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Acquisition of Words and Their Meanings by Hearing-Impaired and Hearing Children: A Comparative Analysis *

SUMMARY

The article discusses the problems of acquisition of words and their meanings by hearing-impaired children as compared with the skills of hearing children. The analysis covered the understanding of semantically irregular derivatives – the participation of lexical and structural meaning in the perception of derivatives. The study is a description of experimental investigations conducted in a group of 90 children with the use of a survey questionnaire specially designed for the purpose. Conclusions from the investigations pertain to the ways of discovering meanings by children who learn language in a natural way and by children with perception limitations, and more precisely, to the impact of the word-formation knowledge and of linguistic experiences on the process of development of the lexicon.

Key words: semantically irregular constructions, structural meaning, lexical meaning, derivative (derived word), hearing-impaired child

INTRODUCTION

A large part of the Polish lexicon is made up of morphologically complex words (or: derived words, motivated words, morphological forms, derivatives). Word-formation is situated on the borderline between lexicology and grammar; consequently, the appearance of motivated words or children's etymologies (indicative of the interest in language) in the speech of a young child is an extremely important moment for the development of his linguistic competence (in the lexical and grammatical aspects). With language, the child acquires a social group's specific way of perceiving and interpreting the situations and events around him

(Grabias, 2007). Language is a “specific, socially established conceptual structure contained in vocabulary and grammar, which reflects a cognitive interpretation of the world made by people who have developed a given language in the historical process” (Grzegorzczkowska, Szymanek, 2001: 469). Lexical and grammatical facts and the word-formation processes that are on the borderline between the above two types of facts manifest the cognitive and interpretive character of language in a special way (Grzegorzczkowska, Szymanek, 2001).

Therefore, it is, in many ways, a special situation of children who cannot learn the language in a natural way because of serious perception limitations, for example hard-of-hearing children, who are “compelled to build their own semiotic system” and are thus condemned to “[having] an extremely subjective although intellectualized manner of interpreting the world” (Grabias, 2007: 358 and 367). This process is reflected at the lexical and grammatical levels as well as in the word-formation of hearing-impaired children.

The thesis about the reflection of the structure of thought in the structure of an analyzable word goes back to the early 20th century. Jan Rozwadowski (1921) was the first to point out a relationship between the two-stage learning of the phenomena in the surrounding world (“an insight into the world around us”) and the dual structure of the names given them. First, we take the whole object (or a set of its features) in a perceptual way, Rozwadowski contended, and classify it into a particular conceptual class (in this way new phenomena are assigned to a general class of previously known concepts), then we focus only on some part of the object that distinguishes it out of the other similar specimens of this class. The cognitive process in question is reflected by the two-constituent structure of words made up of a distinctive (specifying) constituent, which expresses the perceptually dominant feature, and an identifying (generalizing) constituent, which applies to the well-known concept. In Rozwadowski’s interpretation, the bi-partite name (noun) is thereby a shortened definition condensed into a “conceptual form” because, like a regular definition, it expresses the generic feature as *genus proximum* and the differentiating feature as *differentia specifica*. According to Rozwadowski the direction of word development in Polish proceeds from loose syntactic phrases to compounds and suffixal constructions to words that are uniform roots, because names tend towards “complete compactness” or uniformity.

Rozwadowski’s idea had its continuators. It was developed in structuralism by Miloš Dokulil (1979) as a concept of onomasiological categories which are the fundamental conceptual structures that form the basis of a name in a language (Dokulil 1979: 41).

The drawing of attention to the logical rather than psychological aspect of Rozwadowski’s theory was in turn the essence of the examination of derivational phenomena in Witold Doroszewski’s presentation, who maintained that the basic

logical pattern within which man interprets the world are the categories of substance and feature (“something is of some kind”). This pattern underlies the way a name and a sentence are formed, hence there are analogies between sentence structure and the structure of a motivated word (cited after: Grzegorzczkova, 1982). Doroszewski explains this phenomenon philosophically: “man presents the whole surrounding world in terms of the subject and the predicate which are the elementary particles of consciousness” (cited after: Kawyn-Kurzowa, 1964: 236). Linguistic facts reflect fragments of external reality and the human attitude towards them: “Word-formation investigates types of associations, i.e. forms in which human consciousness reflects relationships between elements of the external world and the types of word structures that can be reduced to the same types of associations” (Doroszewski, 1963: 71)

The examination of derivational phenomena from a cognitive perspective does not challenge any of these views; on the contrary, it utilizes each of them, thus creating a new research perspective, which strongly emphasizes the cognitive and interpretive character of language, and assigns a special place in it to word-formation (Grzegorzczkova, Szymanek, 2001).

THE PURPOSE OF THE STUDY

The purpose of the article is to analyze and interpret the ways of how semantically irregular derivational constructions are understood by profoundly hearing-impaired children as compared with analogous abilities in hearing children. Analyses covered the names of personal doers of actions (personal agentive nouns).

Semantically irregular constructions are those whose meaning does not result from the sum of their constituents. Their meaning as that of units of the lexicon (real meaning) is richer and comprises more information than it is suggested by the word structure (structural meaning). They have a certain “irregular semantic surplus” (Puzynina, 1976), e.g. for the meaning of the deverbal form *pisarz* [writer]: ‘the one who writes’, more significant is the additional information contained in the object ‘the one who writes (what?) literary works’, whereas for the meaning of the denominal form *rybak* [fisherman] (‘the one who performs some action associated with fish’), the crucial information is contained in the predicate, which does not have its reference in the structure of the derived form ‘the one who (does what?) catches fish’. “The less the part of real meaning is communicated through the form, the more semantically irregular the form is, and its structure is no longer important in communicating” (Grzegorzczkova, 1982: 23).

The opposite of derived irregular forms are semantically regular forms, or those whose real meaning is fully communicated by the constituents. Their structural meaning is thereby identical with the real meaning, e.g. *lampka* is really and

structurally ‘a small lamp’, or *oskarżyciel* [prosecutor, accuser] ‘the one who prosecutes, accuses]’ (Grzegorzczkova, 1982, Grzegorzczkova, Puzynina 1984).¹

The fact that there are disproportions between the information communicated by the word structure and its real meaning opens a special investigation perspective: it provides an opportunity for observation of the way word-formation constructions function in the child’s consciousness (the participation of real and structural meanings in perceiving a derivative) and for specification of the impact of the meaning communicated by the form on the processes of development and extension of the lexicon.

The problem that has not been finally solved even today is the way of how the meanings of words with a complex morphological structure are acquired in the contexts of the ways of acquisition of unanalyzable (simple) words. Therefore it is relevant to ask: “To what extent, in the process of acquisition of derived words, do children pay attention to formal-semantic relationships between words and conclude on these grounds on the meaning of new, unknown words, and to what degree do they simply assign the meaning to morphologically analyzable words on the same basis as they do so with unanalyzable words?” It should be emphasized at this point that understanding the meanings of semantically irregular forms is associated with identification of relationships that occur between the non-derived word and a derivative. The meanings of irregular derivatives reflect syntactic relationships of the root word, which has the form of a phrase (so-called phrasal base). It is made up of the derived word and its attributes reflected in the semantics of the derivative, e.g. *pić wódkę* > *pijak* [drink vodka > drinker] , *pić kawę* > *kawiarz* [drink coffee – coffee lover, coffee drinker] (Kreja, 2000). The knowledge of meanings of semantically irregular derived forms thus follows from the knowledge of the context of their usage. The lack of knowledge of the contexts, and being influenced only by the form of a word (structural meaning) leads to false interpretations of their meanings.

The present article attempts to answer the following questions:

Do profoundly hearing-impaired children know the semantic elements of words, not communicated by the word form?

Which derivative forms cause the least definitional problems to hard-of-hearing children, and which the most and why?

In what way does the degree of complication of the semantic structure of derivatives (in denominal and deverbal constructions) influence the order of their acquisition?

¹ For semantically irregular constructions S. Grabias suggests the term “depth of structural meaning” understood as a different degree of lexicalization of derivational formations. “The depth of structural meaning” applies therefore to the degree of complication of the semantic structure of derivatives and the way they function in the linguistic consciousness of language users (unpublished information, source: discussions held at seminars in the UMCS Department of Logopedics and Applied Linguistics).

Do the child's actual hearing abilities and the accompanying ability to speak influence the process of the acquisition of word meaning?

Does the way of interpreting the meanings of semantically irregular constructions by hearing-impaired children differ from the way of their interpretation by hearing children?

Does the knowledge of the structural meaning of derivative forms impact the process of their acquisition?

STUDY GROUPS

The investigations were carried out in two 30-subject groups of children with diagnosed prelingual profound hearing impairments and in one 30-subject group of hearing children. A total of 90 children were examined.

The investigation covered first-grade students at junior high schools for hard-of-hearing children. The abilities of profoundly hearing-impaired students were compared with the abilities of far younger hearing children.² The profiles of the study groups have been presented below.

group I – 30 profoundly hearing-impaired children, speaking children, ignorant of sign language, who came from hearing families and were taught using oral methods.

group II – 30 profoundly hearing-impaired children, unable to speak, using sign language, who came from hearing-impaired families, and were taught, using sign language methods.

According to the terminology used in the pedagogical typology of hearing impairments, the first group consisted of hard-of-hearing children: they used hearing in the process of communicating, but visual perception prevailed over hearing perception. Children in group II did not use hearing in the acts of linguistic communication, they often did not even wear hearing aids, hence they can be termed deaf, or functionally hearing impaired (Krakowiak, 2006.)

group III – hearing children starting education in primary school. The comparison group would by assumption consist of children whose language consciousness was still natural, i.e. it was acquired by way of experiment rather than as a result of systematic teaching process, or it is the result of social personal experience rather than a scientific view on language (Kwarciak, 1995).

² The development of children with profound hearing impairments is generally delayed and does not take place in a natural way, i.e. it means that learning the first language occurs with the use of the appropriately prepared teaching process. These grounds determined the selection of the age of the children studied. The junior high school first grade is the time when children finish the first stage of education: developmental delays can be made good to some extent. The linguistic skills of hard-of-hearing junior high school students should therefore achieve the level approximating that of the hearing child, whose speech development is regarded as completed (the limit is defined by the child's going to school).

METHODS

The research procedure described in this paper used the method of experimental studies (Cf. Nagórko-Kufel, 1977). In order to collect research material, the author used her specially designed questionnaire containing a set of closed questions i.e. questions with a set of possible answers (Łobocki, 1978). The investigation was a questionnaire survey (Pilch, 1978). Each child completed the survey questionnaire individually, always in the presence of the investigating person.

The questionnaire consisted of six questions with three possible answers assigned to each question. The questions pertained to the definitions of names of doers of action derived from nouns and verbs by means of various derivational morphemes. The basic question was: *Który pan/ które dziecko to (e.g. pisarz, słuchacz)?* [Which man(mister)/which child is (e.g. a writer, listener)?]. Three possible structural-semantic definitions were appended with each derivative form. In each, the base word of a derivative appeared and the explanation of the meaning of its derivational morpheme. Therefore, these were derivational paraphrases. However, they also contained an additional semantic element which potentially made up the lexical meaning of the units being defined. Only one of the proposed choices was correct, i.e. the definition of a phenomenon accepted in the language. The other given examples of definitional answers contained semantic elements inconsistent with the dictionary meaning of the word, e.g..

Który pan to pijak? [Which man is a drinker?]

Ten pan pije soki. [This man drinks juices]

Ten pan pije wódkę. [This man drinks vodka]

Ten pan pije wodę. [This man drinks water]

The task of the subjects was to indicate one answer which they believed was correct. The questions were about the definitions of six derived forms: two denominal ones (*drogowiec* [road-construction worker, derived from the word *droga* - road]) and *cukiernik* [confectioner]) and four deverbal ones (*pijak* [drinker], *pisarz* [writer], *pracuś* [eager beaver, derived from *praca* - work], and *słuchacz* [listener]). Two forms were expressive: *pijak* and *pracuś* (Cf. Grabias, 1981: 169–188).

RESULTS

Hard-of-hearing children showed a better knowledge of the meanings of personal agentive names than deaf children. Correct paraphrases accounted for 43% of possible answers in the group of hard-of-hearing children, and 30% in the group of deaf children. On average, there were 2.6 correct definitions to one hard-of-hearing child, and 1.8 to each deaf child.

In neither group there was a child who knew the correct paraphrases of all the derived forms. In contrast, two hard-of-hearing children committed only one error in the same example – *sluchacz* [listener] was interpreted as a ‘*dziecko, które słucha, co mówi mama* [a child who obeys what mother says]’. The highest score in the group of deaf children ranged within two committed errors and was achieved by one boy who wrongly assigned meanings to the forms *sluchacz* and *drogowiec* [road-construction worker]. He understood the former as ‘*ktoś, kto słucha mamy* [someone who obeys mother]’, and the latter as ‘*ktoś, kto jeździ po drodze* [someone who drives along the road]’. No case of failure to understand all the derivatives was reported in the group of hard-of-hearing children, whereas this was the case with three children in the deaf children group.

The most difficult to interpret for both the hard-of-hearing and deaf children was the same derived form *sluchacz* [listener] (there were only very few correct answers). At least half of the subjects in each group associated it with the meaning ‘*dziecko, które słucha, co mówi mama*’. Somewhat fewer, about one third of all the hearing-impaired subjects assigned to *sluchacz* the definition of ‘*dziecko, które nosi aparaty słuchowe* [a child who wears hearing aids]’.

The hard-of-hearing children found it the easiest to interpret the construction *pijak* [drinker]. As many as two thirds of the hard-of-hearing students correctly indicated the semantic element not communicated by the structure of the derived form but constitutive of its lexical meaning, which defines the kind of beverage drunk by the doer of action: ‘*ten, kto pije (wódke)* [he who drinks (vodka)]’. The hard-of-hearing children very seldom associated with the derivative *pijak* the wrong definitions: ‘*ten, kto pije wodę* [he who drinks water]’, and even more rarely ‘*ten, kto pije soki* [he who drinks juices]’.

The deaf children, in turn, understood the agentive names: *pracuś* [eager beaver, workaholic] and *pisarz* [writer] best. More than half of the deaf subjects successfully eliminated the definitions that contained false semantic elements. Only several deaf children defined *pracuś* as ‘*ktoś, kto nie lubi pracować* [someone who does not like working]’, and *pisarz* as ‘*ten, kto pisze w gazetach* [someone who writes for newspapers]’. The deaf children found it more likely that a *pracuś* is ‘*ktoś, kto pracuje w urzędzie* [someone who works in an office]’, and a *pisarz* – ‘*pisze wiersze* [he who writes poems]’.

The frequency of occurrence of correct interpretation of particular agentive names in the groups of hard-of-hearing and deaf children is shown in Chart 1.

The chart shows that there are similarities and differences concerning the knowledge of meanings of semantically irregular derivatives among the children in the two investigated groups. Similarities and differences are distributed in equal proportions, which means that half of the analyzed derivatives are characterized by an approximate degree of difficulty while in the interpretations of the other half there are distinct disproportions between hard-of-hearing and deaf children.

The analysis should begin by focusing on differences in interpreting the meanings of the names of doers of action by hearing-impaired children in both the study groups.

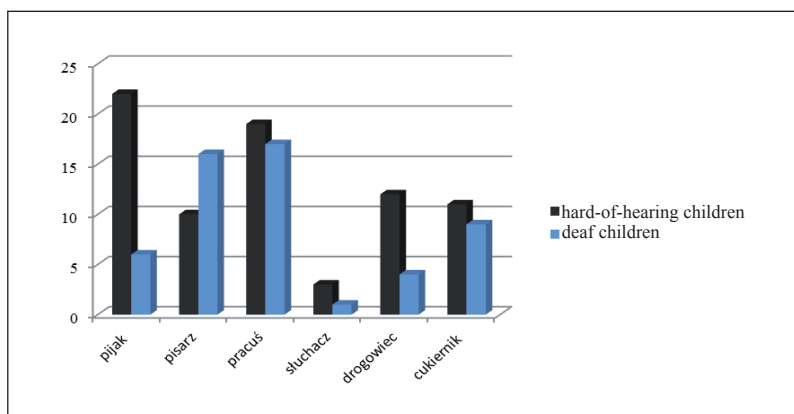


Chart 1. Correct interpretations of the meanings of morphological forms in the groups of hard-of-hearing and deaf children

The identification of the derived word *pijak*, which was the easiest for the hard-of-hearing children, turned out to be very difficult for the deaf ones. Almost two thirds of deaf children associated the noun *pijak* with the ‘osoba pijąca soki [person who drinks juice]’. It is probably in this context that they came into contact with the verb *pić* [drink]. The association with the object ‘vodka’ [*wódka*] is entirely alien to deaf, non-speaking children because it usually appears in utterances made in colloquial situations rather than in written texts that are the primary source of linguistic knowledge for non-speaking children. This kind of answer decidedly aroused smiles on the faces of hard-of-hearing children and occurred only sporadically.

Despite the fact that hard-of-hearing children exhibited a better knowledge of the meanings of the analyzed agentive names than deaf children, in one case, however, the latter proved to have obtained better results with regard to the form *pisarz* [writer]. The reason for this disproportion was a high recurrence (50% of the subjects) of one error committed by hard-of-hearing children. This was the wrong specification of the object of the writer’s activities as someone who writes poems (‘*ten, który pisze wiersze*’). This error should not be regarded as very significant, however, because the distinction between the meanings of the words writer (*pisarz*) and poet (*poeta*) may also pose problems to hearing children at the early stages of education (the two names denote a person practicing literary activities). With regard to the other forms the knowledge of their meanings in hard-of-hearing children was always better than in deaf children.

The last significant difference observed between the two studied groups of hearing-impaired children pertained to the interpretation of the meaning of the derivative *drogowiec* [road-construction worker]. For one third of hard-of-hearing children this is a '*pan, który buduje i naprawia drogi* [a man who builds and repairs roads]. In contrast, for most of deaf children (over half of the subjects) a *drogowiec* is '*ktoś, kto jeździ po drodze* [someone who drives along a road], or (one third of the subjects) – '*ktoś, kto chodzi po drodze* [someone who walks along a road]'. Only very few deaf students associated the form *drogowiec* with the category of persons working in a specific field (expressed by the root word i.e. derivational base). It turns out that that this sphere of human activities is alien to deaf junior high school students and has no referent in their language.

On the basis of the analysis of disproportions in interpreting the meanings of agentive names by hard-of-hearing and deaf children, one can observe a distinct influence of individual children's experience on the process of acquisition of words and meanings. Deficiencies in experience caused by perception limitations and consequent language limitations underlie the child's subjective interpretations of unknown lexical units. They contribute to assigning semantic elements to words, imposed by the context in which the child had an opportunity to encounter them. The assignment – in deverbal forms – of a particular argument (the object or adverbial) to the predicate expressed in the root word, or – in denominal forms – the specification of the kind of action directed at the object contained in the derivational base, thus takes place in reference to the child's individual experience and, which is closely connected with it, in reference to his own lexis (learned in some specific syntactic context). This is how a specific assimilation of new words into the child's lexical system and his own system of perceiving the world takes place.

When the child cannot participate in many daily dialogic situations because he simply does not speak, an obstacle to the development of words and meanings arises, which has different characteristics than in the case of the child who can speak despite his hearing deficits. The meanings of many colloquial forms cannot then be established dynamically enough. Hence, according to deaf children, *pijak pije soki* [a drinker drinks juices] because one generally drinks juices [*pije się soki*], and 'a road-construction worker drives along roads' [*drogowiec jeździ po drogach*], or sometimes 'he walks along the road [*chodzi po drodze*]', because children probably know very little about road construction or repairs '*budowanie lub naprawianie dróg*'

As far as similarities pertaining to the process of interpreting agentive names are concerned, both hard-of-hearing and deaf children exhibited a similar, comparatively high level of understanding the meaning of the derived forms *pracuś* [eager beaver] and *cukiernik* [confectioner], but a very low level of understanding the meaning of the form *śluchacz*.

A question arises whether the degree of difficulty in assigning the right elements of the lexical meaning to a lexical unit depends on the degree of complication of its semantic structure. The issue is whether the process of the development of the meanings of deverbal derivatives and the process of the development of the meanings of denominal derivatives runs parallel in the development of speech or whether one of the two categories is easier for hearing-impaired children. In the group of hard-of-hearing children the percentage of correctly indicated semantic definitions in reference to deverbal derivatives was 45%, while in reference to denominal ones it was 38%. In the group of deaf children, the correct definitions of deverbal derivatives were 33%, and of denominal ones – 22%. For profoundly hearing-impaired children the acquisition of the meanings of denominal forms seems therefore to be a more complicated process than in the case of deverbal forms. Thus, in general, the closer determination of the kind of action not expressed directly in the structure of a derivative form (i.e. the specification of what a *drogowiec* [road worker] has to do with a road *droga*, and a *cukiernik* [confectioner] with *cukier* [sugar]) causes more problems to hearing-impaired children than the closer determination of the type of object indicated by the action defined in the root word (i.e. to specify that which a *pisarz pisze* [writer writes]), and the manner of executing the action (to specify how a *pracuś pracuje* [an eager beaver works]). In order to confirm this hypothesis, it would be necessary to conduct similar investigations in a larger group of hearing-impaired children, and on the basis of extended tests.

The conducted surveys covered six semantically irregular derivational constructions and 18 proposals for their structural definitions containing the elements of lexical meaning. The selective range of the research material makes it simply necessary to conduct analogous surveys (using the same tool) in the group of hearing children in order to define the comparative point of reference for the results obtained.

The hearing primary-school first-graders had far fewer problems with showing the right definition of the names of doers of action than the hard-of-hearing junior high school students. The percentage of correct interpretations of the meanings of derivative forms in the group of hearing children was 63%, in the group of hard-of-hearing children it was slightly over 40%, and in the group of deaf children – 30%). Each hearing primary-school first-grader indicated an average of 3.8 (out of 6) correct definitions (one answer more than in hard-of-hearing children, and two answers more than in deaf children). The frequency of correct definitions of the indicated agentive names in the hearing children group as compared with the results obtained by hearing-impaired children is illustrated in the chart below.

In comparison with the hearing-impaired junior high school students, the hearing primary-school first-graders showed better knowledge of the meanings of all the names of action doers, with one exception: they incorrectly interpreted the

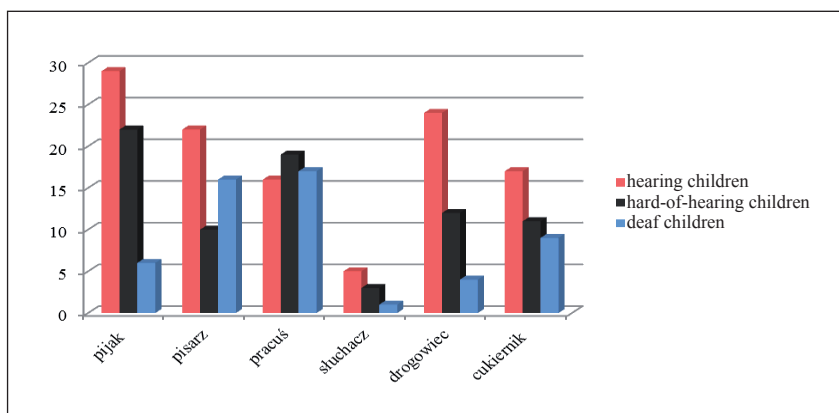


Chart 2. Correct interpretations of the meanings of derivative forms in the groups of hearing, hard-of-hearing, and deaf children.

name of the form *pracus* [eager beaver] more often than hearing-impaired children. The difference between the results obtained in the three study groups was, however, negligible in this case, which does not change the fact that the greatest number of correct definitions of the *pracus* form were recorded in the group of hard-of-hearing children (19). The hearing primary-school first-graders reached the level (16) approximating that of the deaf junior high school students. The error of hearing children consisted in that many of them regarded the specification of the place of action rather than its manner as the crucial element of meaning for the name *pracus*, hence they often believed that *pracus* meant ‘someone who works in an office’. When they do not know the meaning of a particular formation, the hearing children, like hearing-impaired ones, refer to their own experience and ideas of the surrounding world. To many hearing children, however, less significant was the information contained in the morphologically analyzable word: many children did not recognize the expressive meaning conveyed by the derivational morpheme in the word *pracus*, and in their interpretations they disregarded the positive evaluation of the phenomenon. Unlike hearing children, those hearing-impaired find the information drawn from the structure of the word more helpful. In both the groups of hearing-impaired children the form *pracus* was most often correctly defined out of all the forms analyzed, which was due to the identification of the ameliorative meaning of the derivational morpheme. (Cf. Grabias, 1981).

The hearing children scored best in understanding the derivational constructions *pijak*, *drogowiec*, and *pisarz*, and with worse results with *cukiernik* and the abovementioned *pracus*. They found it most difficult to assign the right semantic elements to the word *sluchacz*, which hard-of-hearing children also failed to understand. As many as two thirds of hearing children identified *sluchacz* as ‘the

child who obeys what mother says'. While in the case of hearing-impaired children the difficulty in learning the meaning of this word resulted from insufficient experiences caused by perception limitations (only very few children associated the agent noun *sluchacz* with "listening to the radio"), in the case of hearing children one can speak of insufficient experiences closely connected with their developmental ages. At the time of the survey, hearing children only started education in primary school. According to most of them the verb *szuchać* (listen/obey) collocates with the object "mother" in utterances. Their linguistic consciousness has therefore established the meaning of the word *szuchać* conditioned by the context of its use, i.e. 'obey someone' rather than 'receive and understand someone's utterance') (www.sjp.pwn.pl). For that reason the process of assigning semantic elements to the construction *sluchacz* took a somewhat different course than it was probably the case with older children.

A significant observable difference between hearing and hearing impaired children is that one of the constructions less known to hearing children (*pracuś*) was correctly defined most often by children with hearing impairments (when taking into account the joint results obtained in the groups of deaf and hard-of-hearing children) The form *pijak*, usually correctly defined by hearing children turned out to be one of the most difficult for deaf children (but not for hard-of-hearing children, who obtained results close to those scored by hearing children in this case).

In the case of hearing children, the degree of complication of the semantic structure of the analyzed derivational constructions did not impact the process of assigning appropriate meanings to them. The frequency of correct interpretations regarding deverbal and denominal derivatives was similar. The problems in understanding the meanings of derivational constructions by hearing children, whose speech development is regarded as completed, do not thus stem from the ignorance of the rules in Polish or from difficulties in learning a specific type of them but from certain inadequate linguistic experiences.

The specification and comparison of the results of the quantitative survey in the groups of deaf, hard-of-hearing and hearing children enables qualitative assessment of the collected material. The definitions of agentive names most often indicated by the children make it possible to study the manner of the linguistic interpretation of meanings, characteristic of a study group.

According to hard-of-hearing children, *pijak* (drinker) is 'someone who drinks vodka' (*ktoś, kto pije wódkę*) (22), 'writer' (*pisarz*) writes poems (16), sometimes 'he writes books' (10), *pracuś* (eager beaver) is 'someone who works a lot' (19), *sluchacz* (listener) is 'a child who obeys (listens to) what mother says' (17), sometimes it is someone who 'wears hearing aids (*aparaty słuchowe*) (10), *drogowiec* (road construction worker) builds and repairs roads' (12), but '[it's a person who] walks (9) or drives (9) along roads, and *cukiernik* (confectioner)

bakes products (cakes) from sugar (*cukier*) (11), although he also often ‘sells sugar (*cukier*)’ (10) and he simply ‘likes candies (*cukierki*)’ (9).

Hard-of-hearing children found it the least probable that a ‘drinker drinks juices’ (3), an ‘eager beaver (*pracuś*) does not like working’ (3), a ‘listener (*sluchacz*) does not listen to the radio(3), and a writer (*pisarz*) writes for newspapers’ (4).

According to deaf children, ‘a drinker drinks juices’ (19), ‘a writer writes books’ (16), or sometimes writes ‘poems’ (12), an ‘eager beaver *pracuś* works a lot’ (17), but fairly often he is ‘someone who works in an office’ (10), a ‘listener (*sluchacz*)’ obeys (listens to) mother’ (16), but also just as often he ‘wears hearing aids’ (13), *drogowiec* (road construction workers) mainly ‘drives along the road’ (17), and he ‘walks’ along it far less often (9), while a ‘*cukiernik* (confectioner)’ basically ‘sells sugar’ (*cukier*) (11) and he ‘likes candies’ (*cukierki*) (10) just as often as he bakes ‘cakes and gateaux from sugar’ (9).

Deaf children found it doubtful that ‘a listener listens to the radio’, (1), ‘a writer writes for newspapers’ (2), an ‘eager-beaver/workaholic does not like working’ (3), and that ‘a road construction worker (*drogowiec*)’ builds and repairs roads’ (4).

Both hard-of-hearing and deaf children regarded ‘listening to the radio’ as the least probable semantic element out of all the proposed definitions of agentive names. Hearing-impaired children believed that the object of the action of ‘listening’ could not be ‘the radio’ but rather ‘mother’ or a ‘hearing aid’ (as a tool). In this case, the obvious influence of the child’s experience on the process of the development of word meanings is so clear that no comment is needed.

In comparison with hearing-impaired children the answers of hearing children are not only quantitatively but also qualitatively different. According to hearing primary-school first-graders ‘*pijak pije wódkę* – a drinker drinks vodka’ (29), ‘*pisarz pisze książki* – a writer writes books’ (22), ‘*pracuś bardzo dużo pracuje* – an eager beaver works a lot’ (16), but often it is also ‘*ktoś, kto pracuje w biurze* – someone who works in an office’ (13), ‘*a sluchacz* - listener’ ‘*dziecko, które słucha, co mówi mama* – a child who obeys (listens to) what mother says’ (22), ‘a *drogowiec* – road construction worker’ is ‘*ktoś, kto buduje i naprawia drogi* – someone who builds and repairs roads’ (24), and ‘a confectioner – *cukiernik*’ – ‘*pan, który piecze ciastka i torty z cukru* – a man who bakes cakes and gateaux from sugar’ (17), sometimes ‘*ktoś, kto sprzedaje cukier* – someone who sells sugar’ (9).

Hearing primary-school first-graders found it improbable that ‘*pijak pije wodę* – a drinker drinks water’ (0) or ‘*pije soki* – drinks juice (1), ‘*pracuś nie lubi pracować* – an eager beaver does not like working’ (1), ‘*drogowiec chodzi po drodze* – a road construction worker walks along the road’ (1), and that ‘*sluchacz* – a listener’ is ‘someone who wears earphones - *ktoś, kto nosi słuchawki*’ (3), ‘*cuk-*

iernik lubi cukierki – a confectioner likes candies’ (4), or that ‘*pisarz pisze wiersze* – a writer writes poems’’ (4) or ‘*pisze w gazetach* - writes for newspapers(4).

With regard to the ways of interpreting the names of semantically irregular forms there are more similarities between heard-of-hearing and deaf children than between hard-of-hearing and hearing children. The common experience developed under the influence of perception limitations unifies the characteristics of the ways of interpreting the meanings of lexical units by hearing-impaired children. In contrast, the differences between the results obtained by hard-of-hearing and deaf children are the same in quantitative terms as between the results obtained by hearing and hard-of-hearing children. There are thus such great discrepancies in understanding the meanings of derivative words by speaking hearing-impaired (hard-of-hearing) children and by non-speaking (deaf) children that they cause the results obtained by hard-of-hearing children to come close to the results achieved by hearing children.

CONCLUSIONS

There is a relationship between the knowledge of word-formation rules and the degree of the development of linguistic competence (Pastuchowa, 2010). Under the conditions of learning the language through a programmed teaching process, which is the situation we are dealing with in glottodidactics and surdopedics: “teaching the skills of interpreting derivative forms and then the ability to actively use the knowledge of rules of forming derivatives, are the most important manifestations of the development of linguistic competence at the lexical level” (Pastuchowa, 2007: 23).

There are opinions in literature that the word-formation rules are useless in creating and understanding texts, and the accompanying arguments try to prove that even derivatives understood by the receiver owing to the knowledge of derivational bases and word-formation rules have to be also known by the sender as vocabulary units (he must know their lexical meaning) (cf. Puzynina, 1970; Grzegorzczkova, Puzynina, 1984). It is said, nevertheless, that “the reading of derivational meanings by the receiver makes it easier to understand, decode the meaning of the whole text, which is particularly significant when learning a foreign language” (Grzegorzczkova, Puzynina, 1984: 328). It can be therefore concluded that the perception of semantic-formal relationships between words is not necessary for understanding and producing texts, yet it is useful in the conditions of the limited lexicon, and this is what we are dealing with in the period of children’s speech development and in the cases of speech disorders. The knowledge of structural meanings then facilitates understanding unknown words and the process of remembering them, thereby being conducive to the dynamic extension of vocabulary.

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