Anna L. Grygoruk
Communicational behaviour of three-year-old children attending kindergarten
Warsaw 2016
PhD thesis
written under the direction of
Prof. UW Assoc., Dr. M. Karwowska-Struczyk

ABSTRACT

The dissertation *Communicational behaviour of three-year-old children attending kindergarten* covers the development of speech in three-year-olds. It is a theoretical and research work in nature. Proprietary diagnostic tools were used in relevant research to assess both the quality of behaviour of three-year-old children in communication processes within a group context as well as to make individual observations. The communication process has been treated within a broad framework – not only within the scope of linguistic expression, but also in the context of any activities of the child that may constitute a sign/symbol in the communication process.
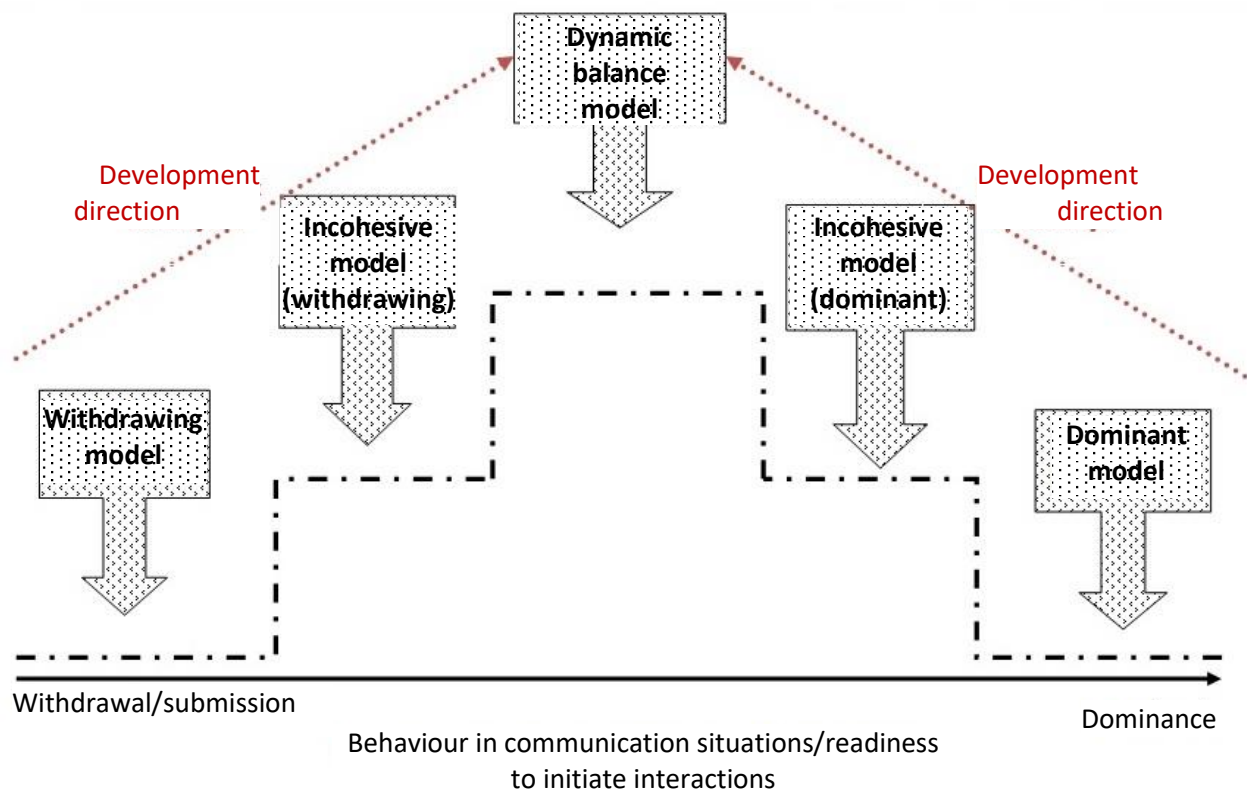
The dissertation consists of three parts: theoretical, methodological and empirical. The starting point for the theoretical part is the understanding of language as a socio-linguistic phenomenon covering a system of characters remaining in specific relationships. This broad approach makes it possible to see that we communicate not only through linguistic symbols. Indeed, any behaviour observed in the interaction between a sender and receiver, to which they attach any meaning, contains a specific message. One should emphasise that messages can be transmitted in a conscious and unconscious manner.

In the theoretical part, attention has also been paid to the complexity of the speech acquisition process, and selected theories of its acquisition/creation in ontogenetic development have been presented. Since the ability to communicate with others is extremely important for the child's further development acquired during social contacts, the study assumes the principles of the Contextual Theory of Richard Lerner (R. M. Lerner). The principle of a dynamic connection between the individual and the environment seems to be particularly important from the point of view of the discussed issue. On the one hand, the environment may be a stimulator or inhibitor of the language development of an individual, while on the other hand, the developing individual may transform the environment. The theoretical part of the dissertation also presents selected contexts of a child's speech development – from early social contact with the mother (R. Schaffer) through interactions with peers and finally relations with the kindergarten teacher. Each of these communication systems allows the child to perfect various areas of behaviour and consciously choose those that are effective from the point of view of communication goals. They are a factor stimulating its development.

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The original idea of behavioural models in communication processes constitutes an important element of the presented work. I assumed that every communicative person prefers a particular style of communication. The choice of this style is influenced by many factors, for example: experiences related to communication, habits, routines and patterns preferred in the child's environment (B. Berstein). In introducing the term "patterns of communicational behaviours", I was referring to the fact that the language of a three-year-old is still in the development stage. In turn, the idea of "communicational behaviour models" makes it possible to place the child's behaviour on a certain developmental continuum and to demonstrate the desired state, and as a result also the directions of language development of a particular child.

Observation of a child during interaction in a kindergarten has allowed its preferred communicational pattern based on the developed indicators to be ascertained. This is only a proposal, but it seems interesting not only because of its cognitive value, but also because of the practical benefits, as it allows kindergarten teachers to conduct a relatively quick diagnosis of communicative and linguistic competencies of a child, and to orient didactic and educational activities to create conditions for its development.

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Fig. 1. Children's communicational behaviour models and assumed development directions

Source: own study

In order to assess the quality of communicational behaviours, a complex, multi-stage research procedure with diagnostic tests and experimental studies was applied. Diagnostic tests were performed using proprietary communicational behaviour quality assessment sheets. At the stage of diagnostic tests, the communicational behaviour of children was a dependent variable. I assume that they vary in the group of three-year-olds attending kindergarten within groups distinguished by independent variables, i.e. gender (boy, girl), age (in dichotomic order: from the 36th to the 41st month and from the 42nd to the 48th) and the institution the child was attending (kindergarten A, kindergarten B, kindergarten C, kindergarten D). Differences in groups distinguished by means of independent variables will make it possible to draw conclusions on the relationship of these characteristics with communicational behaviours of three-year-old children attending kindergarten. Diagnostic tests also applied to the most common difficulties in the communication process of three-year-olds in the following categories:

- difficulties in understanding simple commands,
- difficulties in articulating individual sounds or their combinations,

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- repeating words or their parts,

- lack of fluency,

- vocabulary,

- grammatical complexity of expressions,

- withdrawal from verbal contacts with an adult or child.

Diagnostic tests were performed in all kindergartens in Bielsk Podlaski in the groups of three-year-olds. In total, 167 children, with the age between 3 years and 3 months to 3 years and 11 months, participated in this part of the study.

In the group of three-year-olds, the most common difficulties in communication include:

➢ distortion of consonants – 36 instances for boys (39%) and 23 for girls (31%),

➢ disturbed grammatical structure of expressions – 20 instances for boys (21%) and 15 for girls (20%),

➢ distortion of vowels – 18 instances for boys (19%) and only 8 for girls (10%).

When the numerical data on the number of initiated interactions is compared, taking into account the age and sex of the partner, the following patterns can be observed:

1. Younger boys (from the 36th to the 41st month) are most willing to choose a girl from the older age group as a partner for interactions and in interactions with this age group most often use sentences.

2. For girls from the younger group (from the 36th to the 41st month) a girl of the same age group is the most attractive partner for interactions. Younger girls are also more likely to use sentences in contacts with children with the age from 36 to 41 months.

3. Older boys (from the 42nd to the 48th month) are most willing to initiate interactions with girls from the 36th to the 41st month, although they use full sentences in contacts with older girls (from the 42nd to the 48th month).

4. Older girls (from the 42nd to the 48th month) are most willing to initiate interactions with girls in the same age group; in interactions within this age group the highest number of sentences was observed. A disturbing observation, one worth underlining, is the relatively low attractiveness of an adult as a partner in conversation. The percentage of the number of interactions initiated by the teacher in particular age groups was respectively: in the group of boys from the 36th to the 41st month – 16% of the total number of interactions registered in this age group; in the group of girls from the 36th to the 41st month – 32% of the total

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number of interactions registered in this age group; in the group of boys from the 42nd to the 48th month – 27% of the total number of interactions registered in this age group; in the group of girls from the 42nd to the 48th month – 28% of the total number of interactions in this age group. It can therefore be stated that an adult was the partner in only one in three interactions.

5. Within the scope of interactions initiated by an adult, girls were the most attractive partner in the adult-child communication system. The number of such interactions initiated by the educator was 33 (57% of the total number of discourse activities initiated by an adult) and most often they were established with girls with the age from 42 to 48 months (54% of the total number of discourse activities initiated by an adult in which girls were partners).

In the experimental studies, a control group was used in which the main independent variable (X) is an introduced experimental factor in the form of an original programme stimulating the development of communicative competencies of three-year-old children (from 3.6 to 4 years). The programme consisted of a series of classes divided into four blocks/thematic areas:

- I am among you.
- I want to tell you something.
- I want and I know how to listen to you.
- I want to talk to you.

The main dependent variable (Y) was the quality of the children's communicational behaviours, established by the teacher on the basis of the Communicational behaviour observation sheet (Appendix 2) and the Communicational behaviour assessment scale, in the following categories:

- understanding verbal commands,
- articulation,
- constructing statements,
- establishing and maintaining interactions.

This has made it possible to illustrate the analysed phenomenon in the widest scale possible and to perform a multidimensional diagnosis of the quality of communication processes. Two types of comparisons were performed in experimental studies:

- inter-group comparisons,

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- intra-group comparisons.

Both qualitative methods and advanced statistical models were used in the analysis of this data. This allowed the accuracy of the tools used and the posed hypotheses to be verified.

In order to check the hypothesis that participation in the programme positively stimulates communicational behaviours affecting the communicational behaviour of three-year-olds and that this influence depends on the child's sex, an experimental study was performed in a 2 × 2 inter-group. Additionally, a total result was calculated as the sum of the results from all four sub-scales. Since the sub-scales differed in the number of items, the results were standardised by calculating the indicators defining the percentage of obtained points. The dependent variables were measured twice – before the start of the programme (pre-test) and after its completion (post-test). The statistical analysis of the results was performed using the STATISTICA 10 PL package. Among the independent auxiliary variables, two – the status of the families and the place of residence – had only one value. All children participating in the study came from their biological families and live in cities. Therefore, these variables have not been included in further analyses.

The working hypotheses previously stipulated were as follows:

Hypothesis 1: The introduced experimental factor (in the form of a cycle of activities for kindergarten pupils) improves the communicational behaviours of participating children (the experimental group) in terms of understanding statements when compared to the control group.

Hypothesis 2: Classes conducted with children under the "Przygody pajacyka Piko" [Adventures of Piko the clown] programme (experimental factor) improved the quality of communicational behaviour of three-year-old children in terms of articulation when compared to the control group.

Hypothesis 3: It is possible to note an improvement in communicational behaviour quality within the scope of building statements in the group of children participating in the classes (experimental group) in comparison with children not participating in the said activities (control group).

Hypothesis 4: Children participating in the classes carried out according to the "Przygody pajacyka Piko" [Adventures of Piko the clown] programme (experimental group) obtained higher scores on the scale of establishing and maintaining interaction when compared with the control group and also in regards to the sex of a child participating in experimental research in relation to the quality of communicational behaviour.

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In order to verify the above hypotheses, a multidimensional two-factor analysis of variance was performed in a 2×2 inter-group system. A statistically significant multidimensional main effect of group affiliation was obtained, $F(4.65) = 8.75$; $p < 0.001$. This means that the vector of average results in the four sub-scales and the overall result varies depending on the child belonging to a particular group. In order to identify the scales within which statistically significant differences occurred, a series of one-dimensional tests was performed.

The obtained statistical results showed that group membership influenced the results obtained by children on all scales except for scale 3 (construction of statements). Children taking part in the activities performed according to the "Przygody pajacyka Piko" [Adventures of Piko the clown] programme obtained, on average, higher scores on the scale of understanding verbal commands, articulation, establishing and maintaining interaction and a higher overall score than children from the control group. Partial coefficients eta square (η^2) indicate that experimental manipulation explains between 13% (scale 4) and 29% (total) of the variability of the results of the dependent variable.

In conclusion, it should be emphasised that the prepared and implemented procedure made it possible to verify all formulated hypotheses. The results of the study allow the conclusion that in the group of three-year-olds participating in the experiment, the quality of communicational behaviour improved in the three distinguished assessment areas. Participation in kindergarten activities based on the programme of stimulating language and communication skills "Przygody pajacyka Piko" [Adventures of Piko the clown] helped children from the experimental group to improve communicational behaviour with regards to understanding simple commands, articulation, and establishing and maintaining interaction. Only in the scope of constructing statements no data was obtained that would allow clear verification of the hypothesis.