lublin, 2005; U. Jęczeń, *Językowa projekcja emocji. Emocje w zachowaniach językowych dzieci upośledzonych umysłowo i dzieci w normie intelektualnej*, [in:] *Język – interakcja – zaburzenia mowy. Metodologia badań*, ed. by T. Woźniak, A. Domagała, Wydawnictwo UMCS, Lublin 2007, pp. 133-171.

of the explications of the names of natural elements created by them were presented by Mirosław Michalik[30]; the same author had performed an evaluation of the level of mastery of syntactic skills by persons with oligophasia and cerebral palsy against the background of developing syntactic skills in children aged four to ten[31]. Prepositional phrases in the speech of children with moderate and minor intellectual disabilities are handled by the unpublished doctoral thesis by Katarzyna Kaczorowska-Bray[32]; from among newer studies, the following monographs should be named: by Dorota Krzemińska[33] on the issues of language and daily conversations of intellectually disabled persons, by Jacek Błeszyński[34] on the issues of speech, language and communications in intellectually-disabled persons, and by Agnieszka Wątorek[35], in which the author had set herself the goal of preparing, based on empirical material, of as exhaustive as possible a characteristics of the lexical, grammatical and narrative skills of children with minor intellectual disabilities, both with respect to understanding (reception), as well as speech (expression)), no researcher had undertaken an attempt at describing the word-building competences of children with minor intellectual disabilities.

The scientific study, on the basis of which conclusions may be drawn pertaining to selected aspects of word-building skills of children with intellectual dysfunctions is the above-quoted paper by Agnieszka Wątorek, special education professional, speech therapist

---

[30] M. Michalik, *Diagnozowanie kompetencji lingwistycznej ucznia szkoły specjalnej*, Wydawnictwo Naukowe Akademii Pedagogicznej, Kraków 2006.

[31] M. Michalik, *Kompetencja składniowa w normie i w zaburzeniach*, Wydawnictwo Naukowe Uniwersytetu Pedagogicznego, Kraków 2011.

[32] K. Kaczorowska-Bray, *Wyrażenia przyimkowe w mowie dzieci upośledzonych umysłowo w stopniu umiarkowanym i lekkim* (unpublished thesis), Gdańsk, 2007.

[33] D. Krzemińska, *Język i dyskurs codzienny osób z niepełnosprawnością intelektualną*, Impuls, Kraków 2012.

[34] J. Błeszyński, *Niepełnosprawność intelektualna. Mowa – język – komunikacja. Czy iloraz inteligencji wyjaśnia wszystko*?, Harmonia, Gdańsk 2013.

[35] A. Wątorek *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014.

and neurologopaedist, entitled *The language competence of pupils with minor intellectual disabilities* (Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną). Even though the author did not study word-building competences of intellectually disabled children, but only language competences responsible for the expansion of vocabulary, grammatical (morpho-syntactic) and narrative skills (in eight- and ten-year-olds), she still devotes one of her subchapters to naming. Using her own research tool in the form of a Profession and activity sheet, being a set of fourteen model sentences in the form subject-verb-object, e. g. *the baker bakes bread*, *the doctor cures people*[a], Wątorek had collected 86 designations of professions/ performers of actions[36] and had, among others, on this basis concluded that children with intellectual disabilities had generated more unique forms as compared to children within the intellectual norm. At the same time, she pointed at the fact that one of the properties of speech of children with an intellectual disability is describing objects and terms using designations having excessively narrow or excessively broad meanings, the formation of neologisms in place of proper word forms, and the use of colloquialisms[37]. The conclusions formulated by Agnieszka Wątorek do not make one wonder, because the word-building system of the Polish language, being extensive and characterised by a large variety of factors in the individual word-building categories, causes difficulties in their application, and may result in children using incorrect forms of derivative words[38].

A. Wątorek, beside eight- and ten-year-olds diagnosed with minor intellectual disabilities, also studied children fitting in with the

---

[a] In Polish these phrases are, respectively, *piekarz piecze chleb*, *lekarz leczy ludzi* [all footnotes denoted by letters stem from the translator].

[36] The author treats these names as names of professions, whereby these names belong to the word formation category of names of performers of activities.

[37] A. Wątorek *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014, p. 61.

[38] A. Giermakowska, *Ocena kompetencji słowotwórczej uczniów z trudnościami w czytaniu i pisaniu na poziomie edukacji wczesnoszkolnej*, „Szkoła Specjalna" 2012, no. 5, pp. 359-360.

clinical norm, belonging to two control groups – one selected based on the intelligence age of the analysed subjects from the criterion group, and the other selected based on their biological age. Children qualified to these groups have fulfilled the criterion of appropriately low education level of their parents. Such a methodology had enabled the author to conduct an optimum analysis of the differences between children with a minor intellectual disability and children within the intellectual norm. Besides, such an arrangement corresponds to the specifics of the phenomenon of intellectual disability, because it takes into account the differentiation/ discrepancies between the biological, intellectual and social ages characteristic for it.

As the author summarises, the studied subjects with minor intellectual disabilities, when wanting to retrieve from memory the names of the professions pictured in the images, would often come up with their own word forms (e. g. *piekarnik* (for *piekarz)*, *szywarka* (for *szwaczka*), *szewiec* (for *szewc*))[b]. On other occasions, they would create descriptive forms (e. g. *This is the one, who…*), omitted the subject in the sentences or used the words *pan/ pani/ mama/ tata*[c] or the pronouns *him/ her*. In doing so, they did not stand out from among fully able preschoolers or their peers, who also used the indicated strategies – even if more rarely[39].

Beside this, the author of the monograph *The language competence of pupils with minor intellectual disabilities* formulated the following conclusions based on the attempts to name the professions/ performers of activities:

1. Pupils with minor intellectual disabilities handled significantly worse the naming of professions than their fully able peers, but comparably as well as preschoolers[40];

---

[b] These words mean *baker*, *seamstress*, *cobbler*. I find attempts at translating the words the children came up with unnecessary.

[c] *Mr*, *Mrs/Miss*, *mother*, *father*, respectively; the first two are common nouns in Polish, although titles in the same sense as in English.

[39] A. Wątorek, *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014, p. 199.

[40] A. Wątorek, *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014, p. 106.

2. During the evaluation, intellectually-disabled children, just like their younger counterparts at a comparative intellectual age, required more time than pupils of public schools to recall the individual words, however the presence of incorrect forms was found in all groups[41];
3. The highest number of wrong forms was found in pupils with an intellectual dysfunction and among preschoolers, the lowest count was found among the peers of pupils with dysfunctions[42];
4. Pupils with minor intellectual disabilities had generated the most unique forms, but both their younger colleagues as well as their peers took to amending their lexical deficiencies by neologisms. In general, the knowledge of vocabulary related to human professional activity among pupils with minor intellectual disabilities had turned out to be low as compared to their peers (44.6% / 77.9%)[43]. Z. Tarkowski came to a similar conclusion[44] writing that the language abilities of both groups (e. g. normative children and those with minor intellectual disabilities) does not differ qualitatively, with quantitative differences nonetheless present[45];

---

[41] A. Wątorek, *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014, p. 107.

[42] A. Wątorek, *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014, pp. 107.

[43] A. Wątorek, *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014, p. 109.

[44] Z. Tarkowski, *Zaburzenia mowy dzieci upośledzonych umysłowo*, [in:] *Logopedia – pytania i odpowiedzi. Podręcznik akademicki*, vol. II, ed. by T. Gałkowski, G. Jastrzębowska, Wydawnictwo UO, Opole, 2013, 2nd ed., pp. 203-204.

[45] A description providing an information about the quantitative limitations of one's vocabulary is insufficient, as it omits the qualitative characteristic of the vocabulary known to the child and the qualitative properties of the errors it makes. Information of this type can be obtained only by way of a linguistic analysis, and the execution of such an analysis lies within the competences of the speech therapist (S. Grabias, *Teoria zaburzeń mowy. Perspektywy badań, typologie zaburzeń, procedury postępowania logopedycznego*, [in:] *Logopedia. Teoria zaburzeń mowy*, ed. by S. Grabias, Z.M. Kurkowski, wyd. UMCS, Lublin 2012, p. 59).

5. The derivation of new words from those already existing, as a form of lexical creativity, can compensate for the deficiencies in the mental vocabulary, uncovering at the same time loopholes within the vocabulary and notional system, a low level of criticism and limited feeling for the language norm. For some, neologisms speak of a child's creativity, for others – of the immaturity of their speech. „It may be – as Wątorek writes – that neologisms appear wherever someone's knowledge and the related vocabulary ends in order to give vent to the need to voice one's thoughts that at times may be stronger than the fear of committing a linguistic error"[46];
6. The results of the evaluation indicate the presence of identical mechanisms and different conditions of the acquisition of meanings by children with and without disturbances in intellectual development. Based on the research, it was determined that for both groups, the intellectual representations of the various constituent components of reality all arise in the same order – from objects most characteristic and common through those physically similar to them, to the ones least reminiscent of the original items. However, due to the specifics of thought processes in individuals with intellectual dysfunctions, the structure of the terms they have at hand may be less complex[47].

The purpose of the article is an analysis of the names of professions/ performers of activities obtained from children with minor intellectual disabilities by A. Wątorek in the naming trial from the point of view of word-building, and an attempt at evaluating the methods of encoding these names by these children.

Based on data excerpted from the paper *The language competence of pupils with minor intellectual disabilities*, we are not able to provide a description, and following that, an evaluation of the understanding (reception, decoding, interpretation) of the word-building structures

---

[46] A. Wątorek, *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014, p. 109.

[47] A. Wątorek, *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014, p. 65.

by the children with minor intellectual disabilities, as we do not have the knowledge, whether the children had: a) the capacity to determine the semantic relationship between the base word and the derived word through an indication of the constituent components of the formation (e. g. whether they are able to form a word-building periphrasis[48]), b) the ability to explicate semantic properties[49] making up the structural meaning of the analysed formation. A high level of understanding, e. g. of decoding word-building structures guarantees the comprehension acquisition of abilities to create, or encode, them. The level of understanding of word-building structures exceeds the level of their creation, which is in line with the general rules of language development – perception precedes expression[50].

The data from the described paper permit, however, their linguistic, word-building analysis, at the same time the indication of modes of encoding of the names of professions/ performers of activities by children with minor intellectual disabilities.

Hence, considering the paradigm of modes of encoding of names of professions[51]/ performers of activities by children with intellectual dysfunctions, one can differentiate between:

---

[48] A periphrasis, or circumlocution, is a „multi-word phrase akin to a definition, equivalent to the name being paraphrased, in which the base word is used" (R. Grzegorczykowa, J. Puzynina *Słowotwórstwo*, [in:] *Gramatyka współczesnego języka polskiego. Morfologia*, ed. by R. Grzegorczykowa, R. Laskowski, H. Wróbel, PWN, Warszawa, 1984, p. 316). A periphrasis is used to identify the base word and determine the meaning of the formant (S. Grabias, *O ekspresywności języka. Ekspresja a słowotwórstwo*, Wyd. Lubelskie, Lublin 1981, p. 94).

[49] The explication of phrase meanings is the „assignment of more analytic phrases equivalent to them (formally split)" (R. Grzegorczykowa, *Wprowadzenie do semantyki językoznawczej*, PWN, Warszawa, 1995, p. 10). This means the identification of the base word and of the meaning of the formant in response to supporting questions about the meaning of the individual constituent components of a formation, without the construction of a word-building periphrasis.

[50] E. Muzyka-Furtak, *Głuchota i niedosłuch – mechanizmy nabywania wyrazów pochodnych*, „Logopedia" 2009, no. 38, p. 163.

[51] The paradigm of coding methods follows E. Muzyka-Furtak, *Konstrukcje słowotwórcze w świadomości językowej dzieci niesłyszących*, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 2010, p. 237.

1. Correctly created names of professions/ performers of activities, e. g.: *lekarz*, *malarz*, *kucharz* or *piekarz*;
2. Structures created by the use of wrong formants, e. g.: *kierownica* instead of *kierowca*, *kuchar* instead of *kucharz*, *piekarnicz* instead of *piekarz*;
3. Structures created with the base word changed, e. g.: *naprawiacz* instead of *szewc*, *naprawnik* instead of *szewc*;[d]
4. Structures created by non-formants, e. g.: *murenarz* instead of *murarz*, *sprzedyniarz* instead of *sprzedawczyni*;[e]
5. Endings used in inflection used as formants, e. g.: *szyja* instead of *krawcowa*, *szyjąca* instead of *krawcowa*;[f]
6. Words that are indivisible in terms of word-building, e. g.: *zegar* instead of *zegarmistrz*;[g]
7. Phrases, e. g.: *naprawiacz butów* for *szewc*, *naprawiacz zegarków* for *zegarmistrz*, *pan butowy* for *szewc*, *pan kierownik* for *kierowca*, *pan murowany* for *murarz*, *pan naprawiak* for *zegarmistrz*, *pan pożar* for *strażak*, *pani spożywcza* for *sprzedawczyni*, *strażak Sam* for *strażak*.[g]

---

[d] The two erroneously created words would correspond roughly to *repairer*, however formed using two different endings in each case, with both these endings, however, being correct in that they are used to describe persons who or objects that perform specific functions.

[e] In the latter case, the gender is also wrong, with *sprzedyniarz* (derived from the word *sprzedawać, to sell*) having a masculine ending, and the correct word, *sprzedawczyni*, *female salesperson*, being feminine.

[f] Both of the words created by the studied children in this example are derived from the verb *szyć, to sew*, with the second one being correct in that it is the present participle of the verb *szyć* (as in *the sewing one*).

[g] *Watch* instead of *watchmaker*.

[g] I attempt to provide the literal translations of the pupils' creations: *Shoe repairer* for cobbler, *watch repairer* for *watchmaker*, *shoe man* (as in, one who deals with shoes) for *cobbler*, *Mr manager* (*kierownik* is an actual word in Polish that has nothing to do with driving, but is derived from the same word, *kierować*, to drive, manage or control something) for *driver*, *masonried man* for *bricklayer* (the Polish term for bricklayer is derived from a different base word, *mur*, meaning *wall*), *Mr repairer* for watchmaker, *Mr fire* (fire as in the process of destructive oxidation of objects) for *fireman*, *Mrs grocery* for *female salesperson*, *fireman Sam* for *fireman*.

Evaluating the word-building competences of children with minor intellectual abilities, one should note the fact, whether the newly created words are formed according to the word-building templates existing in the Polish language, or whether they depart from these. The subdivision into systemic (potential) neologisms and extrasystemic neologisms, known from subject literature, may be helpful here.

The analysis of the material in terms of word-building had shown that children with minor intellectual disabilities create both systemic (potential) neologisms (or neologisms that are only apparently systemic) as well as extrasystemic neologisms.

Systemic (potential) neologisms repeat the same tried templates for word creation[52], are based on existing word-building models from the language[53]. These are new words, created according to rules in force, but not stabilised in the lexical norm (not existing in the vocabulary of the given language). Their actual meaning equals their structural meaning. This means that such derivates are understandable without the context they are used in, as their meaning can be deciphered based on language knowledge itself[54].

Among systemic neologisms, one could name:

- neologisms created using wrong (category-based) word-building formants. These are new words using formants typical for the given word-building category, words that are „structurally impeccable", „not hitherto seen, even if created correctly"[55].
  Examples from the monograph of A. Wątorek: *górniarz* for *górnik*, *malowacz* for *malarz*, *malownik* for *malarz*, *murownik* for *murarz*, *piekarnik* for *piekarz*, *skleparka* for *sklepowa*, *szywaczka* for *szwaczka*, *krawcowa*, *zegarnik* for *zegarmistrz*;

---

[52] J. Puzynina, *O pojęciu potencjalnych formacji słowotwórczych*, „Poradnik Językowy" 1966, vol. 8, p. 332.

[53] D. Buttler, *Polski dowcip językowy*, PWN, Warszawa, 1968; S. Grabias, *Paronimia jako proces leksykalny*, „Socjolingwistyka"1982, no. 4, pp. 75-88.

[54] H. Jadacka, *Kultura języka polskiego. Fleksja, słowotwórstwo, składnia*, PWN, Warszawa 2005.

[55] D. Buttler, *Polski dowcip językowy*, PWN, Warszawa 1968, p. 152.

- neologisms formed based on wrong word-building bases. These include derivates created based on word-building bases selected individually by the child (non-normative word choice as the base for the derivate to be created), but created by appending of a formant characteristic for the given word-building category. Maria Chmura-Klekotowa[56] refers to such neologisms as conceptual neologisms.

Examples as above: *badaczka* for *lekarka*, *budowarz* for *murarz*, *budowlarz* for *murarz*, *budownik* for *murarz*, *buciarz* for *szewc*, *butarz* for *szewc*, *ceglarz* for *murarz*, *chlebarz* for *piekarz*, *ciężarownik* for *kierowca*, *ciężarówkarz* for *kierowca*, *dostawca* for *kierowca*, *jeżdżacz* for *kierowca*, *kamieniarz* for *górnik*, *kopalniarz* for *górnik*, *kopalnik* for *górnik*, *podbijacz* for *szewc*, *przewoźnik* for *kierowca*, *ratownik* for *strażak*, *uszycielka* for *krawcowa*, *wiertak* for *górnik*.[h]

Extrasystemic neologisms are in opposition to potential neologisms. They are referred to as individualisms or occasionalisms[57]. These are new words created according to the word-building mod-

---

[56] M. Chmura-Klekotowa, *Neologizmy słowotwórcze w mowie dzieci*, „Prace Filologiczne"1971, no. 21, pp. 99-235.

[h] Clarifications of the mode of derivation of these neologisms:
lekarka (female doctor): *badaczka* (one who examines, from *badać*, to examine, to study)
murarz (bricklayer): budowarz, budowlarz, budownik, (from *budować*, to build), ceglarz (from *cegła*, brick)
szewc (cobbler): buciarz, butarz (from *but*, shoe), podbijacz (from *podbijać*, to sole)
piekarz (baker): chlebarz (from *chleb*, bread)
kierowca (driver): ciężarownik, ciężarówkarz (from *ciężarówka*, heavy truck), dostawca (delivery person, from *dostarczać*, to deliver), jeżdżacz (from *jeździć*, to ride), przewoźnik (one who conveys or transports, from *przewozić*, to transport)
górnik (miner): kamieniarz (one who works with stones, from *kamień*, stone), kopalniarz, kopalnik (from *kopalnia*, mine), wiertak (from *wiercić*, to drill)
strażak (fireman): ratownik (one who rescues, from *ratować*, to rescue)
krawcowa (female tailor): uszycielka (from *uszyć*, to sew)

[57] K. Chruścińska, *O formacjach potencjalnych i okazjonalizmach*, [in:] *Z zagadnień słownictwa współczesnego języka polskiego*, ed. by M. Szymczak, Wydawnictwo ZNiO, Wrocław, 1978, pp. 69-79; S. Grabias, *O ekspresywności języka. Ekspresja a słowotwórstwo*, Wyd. Lubelskie, Lublin 1981.

els of the Polish language. These include neologisms unmotivated by any existing word, e. g. absolute neologisms, form with atypical word-building bases or isolated components functioning as formant, as well as phonetic or morphologic distortions of the word structure or disintegration of word structures indifferent to morphologic limits[58]. They are sometimes referred to as situational neologisms, because they may constitute single-time, spontaneous reactions to specific stimuli[59].

The following can be named among extrasystemic word-building formations created by children with minor intellectual disability:

- neologisms created using wrong (non-category) formants. These are derivatives created using random formants (atypical for the relevant word-building category) for which reason their meaning is incomprehensible.
  Examples as above: *sprzedawczynia* for *sprzedawczyni*, *szywalnia* for *szwaczka*;
- neologisms formed using wrong word-building bases. These are formations created through the addition of a formant atypical for a given category to a wrongly selected word-building base.
  Examples as above: *stukowiec* for *szewc*;
- neologisms created using atypical word-building bases. These include „derivatives from bases that do not normally form derivatives of specific kinds (…) or which aren't usually developed in word-building"[60]. These are created by children with very low word-building fluency.
  Examples as above: *prawienek* for *zegarmistrz*[i], *prowiciel* for *kierowca*.

---

[58] S. Grabias, *O ekspresywności języka. Ekspresja a słowotwórstwo*, Wyd. Lubelskie, Lublin 1981.

[59] D. Buttler, *Neologizm i terminy pokrewne*, „Poradnik Językowy" 1962, vol. 5-6, pp. 235-244.

[60] D. Buttler, *Polski dowcip językowy*, PWN, Warszawa 1968, p. 183.

[i] Prawienek most probably formed based on *naprawiać*, to repair.

In evaluating the word-building competences of children with intellectual disabilities based on material excerpted from the monograph of A. Wątorek, the following additional conclusions may be drawn:

1) Children with retardation use the rule of clarity of meaning, e. g. in neologisms they frequently use formants that they know.
2) They select the formants most productive in terms of names of professions/ performers of activities, e. g. *-arz*, *-nik*, *-acz*.
3) Using the formant *-arz* they created 24 forms (of the 86 collected), conf. e. g.: *budowarz* for *murarz*, *górniarz* for *górnik*, *kopalniarz* for *górnik*, *pan zegarz* for *zegarmistrz*. They even used this formant to create the forms *sklepiarz*, *sprzedyniarz* to indicate female performers of activities, e. g. *sklepowa*, *sprzedawczyni*. I noted 18 forms utilising the formant *-nik*, conf. e. g.: *ciężarownik* for *kierowca*, *malownik* for *malarz*, *naprawnik* for *zegarmistrz*, *zegarnik* for *zegarmistrz*. The formant *-acz* was used by the children to create six forms, conf. e. g.: *jeżdżacz* for *kierowca*, *malowacz* for *malarz*, *naprawiacz zegarków* for *zegarmistrz*, *podbijacz* for *szewc*, *szywacz butów* for *szewc*.
4) At times, not knowing the names of professions, the children would:
   a) pick out from the semantic grid lexemes of a superordinate category, conf. e. g.: *naprawiacz* for *szewc*, *naprawiak* for *zegarmistrz*, *naprawiarz* for *szewc*, *naprawnik* for *szewc*, *zegarmistrz*, *pracownik* for *murarz*, *robotnik* for *górnik* or a subordinate category, conf. e. g.: *chlebarz* for *piekarz*, *ciężarownik* for *kierowca*, *ciężarówkarz* for *kierowca*. Such creations – as Alicja Giermakowska writes – can mean that the child does not have the proper image of relations stemming from the possession of specific properties by objects on different levels of the semantic hierarchy[61];

[61] A. Giermakowska, *Ocena kompetencji słowotwórczej uczniów z trudnościami w czytaniu i pisaniu na poziomie edukacji wczesnoszkolnej*, „Szkoła Specjalna" 2012, no. 5, p. 364.

b) quote names of professions/ performers of activities that were different, often not even related to the proper ones, conf. e. g.: *murenarz* for *górnik*, *rolnik* for *górnik*.

Even if we do not have data on the semantic property explication skills in children with minor intellectual disabilities, however we may infer that some of the names were created by association, conf. *kominiarz* for *górnik* (perhaps because both were dark uniforms and have similarly dirty faces), *kowal* for *szewc* (perhaps because he has a cobbler's anvil), *krawiec* for *szewc* (because both sew, one clothing, the other shoes), *prowiciel* for *kierowca* (perhaps from *prowadzić*, *to drive*), *stukowiec* for *szewc* (perhaps because he knocks (*stukać*) on the heels when replacing taps), *złotnik* for *górnik* (perhaps because coal is sometimes referred to as black gold (*czarne złoto*)).

Apart from that, perhaps some phonetic (tonal) associations have contributed to the creation of the form *młynarz* for *murarz*[j].

Summary

The description of the understanding (reception, decoding, interpretation) and creation (expression, coding) of word-building structures by children with minor intellectual disabilities, the determination of the mode of presence of word-building structures in the linguistic awareness of children suffering from retardation is the more important that research, and accordingly, studies on the word-building competences of these children, are lacking.

The results of studies will permit, among others, answers to questions of some educators, namely, do children with intellectual dysfunctions (minor intellectual disabilities, of course) are able to cope with the same base school curriculum as everyone, acquire knowledge from common textbooks, take part in tests or competence examinations based on unified rules[62].

---

[j] *Młynarz* means *miller*.

[62] Conf. A. Wątorek, *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014, p. 12.

References

Bałachowicz J., Paluszewski J. (red.), *Sprawności językowe dzieci upośledzonych umysłowo w stopniu lekkim*, Wydawnictwo WSPS, Warszawa 1995.

Baudouin de Courtenay J., *Spostrzeżenia nad językiem dziecka*, wybr. i oprac. M. Chmura-Klekotowa, Wydawnictwo Ossolineum, Wrocław 1974.

Błeszyńska L., *Zasób słownictwa uczniów z niepełnosprawnością intelektualną w stopniu lekkim klas gimnazjalnych – diagnoza i propozycje rozwiązań*, (w:) *Nauczanie uczniów z niepełnosprawnością intelektualną w stopniu lekkim. Wybrane problemy z teorii i praktyki*, red. S. Sadowska, Akapit, Toruń, 2006, s. 153-162.

Błeszyński J., *Niepełnosprawność intelektualna. Mowa – język – komunikacja. Czy iloraz inteligencji wyjaśnia wszystko*?, Harmonia, Gdańsk, 2013.

Buttler D., *Neologizm i terminy pokrewne*, „Poradnik Językowy" 1962, z. 5-6, s. 235-244.

Buttler D., *Polski dowcip językowy*, PWN, Warszawa 1968,

Chmura-Klekotowa M., *Neologizmy słowotwórcze w mowie dzieci* (I), „Poradnik Językowy" 1967, nr 10, s. 433-445,

Chmura-Klekotowa M., *Neologizmy słowotwórcze w mowie dzieci*, „Poradnik Językowy" 1968, nr 1, s. 19-25;

Chmura-Klekotowa M., *Neologizmy słowotwórcze w mowie dzieci*, „Prace Filologiczne"1971, nr 21, s. 99-235.

Chruścińska K., *O formacjach potencjalnych i okazjonalizmach*, (w:) *Z zagadnień słownictwa współczesnego języka polskiego*, red. M. Szymczak, Wydawnictwo ZNiO, Wrocław 1978, s. 69-79,

Dawid Ł., *Neologizmy przykładem kreatywności językowej uczniów klas młodszych*, [w:] *Problemy edukacji lingwistycznej*, pod red. M.T. Michalewskiej, Oficyna Wydawnicza „Impuls", Katowice 1999.

Dziurda-Multan A., *Dziecięce sposoby tworzenia nazw*, Wydawnictwo KUL, Lublin 2008.

Gąsiorek K., *Rozumienie przez dzieci i młodzież szkolną rzeczowników abstrakcyjnych z uwzględnieniem czynników wiekowych i środowiskowych*, [w:] *Zagadnienia komunikacji językowej dzieci i młodzieży*, red. J. Porayski-Pomsta, Dom Wydawniczy „Elipsa", Warszawa 1991.

Giermakowska A., *Ocena kompetencji słowotwórczej uczniów z trudnościami w czytaniu i pisaniu na poziomie edukacji wczesnoszkolnej*, „Szkoła Specjalna" 2012, nr 5, s. 356-366.

Grabias S., *O ekspresywności języka. Ekspresja a słowotwórstwo*, Wyd. Lubelskie, Lublin 1981.

Grabias S., *Paronimia jako proces leksykalny*, „Socjolingwistyka"1982, nr 4, s. 75-88.

Haman E., *Early productivity in derivation. A case study of diminutives in the acquisition of Polish*, „Psychology of Language and Communication" 2003, nr 7(1), s. 37-56,

Haman E., *Słowotwórstwo dziecięce w badaniach psycholingwistycznych*, Wydawnictwo Lexem, Warszawa 2013.

Haman E., *Status wyrazów pochodnych w słowniku dziecka – analiza psycholingwistyczna* (niepublikowana rozprawa doktorska napisana pod kierunkiem prof. dr hab. Barbary Bokus, Wydział Psychologii UW), 2000; Haman E., *Semantic vs. formal determinants of derivational morphology development*: *The case of derived nouns in Polish*, „Polish Psychological Bulletin" 2000, nr 31 (2), s. 123-136.

Jadacka H., *Kultura języka polskiego. Fleksja, słowotwórstwo, składnia*, PWN, Warszawa, 2005.

Jęczeń U., *Językowa projekcja emocji na przykładzie wypowiedzi dzieci upośledzonych umysłowo i dzieci w normie intelektualnej* (niepublikowana rozprawa doktorska), Lublin, 2005.

Jęczeń U., *Językowa projekcja emocji. Emocje w zachowaniach językowych dzieci upośledzonych umysłowo i dzieci w normie intelektualnej*, (w:) *Język – interakcja – zaburzenia mowy. Metodologia badań*, red. T. Woźniak, A. Domagała, Wydawnictwo UMCS, Lublin 2007, s. 133-171.

Kaczmarek L., *Nasze dziecko uczy się mowy*, Wydawnictwo Lubelskie, Lublin 1966.

Kaczorowska-Bray K., *Wyrażenia przyimkowe w mowie dzieci upośledzonych umysłowo w stopniu umiarkowanym i lekkim* (niepublikowana rozprawa doktorska), Gdańsk 2007.

Krakowiak K., *Fonogesty jako narzędzie formowania języka u dzieci z uszkodzonym słuchem*, seria: *Komunikacja językowa i jej zaburzenia*, t. 9, red. S. Grabias, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 1995.

Krzemińska D., *Język i dyskurs codzienny osób z niepełnosprawnością intelektualną*, Impuls, Kraków 2012.

Michalik M., *Diagnozowanie kompetencji lingwistycznej ucznia szkoły specjalnej*, Wydawnictwo Naukowe Akademii Pedagogicznej, Kraków 2006.

Michalik M., *Kompetencja składniowa w normie i w zaburzeniach*, Wydawnictwo Naukowe Uniwersytetu Pedagogicznego, Kraków 2011.

Minczakiewicz E., *Kształtowanie i usprawnianie mowy dzieci upośledzonych umysłowo w stopniu umiarkowanym i znacznym*, „Szkoła Specjalna" 1984, nr 3, s. 186-191.

Minczakiewicz E., *Rozwój języka mówionego uczniów młodszych klas szkoły specjalnej dla lekko upośledzonych umysłowo w toku zamierzonych oddziaływań stymulacyjnych*, „Logopedia" 1994, nr 21, s. 37-46.

Minczakiewicz E., *Z badań nad zaburzeniami mowy u dzieci upośledzonych umysłowo*, (w:) *Z zagadnień oligofrenopedagogiki*, t. 2, red. J. Pańczyk, Wydawnictwo WSPS, Warszawa 1989.

Minczakiewicz E., *Zaburzenia mowy i ich odbicie w piśmie uczniów młodszych klas szkoły specjalnej dla lekko upośledzonych umysłowo*, „Logopedia" 1993, nr 20, s. 113-119.

Minczakiewicz E., *Zaburzenia mowy u osób z upośledzeniem umysłowym*, „Scholasticus" 1993, nr 1, s. 57-63.

Mnich M., *Sprawność językowa dzieci w wieku wczesnoszkolnym*, Wydawnictwo Impuls, Kraków 2002.

Muzyka E., *Acquisition of word-formation categories by children with hearing loss*, „Psychology of Language and Communication" 2008, nr 12(2), s. 45-68.

Muzyka E., *Sposoby interpretowania konstrukcji słowotwórczych przez dzieci niesłyszące*, „Logopedia" 2007, nr 36, s. 95-115.

Muzyka-Furtak E., *Głuchota i niedosłuch – mechanizmy nabywania wyrazów pochodnych*, „Logopedia" 2009, nr 38, s. 149-172.

Muzyka-Furtak E., *Jakościowa charakterystyka zaburzeń leksykalnych dzieci z uszkodzonym słuchem*, „Logopedia" 2013, nr 42, s. 135-150.

Muzyka-Furtak E., *Konstrukcje słowotwórcze a kategorie poznawcze dzieci niesłyszących*, [w:] *Język a kultura*, t. 22, *Idiolekty w różnych sferach komunikacji*, red. A. Żurek, Wydawnictwo Uniwersytetu Wrocławskiego, Wrocław 2011, s. 117-132.

Muzyka-Furtak E., *Konstrukcje słowotwórcze w świadomości językowej dzieci niesłyszących*, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 2010.

Muzyka-Furtak E., *Kwestionariusz słowotwórczy w ocenie kompetencji językowej dzieci z zaburzeniem słuchu*, [w:] *Metody i narzędzia diagnostyczne w logopedii*, red. M. Kurowska, E. Wolańska, Wydawnictwo Dom Wydawniczy Elipsa, Warszawa 2015, s. 251-267.

Nadolska H., *Poziom inteligencji a sprawność narracji*. (*Z badań nad mową narracyjną dzieci upośledzonych umysłowo w stopniu lekkim i pełnosprawnych umysłowo*), „Roczniki Pedagogiki Specjalnej" 1994, nr 5, s. 43-61; Nadolska H., *Kompetencja narracyjna uczniów o różnym poziomie intelektualnym. Przejawy, uwarunkowania, tendencje rozwojowe*, wyd. Erbe, Białystok 1995.

Nadolska H., *Poziom inteligencji a sprawność relacjonowania zdarzeń*. *Wybrane aspekty badań nad kompetencją narracyjną dzieci pełnosprawnych i upośledzonych umysłowo w stopniu lekkim*, „Kultura i Edukacja" 1993, nr 4, s. 91-102.

Pastuchowa M., *O słowotwórstwie z perspektywy leksykalnej*, [w:] *Sztuka czy rzemiosło*? Nauczyć *Polski i polskiego*, red. A. Achtelik, J. Tambor, wyd. Gnome, Katowice 2007, s. 23.

Przybysz-Piwkowa M., *Wyodrębnianie znaczeń form językowych w neologizmach dziecięcych*, [w:] *Językowy obraz świata dzieci i młodzieży*, red. J. Ożdżyński, Wydawnictwo Wyższej Szkoły Pedagogicznej, Kraków 1995.

Puzynina J., *O pojęciu potencjalnych formacji słowotwórczych*, „Poradnik Językowy" 1966, z. 8, s. 332.

Rakowska A., *Język – komunikacja – niepełnosprawność*. *Wybrane zagadnienia*, Wydawnictwo Naukowe Akademii Pedagogicznej, Kraków 2003.

Rakowska A., *Rozwój systemu gramatycznego u dzieci głuchych*, Wydawnictwo Naukowe Wyższej Szkoły Pedagogicznej, Kraków 1992.

Sadowska S., *Uczeń z niepełnosprawnością intelektualną w stopniu lekkim w szkolnej sytuacji komunikacyjnej*. *O realizacji zadań wspomagania rozwoju umiejętności mó-*

wienia i pisania, (w:) *Nauczanie uczniów z niepełnosprawnością intelektualną w stopniu lekkim. Wybrane problemy z teorii i praktyki*, red. S. Sadowska, Akapit, Toruń 2006.

Synowiec H., *Rozwój słownictwa nazywającego rozwój osobowości w języku dzieci i młodzieży*, Wydawnictwo Uniwersytetu Śląskiego, Katowice 1985.

Synowiec H., *Z badań nad słownictwem dzieci przedszkolnych*, [w:] *Z teorii i praktyki dydaktycznej języka polskiego*, t. 3, red. J. Kram, E. Polański, Wydawnictwo Uniwersytetu Śląskiego, Katowice 1980.

Szuman S., *Rozwój treści słownika dzieci. Zagadnienia i niektóre wyniki badań*, [w:] *O rozwoju języka i myślenia dziecka*, red. S. Szuman, Wydawnictwo PWN, Warszawa 1968, s. 19-95.

Szuniewicz A. *Próba badania wad mowy dzieci upośledzonych umysłowo w warszawskich szkołach specjalnych*, „Logopedia" 1967, nr 7, s. 112-117.

Tarkowski Z., *Agramatyzm u uczniów lekko upośledzonych umysłowo*, [w:] *Rewalidacja dzieci ze złożonymi upośledzeniami*, red. Z. Sękowska, Wydawnictwo UMCS, Lublin 1988, s. 81-108.

Tarkowski Z., *Zaburzenia mowy dzieci upośledzonych umysłowo*, [w:] *Logopedia – pytania i odpowiedzi. Podręcznik akademicki*, t. II, red. T. Gałkowski, G. Jastrzębowska, Wydawnictwo UO, Opole 2013, wyd. II, s. 203-204.

Wątorek A. *Kompetencja językowa uczniów z lekką niepełnosprawnością intelektualną*, Wydawnictwo Nomos, Kraków 2014.

Zarębina M., *Kształtowanie się systemu językowego dziecka*, Wydawnictwo Ossolineum, Wrocław, 1965; Zarębina M., *Język polski w rozwoju jednostki. Analiza tekstów dzieci do wieku szkolnego. Rozwój semantyczny języka dziecka*, Wydawnictwo Naukowe Wyższej Szkoły Pedagogicznej, Kraków 1980.

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

MATEUSZ SZUREK

Department of Polish Dialectology and Logopedics
University of Lodz

Detailed logopaedic diagnosis of a child affected with moderate intellectual disability as the basis for effective therapy

ABSTRACT: Mateusz Szurek, *Detailed logopaedic diagnosis of a child af-fected with moderate intellectual disability as the basis for effective therapy – case study*. Interdisciplinary Contexts of Special Pedagogy, No. 18, Poznań 2017. Pp. 161-180. Adam Mickiewicz University Press. ISSN 2300-391X

Speech and language are important in the mental and emotional development of every human being. Various speech disorders that affect the daily functioning, communication and acquiring the basic human needs can disrupt the functioning of a person in society. In the case of people with intellectual disabilities, this is an oligophasia, or the speech disorder characteristic for people with reduced intellectual ability. In this article, the author draws attention to the importance of a detailed speech diagnosis, which is the basis for the later therapeutic process. He presents in on the example of a child with moderate-degree intellectual disability, using the *Afa-Skala* test, while at the same time demonstrating its usefulness in diagnosing the intellectually disabled children's language disorders. In the final part of the text the author deals with the problem of speech therapy in children with these disorders.

KEY WORDS: logopaedic diagnosis, oligophasia, intellectual disability, speech therapy

Oligophasia – theoretical assumptions

The term *oligophasia* refers to speech impediments in intellectually-disabled persons[1]. The term has varied definitions, because the development of speech in such persons, and the accompanying disorders are difficult to pin down and diagnose, because they emerge against the backdrop of delayed speech development[2]. Józef Surowaniec includes oligophasia among endogenous speech development disorders, defining it as an "impairment or complete lack, or delayed development of speech related to an intellectual disability"[3].

It must be noted that in children with a moderate intellectual disability[4] speech impediments are present. The main properties of oligophasia, related to delayed development of speech, include: incorrect and elongated articulation, the slow pace of development of the passive and active vocabulary, reduction in one's narrative ability, difficulties in mastering the semantic-lexical subsystem and the syntactic subsystem (related to the presence of agrammatisms)[5]. The above symptoms are present in conjunction with disturbances of cognitive processes, including perception, thinking, attention,

---

[1] The diagnostic criteria for intellectual disability are found in the ICD-10 International Statistical Classification of Diseases and Related Health Problems as well as the newest DSM-5 Diagnostic and Statistical Manual of Mental Disorders.

[2] U. Jęczeń, *Postępowanie logopedyczne w przypadkach oligofazji*, [in:] *Logopedia. Standardy postępowania logopedycznego*, ed. by S. Grabias, J. Panasiuk, T. Woźniak, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 2015, p. 268.

[3] J. Surowaniec, *Podręczny słownik logopedyczny*, Wydawnictwo Naukowe WSP, Kraków 1993, p. 250, [as quoted in:] K. Kaczorowska-Bray, *Zaburzenia komunikacji językowej w grupie osób z niepełnosprawnością intelektualną*, [in:] *Diagnoza i terapia logopedyczna osób z niepełnosprawnością intelektualną. Teoretyczne determinanty problemu*, ed. by J.J. Błeszyński, K. Kaczorowska-Bray, Wydawnictwo Harmonia Universalis, Gdańsk 2015, p. 51.

[4] Moderate intellectual disability is diagnosed for an intelligence quotient in the range of 35-49 (per ICD-10) and a mental age between 6 to under 9.

[5] A. Rakowska, *Język-komunikacja-niepełnosprawność: wybrane zagadnienia*, Wydawnictwo Naukowe Akademii Pedagogicznej, Kraków 2003, p. 127.

memory as well as emotional and motivational processes. In this regard, the language abilities of intellectually-disabled patients take shape against the background of delays in their psycho-physical development[6]. As Hanna Nartowska writes, in turn, "the abilities with the highest-order levels of organisation, meaning those that are formed latest during philogenesis and ontogenesis are those that are development-delayed and impaired to the greatest extent. These are primarily thinking and speech''[7].

Communication abilities of an intellectually-disabled child

The basis for the speech therapist to commence a diagnosis is the knowledge of the theoretical issues concerning the communication abilities of the evaluated patient. Persons with a moderate-level intellectual disability, similarly to their unremarkable peers, possess the need to communicate with their environment. Moreover, the shaping of communications abilities in them follows the same pathway as in unremarkable children. The main difference, however, is the limitation of communications abilities in case of intellectually-disabled children. In these persons, speech develops with considerable delay. The individual periods of the development of speech arise at a later time, and additionally, are extended[8]. According to Zbigniew Tarkowski, an unremarkable child masters the basics of the language system until the end of its fourth year of age, with an intellectually disabled child babbling or remaining silent at

---

[6] U. Jęczeń, *Postępowanie logopedyczne w przypadkach oligofazji*, [in:] *Logopedia. Standardy postępowania logopedycznego*, ed. by S. Grabias, J. Panasiuk, T. Woźniak, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 2015, p. 268.

[7] H. Nartowska, *Opóźnienia i dysharmonie rozwoju dziecka*, Wydawnictwo WSiP, Warszawa 1980, p. 102.

[8] K. Kaczorowska-Bray, *Zaburzenia komunikacji językowej w grupie osób z niepełnosprawnością intelektualną*, [in:] *Diagnoza i terapia logopedyczna osób z niepełnosprawnością intelektualną. Teoretyczne determinanty problemu*, ed. by J.J. Błeszyński, K. Kaczorowska-Bray, Wydawnictwo Harmonia Universalis, Gdańsk 2015, p. 58.

this age[9]. Marta Bogdanowicz in turn notes that such children pronounce individual words at about five years of age, in turn building simple sentences with a high degree of agrammatisms at about seven years of age[10], with their vocabulary limited, without the use of abstract terms, and with their pronunciation being flawed and unclear. All these factors hamper the contact with a disabled child. In children affected by moderate intellectual disability, the language and communications competences are quite varied – ranging from mutism to using longer sentences. In addition, revalidation as part of speech therapy in these persons may also cover alternative and supporting methods of communication (in case of a low level of language and communications competences).

Logopaedic diagnosis of a moderate-level intellectually disabled child – a case study

In literature, a logopaedic diagnosis is referred to as a „set of specific rules and methods of research procedure aimed at the evaluation of the development of speech in the evaluated person, and the description of flaws present in the communication process"[11]. Symptoms are in the majority of cases determined based on observations, the medical interview, as well as linguistic trials and tests. Additionally taking into account supplementary examinations (e. g. audiological, phoniatric, neurological, psychological, paedagogical), an initial diagnosis is formed to evaluate the linguistic behaviour of a child.

---

[9] Z. Tarkowski, *Mowa osób upośledzonych umysłowo i jej zaburzenia*, [in:] *Podstawy neurologopedii. Podręcznik akademicki*, ed. by T. Gałkowski, E. Szeląg, G. Jastrzębowska, Wydawnictwo Uniwersytetu Opolskiego, Opole 2005, p. 559.

[10] M. Bogdanowicz, *Psychologia kliniczna dziecka w wieku przedszkolnym*, Wydawnictwo WSiP, Warszawa 1985, p. 84.

[11] E. Czaplewska, S. Milczewski, *Diagnoza logopedyczna. Podręcznik akademicki*, Gdańskie Wydawnictwo Psychologiczne, Sopot 2012, p. 7.

The basic goal of a diagnosis within speech and language pathology is the confirmation (and subsequent detailing) or exclusion of a speech or communication impediment based on specific symptoms, the pathogenesis and the pathomechanism[12].

Characteristics of the patient

The boy was born in the year 2010 (he is presently seven years of age) in a multi-child family. He attends one of the special education preschools in the voivodeship of Łódź in Poland. In the year 2015, following a suggestion by an educational specialist from a children's community centre (the boy did not attend preschool), the mother took the boy to a consultation clinic in order to evaluate the level of development. The specialists issued an opinion about the need of special education at a special preschool. A year later, the mother again filed a motion with the evaluating committee to issue an opinion so that the child could continue its education in the present form. Based on the collected documents, the evaluating committee of the psychological and educational consultation clinic decided on the need of further special education for the time of preschool education due to a moderate-level intellectual disability.

According to the presented diagnosis, developed based on documentation from the psychological and educational consultation clinic, the boy does not understand complex commands, comprehending but simple orders that in most cases apply to situations from daily life. During the study, he felt at ease, was interested in toys, looked at items, explored his environment and reached out his hand in greeting. A markedly reduced level of social maturity is observed in him. He prefers to play alone, however, there have also emerged elements of cooperation and adaptation to requirements during group sessions. A reduced level of vision-motion coordination was also diagnosed in the patent. The development of gross

[12] E. Lichota, *Terapia logopedyczna*, Wydawnictwo Difin, Warszawa 2015, p. 12.

motor skills remains without reservations (the boy imitates movements during active play to music), however, visible is a delay in the area of fine motor skills. Cognitive development is far below the norms for the age. The focus of attention on the executed activity was evaluated as correct.

In terms of speech impediments, oligophasia was determined – with active speech in the single-word phase, the statements marked by numerous instances of echolalia, errors in articulation and simplifications in consonant groups; understanding of active speech related to daily life situations is good.

The evaluating committee determined that the priorities in the development of an individual education and therapy programme would be stimulation of intellectual development and development of social abilities (including in detail: the abilities to learn by imitation, training of self-aid activities, movement towards self-sufficiency, encouragement to purposeful activities, gaining experiences, encouragement to make social contacts with peers and adults as well as the development of communication skills). The boy was recommended to attend revalidation courses including speech exercises, including to develop language competences (e. g. facilitation of phonematic hearing, shaping of articulative kinaesthesia, development of the organs of speech, shaping of command comprehension, development of the passive and active vocabulary, shaping of the understanding of prepositions related to spatial relations, shaping the ability to express oneself in sentences and shaping the comprehension of cause-and-effect relations). In addition, exercises were recommended aimed at the stimulation of general cognitive development, the expansion of the knowledge base (naming objects and colours, counting on objects, searching for similarities and differences, classifying an item according to specific properties), as well as exercises aimed at the development of cognitive curiosity and the ability to make conclusions.

As support in the development of the boy, it was suggested that he participated in specialist courses as part of psychological and educational assistance. The purposes and content of the suggested activities applied to the development of general motor coordination,

the participation in games related to balance and stimulating the awareness of one's body, developing the ability to control tension, relaxation exercises, exercises to develop manual abilities (improvements in colouring and drawing, filling specific areas of images, to making use of crayons and pencils as well as scissors), exercising memory and attention (learning poems or songs). One of the recommendations was also the use of rewards and the rule of natural consequence in the shaping of the proper behaviour of the child at home and at the preschool. The family was to receive additional aid in the area of support for the child's development, to secure for them a feeling of safety, care for the satisfaction of other emotional needs and to determine unified methods of education and upbringing.

The present form of special education at the special preschool brings positive effects in the development of the boy. It allows him to function in a small group of peers, providing chances to learn by imitation and individual activity both in the cognitive sense, as well as in the emotional and social sense (spanning making interpersonal relations, purposeful exploration and the cognition of the environment through own experiences). The boy is able to intensely develop communication abilities through speech therapy. He was also provided with help in the execution of his educational exercises. The coverage by activities from the areas of education, therapy and general upbringing, the implementation of the individual education and therapy programme and participation in revalidation and specialist courses significantly help the boy reach an optimum level of comprehensive development. They also prepare him to in the future take on his obligatory school education in a form suitable for his abilities.

Logopaedic examination

The logopaedic examination presented in this article was conducted in September of 2016 (a year after the opinion was issued). In the previous schoolyear, the boy was also provided with speech therapy at the preschool.

The study was conducted using the *Afa-Skala*[13], a scale used for evaluation of speech in children with aphasia, as well as individually-selected trials. The choice of the test was motivated by the will to show its usefulness for the diagnosis of speech disorders in intellectually disabled children. Presently, there is a lack of logopaedic tests aimed at children with intellectual disabilities, and one needs to use the tools available on the publishing market or create their own research tools.

The chosen test is aimed at checking the child's comprehension of individual names (nouns and verbs), the ability of the child to observe the gestures of the therapist, to understand and repeat them. Thanks to it, the ability to execute simple and complex commands could also be checked, as well as the ability to form simple sentences as well as coordinate clauses and complex clauses (with particular inclusion of the comprehension of prepositions). Analysed is also the understanding of questions – referring to specific instances or drawings, as well as abstract and more difficult names (colours and general terms). In addition, the repetition of individual sounds, syllables (primary and secondary), two-syllable and more difficult words, is diagnosed. It also enables one to check independent naming by onomatopoeic syllables, words or sentences. Analysed is the ability to construct a simple statement on a given subject, as well as the formulation of responses. The test focuses on whether the child communicates in a spontaneous manner, asking questions, formulating requests, whether it expresses its wishes, and how it conveys these.

Before commencement of the actual logopaedic evaluation, the anatomic characteristics and mobility abilities of the articulation organs is tested. Recorded was a reduced muscular tension around the articulation organs, as a result of which the boy's mouth is continuously open – for which reason the breathing pathway is incorrect.

---

[13] A. Paluch, E. Drewniak-Wołosz, L. Mikosza, *Afa-Skala. Jak badać mowę dziecka afatycznego?*, Oficyna Wydawnicza „Impuls", Kraków 2008.

Due to the shortcomings in understanding speech, the child was sent to a hearing test. In the meantime, supervision continued during speech therapy in order to determine the level of mastery in speech comprehension, the pace of progress and the influence of possible hearing deficiencies. The results of audiometric data clearly excluded any deficiencies in hearing – the hearing is correct.

The logopaedic examination covered an interview, initial observations concerning verbal and non-verbal communication of the child, and the modes of communication with the environment, as well as the actual analyses of the linguistic phenomena present in the child's speech (e. g. understanding, repetition, naming, speech: in dialogue, storytelling and spontaneous).

A logopaedic interview was conducted with the child's mother, who concluded that she herself did not notice the development differences comparing the boy with his peers. When asked questions concerning the speech and psychomotor development, the was reluctant to respond, repeating that she did not remember individual events. The behaviour of the mother might suggest that the situation at the boy's home is troubling. Based on information obtained at the local urban social assistance centre, one could conclude that the boy is environmentally uncared for.

Observations of spontaneous behaviour of the child did not show any warning signs. The boy played with the toys in the office. He reacted to sounds from the environment, but he did not understand all of the commands aimed at him – with the comprehension being aided by gestures and the situational context. When asked about his age, he responded stating his last name. The boy's speech often included instances of direct echolaliae. He was able to focus his sight and attention on an indicated object, and maintained eye contact with his interlocutor (although for a short while). He was keen to speak to the therapist, he was interested in the suggested activities. He frequently asked *what is it?* (Polish: *co to?*), when he noticed a new object in view.

In order to analyse the linguistic phenomena seen in the boy's speech, eight trials were made as suggested in the quoted test, use as a diagnostic tool, and two additional trials. Their descriptions are presented below.

Trial I – spontaneous play with stuffed toys

This trial spanned spontaneous play with any stuffed toy, and was aimed at initiating contact with the child. The boy immediately made contact and was keen to commence the suggested activity. He focused his attention on the teddy bear, he took it in hand. He was able to indicate the parts of the body, e. g. the head, leg, eye, ear and nose both on himself, as well as on the stuffed toy. He imitated the activities performed by the speech therapist (yawning, repeating *a-a-a*, closing eyes, opening eyes, crying, repeating *u-u-u*, feeding, repeating individual words, giving something to drink), however, he did not comprehend all commands meant for him. He was only not able to seat the teddy bear at the table (he would put it on the table) – because the boy has difficulties with understanding prepositions and in describing spatial relations. During play, he would pronounce individual words such as: *teddy, eating, sitting, table* (Polish: *miś*, *je*, *siedzi*, *stolik*). He did not make use of sentences.

Trial II – comprehension (nouns, verbs, adjectives, adverbs, numerals, pronouns)

This trial was meant to test the understanding of nouns, verbs, adjectives, adverbs, numerals and personal pronouns. The boy indicated all nouns in the presented images correctly[14]. He flawlessly handled the verbs as well[15]. Adjectives presented a problem to him, he indicated correctly only the *sad* and the *happy* girl. However, he was not able to recognise in the images, which item is *small,* and which one is *big*. He used the descriptors *old-new* erroneously. He did not know the meanings of the adverbs *near* and *far*. He also did

---

[14] The images contained the following: *a house, a doll, a dog, an eye, ice-cream, a car, shoes, a fish, a frog, a wardrobe, a pram, a clock, a ball, a mug, a sleigh, a stork, a spade, a lamp, buttons, butterflies, a fir tree, a plane, a ladder, scissors*.

[15] *Eating* (candy), *reading* (a book), *cooking* (soup), *sitting* (in an armchair), *cutting out* (a teddy bear), *swimming* (in a pool).

not correctly indicate, where *one* pencil was lying, and where *two* pencils were shown (proof of his poor vocabulary in terms of numerical terms). He correctly used the personal pronouns *he* and *she*.

Trial III – naming (nouns, verbs, adjectives, adverbs, numerals, pronouns)

Naming was tested based on the same visual aids. The task of the child spanned naming the pictures it was shown – hence, tested were the ability to name and the child's vocabulary. Naming was not fully mastered by the evaluated child. The boy correctly indicated most nouns, with the only ones causing him problems were *sledge, stork, shovel, lamp, ladder* (he referred to these, respectively, *sledg*[16a], *giraffe, hammer, światełko, deska*) – he indicated them after pronouncing their names. Naming activities did not cause him problems. When naming adjectives, he did not name the properties of a wheel (*large, small*). He also was not able to appropriately describe a shoe as *old* (he used the term *shoe damaged*[17b]) and *new* (he used the adjective *pink* – however, wrongly describing the colour, because the shoe shown was brown). He also failed to master adverbs – base on a picture he was shown, he was unable to finish the sentence *This boy's home is…* – he only used the words *home* and *boy*. Having been guided and explained the meaning of adverbs, he still did neither named nor indicated correctly the terms *far* and *near.* He referred to the *sad* and *happy* girl respectively as *behaving badly* and *behaving well*[18c]. He replaced personal pronouns with the nouns *boy* and *girl*

[16a] The Polish term for sledge is *sanki*, a singular noun that has a plural form. When asked to name the sledge, the boy used the term *sanek*, which would be the singular form, if one were to consider *sanki* the plural form of a regular noun that also has its respective singular form [all footnotes indicated by letters stem from the translator].

[b] In Polish, the boy used the phrase *but popsuło*, which is grammatically incorrect.

[c] Note that these phrases are simpler in Polish, being *niegrzeczna* and *grzeczna*, respectively.

(despite having indicated them correctly in the comprehension test). When asked, how many pencils does he see in the picture, he responded – *pencils*. He was unable to initiate counting on his own, however, with the aid of the therapist he was able to count to three.

Trial IV – colour names

The trial pertained to the ability to name colours. The boy failed to correctly recognise any colour, he indicated and referred to them at random[19].

Trial V – repeating (isolated sounds, syllables, words)

This trial spanned repeating isolated, individual sounds, syllables and words. The boy correctly repeated all vowels and consonants (*a, u, i, p, m, t, l, s, n, k*), syllables (*ma, pi, be, fu, wy, no, ta, da, su, ha, nia, ko, ci, am, ok, an, ap, as, al, ar*) and words (*baba, niebo, waga, lasy, koty, czekolada, telefon*). He in turn failed to correctly pronounce the words *wiaderko, drabina, kanapa, podłoga, parasol, dzwonek, grzebień, lokomotywa* (respectively *wiadelko, dlabina, kamapa, połoga, palasol, dzłonek, gsebień, lokomotyła*)[20d]. Visible is thus wrong realisation of the sound *r* (as *l*), a change of *m* to *n,* simplifications of consonants (*połoga*), and wrong realisation of the labiodental sound *w* (substitution *w* > *ł*).

Trial VI – command comprehension

This trial concerned the understanding of simple and complex commands. The boy understood and executed simple commands

---

[19] The following colours were presented to the child: *yellow, white, blue, red, black, green, grey, pink, brown, orange, violet*.

[d] Respectively: *little bucket*, *ladder*, *couch*, *floor*, *umbrella*, *bell*, *comb*, *locomotive*.

such as: *get up, raise your hand* (when asked to raise a specific hand, he had difficulty describing the right and left sides), *stomp your foot, show your eye, grab your ear, take the teddy bear and the doll in hand, touch the teddy with the spoon*. Complex commands, however, were incomprehensible to him. He did not fulfil the tasks *give me the teddy bear, and put the doll on the table* (he only put the doll on the table), *take the spoon and put the doll by the side* (he only took the spoon), *put the teddy under the table* (he put it on the table).

Trial VII – sentence comprehension, active speech – situational picture "The beach"

During the trial, tested was the ability to understand sentences. The investigated child correctly indicated who is carrying ice-cream, who is building a castle, and what the mother is wearing on her head. He was unable to show, what is lying beside the beach chair or who is sitting under the umbrella. This was related to him not understanding commands containing pronouns, with which he has a problem. When asked questions concerning situations shown in the picture, he would respond with a single word, e. g. *siedzi, idzie*[e] or incorrectly (what is the child doing? – response: *sand*, what is the seagull doing? – response: *seagull*). He was unable to describe the place shown in the picture. To the questions *what do you like playing with?* and *would you like to go visit the sea?* he responded with direct echolalia or off topic (*Yesterday I was. To play. Mum is. Sitting*.).

Trial VIII – active speech

The trial analysed active speech. The boy was presented with four pictures. The speech therapist indicated the first image in the story,

[e] In Polish, the form of the verb (like in this example – the English equivalents would be *he/she/it is sitting, he/she/it is walking*) indicates exactly the person and number that the verb corresponds to (in this case it is the third person singular).

and it was the task of the child to indicate the chronology of events and to tell the picture story. The child was unable to execute this task even after being guided by supporting questions. Hence, the simplest form of the task was used – the pictures were strewn randomly across the table, and the child was asked to indicate the relevant picture having heard the descriptive sentence (e. g. *Mum, dad and the children are driving to the forest*). The evaluated child correctly indicated all the pictures, however, failing to note the cause-and-effect relationship between each of them. He was unable to describe the pictures himself – he only used single nouns, such as: *mum, dad, car*.

Additional evaluation trials

Trial IX – grammar skills

Grammar skills were tested based on noun declination. The evaluated child was presented with pictures, with the pictured objects named, and then the image was covered. The child was required to respond to the question *what is missing?* The trial tested the ability to inflect words. The boy had not mastered this ability, with most words being inflected erroneously or not at all (e. g. *piłka* – nie ma *piłk*, *sanki* – nie ma *sank*, *lala* – nie ma *lala*, *auto* – nie ma *auto*)[21f]. The boy had also not mastered the formation of the plural (e. g *auto* – dwa *auta*, etc.). In spontaneous speech, there are numerous agrammatisms.

Trial X – auditory perception

The analysed patient reacts to sounds, keenly listens to ambient noises. He recognises most of the presented sounds, he is able to

[f] Polish is a heavily inflected language, and the words, if inflected correctly, should receive specific word endings according to the relevant case (in this case it is the genitive, and these would be: *piłka – piłki* (ball – there is no ball, and so forth), *sanki – sanek*, *lala – lala*, *auto – auta*).

differentiate between them and point to their location. He does not understand, what is a loud or a quiet sound, what is a quick or a slow sound (he is also unable to indicate the symbols for these properties of sounds). He does not remember any of the vowels that are pronounced[22]. He only remembered one syllable from three[23] and one word from three[24]. He is able to imitate by knocking a simple rhythm given by the therapist.

Based on the collected documentation, and additionally taking into account the results of additional tests and the speech studies evaluation that spanned the interview, initial observations concerning the child's verbal and non-verbal communication, the modes of communication with the environment as well as the proper speech studies examination by way of the test, an initial logopaedic diagnosis was made – speech impediment in the form of oligophasia.

Speech therapy

Following a detailed logopaedic diagnosis, the time of execution of which cannot be defined exactly (because it needs to be individually adapted to the needs of each patient), the speech therapist should commence the creation of the speech therapy. It needs to be remembered that "any approach to an evaluation [and later therapy] of an intellectual disability is required if it brings something new to the pool of knowledge about this disability"[25]. Hence, a detailed logopaedic diagnosis that would permit the speech therapist notice the most of the faults and difficulties, on which he will be able to work, is so important. Important is also the positive diagnosis, thanks to which the strengths of the patient and the abilities that

---

[22] These were the vowels: *a, o, e* and *u*.

[23] These syllables are: *ma, pi, be, fu*.

[24] These were the words: *dom, lala, buty* (*a house*, *a doll*, *shoes*).

[25] S. Kowalik, *Upośledzenie umysłowe. Teoria i praktyka rehabilitacji*, Wydawnictwo Naukowe PWN, Warszawa-Poznań 1989.

suffer from the least disabilities, can be described, that will constitute the foundation in the subsequent therapeutic process[26].

Speech and language have an important influence on the mental and emotional development of man. Various kinds of speech impediments that hamper the day-to-day functioning of the child, their communication and the satisfaction of basic needs, contribute to disturbances in social functioning. In addition, limitations of the vocabulary of abstract terms causes a reduction of the ability to function in life. Hence, speech therapy for any patient with an intellectual disability should be part of a general plan of exercises strengthening cognitive functions[27]. The most important aspect of speech therapy is not working on the correct articulation of speech – attention has to be paid on building language and communication competence that will be an important component in the subsequent functioning of the patient[28].

Speech therapy in intellectually disabled children, as noted by Urszula Jęczeń, is a long-term process, because speech impediments like oligophasia are often complicated and multi-layered in character[29]. It is a slow process that can be effective to varying degrees[30].

---

[26] A. Rakowska, *Język-komunikacja-niepełnosprawność: wybrane zagadnienia*, Wydawnictwo Naukowe Akademii Pedagogicznej, Kraków 2003, p. 135.

[27] M. Fawcus, *Zaburzenia mowy w niedorozwoju umysłowym i ich leczenie*, [in:] Ann M. Clarke, A.D.B. Clarke, *Upośledzenie umysłowe. Nowe poglądy*, Państwowe Wydawnictwo Naukowe, Warszawa 1971, p. 457.

[28] The hierarchy of importance in speech therapy was handled by Urszula Jęczeń (2015) in her work *Postępowanie logopedyczne w przypadkach oligofazji* and Małgorzata Młynarska (2002) in her work *Mów, Piotrek! Rozwijanie ustnej komunikacji językowej metodą psychostymulacyjną u dziecka z Zespołem Downa*. The authors noted that the development of the communicative aspect of speech and the enrichment of its meaning is much more important than working on correct articulation.

[29] U. Jęczeń, *Postępowanie logopedyczne w przypadkach oligofazji*, [in:] *Logopedia. Standardy postępowania logopedycznego*, ed. by S. Grabias, J. Panasiuk, T. Woźniak, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 2015, p. 276.

[30] E.M. Minczakiewicz, *Jak pomóc w rozwoju dziecka z zespołem Downa. Poradnik dla rodziców i opiekunów*, Wydawnictwo Naukowe Uniwersytetu Pedagogicznego, Kraków 2001, p. 56.

In this regard, it required patience both from the therapist as well as from the patient himself.

The enormous role of the family in the process of revalidation of an intellectually-disabled child cannot be forgotten. Good contact and a family atmosphere facilitating development contribute to better progress in terms of the psychological and physical development of the child. In conjunction with cooperation with specialists, much better results can be achieved.

Language and communication abilities and competences should be developed both at home as well as at the preschool. Continued stimulation enables an increase of one's intellectual abilities. Learning to communicate should be based on direct experiences that are regularly recalled and remembered. The shaping of proper communication and simultaneous development of cognitive processes are basic components that should be taken into account by the speech therapist during the establishment of an individual therapy.

Following a precise logopaedic diagnosis, discerning the difficulties in the functioning of the child, the described patient can be provided with the following suggestions of exercises that constitute a multi-complex therapy:

1. Exercises in language competences (shaping the ability to express oneself in sentences, exercises encouraging making relations, developing communication skills).
2. Exercises in speech comprehension (including simple and complex orders for the child).
3. Development of the passive and active vocabulary (introducing names of objects, phenomena, properties, activities, spatial and temporal relations, precise indication of meanings of words, topical grouping and arrangement of antonyms, learning to understand and use adjectives, adverbs, numerals and pronouns).
4. Exercises in the grammar of speech (exercises spanning two-component statements, exercises in forming simple sentences, etc.)
5. Development of hearing perception and shaping hearing sensitivity (recognition, differentiating sounds from the envi-

ronment, exercises of phonematic hearing, exercises in sound memory).

6. Development of spatial orientation (learning one's own body's layout, exercises in spatial relations, learning the meaning of prepositional phrases, and starting to use them in statements).
7. Exercises in cause-and-effect thinking (describing relations between phenomena, indicating the essence of a specific event, formulating conclusions about the surrounding reality).
8. Exercises in classification and categorisation (learning to understand the relationship between the part and the whole, relations between superordinate and subordinate terms, joining objects into classes, groups, categories).
9. Learning global reading – irrespective of the age and level of damage to the brain, the child should learn to read so as to intensely stimulate all senses[31].
10. Development of visual perception (comparing, differentiating, creating a whole from a part, exercises of visual memory).
11. Developing motor skills (perfecting vision-motion coordination, manual dexterity, visual-audial-motion coordination).
12. Development of articulation skills (improving the abilities of articulation organs, articulation kinaesthesia, work on correct breathing, the strength and modulation of the voice).
13. Shaping correct articulation of sounds (recognition, emphasis, correct repetition).
14. Exercises of attention and memory.
15. General development exercises (stimulation of intellectual development).

It is a therapeutic success to work out good relations with the child so that it feels as natural and free during speech therapy as possible. Beside individual courses, the child should be encouraged to participate in additional group therapy that will enable them to shape their ability to cooperate and integrate with others.

---

[31] A. Rakowska, *Język-komunikacja-niepełnosprawność: wybrane zagadnienia*, Wydawnictwo Naukowe Akademii Pedagogicznej, Kraków 2003, p. 132.

Conclusions

The precise analysis of the submitted documentation, observation of spontaneous behaviour of the child, the interview with the caretaker, consideration of the results of additional trials and the detailed logopaetic evaluation permitted the development of a precise therapeutic plan that was focused on the development of the disturbed functions based on the child's strong suits (e. g. willingness to cooperate, good attention focus, understanding of active speech related to everyday situations). Correctly chosen exercises permitted the facilitation of the therapeutic process and achievement of the expected results in a significantly shorter time frame. After a year of therapy, the boy had improved his articulation organs, thanks to which his speech has become clearer. Understanding of speech also improved – the boy understands most simple commands, and he is able to deal with complex commands much better. He uses simple sentences, however his speech still includes a large number of incorrect grammatical forms. His vocabulary includes a greater number of adjectives and adverbs, although he does not always understand their meanings. He continues to have trouble describing relations between phenomena, with classification and categorisation. He is able to read simple nouns, such as *dom, auto, lala, mama, tata, babcia, dziadek, buty*. His speech still has errors in articulation, but their elimination was not the basic objective of the planned therapy.

The *Afa-Skala* aphasia evaluation test had proven itself in diagnosing speech deficiencies in an intellectually disabled child – thanks to it, it was possible to evaluate the most important aspects, with other abilities subjected to diagnosis using additional research trials.

Based on a comparative analysis with earlier results of psychological and paedagogical trials as well as trials within speech therapy, significant progress was observed in the development of communications, cognitive as well as emotional and social skills. This brings hope of continued positive development of the child, and provides it with chances of attending compulsory education adapted to its cognitive abilities.

References

Bogdanowicz M., *Psychologia kliniczna dziecka w wieku przedszkolnym*, Wydawnictwo WSiP, Warszawa 1985.

Czaplewska E., Milczewski S., *Diagnoza logopedyczna. Podręcznik akademicki*, Gdańskie Wydawnictwo Psychologiczne, Sopot 2012.

Fawcus M., *Zaburzenia mowy w niedorozwoju umysłowym i ich leczenie*, [in:] Ann M. Clarke, A.D.B. Clarke, *Upośledzenie umysłowe. Nowe poglądy*, Państwowe Wydawnictwo Naukowe, Warszawa 1971, pp. 427–457.

Jęczeń U., *Postępowanie logopedyczne w przypadkach oligofazji*, [in:] *Logopedia. Standardy postępowania logopedycznego*, ed. by S. Grabias, J. Panasiuk, T. Woźniak, Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej, Lublin 2015, pp. 267–282.

Kaczorowska-Bray K., *Zaburzenia komunikacji językowej w grupie osób z niepełnosprawnością intelektualną*, [in:] *Diagnoza i terapia logopedyczna osób z niepełnosprawnością intelektualną. Teoretyczne determinanty problemu*, ed. by J.J. Błeszyński, K. Kaczorowska-Bray, Wydawnictwo Harmonia Universalis, Gdańsk 2015, pp. 36–64.

Kowalik S., *Upośledzenie umysłowe. Teoria i praktyka rehabilitacji*, Wydawnictwo Naukowe PWN, Warszawa-Poznań 1989.

Lichota E., *Terapia logopedyczna*, Wydawnictwo Difin, Warszawa 2015.

Minczakiewicz E.M., *Jak pomóc w rozwoju dziecka z zespołem Downa. Poradnik dla rodziców i opiekunów*, Wydawnictwo Naukowe Uniwersytetu Pedagogicznego, Kraków 2001.

Młynarska M.,*Mów, Piotrek! Rozwijanie ustnej komunikacji językowej metodą psychostymulacyjną u dziecka z Zespołem Downa*, Oficyna Wydawnicza „Impuls", Kraków 2002.

Nartowska H., *Opóźnienia i dysharmonie rozwoju dziecka*, Wydawnictwo WSiP, Warszawa 1980.

Paluch A., Drewniak-Wołosz E., Mikosza L., *Afa-Skala. Jak badać mowę dziecka afatycznego?*, Oficyna Wydawnicza „Impuls", Kraków 2008.

Rakowska A., *Język-komunikacja-niepełnosprawność: wybrane zagadnienia*, Wydawnictwo Naukowe Akademii Pedagogicznej, Kraków 2003.

Surowaniec J., *Podręczny słownik logopedyczny*, Wydawnictwo Naukowe WSP, Kraków 1993.

Tarkowski Z., *Mowa osób upośledzonych umysłowo i jej zaburzenia*, [in:] *Podstawy neurologopedii. Podręcznik akademicki*, ed. by T. Gałkowski, E. Szeląg, G. Jastrzębowska, Wydawnictwo Uniwersytetu Opolskiego, Opole 2005, pp. 553–568.

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

BAR GOSEN, NOAH
Oranim Academic College of Education, Israel

Everybody wants 'good teachers' – but they are hard to define A common narrative of model educators: from fictional teachers through exceptional educators to current educators' professional perceptions

ABSTRACT: Bar Gosen, Noah, *Everybody wants 'good teachers' – but they are hard to define A common narrative of model educators: from fic-tional teachers through exceptional educators to current educators' professional perceptions*. Interdisciplinary Contexts of Special Pedagogy, No. 18, Poznań 2017. Pp. 181-197. Adam Mickiewicz University Press. ISSN 2300-391X

Throughout the years. researchers searched for the definition of a good teacher. This article offers to learn from model educators, fictional and historical, how to define values, perception and practices which characterize good teachers.

Four fictional teachers were chosen based on two characteristics: First, author's descriptions that underline their good qualities as a person and as a teacher. Second, remarks from their students' and/or students' parents or guardians, stating their acknowledgment of the teachers' special qualities. and their gratitude for the learning experience they shared. A qualitative narrative analysis of these teachers – 'Jane Eyre', 'Ann of Green Gables' and his sequel 'Anne from Avonlea", 'Up the down Staircase' and 'Goodbye Mr. Chips' – defined five major characteristics which represent the exceptional teacher: holistic perception of the student, identifying and addressing students' unique needs, emphasis on student-teacher relationship, creative teaching, a sense of mission and an inspiring personality.

Examining the work of exceptional educators such as Ann Sullivan (Helen Keler's tutor). Janusz Korczak, and Haime Escelante, reveals common themes which corresponds with fictional model teachers characteristics.

Qualitative interviews with 14 Israeli rural high school teachers (7 homeroom educators and 7 subject teachers) emphasized similar characteristics of their role perceptions and practices.

The key to higher achievements, educational and academic alike, lies in the hands of the teachers. If these traits characterize the 'good teacher' we should consider merging then into teachers' preparatory and in-work professional training, as well as teachers' evaluation processes. Let us learn from good examples how to become 'good teachers'.

KEY WORDS: good teacher, Student perception, teacher-student relationship

The search after the definition of a 'good teacher' continues since the days of the Greeks[1]. Centuries later, endless inquiries, stories about fictional teachers – bad and excellent, books, movies and documentaries about exceptional teachers, we are still searching for the ideal teachers, but not more confident about their characteristics. Many of us hold images of 'good teachers' based on books, films and personal memories. These images may not be identical but it can be assumed there are similarities among them.

Teachers evaluation processes relate to role perceptions, knowledge mastering, instruction and educational skills and professional relevant skills[2]. There is an ongoing debate regarding the components of these procedures since teachers' role far surpasses passing knowledge and endowing literacy skills. Based on the notion that their main role is educating the younger generation and mentoring it into adult society, well equipped morally, socially and scholastically[3], it can be assumed that their personal features and their role perception could be accountable for their success, alongside, if not prior to, their instruction skills[4].

---

[1] D. Goldhaber, *The Mystery Of Good Teaching,* 2002, Education Next.

[2] RAMA – Israel national Authority for Measurement and Evaluation in Education,) Ministry of Education. Israel 2017. (Hebrew)

[3] V. Perrone, *A Letter To Teachers – Reflections On Schooling And The Art of Teaching,* San Francisco, 1991. M. Karniely, *Inquisitiveness And Inquiring – Foundations For Teacher Growth Abd Development* Tel Aviv, 2010. (Hebrew)

[4] S. Carothers, *To Become A Teacher – Making A Difference In Children Lives* Columbia University, 1995. pp. 23-33. F.A.G. Kurthagen, *In Search Of Essence Of A Good*

Many attempts were taken to crack the genome of the 'good teachers'. Evaluation tests based on defined perceptions of teachers' role[5], traits inquiry through autobiographies' review[6], teachers' perceptions[7], and defined qualities and practices based on psychological theories, and performance comparison[8]. There was also an appliance to the wisdom of the masses as annual contest for choosing 'Teacher of the state" rank six exceptional teachers, every year, based on people recommendation and voting[9].

In this article, a positive psychological approach will be incorporated in search of the qualities of the 'good teacher'. Positive psychology concentrates on researching positive emotional experiences and traits to improve men condition in life. The study of the exceptional bright and successful teachers will widen our understanding regarding traits, perceptions and practices of the 'good teachers'[10]. In other words -let us learn from the best how to be the best.

We all have an inner vision of 'the good teacher'. It started in our childhood when we read stories about different teachers and their influence on their students. We could tell David Copperfield met horrible teachers at the boarding school he was sent to in the

---

Teacher: Toward A More Holistic Approach In Teacher Education. Teaching and Teachers' Education, 20, pp. 77-97. P.J. Palmer, *The Courage To Teach – Exploring The Inner Landscape Of A Teacher's Life. 2007.* J.H. Strange, T.J. Ward, and L.W. Grant, *What Makes Good Teachers Good? A Cross – Case Analysis Between Teacher Effectiveness And Students Achievements* Journal Of Teacher Education, 62, pp. 339-355

[5] D.R. Cruickahank, and D. Haefele, *Good Teachers.* Plural Educational Leadership. 2001. Pp. 26-30

[6] R.P. Traina, *What Makes A Good Teacher* Education Week. 1999.

[7] D.C. Loretie, *School Teachers – A Sociological Study* University of Chicago Press. 1975. Ch. %, pp. 109-133.

[8] S.F. Heck, and C.R. Williams, *The Complex Roles Of The Teachers – An Ecological Perspective.* Columbia University. Pp. 14-27, Kurthagen, et. Al. P. Sahlberg, *The Professional Educator: Lessons From Finland.* American Educator. Pp. 34-38, Strange and co. et. al.

[9] Ynet, *Teacher Of The State Contest,*

[10] M. Zeidner, G. Matthews and R.D. Roberts, *What Do We Know About Emotional Intelligence – How It Affects Learning, Work, Relationships And Our Mental Health Yisrael Academic College. 2012, (Hebrew).*

order of his villain stepfather[11]. Sara Crue was sentenced to life of exploitation being subordinate to the Minchin sisters, head teachers of an exclusive boarding school, after presumably losing her father wealth and support[12]. But what about the good teachers? Teachers we aspired to meet and be sheltered under their wings? What perceptions, attitudes and practices made them a symbol for the ideal teacher?

Fictional notable teachers

Many novels were written on teachers – as tutors, in schools or in boarding schools. Other than our personal intuition – how do we recognize good teachers? For this article two parameters were chosen. First: the author description of the teacher looks, behavior, special characteristics and instruction practices. Second: the evaluation the teachers got from their students stating their acknowledgment of the teachers' special qualities. and their gratitude for the learning experience they shared. The chosen teachers were highly praised both by the author and by their students and/or students' parents or guardians. They are described in five remarkable novels – Jane Eyre[13], Ann of green Gables and its sequel – Anne from Avonlea[14], Good Bye Mr., Chips[15], and Up the Down Staircase[16]. All novels were also transmitted to the big screen as films, some were repeatedly filmed in different versions.

Although these novels were written in different times and places there are common qualities among the teachers that can be indicated. Based on that it can be presumed that a core image of the

---

[11] C. Dickens, *David Copperfield.* (Trans.: Y. Lavit) 2001. (Hebrew).

[12] F.H. Barnett, *A Little Princess.* (Trans. : T.Bar) 2010. (Hebrew).

[13] C. Bronte *Jane Eyre* (Trans.: T. Bar) 1986. (Hebrew).

[14] L.M. Montgomery, *Anne From Green Gables* (Trans: Y. Fishman) 1985. (Hebrew), L.M. Montgomery, *Anne From Avonlea* (Trans: Y. Fishman) 1985. (Hebrew).

[15] J. Hilton, *Good Bye Mr. Chips* (Trans. Y. Levanon) 1947. (Hebrew).

[16] B. Kaufman *Up The Down Staircase* (Trans. D. Ron) 1968. (Hebrew).

'good teacher' remains stable through time. A narrative review of these stories reveals common perceptions and practices among the different teachers described in these novels.

A. A unique and inspiring personality

In all the novels, the teachers are described as having a unique personality to whom the child is drawn. Miss Stacey, Anne's adored teacher had a precious virtue to win her students' hearts and make the best out of their moral and scholastic abilities. Anne, who followed her footsteps, preferred to base her teaching practices on her personality rather than strict rules[17]. Miss Temple, Jane Eyre model of a teacher, was considered superior from all the others due to her vast knowledge. she encouraged students with her kind words and by setting an example[18]. Sylvia Barret, an inner city high school teacher, wrote to her friend about the few teachers that have remarkable virtues. that create magic in their classroom and others who truly love human beings. These are the teachers she looked up to[19].

B. A holistic perception of the students and attendance to all his needs: personal, social, and scholastic

Good teachers don't concentrate on scholastic achievements alone. Their relationship with their students relies on individualization. They realize children have different needs. Their personal and social characteristics should be taking into an account while striving to reach scholastic achievements. Miss Stacey. Anne's example for a teacher, tried to ease the pain caused by Anne's separation from her bossom friend Diana[20]. Mr. Chips made it a habit to invite freshman students to tea at his house. thus, eases their acclimatization in the new school. He would ask them where they reside and inquire

[17] L.M. Montgomery, et.al.
[18] C. Bronte, et.al.
[19] B. Kaufman, et.al.
[20] L.M. Montgomery, et.al.

about their relatives who studied in Brookfield[21]. Miss Barret quoted her teacher. Pr. Winters, who advised not to teach the subject but to teach the child. She mentioned times when events from students' lives affected daily learning. She came to realize the need to help students in problems un related to school, since school is affected by them[22].

C. Investment in interpersonal reciprocal relationships based on love, caring and respect

In all the novels, the teachers invest a lot of resources in establishing an ongoing relationship with their students based on love, acceptance and respect. They consider it an essential part of their teaching. Anne, as a teacher, wanted to know her students' inner thoughts and wishes. She gathered them by the fire and spoke to then as equals. She also invited them to write her personal letters on subjects by their choice[23]. Jane Eyre reflected on her relationship with Miss Temple. She stated that her constant friendship was her constant consolation. Later, as a teacher herself, she conducted house calls and informal personal conversation with her students thus revealing their personal virtues and good talents[24]. Mr. Chips gained his students love by being attentive, good and caring[25]. Miss Barret acknowledged her students' needs to be loved and cared for. In that manner, she felt they were just like her[26].

D. Attending to student' unique characteristics

Common arenas for teachers' stories are boarding school, public or rural school and on the other hand, private tutoring. Nevertheless, the attendance to student's unique characteristics and needs is

---

[21] J. Hilton, et.al.
[22] B. Kaufman, et.al.
[23] L.M. Montgomery, et.al.
[24] C. Bronte, et.al.
[25] J. Hilton, et.al.
[26] B. Kaufman, et.al.

a prominent characteristic in good teachers' attitudes. Anne wanted to win her disobedient student's heart, by reaching out to him and win his love rather than use harsh disciplinary methods[27]. Jane Eyre, as a personal tutor, found her student quite obedient. Yet, since she wasn't accustomed to systematic activity of any kind, it felt unfair to confine her to long hours of studying. Later, as a teacher in a rural school, she was surprised to reveal differences among her students, regarding their fine character and their motivation to self-improvement[28]. Mr. Chips. while addressing a student in distress, offered understanding and acceptance rather than rapprochement on his latest failure[29]. Miss Barret learned to recognize students' distress. When a student couldn't get his father signature, it was because his father was in jail. When a student fell asleep in class, it was because he worked all night in a garage. A student neglected her homework because she had no place to prepare them. She realized there is a lot of work to be done[30].

E. Creative teaching practices

Along with their appealing character, their pleasant interaction with their students and their investment in their welfare, all teachers were also praised on their instruction methods and practices which contributed to their students' progress and achievements. Miss Stacey used to take her students to the woods where she taught them about nature[31]. Jane Eyre regarded Miss Temple as the ultimate teacher who always taught her exactly what she wanted to learn in a pleasant manner[32]. Mr. Chips was known for his distinguished sense of humor. He taught Latin while school surrounding was bombed during WW1, choosing phrases relating to Germans

---

[27] L.M. Montgomery, et.al.
[28] C. Bronte, et.al.
[29] J. Hilton, et.al.
[30] B. Kaufman, et.al.
[31] L.M. Montgomery, et.al.
[32] C. Bronte, et.al.

war tactics, thus adding a sense of humor to a frightening experience[33]. Miss Barret imitated a trial scene with her students. By playing the roles of the judge, prosecutor, defender and witnesses, the students not only practiced rhetorical skills but were also empowered by the experience[34].

Actual Notable Teachers

These fictional ideal teachers acted according to author vision and aspirations. Though not all authors were experts in education philosophies and practices, they had an idea of 'what a good teacher should be like'. Now we turn to actual exceptional educators to see if their perceptions of teachers' role definitions and their assumption of teachers' prominent traits and practices are equivalent to those mentioned in fiction novels. If that be the case, it could emphasize the importance of these traits and practices as part of a 'good teacher' definition.

One of the most famous teachers, who was set as an example for others to follow, was Ann Sullivan, Helen Keller's private teacher who literally led her from darkness to light. Janusz Korczak, a famous Jewish Polish educator, was the manager of several orphanage schools in Warsaw ghetto. He provided his misfortunate students an enriching educational surrounding until the bitter end. Jaime Escalante, an American math teacher proved his underachiever's students that hard work and determination conquered all. Are the same attributes found in the fictional teachers can be found in these exceptional teachers as well?

A. A unique and inspiring personality

Ann Sullivan, devoted her life to Helen Keller[35]. She felt she followed the footstep of innovative teachers who fought ignorance and

---

[33] J. Hilton, et.al.

[34] B. Kaufman, et.al.

[35] M. Davidson, *Helen Keller's Teacher* Scholastic Inc. 1965.

narrow mindness[36]. Korczak, a notable doctor and a philosopher devoted his life to his children. His educational doctrine is studied and followed even today[37]. Jaime Escalante shaped the lives of his students and was remembered by them long after they finished school[38].

B. A holistic perception of the students and attendance to all his needs: personal, social, and scholastic

Ann Sullivan was Helen Keller's private tutor. Her role perception had far surpassed teaching elements as Helen disabilities required guidance in all her daily activities[39]. Korczak's perceptions of the children regarded them as people deserved to be respected and listened to. His goal as an educator was to enhance self-growth and cultivate virtues such as respect, acceptance, compassion and justice[40]. He believed it was the educator role to get to know the children's world and attend to the child in every need[41]. Escalante believed that a good teacher touched the life of his students and paved the way to their success, while overcoming obstacles and difficulties[42].

C. Investment in interpersonal reciprocal relationships based on love, caring and respect.

The relationship between Ann Sullivan and Helen Keller lasted until Sullivan passed away in 1936. Helen called her 'teacher' but their relationships were based on mutual respect, acceptance and

---

[36] H. Keller, *The Teacher – Ann Sullivan Macey* 1956. (Hebrew).

[37] S. Adan, *Henryk Goldszmit – Janusz Korczak – The Man, The Educator, The Author.* Jerusalem. 2000. (Hebrew), M. Sner, *What Did Korczak Learned from The Ancient Greeks?* Galil Maarvy College. 2008. (Hebrew).

[38] J. Escalante, *On Being A Teacher* The future Channel. 2010.

[39] H. Keller, et.al. M. Davidson, et.al.

[40] S. Adan, et.al.

[41] J. Korczak, *The Child Religion* Israel. 1978. (Hebrew).

[42] J. Escalante, et.al.

love. Hellen considered her a loving gifted guide who willingly shared her knowledge with others[43]. Korczak was addressed as 'the Doctor' by the children and his colleagues, but they felt his love and knew that he believed education to be an everlasting dialogue between the educator and the children[44]. Escalante believed that to succeed, the teacher must always be available to his students and encourage them to make the best out of their abilities[45] (NBC, 2010)

D. Attending to student' unique characteristics

Hellen needed Sullivan's guidance and support in various, almost endless, needs. Sullivan was the teacher and the guide, the personal assistant and the secretary, the reader and the eyes wherever they went. She was also Helen's closest friend[46]. Korczak used to write notes about daily events, children's needs and problems that needed to be attended[47]. He believed an educator must listen to the child, get to know him, and help him in every way he can[48]. Escalante attendance to students needs became evident in a film released on 1988 titled *'Stand and Deliver'*. Problems like acquiring books, mediating with parents or listening to students' pain and distress were part of his daily work as a teacher and he considered them as his responsibility[49].

E. Creative teaching practices

As a tutor to a blind-deaf and dumb child, Sullivan had to incorporate endless creativity into her instruction methods. Making Hellen realizes the meaning of words signing while touching water or teaching Hellen how to speak while inserting fingers down her

---

[43] H. Keller, et.al.
[44] S. Adan, et.al.
[45] NBC News *Making A Difference* 2010.
[46] H. Keller, et.al. M. Davidson, et.al.
[47] J. Korczak, *How To Love Children?* Israel. 1963 (Hebrew).
[48] J. Korczak, et.al.
[49] *Stand and Deliver* Warner Brothers. 1988.

throat are examples of numerous creative practices Sullivan applied[50]. To prepare students to their lives as adults, Korczak established at his school a formal social group based on roles and guidelines. Through meetings, publishing newspapers, executing trials and performing at plays, students could imitate and practice independence, cooperation, reciprocity and even justice[51]. Escalante believed that as a teacher you should always renew your instruction methods, and love your work as a teacher. In the film (1988) there were various examples of his creative teaching – wearing costumes, humor. relaxations exercises and using props for illustration[52].

A word of caution – though it may seem that these traits tend to emphasize educational, personal and social aspects of learning while neglecting the academic aspect – it is clearly not so. The aspirations for high academic achievements were evident both among fiction teachers – Miss Stacey who pushed her rural students to study in college[53], to name one, and among actual teachers as well. Ann Sullivan tutored Hellen, while studying in the university[54]. Haime Esacalnte demanded hard work from his students as he intended them to continue studying in college and university. Five students of his were hired by NASA[55]. There educational perception and practices were the tool to enhance studying and reach higher academic achievements.

Homeroom Educators' Role and Role Perceptions

Based on these finding it can be assumed that the role of the teacher far surpasses his instruction methods and vast knowledge. To be a 'good teacher' is to encompass these traits and to incorpo-

---

[50] H. Keller, et.al. M. Davidson, et.al.

[51] M. Sner, et.al.

[52] *Stand and Deliver*, et.al.

[53] L.M. Montgomery, et.al.

[54] M. Davidson, et.al.

[55] NBC News, at.al.

rate them into daily instruction practices. Education is not all about preparing the younger generation for economic life or civil participation. It is also about preparing them for family life, living in a community and moral sensitivity. It is about adding the caring fragment to education and teaching through the work of the teachers involved [56]. The ability to inspire, the combination of holistic perception and individualized attendance to students' various needs, the ongoing investment in interpersonal relationships and creative instruction are all embodied the image of a good and attentive teacher.

A combination of caring components, interpersonal traits and instruction abilities can be seen in the role definition of homeroom educator[57] in the Israeli education system. Homeroom educators, by definition, are teachers who are responsible for a class of approximately 20-40 students during the school year. They are meaningful professionals who take full responsibility over their class students, attend to their various needs, concentrate on their personal, social and moral growth and their availability for them is nearly endless[58]. Their main concern are educational processes at student level, class level and school level[59].

A qualitative research executed among 14 Israeli rural high school teachers (7 homeroom educators and 7 subject teachers) reveals the following themes regarding homeroom educators' role perceptions[60].

Homeroom educators expresses a more holistic view of the students, underling their availability and their attendance to all the

---

[56] N. Noddings *Care, Justice And Equity* Columbia University 1999. Pp. 7-20.

[57] In other researches, this role can be referred to as homeroom teacher. I find the term 'homeroom educator to be more precise since it emphasized the educating role rather than the teaching role in this specific role definitione.

[58] N. Bar Gosen, *Different Role Perceptions And Student-Teacher Relationship Characteristics, Among High School Homeroom Educators And Subject Teachers – Results From A Qualitative Research. Studia Edukacyjne 36. 2015,* pp. 381-400.

[59] Ministry of Education, Israel. 2017.

[60] N. Bar Gosen, et.al.

students' needs. D. (He, 45) states: „to know the kids in depth and to be there for them. Especially if they have problems, they can't overcome themselves. it is a 24/7 responsibility..". M (He, 38) adds: My availability for them is endless..".

Homeroom educators and subject teachers both valued the importance of ongoing relationships with their students. Homeroom educators invested more time and resources to deepen their acquaintance with their students and familiarize themselves with the students' world. H. (He, 55) stated:" I don't have transparent students.. many conversations, endless conversations..".

Homeroom educators and subject teachers emphasized educational aspects and academic aspects of their roles. Homeroom educators tend to emphasize educational roles over the academic roles D. (He, 48) stated: „to be good people is more important than success or a career.." Y. (He. 50) wanted to „make them believe in themselves. make them believe they can finish high school".

These findings show, that role perception and definitions of Israeli homeroom educators can encapsulate some of the traits and practices that are embodied in the figure called 'the good teacher'.

Summary

Let us return to the question we started with: What is a 'good teacher? Fictional and realistic examples of 'good teachers' offer us five domains, or qualities, that seem to be the common thread among them all: holistic perception of the student, identifying and addressing students' unique needs, emphasis on student-teacher relationship, creative teaching, a sense of mission and an inspiring personality.

It is evident from these finding that homeroom educators imply much of the eminent features characterizing 'good teachers' – fictional and realistic alike. However, their role description and role perception encourage them to enact these characteristics daily. What about other teachers, whose role definition. expectations or

perceptions emphasize academic achievements and acquiring knowledge above all? What are the chances they will embrace these traits and practices if they are not encouraged to do so?

Do teachers' preparatory processes emphasize these traits as part of the teachers' role? Do teachers role definitions emphasize these traits as part of teachers' role? Do evaluation processes of schools, teachers and students achievements take into consideration the existence and the implementation of these characteristics?

The importance of a significant teacher – a good teacher – as a promoter of good education for all, and a key factor for higher academic achievements was acknowledged by OECD research and publications[61] (OECD, 2010). If we could define what characteristics embodied a 'good teacher' – we will be able to incorporate these practices and perception into teachers' preparatory process, teachers' role definitions and teachers' evaluations.

Good teachers are hard to define, but examples are easier to follow. Exceptional teachers exist, in our perception, in fiction and in real life. They paved us the way. Why won't we follow?

References

Adan S. *Henryk Goldszmit – Janusz Korczak- The Man, The Educator, The author,* The Janusz Korczak Society in Israel, Jerusalem 2000. (Hebrew).

Bar Gosen N., Different Role Perceptions and Student – Teacher Relationship charateristics Among High School Homeroom Educators and Subject Teachers' Results From A Qualitataive Research. *Studia Edukacyjne 36.Poznan. 2015* P. 381-400.

Barnett F.H., *A Little Princess* (Trans.: Y. Atlas), Modan Pub. Ocean Pub. Israel. 2010 (Hebrew).

Bronte C., *Jane Ayre* (Trans.: T. Bar) Or-Am Pub. Israel. 1986 (Hebrow).

Carothers S., To Become A Teacher – Making A Difference In Children Lives, in Ayers W. (Ed.) *To Become A Teacher* Teachers College Press, Columbia University, New York and London. 1995. P.23-33.

---

[61] OECD *PIZA Results – Overcoming Social Background, Equity in Learning Opportunities and Outcomes, 2010, Vol. 2.*

Cruickahank D.R., Haefele D., Good Teachers, *Plural Educational Leadership,* 2001 February, P.26-30.

Davidson M., *Helen Keller's Teacher* Scholastic Inc. U.S.A. 1965 (Hebrew).

Dickens C., *David Copperfield* (Trans.:Y. Lavit) M. Mizrahi Pub. Israel. 2001 (Hebrew)

Escalante J. *'On Being a Teacher'* The future channel, 2010 https://www.youtube.com/watch?v=IM6blsMhPRQ [Entry: July 2017].

Goldhaber D., *The Mystery Of Good Teaching.* Education next, 2002 http://educationnext.org/the-mystery-of-good-teaching/ [Entry: July 2017].

Heck S.F., Williams C.R., *The Complex Roles Of The Teachers – An Ecological Perspective* Teachers College, Columbia University, New York And London. 1984 P. 14-27

Hilton J., *Good Bye Mr. Chips* (Trans.: Y. Levanon), Tevel Pub. Tel Aviv. 1947 (Hebrew).

Karniely M., *Inquisitiveness And Inquiring – Foundations For Teacher Growth And Development* Ramot Pub. Tel Aviv University. 2010. (Hebrew).

Kaufman B., *Up The Down Staircase* (Trans.:D.Ron), Masada Pub. Ltd. Israel. 1968. (Hebrew).

Keller H., *The Teacher – Ann Sullivan Macey* Keren Or Pub. Tel Aviv. 1956 (Hebrew) Korczak J. *How to Love Children* Bet Lochamey Hagetaot and Hakibutz Hameochad Pub. 1963 (Hebrew).

Korczak J., *The Child Religion* Bet Lochamey Hagetaot and Hakibutz Hameochad Pub. 1978. (Hebrew).

Kurthagen F.A.J., In Search Of Essence Of A Good Teacher: Toward A More Holistic Approach In Teacher Education *Teaching and Teachers Education,* 2004 20. P. 77-97.

Loretie D.C., *School Teachers – A sociological Study* The University of Chicago press, Chicgo and London. 1975 Ch. 5, 109-133.

Ministry of Education, Israel *Teaching staff work regulations* 2017 http://cms.education.gov.il/EducationCMS/UNITS/Sherut/Takanon [Entry: July 2017] (Hebrew).

Montgomery L.M., *Anne From Green Gables* (Trans.: Y. Fishman), M. Newman Pub. Ltd. Tel Aviv. 1985 (Hebrew) Montgomer, L.M. *Anne From Avonlea* (Trans.: Y. Fishman) M. Newman Pub. Ltd. Tel Aviv. 1985 (Hebrew).

NBC News *Making a Difference* 2010 https://www.youtube.com/watch?v=IM6blsMhPRQ [Entry: July 2017].

Noddings N., Care, Justice and Equity in Katz, M.S. Noddings, N., Strike, K.a. (Eds.) *Justice and Caring – The Search for Common Ground in Education* Teachers College Press, Columbia University, New York and London, 1999 Ch. 1. 7-20.

OECD, *PIZA Results – Overcoming Social Background, Equity in Learning opportunities and Outcomes* 2010 Vol. 2. https://www.oecd.org/pisa/pisaproducts/48852584.pdf [Entry: July, 2017].

Palmer P.J., *The Courage To Teach – Exploring The Inner Landscape Of A teacher's Life*. Jossey-Bass, John Wiley and Sons. 2007

Perrone V., *A Letter To Teachres – Reflections O.n Schooling And The Art Of Teaching* Jossey-Bass Pub. San Francisco. 1991 Ch.1. P. 1-11.

RAMA – Israel national Authority for Measurement and Evaluation in Education,) Teachers' evaluation tool, Ministry of Education. Israel 2017. (Hebrew) [Entry: August, 2017] http://cms.education.gov.il/NR/rdonlyres/4C1F0E6A-B968-4A74-8124-9415DCA1E796/209732/haarachat_morim_heb_2011m.pdf.

Sahlberg P., The professional educator: Lessons from Finland *American Educator*, 2011 P. 34-38.

Sner M., *What Did From The Ancient Korczak Learned Greeks?* A lecture in Korczak Conference Galil Maaravy College. Israel. 2008 (Hebrew).

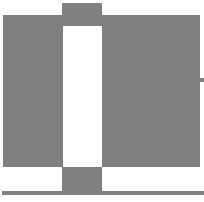
Stand And Deliver Warner Brothers Studios, U.S.A. 1988 *trailer*: https://www.youtube.com/watch?v=PxkN_X4VUV4 [Entry: July 2017].

Strange J.H., Ward T.J., Grant L.W., What Makes Good Teachers Good? A case-case Analysis Between Teacher Effectiveness And Students Achievement *Journal Of Teacher Education* 2011 62, 339-355.

Traina R.P., *What Makes A Good Teacher*, Education Week. 1999 http://www.edweek.org/ew/articles/1999/01/20/19traina.h18.html [Entry: July 2017].

Ynet *'Teacher of the state' – about the contest'* 2017 http://www.ynet.co.il/articles/0,7340,L-4765102,00.html [Entry: July, 2017] (Hebrew).

Zeidner M., Matthews G., Roberts R.D. (2012) *What Do We Know About Emotional Intelligence – How It Affects Learning, Work, relationships, And Our Mental Health* Yizrael Pub. Yisrael Academic College Israel 2012 (Hebrew).



CONFERENCE REPORT

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

BEATA IWANICKA, ALEKSANDRA ROŻEK
Adam Mickiewicz University in Poznań

Report from scientific symposium „Current tendencies in the support of the development of children and their families", Faculty of Educational Studies of the Adam Mickiewicz University in Poznań, 18 May, 2017

On 18 May 2017, at the Faculty of Educational Studies of the Adam Mickiewicz University in Poznań, Poland, the scientific symposium took place entitled „Current tendencies in the support of the development of children and their families", organised by the Institute of Child Psychopathology. The purpose of this event was the exchange of experiences spanning specialised work towards the support of the development of children and their families.

The symposium was enriched by the presence of prof. dr hab. Edyta Gruszczyk-Kolczyńska of the Maria Grzegorzewska Paedagogical University of Warsaw. In addition, participated scientific employees and lecturers as well as doctoral students of the Institute of Child Psychopathology of the Faculty of Educational Studies, specialists working at child early development support facilities in Poznań, students, teachers as well as representatives of educational and development facilities from the region of Greater Poland.

The symposium was opened by prof. dr hab. Andrzej Twardowski, head of the Institute of Child Psychopathology, who welcomed the assembled participants. The symposium was officially opened by the dean of the Faculty of Educational Studies, prof. dr hab. Agnieszka Cybal-Michalska, stressing the importance of the continuation of the mission that accompanies special education and the paradigmatic changes in the approach to disability.

The opening speech entitled *Mathematically gifted children: myths, study results, interpretations and applications* was given by prof. dr hab. Edyta Gruszczyk-Kolczyńska of the Maria Grzegorzewska Paedagogical University of Warsaw. In her speech, the researcher turned focus on the fact that the issue of mathematical talents of children is accompanied by many myths and disputes. Among others, the flawed conviction persists that mathematical talents can only be manifested by older pupils just ahead of the maturity exam, dealing with „advanced" mathematics, and that in order to master basic maths talents are required that only 8-12% of children are characterised by, in relation to which there are noted so numerous failures in learning mathematics. The speaker referred frequently to studies conducted in Poland and abroad. In addition, she indicated and discussed in detail the properties of the mind of mathematically gifted children. From the point of view of the issues of the symposium, a very important issue mentioned by prof. dr hab. Edytę Gruszczyk-Kolczyńską was discussing research results spanning mathematical talents of disabled children and pupils with special educational needs.

Second to speak was prof. dr hab. Andrzej Twardowski with the lecture *Peer tutoring in early disabled child development support*. In the introduction, he mentioned the fact that contacts with peers positively influence motor, cognitive, social and emotional development of children. In addition, he characterised the types of educational interactions with peers, which include: learning by the peer (*peer tutoring*), learning with a peer (*peer collaboration*) and learning in teams (*cooperative learning*). In a further part of his speech, the professor indicated, what the preparation of children without disabilities for the roles of tutors should entail, he described the relevant advantages, and discussed the role of the teacher as the organiser of peer tutoring. In his summary, the author stressed the special importance of peer tutoring for integrated education.

The subsequent speaker, dr Maria Paula Stasiakiewicz, spoke of the *Shantala massage as a dialogue between a toddler and their adult caretaker*. In the beginning, she highlighted theoretical questions concerning the innate equipment of man to participate in this dialogue. In her speech, she devoted much attention to the issue of innate intersubjectivity believed to be a property of the human condition, being the basis for the somatic and emotional *self* of an individual. The researcher also discussed the core of the Shantala massage, aimed at the construction of relations and at dialogue. The speech was amended by a film showing the dialogue of a tod-

dler with their mother, and instructions concerning the execution of the Shantala massage.

After the coffee break, the stage was taken by Adam Mickiewicz University professor dr hab. Danuta Kopeć and dr hab. Hanna Kubiak, who presented the topic *Utilisation of the video training method (VIPP-SD) in work with parents of children from the developmental risk group.* The presented technique is supposed to support caretakers and their parental responsiveness and attention. As the speakers expressly stressed, the role of the parent is key, with the role of the therapist reduced to the function of a safe base for the dyad in the process of working on relational difficulties. The authors referred to empirical studies that showed that therapeutic interventions have a statistically higher influence on parental sensitivity.

The subsequent lecture on the *Schizophrenia in children* was given by dr Małgorzata Cichecka-Wilk. The speaker characterised the differential diagnosis of the illness in a selected group, and its finding. She discussed the course of schizophrenia in children and the causes for its emergence. She also presented a clinical case of a mentally ill boy. In this part, she presented the reason for the psychiatric intervention, the interview with the parents, teachers, study results and discussions with the little patient himself.

A subsequent speech by Maria Stec was entitled *Early child development support in adoptive families.* The speaker attempted to prove, why is it worthwhile to cover children in adoptive families with early support. She discussed the area of influence of the family on the child, the effects of the breaking of the biological bond and the situation in new family of a child that was rejected emotionally earlier. She also turned attention to the course of psychological processes in a child rejected by its original caretakers. In her conclusions, the author indicated the importance of the diagnosis of interactions of the child with the adoptive mother and father. She indicated the main rule of therapeutic work, which says that one should always work with the child through the parents, because it is them that the child should create a bond with.

The last lecture entitled *Technical support in the process of development support for hearing-impaired children* was given by M. Sc. Beata Iwanicka. In her speech, she noted that in order to optimise the education process of the indicated group of children, it is important to care for the reduction of architectural barriers, and to ensure appropriate technical support. Without this last component, it is impossible to facilitate the communications pro-

cess. The speaker presented devices that may significantly influence the understanding by the child of sounds flowing from the space around it. These are diverse apparatus and aids that are also useful during work with a larger group of hearing-impaired children. What is particularly important is that the correct use of technical solutions permit the reduction or elimination of social exclusion of deaf pupils.

Prof. dr hab. Andrzej Twardowski concluded and summarised the symposium. He thanked the speakers and assembled listeners for participation in the session and the discussion. He expressed his hope that the presented research will find use in educational practice, and that the presented knowledge turns out to be useful in daily work with children that are disabled or threatened by disabilities.

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

MATEUSZ SZUREK

Department of Polish Dialectology and Logopedics
University of Lodz

Report from the 3rd International Scientific Conference *The child and the teacher in the media world* (the Faculty of Paedagogy and Arts of the Jan Kochanowski University in Kielce, 22 March 2017)

On 22 March 2017., in the building of the Faculty of Paedagogy and Arts of the Jan Kochanowski University in Kielce there took place the 3rd International Scientific Conference under the heading *The child and the teacher in the media world.* This is a further meeting taking on topics related to the influence of the media on children, and the usage of mass media in school education. The conference was organised by the Students' Scientific Workshop "Mediam" operating at the Institute of School Education. Media patronage of the event was provided by the paper "Wrota Świętokrzyskie" and the foundation "Nowoczesna Polska". Masters' and doctoral students from many academic institutions participated in the event, both from Poland, as well as from abroad. Present were representatives of e. g. the Jagiellonian University of Kraków, the Maria Skłodowska-Curie University of Lublin, the Adam Mickiewicz University of Poznań, the National Education Commission Paedagogical University of Kraków, the University of Silesia, the University of Łódź, the Technical University of Warsaw, and the National Fyodor Dostoyevsky University of Omsk, Russia. The lectures presented during the conference were *related to sev*eral topical blocks – the child as a television viewer, functioning of the child on the Internet, the child in the world of computer games, the child – the little reader, as well

as the usage of media in education. The proceedings became an occasion of scientific discussions, as well as of an exchange of experiences and contacts between the scientists and the participants of the event.

The conference was officially opened by the deputy dean for scientific and artistic affairs, prof. dr hab. Urszula Ślusarczyk and the deputy dean for student and education affairs, dr Jacek Szkurłat of the Faculty of Law and Administration of the Jan Kochanowski University in Kielce. They stressed the importance of the topics taken on, concerning the media, media education and education using new technologies. The stage was also taken by the head of the organisational committee and the chairman of the Students' Scientific Workgroup "Mediam" – M. Sc. Ewelina Brzyszcz, who welcomed all the guests and thanked them for coming.

The plenary session was opened by special guests. Among them was prof. dr hab. Renata Piasecka-Strzelec of the Jan Kochanowski University in Kielce, who gave the lecture entitled *From McLuhan to Castells*. She presented the main fields explored in studies concerning broadly understood media. The second special lecture given by prof. Małgorzata Boguna-Borowska of the Jagiellonian University of Kraków, concerned the fairytale models of description of the social world. The appearances contributed to the emergence of an interesting discussion concerning the presented subjects.

During the first part, the speakers mentioned topics related to the influence of modern technologies on education. Presented was the school reality describing the relation pupil-teacher-smart phone, and its influence on the educational success in the classroom environment. The participants furthermore pondered the influence of selected Polish television series on the attitudes of children and youths – presented were specific examples of series and their influence on the functioning of young viewers. A different lecture concerned school theatres as the pupils' medium of communication with viewers. Presented were also the possibilities and risks related to video games used as adaptations of required reading during Polish language classes from the point of view of the teacher. Further musings concerned the media used in the teaching of school courses.

In the second part, there appeared topics related to the use of media in speech therapy, architecture education or the teaching of foreign languages. Topics undertaken in this section were aimed at solving the issue of whether the contemporary speech therapist should use multimedia in speech therapy, how does teaching look like if it concerns an environment

built using modern technologies, and how to use multimedia during foreign language classes. Topics were also touched upon concerning the information society and its influence on education, the influence of computer games on the development of the child and the risks threatening the child on-line.

Speakers focused during the third part mainly on the mode of functioning of a child on-line. The topics of the lectures covered the issue of media hypnosis. Attention was also turned to the aspect of cyber-violence, presenting it from the perspective of parents and teachers. The influence of the Internet on the functioning of the child was presented in two ways – both as a learning, as well as an entertainment experience. A large part of the lectures tackled the problem of the replacement of normal social relations by virtual reality. This issue was mentioned in speeches on the use of social media websites and the abuse of computer games. Presented were also positive aspects of multimedia use, with particular focus on the educational aspect.

A separate section was related to posters. The creators of scientific posters undertook topics related to the influence of the media on the shaping of attitudes of children and youths. The posters showcased both positive as well as negative influences of mass media, speaking about the possibilities they offer and the threats they engender. Undertaken was e. g. the subject of usage of mobile devices by the youngest children, e-education and the influence of fairy tales on the development of the child. The leading topic for the posters was the usage of mass media and their influence on the shaping of specific attitudes in children – e. g. computer games can be the cause of emergence of aggressive attitudes, on the other hand, however, the media can contribute to the establishment of a healthy life style.

The leading topic of the conference was to show the child and the teacher in a world of mass media. Much attention was paid to the topic of functioning of children and youths in the digital world, with particular focus on the positive and negative aspects of this phenomenon. A further goal of the conference was the presentation of the modes of usage of media in the work of teachers and education specialists. Lectures related to this topic showcased the possibilities of improvement and enrichment of the teaching process thanks to the rational use of the potential made available by work with modern electronic devices.

All the lectures presented during the conference referred to issues of paramount importance in modern times. Doubtless, contemporary youths utilise mass media very often, shaping through them their knowledge about the surrounding world, views or attitudes. Young people use media both as a form of entertainment, as well as for education. It is becoming the role of teachers to teach children the proper and worthwhile use of mass media. Hence, studies on the topic of media paedagogy constitute a very important topic worth of further study.

REVIEW

Interdisciplinary Contexts of Special Pedagogy
NUMBER 18/2017

RENATA MARCINIAK-FIRADZA
University of Lodz

Review of book by Maria Bystrzanowska, *Selective mutism. A guide for parents, teachers and specialists* (Mutyzm wybiórczy. Poradnik dla rodziców, nauczycieli i specjalistów), „Impuls" Publishing House, Kraków 2017, pp. 137

The book by Maria Bystrzanowska *Selective mutism*, is the fourth publication on the Polish market (following Anna Herzyk, *Aphasia and child mutism: selected issues of diagnosis and therapy* (Afazja i mutyzm dziecięcy: wybrane zagadnienia diagnozy i terapii), Lublin 1992, Wydawnictwo Polska Fundacja Zaburzeń Mowy, pp. 38; Anna Skoczek, *Mutism: issues of theory and practice* (Mutyzm: zagadnienia teorii i praktyki), Kraków 2015, Akademia Ignatianum, Wydawnictwo WAM, pp. 354; Monika Cabała, Agnieszka Leśniak-Stępień, Renaty Szot, Katarzyna Szyszka, *Selective mutism: three views* (Mutyzm wybiórczy: trzy spojrzenia), Kraków 2016, Oficyna Wydawnicza „Impuls", pp. 48) concerning selective mutism. The book, as the article indicates, is a guide for parents, teachers and specialists (e. g. speech therapists, psychologists, educators, paediatricians), written by a practician – a speech therapist with over twenty years of experience, a specialist in early child development support who had been dealing with the support of persons suffering from selective mutism and their families, but also experienced in the organisation of conferences, training seminars and workshops concerned with selective mutism.

The work of Maria Bystrzanowska is composed of an introduction (pp. 7-9), a guide part composed of six chapters (pp. 11-109) and a summary (pp. 111-112). Pp. 113-115 include quite a broad literature list provided by the author, mainly in English. Regrettably, the work does not refer to

Polish publications concerned with mutism. The work ends (pp. 117-137) with an annex with 11 attachments.

In the introduction, the Author explains in detail, whom the book is foreseen for. Among its recipients she indicates parents that initially have difficulty accepting the fact that a child in the family functions as usual, but goes mute having passed the threshold of preschool or school. Parents often also cope with negative remarks from the environment, such as: the child is manipulating its environment, is picky when it comes to its conversation partners, or that the parents do not let it speak. The presented guide is supposed to aid parents in understanding the core of the disability, the problems of the child so as to support it and aid it in therapy. The monograph is also aimed at teachers and specialists (speech therapists, psychologists and educators) who should have sufficient knowledge on the core of this disability, and in terms of specialists – also of the course of therapy. The obtaining of knowledge is so important, because up to this point many children with SM remains undiagnosed, and terrifyingly enough, one can still find teachers and specialists who are of the opinion that an autistic child does not wish to speak. I have also recently heard such an opinion during a scientific conference from a specialist with a long professional career and academic experience. As the Author writes in the introduction, the content of the book as opposed to foreign-language, mainly English, literature, also considers the specifics of therapy for a child suffering from SM under Polish condition. Bystrzanowska expresses the hope that after studying this guide, teachers and specialists would broaden not only their theoretical, but also their practical knowledge of the discussed illness.

Chapter one, entitled *Selective mutism as a disturbance of verbal communication based on fear* the Author quotes the definition, discusses its core and causes. She also places selective mutism within the ICD-10 International Statistical Classification of Diseases and Related Health Problems and the DSM-V Diagnostic and Statistical Manual of Mental Disorders. She noted the physiology of fear in selective mutism, which is both the cause and the symptom of disturbances in emotional functioning. As Bystrzanowska writes, „in persons with SM, the cerebral cortex remembers a difficult situation of fear related to not speaking. The child relates this situation to a place, persons, symptoms and experiences. It then repeats this situation many times, solidifying it" (p. 17). She lists and describes the factors influ-

encing the emergence of selective mutism: a) risk factor, meaning supporting genetic predispositions, selective mutism in the family, wrong behaviour concerning sensitive children entailing comparing them to other, more talented children, humiliation of the child, reducing its value, b) factors causing SM: loss of a close one, separation of the parents, change of the place of residence, birth of siblings, feeling of rejection, making excessive demands of the child that it is not able to meet, multilinguality, c) supporting factors: acceptance of the mutism by the environment, lack of attention of warning signs on time, forcing the child to speak, blackmailing the child so that it speaks, using various methods of therapy because they „might help", using alternative communication modes (pp. 19-22). Subsequently, based on ICD-10 and DSM-V classifications, the author presents classic signs of selective mutism, both the basic ones, as well as accompanying ones. She describes selective mutism of minor and major intensity, quotes descriptions of specific cases of children with the two grades of symptom intensity.

In chapter two, devoted to selective mutism as compared to other co-existing disturbances, the Author presents results of own research concerning SM. Based on an on-line questionnaire conducted through Facebook (mutyzm.org.pl), completed by 100 persons – parents of children with SM, Bystrzanowska collected responses to the question concerned co-existing disturbances. The conclusions from this research are as follows: beside the fear of speaking and increased emotional tension, there also exist difficulties in eating at certain locations, speech deficiencies, hypersensitivity to touching (p. 31). The survey results confirmed an increased frequency of SM in girls. It is important that the most numerous group of children with SM in the analysed population are five- and six-year-olds, meaning children bound to attend preschool. The subsequent subchapters are devoted to the following issues: selective mutism and social phobias, selective mutism stemming from disturbances of speaking and of the language, selective mutism and multilinguality, selective mutism and autism spectrum disorders, selective mutism and shyness. Bystrzanowska, despite the presence of a relation between the co-existence of SM and social fears, compares mutism and phobias differentiating between these two disorders. The author rightly concludes that early therapy of SM prevents the emergence of the full spectrum of a social phobia at a later age. As she stresses, the lack of verbal relations with peers prevent the acquisition of communication skills

in natural situations, causing an increased level of fear to speak in children with mutism. The Author further concludes that „language and speech disorders belong to factors causing and sustaining the fear of speaking, so if several of these factors accumulate, including a grave speech impediment, there arises a high risk of SM emerging" (p. 35). The subchapter devoted to SM and autism, Bystrzanowska stresses the importance of the awareness of the symptoms of both these disorders not only among teachers at preschools or schools, but foremost among diagnosis specialists. Specialists, in order to provide the correct diagnosis, need to perform a differential diagnosis of these deficiencies, considering e. g. issues of selectiveness in speaking and the behaviour of children suffering from SM. Bystrzanowska rightly permits a double diagnosis for children with minor forms of mutism, which are characterised by selectiveness in speaking. Such a solution permits one to provide precise therapeutic strategies and gives an outlook when it comes to therapeutic effects.

In the subsequent, third chapter, entitled *The situation of the child with selective mutism at preschool, school and at home*, the Author notes the fear-based personality of a child with SM, the duality of its nature, made up of a different mode of functioning of a child at home (the child is free to speak, laugh, sing, frolic), and a different mode outside, e. g. at the preschool or school (here, it is silent, devoid of energy, sad, characterised by limited facial expressions and low dynamics of movements). She concludes without doubt that children and youths suffering from SM also have special development needs and special education needs, because they are diagnosed with a spectrum of symptoms hampering or preventing motor, sensory, cognitive, socio-emotional, psychological as well as communication-related functioning. The author rightly stresses the fact that in Poland, legal solutions concerning the provision of therapeutic aid to autistic children are insufficient, and lack a unified model of work with such people, specialists and special facilities providing SM therapy are lacking. She notes that „schools and facilities supporting the development of children should guarantee to children suffering from SM the equalisation of education opportunities so that they could fully utilise their psychological and physical abilities, achieving results congruent with their developmental potential" (p. 46).

In chapter four, *Diagnosis – or where, who and how should selective mutism be diagnosed*, Bystrzanowska pleads for the implementation of work with-

out waiting for a formal diagnosis of SM for children suspected of this disorder, however, under certain conditions: 1) there should be a specialist sufficiently aware in terms of SM to provide appropriate therapy for the child, 2) the child's parents should be notified by the specialist of the suspicion of SM and should receive professional advice on how to work with the child at home, 3) the specialist should conduct training for the entire personnel of the facility, 4) the preschool/ school should provide appropriate conditions for work with the child (p. 49). The author also discusses in this chapter two evaluation sheets for fast analysis during an initial diagnosis, which constitute Attachments 1 and 2. These sheets, aimed at the simplification of observation of a child suspected of SM necessary to make an initial diagnosis concerning the symptoms observed at home, in the closest environment, public places and the school, as well as at the description of basic symptoms, the knowledge of which by the teacher is imperative to observe and describe in their opinion the situation of a child suspected of SM in the class/ school, may also be of use in the control of the progress of therapy. According to Bystrzanowska, their shortness, the simple questions, friendly instruction manuals and the short time required to complete them (but few minutes), are advantageous to parents, teachers and specialists. It is possible to reuse them, however, what is most important is that their effectiveness was tested and proven during many tests of autistic children (p. 51). The author describes the progress of actions in the diagnostic and therapeutic process at a psychological and educational advisory facility, referring the readers at the same time to attachments 4 and 5. The description of this process provides parents with an idea of what a psychological, speech therapy and educational examination of a child should look like, and what steps should be taken in order for a child with SM to get the proper therapeutic help. Bystrzanowska presents also a useful interview questionnaire for parents of children suffering from difficulties in verbal communication (suspicion of selective mutism, see Attachment 6), for meetings of specialists with parents.

Chapter five, devoted to therapy of a child with selective mutism, provides ready solutions, because the Author notes in it, how to proceed with a child burdened by fear. She writes that certain attitudes, parental behaviour, need to be modified, such as e. g. forbidding the child from talking to unknown persons, permitting the avoidance of situations in which the child is supposed to speak, responding instead of the child, showing dissatisfaction by verbal failures of the child, forcing it to speak, overly enthusi-

astic approaches to the successes of a child with SM, suggesting rewards for speaking, etc. The attitudes of teachers also need to be modified, e. g. forcing the child to respond, accepting the mutism, ignoring a child with SM, etc. Based on her own knowledge and experience, Bystrzanowska presents the common opinions among parents concerning therapy of SM, which are not always in line with the proper approach to this disturbance. She provides remarks and advice on how the parents should deal with such children. She then presents one of the best and most effective therapies to date provided by children with selective mutism, meaning, the small step method based on behavioural techniques. There are three behavioural techniques letting the child activate its speaking. These are: a) reducing the intensity of stimuli by making the child at ease with the place and the persons at the preschool or school, b) modelling and c) desensitisation, with three phases: identification of the fear-raising stimuli, their gradation and relaxation of muscles. The author presents the modes of therapeutic interventions for SM as tables (pp. 71-72), distinguishing between the following: a) mode of functioning of the child, b) the method of therapeutic influence, c) the place of influence, d) persons participating in the therapy. In the subject chapter, M. Bystrzanowska presents a therapeutic action plan for the preschool, school and home. She lists example tasks for the team working with the autistic child – for the parent, teacher, coordinator-psychologist, speech therapist. She describes the basic rules of therapeutic work with a child suffering from SM. She discusses important aspects to be taken into account in the therapy of selective mutism, such as: a) the image of SM (major, minor, the span of the area of muteness), b) disturbances coexisting with SM, c) the age of the person with SM, d) the duration of the disturbance, e) the possibility of the parent participating in the therapy of the child with SM, f) experiences of a person with SM who could be covered by therapy earlier, but which did not yield the expected results, g) persons participating in the therapy. Subsequent issues handled by the author are: How to initiate a good relationship with the child? What levels of communication success was Bystrzanowska able to achieve with children suffering from SM? What is the role of the various specialists in therapy? What is the appropriate place to conduct therapy? And, what is its foreseen duration? Based on own experiences, the Author quotes the conditions to be met in order for a child with SM to be able to talk in a large group. These are very important remarks, helpful to teachers and therapists. Noted are the causes of therapeutic failures such as e. g. a wrong

diagnosis, flawed cooperation between the therapist, teachers and parents, lack of knowledge on SM, not considering the phase of speech generalisation in therapy, not providing the child of the feeling of safety during therapy, etc. The author also presents a description and analysis of a case of a three-year-old girl with SM (pp. 86-94), including: identification of the problem, the reasons and dynamics of the issue, the importance and consequences of the issue, the prognosis, suggested solutions, the implementation of influences and the effects of influences. In addition, she presents her proprietary method of therapy for autistic children, which she terms the choral speech method (from the choir to a solo, reverse sliding-in). Clear tables (pp. 97-100) show examples of wrong behaviour towards the child with SM, and indicate suggestions of changes to this behaviour. In the end, she responds to the most frequent questions posed by parents and teachers.

The final, sixth chapter, entitled *Prevention*, is devoted to practical information and advice on the symptoms to be watched for in a child by the teacher at a preschool/ school, how should the parents of a child with SM prepare it to commence pre-school, and how to psychologically prepare a child to attend such a facility.

In the summary chapter, the author stresses the fact that the book is not scientific in nature, but foremost a guide. And this is true, because it contains a series of valuable remarks concerning the diagnosis and therapy of selective mutism. The knowledge that Bystrzanowska shares with readers is the result of her long-term experience in work with autistic children. The methods of work that she recommends were frequently effectively used by her in professional work.

The annex of the book is perfectly designed; it includes eleven attachments, which constitute e. g. an observation sheet for parents of children with suspected selective mutism, an observation sheet for pupils suspected of selective mutism for the preschool/ school, a speech map and therapy plan for a child with selective mutism, procedures of evaluation at a psychological and educational consultation facility, an questionnaire for the interview to be conducted with parents of children with difficulties in verbal communication (suspected selective mutism), recommendations for teachers of children with Asperger syndrome and selective mutism, tasks for children with selective mutism taking into account the communication burden, an example ladder with tasks for children with selective mutism. Available are also ready evaluation sheets, of which every specialist would probably make use.

The book is written using a very friendly language, and the presented material is clear, well-structured, supplemented by quotes from patients, their parents, quotes from blogs and from Facebook. The work is praised by parents and specialists, who stress in on-line forums that this is a fantastic step by step guide for parents and specialists (speech therapists, psychologists, educators and teachers), from the diagnosis to therapy.

Such a worth is worth reading, as much as it is worth having on one's bookshelf.

Published on the basis of an authorised copy

Projekt okładki: Izabella Grzesiak

Redaktor techniczny: Dorota Borowiak

Łamanie komputerowe: Eugeniusz Strykowski

WYDAWNICTWO NAUKOWE UNIWERSYTETU IM. ADAMA MICKIEWICZA W POZNANIU
61-701 POZNAŃ, UL. A. FREDRY 10
www.press.amu.edu.pl
Sekretariat: tel. 61 829 46 46, faks 61 829 46 47, e-mail: wydnauk@amu.edu.pl
Dział Promocji i Sprzedaży: tel. 61 829 46 40, e-mail: press@amu.edu.pl

Ark. wyd. 12,00. Ark. druk. 13,625.

DRUK I OPRAWA: VOLUMINA.PL DANIEL KRZANOWSKI, SZCZECIN, UL. KS. WITOLDA 7–9