

Speech as One of the Important Areas of Supporting: Vocabulary of Primary School Pupils with Intellectual Disability

Key words: communication, speech, verb vocabulary, intellectual disability

Abstract

The study presents the results of a test on a group of children aged 7 to 12 years with intellectual disability and a moderate defect or disorder in the development of speech who attended a special school in Krakow. The pupils have been tested for knowledge of the verbs most commonly used in everyday life. The study focused on the names of activities – best and worst remembered by the students – and how the names were replaced by the students who did not know the correct forms. The study also examines speech defects and the length of time spent in a special school.

The study draws conclusions and provides examples on how to develop the knowledge of verbs among students with mild intellectual disability.

Introduction

Speech as a basis of communication with others is an inseparable element of functioning properly. A mental handicap makes verbal communication difficult or interferes with it, as well as isolates an individual from society. If a particular individual does not speak, he remains “closed” in his own world. Defining the scope of verb vocabulary of primary school pupils with a mild intellectual disability is highly significant for the teacher of pupils with disabilities. This information will allow individualizing and adjusting the methods and forms used in the process of education and therapy to the abilities of children.

During the development of a child’s speech, as well as throughout a human’s life cycle, names of nouns are best adopted. Verbs come later. Therefore, one of the main rehabilitation tasks is to enable an intellectually disabled child to speak – a skill which is essential to proper psychological and social functioning. Expansion of passive and active vocabulary is the next task.

According to Przetarcznik-Gierowska and Makiello-Jarza (1992), a child's adaptation of speech is one of the biggest and most surprising achievements in the development process. A child masters a complicated system of rules of his native language in a short period of time. The system is composed of phonetic and grammar rules formed by a society and has evolved through many generations. Szuman (1968) states that the supply of words gradually increases year by year, depends on the age and mental development of a child who slowly adapts new notions and ideas about the world. The amount of specific notions is initially greater than that of vocabulary but with time objects are assigned names. Due to this fact, the number of known words starts to match the number of notions and ideas of a particular person. Cieszyńska and Korendo (2008) stress that many factors influence the proper formation of the language system: motor skills, manual and oral praxis, the development of visual and auditory perception, playing skills, social behaviours and emotions. Disruption in any area of life negatively influences the development of language. Matczak (2003) emphasizes that the development of speech is strictly connected to the development of the cognitive process, and the understanding of a word depends on the ability to express its meaning. Speech, as stated by the above mentioned author, is not only a means to express thoughts but is also a thinking tool. Minczakiewicz (1997), on the other hand, states that speech is an ability gained through coordinated work of the respiratory, phonatory and articulation system. People must learn how to make these systems work together and constantly perfect this ability. The understanding of speech, as stated by Rakowska (2003), is a compound psychological process, which includes the identification of sound forms of words and also the interpretation of word meanings. Hence, the author highlights important factors in speech reception: audibility of spoken sounds, ability to differentiate vowels and consonants, auditory memory, ability to differentiate the meaning of words and sentences depending on the context and logical and grammar structures.

Speaking and understanding speech are both compound processes which depend on many factors. Due to this fact, the development of a child's speech is specific to that individual. However, there are norms generally accepted by psychologists, linguists and speech therapists, which define the proper development of speech.

Development of a child's speech in reference to verb vocabulary

The process of speech development lasts several years and it can be divided into a few periods. Most authors of speech therapy literature refer to stages of speech development distinguished by Kaczmarek (1977). These include: melody period, word, sentence, child's own speech. These four stages are preceded by a preparation stage, during which speech organs develop and start to function.

The melody period lasts from birth to the age of one. Major changes take place in the ability to communicate with the surroundings. Cieszyńska and Korendo (2008) state that, although the first sounds made by a child do not resemble the sounds of speech, they all improve and activate articulation organs. The most common sound made by a child is crying. Sometimes quiet murmurs, wheezing, whimpering, smacking and other hard to name sounds are heard. Unpleasant physical sensations such as: cold, pain, hunger, thirst, wet clothes and other experiences unpleasant for the child, are communicated by crying or shouting, as stated by Kaczmarek (1977). These are signals for the caregivers that the infant needs help. Przetarcznik-Gierowska and Makiełło-Jarża (1992) explain that initially it is impossible to differentiate screams, therefore, it is also impossible to properly guess the child's intentions. It is possible to differentiate the cries when the baby is at least two months old. Kaczmarek (1977) states that, between two and four months the child spontaneously begins to make sounds, for example to babble, without any influence of the surroundings. The sounds come when the child feels well and is being observed. This is true for children without hearing problems, hard-of-hearing and those who are deaf. Kielar-Turska and Białecką-Pikut (2009) write that children begin to coo at seven months. This cooing is an unconscious way of saying syllables which sometimes form words. A child is able to maintain a verbal dialog with family members through cooing; at the same time practicing listening and attention span. Minczakiewicz (1997) highlights that, both the babble and cooing are a proof of developmental changes which take place in the brain of the small child. The child begins to make a connection between the image of a surrounding object at its verbal equivalent. Due to this pairing process, the child begins to understand speech and makes an attempt at saying his first words. Demel (1996) states more precisely that the child understands a lot of words and carries out basic commands at the age of one. The child is able to say several words which include mom, dad, and grandma.

The word stage comes after the melody period, as stated by Kaczmarek (1977) and lasts between one and two years of age. Łobacz (2005) notes that language skills develop dynamically when the child is two and mentions two sub-stages: transition period of non-verbal to verbal communication which ends at one year of age and second stage which begins when the child masters 50 words, at about 18 months old. Matczak (2003) notes that, during speech development, the frequency at which certain parts of speech are used changes. Initially, the child uses nouns and later verbs. These words are connected with objects and actions the child is able to identify at this age. Zarębina (1965) has stated that at up to the age of 1,6 children do not use cases with verbs, therefore the same word can mean the name of an object as well as an action. Szuman (1968), the initiator of the study on vocabulary of 2-year-olds, has determined that children at this age use verbs to express actions and specific movements, shifting of position, handling movements, the use of hands as tools. Next are names of actions associated with assembly and disassembly, feeding, cleaning, sensory organ functions, emotional experiences, desires and goals. Szuman states that the content of a word is anything the child recalls from his mind and has experienced.

The next stage suggested by Kaczmarek (1977) is the sentence stage, which occurs between the age of 2 and 3. At this stage, specific grammar categories emerge, the amount of vocabulary dramatically increases and the phonological system is determined. The above mentioned author notes that this stage is difficult for the child; taking in information about the language happens slowly and is hard. Construction of sentences often does not follow language traditions and includes inadequate vowels or consonants. Styczek (1981) notes that first come two-word affirmative sentences, then interrogative sentences and commands. Later come nouns which are names of objects within the child's surroundings. Verbs used for physiological functions, movement, positions are first used in the infinitive form, later in the present form, next is the future and past form in active and passive voice. The author highlights that, although child's statements are not entirely grammatically correct, they are understood not only by people from the child's close environment.

The last stage of speech development is the child's own speech, as marked by Kaczmarek (1977). It lasts between three and seven years of age. During this phase the child is able to easily hold a conversation, but still has not mastered the grammar rules. At the beginning of this phase and due to a lack

of complete understanding of grammar rules, the child creates his own words – neologisms – by changing the order or combination. Kaczmarek states that this creation of words stirs interest in speech and word creation, increases language awareness and later metalinguistic awareness. A study led by Szuman (1968) on the speech of 4-year-olds has shown that verb vocabulary connected with actions which change the appearance or structure of objects is greater, as well as of verbs connected with mental activities and interaction with the surroundings. Matczak (2003) also notes an increase in the vocabulary associated with reality which is distant in space and time from the child's experiences. Descriptions associated with the past and distant activities are referred to in the child's statements. The author highlights a significant change in the quality of speech, i.e. in addition to action verbs noticed through senses (movement and handling), verbs to describe internal actions start to be used (emotional experiences, mental activities).

Speech of children with intellectual disability

Speech development of children with intellectual disability, problems and disorders ought to be followed throughout the entire development process of a child, as stated by Balejko (1992). Speech disorders among children with intellectual disabilities occur more often than among children who develop properly. The disorders are noticeable because of poor vocabulary, inability to clearly and correctly form thoughts and wrong articulation. The degree of disorders depends on the level of handicap of the child. The lesser the level of intellectual development, the greater the problem with learning proper speech. Kudłacik (2001) writes that communication of children with great levels of intellectual development is tied to general development disorders, including perception, concentration, remarks, memory, thinking and behaviour. According to Kostrzewski (1976), when the operation of the semantic subsystem- except for smaller vocabulary of children with mild intellectual disability- is compared, no large differences are noted between children with disabilities and those without, who are of the same intellectual age. Lenneberg (in reference to Minczakiewicz, 2002) states that these children have poor lexical resources, low levels of thought operations and have a poor command of grammar rules. Children's vocabulary, as stated by Kudłacik (2001), is closely related to what they hear during everyday activities, especially activities they enjoy. Passive vocabulary includes the names of body

parts, clothes, food, home, a building, a garden or a street. Words for actions are not remembered as easily. It is important to note that the comprehension of a word could be a trained reaction to a sound signal (Kudłacik, 2001). Active vocabulary of children with severe intellectual disability includes words which are comprehended by a child but also those which have been heard earlier but were not comprehended.

Methodology assumptions of the study

In order to define the ability to comprehend verbs by children between 7 and 12 years old who have a mild intellectual disability, the following issues have been specified:

1. How does the vocabulary of children with mild intellectual disability vary in relation to the developmental age?
2. Which names of activities are best and worst mastered by pupils with a mild intellectual disability?
3. How does a speech impediment influence the comprehension of verbs among children with a mild intellectual disability?
4. Do pupils with a mild mental handicap substitute names of activities when they do not know the appropriate action verb? If yes, to what degree?

The aforementioned study issues lead to four hypotheses.

1. Verb vocabulary of same age children with a mild intellectual disability is similar.

Szuman (1968) has determined that children who grow up in similar conditions, enrich and develop their vocabulary in terms of content, in a similar way. This is due to the fact that the vocabulary of children in the same age group contains a specific number of verbs which are the same or similar. Matczak (2003) adds that, as the child grows up, he is surrounded with more people who provide him with speech patterns, which the child in turn can imitate. Family plays an important role during the beginning stages of life. Teachers and peers provide speech patterns at a later time. The significance of peers is greater when the child begins to manifest his independence from adults.

2. Names of activities to describe movement and ways to behave are best mastered by pupils with a mild intellectual disability; names of activities to describe emotional state and experiences are not as well mastered.

Among children between 2–4 years of age without disabilities whom Szuman (1968) has studied, a certain characteristic had been noted. Verbs to describe physical movement, behaviours and actions dominate the vocabulary of those children. A child, in his verb vocabulary, portrays human as one that moves and acts. Emotional experiences play a great role in the development of a person's awareness but are poorly represented in the vocabulary. Feelings are created based on physiological processes, but can be seen only through objects which they reflect, mimic and pantomime expressions of people with those feelings. If a person does not master the names of feelings, he cannot be aware of what he feels at a given moment. Feelings vocabulary slowly enriches with age. Feelings are expressed through emotional reactions and facial expressions during early stages of development.

3. Various speech disorders diversely influence verb vocabulary among children with a mild intellectual disability.

Every disorder, including a speech disorder, creates different speech limitations. Consequently, limiting the familiarity and ability to use particular words. Styczek (1981) states that the speech of children with a mental handicap is composed of poor vocabulary and grammar, incorrect articulation and inability to construct sentences. The degree of severity of these disorders depends mainly on the degree of mental handicap.

4. When pupils with a mild mental handicap do not know a verb for an action they know well, they substitute it with a gesture, imitation sound or an object (specific object) the action refers to.

Sometimes objects, mimic and pantomime expressions, gestures or onomatopoeic names can be used to express actions instead of using verbs. Small children communicate in this way, as it is easier than communicating by using action words.

The method of research was the study of individual cases. The research tool was "An illustrated questionnaire to study speech through the understanding of verbs among children with intellectual disability". Illustrations for the questionnaire were taken from a guide for pedagogues, speech therapists and parents of children with communication difficulties. It is titled *Od obrazka do słowa* ("From picture to picture") by Rodak and Nawrocka (1993). The language material has been adjusted according to the suggestions from the aforementioned guide and verb groups created by Szuman (1968). The criteria

used by Rodak and Nawrocka to select language materials were as follows: child's age, his interests and abilities, frequency of using verbs in colloquial and general language, content of syllabus used in a special needs preschool, possibility to clearly illustrate a specific concept. Szuman divided verbs into content groups, which indicate the frequency of verb usage from different areas of life and actions (among 2 and 4-year-olds without disabilities). The verbs are known by the children and can be seen by them in reality. Combining these criteria enabled me to choose 40 most suitable verbs to be tested, and divide them into 10 content categories – Table 1.

Table 1. "An illustrated questionnaire to study speech through the understanding of verbs among children with intellectual disability" – verbs used in the study

CONTENT CATEGORY		VERBS	
I	Intake of food	1. Eats 2. Drinks	3. Blows
II	Toilet, dressing	4. Dries 5. Bathes 6. Dresses	7. Undresses 8. Combs 9. Washes
III	Emotional states and experiences	10. Cries 11. Kisses	12. Is happy 13. Strokes
IV	Vocal Activities	14. Plays	15. Calls
V	Own movements – direct	16. Swims 17. Dances 18. Walks 19. Runs	20. Enters 21. Exits 22. Jumps
VI	Own movements – indirect	23. Rides	24. Carries
VII	Own movements – posture	25. Lies 26. Sits	27. Stands 28. Kneels
VIII	Cleaning activities	29. Cleans 30. Washes	31. Irons 32. Launders
IX	Activities done with the help of tools	33. Paints 34. Draws	35. Cuts out 36. Moulds
X	Movement and grip activities Affecting the position of objects	37. Pulls 38. Pushes	39. Gives 40. Hangs

Gaining information about a child's vocabulary can be done in two ways. The first way, as stated by Matczak (2003), is to observe spontaneous statements of the child, then to record the spoken words. The second way is to stage specific situations to check if a child knows specific words. The understanding and vocabulary used by a child can be checked using these two ways. The second technique has been used in my study. Assessing the extent

to which verbs are understood by the respondents was based on naming the actions on illustrations, which were shown separately, one by one, from the first to the fortieth illustration.

Eleven pupils, from 1–6 grade from a special needs elementary school in Cracow, took part in the study. A mild level of disability, as well as a speech defect or speech development disorder have been identified among all respondents. The disorders have been divided into five groups: dyslalia, motor alalia, delay in speech development, a very limited verbal communication, impaired speech due to a mental handicap. All pupils have undergone speech therapy. Table 2 represents the number of respondents divided by grade and disorder.

Table 2. Number of respondents with a disorder or impaired speech

SPEECH DISORDER	R	GRADE
Delay in speech development (DinSD)	3	I
Limited verbal communication (LVC)	1	III
Dyslalia (D)	4	IV, V, VI
Motor alalia (MA)	1	V
Impaired speech due to a mental handicap (ISMH)	2	II, V

Results of the study

Speech of every person is formed individually. Some people start to speak earlier, other later. Some find it easy to give a speech full of elaborate descriptions, others have a hard time saying short sentences. These individual abilities depend on many factors such as: the level of physical and mental development and the environment in which an individual is raised. Mental handicap has a negative effect on the functioning of cognitive processes, consequently resulting in lower speech development.

Results of the study are displayed in the table below. Numbers (previously displayed in table 1) are used instead of category names in table 3, and abbreviations are used for speech disorders – abbreviations are listed in Table 2.

Based on the analysis of data from Table 3, correctly naming verbs ranged from 15 to 38, with an average of 29 spoken names, giving an overall average of 72.5%. Mistakes occurred between 1 to 13 times, on average in 6 words (15%). To sum up, among children with a mild intellectual disability discrepancies occur which are caused by factors other than the degree of mental handicap.

Therefore, verb vocabulary of children of the same age and a mild intellectual disability is not similar.

Table 3. Results of the study

NAME	AGE	Speech disorder	NAMING		MASTERING A CATEGORY		Deformed words	SUBSTITUTIONS		
			Correctly	Wrong	Best	Worst		Gesture	Sound	Noun
Róża	7.6	DinSD	27	12	VIII	V	2	0	0	1
Kinga	8.7		19	7	VII	I, II, VI	15	2	2	4
Paweł	10.5		34	5	I, III, VI, VII	II	5	0	0	1
Aneta	9.10	ISMH	38	1	I, IV, VII, IX	II, III	3	1	0	1
Karol	14.8		30	9	III, VI, VIII	V, IX	0	0	0	1
Maciej	10.2	LVC	18	13	I, IV	III	20	1	2	9
Kamil	12.10	MA	15	5	I, VI, VII, VIII	II	13	14	2	4
Michał	13.1	D	32	7	I, III, VI, VII	V	5	0	0	1
Anna	12.7		37	3	I, III, IV, V, VII, VIII, X	II, VI, IX	19	0	0	0
Jan	14.9		34	4	I, II, IV, VII, VIII	V, IX	13	0	0	2
Kamila	14.9		33	5	I, II, VII, VIII	V	17	0	0	2
AVERAGE			29	6			10	2	1	2
AMOUNT %			72.5	15			25	5	2.5	5

Depending on the type of speech disorder, mistakes which have been caused by impaired speech occurred in a variety of words. Among people with a delay in speech development distorted words occurred 2, 5 or 15 times, and among children with dyslalia – 5, 13, 17 or 19. In the group of speech impaired due to a mental handicap up to 3 words have been mispronounced, and among boys: with limited verbal communication 20 mispronunciations have occurred, with motor alalia 13. Based on the data from the study, it can be concluded that the number of mispronounced words does not only depend on the type of disorder but other factors, and speech disorders do not equally affect the comprehension of verbs by pupils.

The study results indicate that the respondents have best mastered the following categories: I – intake of food, VII – own posture and VIII – cleaning

activities. These are groups of verbs closely related to various actions performed by a person, movement and self-serve actions. Names of activities describing movement and methods of action are best mastered by pupils with a mild intellectual disability. On the other hand, respondents have poorly mastered groups of verbs in the following categories: II – toilet and dressing and V – own movement-direct. These are also connected with movement and self-serve actions.

Further analysis of the study results from the table leads to the statement that children with a mild mental handicap substitute less known or harder to pronounce verbs with other forms of non-verbal communication. These include gestures, a word imitating a sound, or naming an object related to a particular action (noun). It has been observed that most students use the form that is providing the name of a noun with which a particular action can be performed.

Based on the results of the study, no correlation can be made between the comprehension of verbs and the age of the respondents, therefore, other factors influence the comprehension of verbs.

Conclusions

1. The scope of verb comprehension among children between the age of 7 and 12 with a mild intellectual disability varies and depends on many factors. Developmental age and level of intellectual development, amount of time spent at school, type of speech disorder are all variables that determine the vocabulary type which is used by the child, and influence one another. None of them could be excluded. Undoubtedly, the way the child is brought up and the communication in the family environment also play a part in the child's vocabulary.

2. Pupils between 7 and 12 years of age with a mild intellectual disability have best mastered language skills referring to the intake of food, own posture and cleaning activities. Eating is the basic activity of each person. Actions related to naming the intake of food: *eats, drinks, blows*, are adopted during the first year of life. Verbs related to body posture are also quickly adopted. *Lies, sits, stands, prays (kneels)* are actions performed during the entire day. Verbs were also well adopted in the category of cleaning. This comes as a result of the emphasis that is put on cleaning in schools. *Cleans, launders, irons, washes* indicate that children are also taught these activities at home, or at least observe these activities and learn their meanings.

Pupils between 7 and 12 years of age with a mild intellectual disability have poorly mastered naming of actions connected with the toilet and dressing and one's own movement. It may seem that these activities should also have been adopted quite early, however, such a result could be caused by detailed questions and actions related to them. Verbs used in the questionnaire are confused by the pupils, especially *bathes* and *washes*, as well as *dresses* and *undresses*. These actions look very similar, and a child with a mental handicap can have a hard time telling them apart, especially if they are illustrated only by a drawing and not by the specific action. The same is true for verbs connected to direct movement. *Walks* and *jumps*, *enters* and *exits* are also often confused.

3. When children between 7 and 12 years of age with a mild intellectual disability do not know the name of an action well, they substitute it with a gesture, imitation sound or a noun with which a particular action is performed. Providing another way to "say" the verb is proof that the pupils are bright and can successfully manage a situation in which they do not know the appropriate verb name. Despite a lack of vocabulary, the previously mentioned skills, allow the pupils to efficiently communicate in the society. When a pupil has difficulty in pronouncing a specific verb, especially a pupil with a speech impediment, he prefers to substitute it with a gesture or a sound. In a situation when the pupil does not know the name of an action, he can provide the name of the noun, which is much easier since children master nouns better and a lot quicker.

Indications for practice

When working with a child with a mild intellectual disability, the pedagogue should get to know the child in order to be able to choose the most suitable form of communication. This is a long process, therefore, it is important to constantly develop the language system, practice proper pronunciation, and pay close attention to it whilst communicating at home or with peers.

Verbs mastered by pupils with a mild intellectual disability and speech impediments, are general names of actions, specific names are not mastered at a satisfactory level. This skill should be worked on by implementing vocabulary exercises into class work. This type of exercises help to perfect the ability to name actions, improves thinking, and also are a way to introduce and reinforce the names of new verbs. Some sample exercises are:

- creating dictionaries which will include related words, antonym and synonyms
- fill-in exercises with verbs that best fit a specific context
- substitution of frequently used verbs
- developing the skill of using words by naming actions

All vocabulary exercises contribute to the increase of verb vocabulary among pupils with a mild intellectual disability and consequently allow a more efficient communication which, in turn, will improve their quality of life.

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