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# Intentional communication in children with deeper intellectual disability

The basic method of human communication is in behaviour, that is movement of the whole body, gestures, facial mimics, smile and visual reactions. Sending out information with body signals, or non-verbal communication, shows all that is beyond control of the given person, natural, unconscious, more primal than verbal messages. A. Mehrabian[1] attributes major role to non-verbal communication, declaring that only 7% of information in included in verbal statements, 38% in vocal tone, and the remaining 55% of information is delivered with non-verbal means.

One of the types of non-verbal communication is intentional communication, which should be understood as "deliberate wilful transfer of information, often resulting from the situation of meeting needs of various nature"[2]. Psychology defines intentional behaviour as that "in which the objective is present prior to the activity selected for its achievement, possible for execution due to having the skill of isolating means and goals"[3]. In the theory of developing intelligence by J. Piaget[4], intentional behaviour refers to the fourth stage in senso-motoric development, which corresponds with 8-12 months of life. In this period, the fully able child shows the first intentional behaviours, perceives some demanded goal, e.g. an object, and then ponders how to reach it. In the analysis by J. Piaget,[5] "intentional behaviour assumes the capacity of isolating means from ends. The child must be capable of applying one scheme as a means leading to some other scheme, which then become the goal."Intentional behaviour begins when the child steps beyond the level of simple somatic activities (sucking, listening, giving out sounds, grasping) and starts affecting objects, using mutual relationships between them. A typical situation in researching intentional behaviour is reaction to obstacles. When a child meets an obstacle on the way to a toy, intentionality will consist in removing the

[1] Cf. Bierach A. J., *Komunikacja niewerbalna*, Wrocław 1998.
[2] Minczakiewicz E., *Komunikowanie się z osobami głębiej upośledzonymi umysłowo*, [in:] J. Pilecki (ed.), Usprawnianie, wychowanie i nauczanie osób z głębszym upośledzeniem umysłowym, Kraków 2002, p. 259.
[3] Vasta R., Haith M., Miller S., *Psychologia dziecka*, Warszawa 1995, p. 274.
[4] Piaget J., Inhelder B., *Psychologia dziecka*, Wrocław 1996.
[5] Ibidem, p. 9.

obstacle and reaching the toy. This type of adaptive solving problems demands from the child separation of means from ends, thus the little child must apply a scheme of removing an object as a means to go to the scheme of reaching and playing, which is the demanded end. J. Piaget considered development of intentional behaviour in children as a sign of their intelligence.

In intentional communication, there are two basic forms: gesture and symbol. Gestures are body movements used to express specific ideas, intentions or feelings, with their own "grammar" and choreography. Gestures develop spontaneously, and the child uses them during purpose-focused activities, like reaching an arm, pointing with a finger, blinking eyes, nodding. M. Piszczek[6] writes that "an important advantage of gestures and mime signs is that defining an object with them is easier than with words. It is so, because there is significant visual relationship (...) between gesture and its meaning." With gestures, the child is better understood by the surroundings, and better perceives information himself/herself.

On the other hand, symbols, designations, which are visual, touch or sound representation of notions, unlike gestures, may refer to objects distant in time and space.[7] Teaching communication with symbols may be initiated only when the child has mastered the art of using gestures. Symbols representing objects, humans, activities and notions may be delivered in various forms. Specific symbols are physically similar to the designate, and may be presented with an iconic gesture mirroring shape or movement of the designate. These may be also symbols unanimously assuming the form of 3D symbols, or specific objects, and 2D symbols like photographs and pictures. Reception of information delivered with symbols is definitely easier than transmitting them. The skill of using symbols develops slowly, and the child first masters one sign, indicating, touching, lifting up, and with passing time adds another symbol and more.

There are major differences in people with deeper mental handicaps in the level of development of skills and methods of communicating with the surroundings. Their communication process may be disturbed from damaged central and peripheral nervous systems, or as a result of lack of appropriate patterns for communication[8]. Observation of behaviour in children with moderate and major mental handicaps provides information about the developed system of communication with gestures. Every child shows tendency to use

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[6] Piszczek M., *Nauka porozumiewania się gestami*, Warszawa 1998, p. 22.
[7] Kielin J. (ed.), *Rozwój daje radość*, Gdańsk 2000.
[8] Minczakiewicz E., *Komunikowanie się z osobami głębiej upośledzonymi umysłowo*, [in:] J. Pilecki (ed.), *Usprawnianie, wychowanie i nauczanie osób z głębszym upośledzeniem umysłowym*, Kraków 2002.

individualised range of gestures. Teaching communication with gestures should specifically apply to children with deeper disorders of hearing, with neurological disorders, which render speech learning impossible, as well as those children, whose speech is echolalic or completely unrecognised for the surroundings[9].

To make the surrounding world more friendly, we provide specific information for children with moderate and major mental handicap during the day, in a systematic way, regularly, with the principle of regular time and place observed. These activities make the child feel safe, and the activities suggested one by one by the tutors are more foreseeable for the child. The most preferred symbols, which are used in work with children with deeper disabilities, are 3D symbols, regarded as typical signal stimuli, e.g. touching mouth of the child symbolises a time for eating, the smell of a lavender candle signifies the beginning or classes, and clatter of bricks means a time for play[10].

Parents as well as teachers of the child with deeper mental disability should try to awaken in the child the need to transmit and receive information, which is specifically done with providing the opportunities for making choices. There are many situations, in which the child with deeper disabilities is capable of making an independent choice, e.g. colour of clothes, meal, the route for walking. Showing wishes with various signs, and paying attention of adults to objects and events forms the basis for developing intentional communication. The child begins to anticipate consequences of his/her weeping, smiling, looking, or making a gesture. He/she knows that he/she may use adults when in need of some object, when he/she wants to satisfy some need or attract someone's attention. In this way, the child learn expression. But such activities require regular work, numerous repetitions and long time of waiting for results.

**Results of own research**

The objective of empirical research was to show the role of communication with gestures and symbols in making contact with other persons by children with deeper mental disability, maintaining it and dropping.

The research group consisted of 30 children with deeper mental disability, participating in a special kindergarten, who did not show verbal communication, and use non-verbal communication in daily contacts with the surroundings.

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[9] Piszczek M., *Uwagi dotyczące wykorzystania gestykulacji w porozumiewaniu się z dzieckiem upośledzonym umysłowo*, [in:] M. Piszczek (ed.), *Metody komunikacji alternatywnej w pracy z osobami niepełnosprawnymi*, Warsaw 1997.

The research used observation scales made after the Callier-Azus Scale[11] used for assessment of development in communication skills in children. Specific scales referred to making contact, maintaining it, breaking the relationship, refusing contact, expressing requests, using gestures, using various signs to elicit response in case of not understanding it.

The analysis of collected data showed that the most frequent behaviours used for initiating contact by children with deeper mental disabilities were, in the order of importance: intense looking at a person, bringing a toy (or a book, pencils), hugging, or sitting in the lap, vocalisation. The signal for breaking contact with the partner was most often looking away, moving away (pushing the partner out), movement unrest (twisting, arching back) or crying.
There were also children (seven) in the researched group, who did not show intentional behaviours used for making contact with other persons.
In the situations where observation was devoted mostly to signals expressing the wish to support contact with the partner, the children mostly did not make any gesture to express the need for continued relationship.

In expressing request, the children most often used a simple gesture of reaching an arm (1/3 of the research), sometimes using iconic gestures mimicking the object, and the least numerous group kept their eyes on the object of interest. In satisfying primary needs, the researched children used mostly iconic gestures to express request, mirroring activities (drinking, eating, using the toilet). It has also been noticed that many children use specific gestures to express specific needs, these gestures not always being understandable for the observer; they are legible only for parents or teachers working with the child. To specify the range of gestures used for expression of a request, the attempt was made to assess whether the researched children change gestures when the first intentional communication method proved ineffective. Half of the researched persons did not change the gesture, seven children made that change, consistently aiming at satisfying their need, and the rest of the group changed the goal they wanted to reach (e.g. they do not want to eat, but to go to the toilet).
In signalling the request, behaviour with 3D and 2D symbols were not found in the researched group.

Then, an attempt was made to diagnose whether children with deeper mental disabilities use hands of an adult person as a tool to reach their goal. As many as 13 children did not use this gesture, and only 1/5 of the group put objects used for play into hands of their teachers, with

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[10] Kielin J. (ed.), *Rozwój daje radość*, Gdańsk 2000.
[11] Piszczek M., op. cit.

hands of the tutor being used by 1/5 of the children for opening doors to leave the room (for a walk or to another room).

Refusing participation in the proposed activities, the children with deeper mental disabilities did not signal their refusal, although they did not show interest and participation, e.g. in the offered play. 1/5 of the researched did not take an object, which was a stimulus to signal some activity, some children signalling then primary needs, other expressed their objection with vocalisation.

Another issue was to determine which conventional gestures are spontaneously used by the children (offering hand for greeting, moving head to express consent or objection, waving goodbye, clapping hands to express appraisal). In analysis of the results, it was found out that 1/3 of the researched used all the specified conventional gestures, and 1/5 of the children did not use any conventional gesture at all. There were also children in the researched group, who used conventional gestures only in situations preferred by them (e.g. giving hand only to the therapist entering the room).

To summarise the results in the researched children with deeper disability, it has to be stated that only about 50% of the children uses intentional communication in daily situations, and over half of them does not initiate contact with the surroundings. Expressing requests with gestures, changing method of communication, as well as refusing contact also pose major problems for children with mental disability. Only using conventional gestures is characteristic of a large group of the researched children. These results correspond with considerations by E. Minczakiewicz, M. Piszczek, J. Kielina[12], the authors who emphasise the role, but also the difficulties in intentional communication in children with deeper degrees of mental disability. The fact is astounding and saddening that children in the 5-10 years of age do not even use simple 3D symbols, although they understand their meaning, which was shown with observation on refusing participation in activities signalled with a specific signal stimulus.

Conclusions from the research refer to checking the reasons for lack of skills related to intentional communication in kindergarten children with deeper mental disabilities and to undertake appropriate activities, which would enable acquisition of this competence. Putting pupils in such situations is of immense importance, where they would be forced to use

[12] Cf. Minczakiewicz E., Komunikowanie się z osobami głębiej upośledzonymi umysłowo, [in:] J. Pilecki (ed.), Usprawnianie, wychowanie i nauczanie osób z głębszym upośledzeniem umysłowym, Kraków 2002; Piszczek M., op. cit.; Kielin J., op. cit.

intentional behaviour. These activities must be undertaken at home and in the kindergarten in a regular and systematic way.

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**ABSTRACT**

**Intentional communication in children with deeper intellectual disability**

The basic method of human communication is behaviour, including movement of the whole body, gestures, facial mimics, smiling, following with eyes. Transmitting information with body signals, or non-verbal communication, informs all that is uncontrolled by the human, natural, unconscious, more primal to verbal messages. One of the types of non-verbal communication is intentional communication, which uses the language of gestures and symbols. Gestures are movements of the body used to express specific ideas, intentions or feelings. Gestures develop spontaneously, and the child uses them during goal-focused activities, e.g. pointing to a toy, nodding to express consent. When the child masters the art of using gestures, it starts learning communication with symbols. Symbols are visual, touch or auditory representation of notions. Teaching communication with gestures should mostly refer to children with deeper mental disability, in whom the communication process is delayed and disturbed.

The results of the undertaken empirical research confirmed that only half of the researched children with moderate and significant degrees of mental disability uses intentional communication to make

contact with other people. The researched mostly use conventional gestures typical of specific daily situations. In the behaviour of children no forms of intentional communication with the use of symbols were noticed.

STRESZCZENIE

**Intencjonalne komunikowanie się dziecka z głębszą niepełnosprawnością intelektualną**

Podstawowym sposobem komunikowania się człowieka jest jego zachowanie, a więc ruchy całego ciała, gesty, mimika twarzy, uśmiech, śledzenie wzrokiem. Wysyłanie informacji za pomocą sygnałów cielesnych, czyli komunikowanie niewerbalne, przekazuje to, co jest niekontrolowane przez człowieka, naturalne, nieświadome, pierwotniejsze od przekazu słownego. Jednym z rodzajów porozumiewania niewerbalnego jest komunikacja intencjonalna, która posługuje się językiem gestów i symboli. Gesty to ruchy ciała wykorzystywane w celu oddania określonych idei, intencji bądź uczuć. Gesty rozwijają się spontanicznie, dziecko używa ich w toku działań celowych, np.: wskazuje palcem zabawkę, kiwa głową na znak zgody. Gdy dziecko opanuje sztukę posługiwania się gestami, rozpoczyna naukę komunikacji za pomocą symbolu. Symbole są wizualną, dotykową, lub słuchową reprezentacją pojęć. Nauczanie porozumiewania się za pomocą gestów powinno dotyczyć szczególnie dzieci z głębszym upośledzeniem umysłowym, u których proces komunikowania się jest opóźniony i zaburzony.

Wyniki podjętych badań empirycznych potwierdziły, iż tylko połowa badanych dzieci z umiarkowanym i znacznym stopniem upośledzenia umysłowego, posługuje się komunikacją intencjonalną w celu nawiązania kontaktu z innymi osobami. Badani głównie wykorzystują gesty konwencjonalne typowe dla określonych codziennych sytuacji. Nie pojawiły się w zachowaniach dzieci formy intencjonalnego komunikowania się z użyciem symboli.