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## **PRESCHOOLERS' LISTENING COMPREHENSION DEVELOPMENT IN CONJUNCTION WITH THEIR COGNITIVE DEVELOPMENT: A META-ANALYSIS OF PREVIOUS RESEARCH**

*Received March, 10, 2015; Revised March, 16; Accepted May, 6, 2015*

**Abstract.** This article presents a meta-analysis of previous research involving the preschoolers' listening comprehension development viewed in conjunction with their cognitive development. The meta-analysis involves research findings in the field of psycholinguistics published in Eastern Europe and in the former Soviet Union between 1940s and 2010s. The findings of the meta-analysis indicate that listening comprehension is regarded as a complex form of speech activity, which involves i) auditory perception of the language codes and forms (lexical and grammatical structures – words, phrases, sentences, statements); ii) recognition and storage of the aforementioned language codes in short-term and long-term memory respectively; iii) comprehension of the verbal message in the internal speech, which is subsequently decoded in deep mental representations. The results of the meta-analysis suggest that there is a complex interrelation between the preschoolers' listening comprehension and their cognitive development.

**Keywords:** *listening, speech activity, speech perception, speech understanding, meaning, sense.*

**Харченко Наталія. Розвиток аудіювання в єдності з когнітивними процесами: метааналіз досвіду досліджень у галузі**

**Анотація.** У статті представлено узагальнення, здійснені на основі теоретичного аналізу наукових джерел з проблем аудіювання. Встановлено, що аудіювання – складний вид мовленнєвої діяльності, що передбачає: 1) слухове сприймання значень системи мовних кодів; 2) розпізнавання, розшифрування і збереження мовних кодів в оперативній пам'яті; 3) розуміння смислу мовленнєвого повідомлення, що досягається шляхом реалізації механізмів внутрішнього мовлення, у якому відбувається декодування «поверхневих» значень мовних форм і трансформації їх у «глибинні» смисли. Показаний взаємозв'язок аудіювання з психікою дитини, розкритий «взаємопроникливий» характер психічних процесів та способи розвитку аудіювання в єдності з психічними процесами й усебічним розвитком дошкільників.

**Ключові слова:** *аудіювання, мовленнєва діяльність, сприймання мовлення, розуміння мовлення, значення, смисл.*

**Харченко Наталья. Развитие аудирования в единстве с когнитивными процессами: метаанализ опыта исследований в области**

**Аннотация.** В статье представлены умозаключения, сделанные на основании теоретического анализа научных источников по проблемам аудирования. Установлено, что аудирование – сложный вид речевой деятельности, предполагающий: 1) слуховое восприятие значений системы языковых кодов/форм (лексико-грамматических конструкций – слов, словосочетаний, предложений, высказываний), которые отображают действительность; 2) распознавание, расшифровку и сохранение их в кратковременной

памяти; 3) пониманея смысла речевого сообщения, которое достигается путем реализации механизмов *внутренней речи*, в котором происходит декодирование «поверхностных» значений языковых форм и трансформации их в «глубинные» смыслы через осмысление и переосмысление отображенного в высказывании того или иного фрагмента реальности. Показана взаимосвязь аудирования с психикой ребёнка; раскрыт «взаимопроникающий» характер психических процессов и способы развития аудирования в единстве с психическими процессами и всесторонним развитием дошкольников.

**Ключевые слова:** *аудирование, речевая деятельность, восприятие речи, понимание речи, значение, смысл.*

## **Introduction**

The current paradigm in psycholinguistics posits that the ability to comprehend speech eventuates before the child's active speech production (Dickinson & Smith 1994; Welsh et al. 2010). Listening comprehension is a significant variable in the developmental curve of the child's cognitive and meta-cognitive skills (Pezzulo & Castelfranchi 2009; Kooijman et al. 2005). Listening comprehension development presupposes the accumulation of social experience, development and formation of the preschool child's speech competence. Listening comprehension is regarded as one of the basic skills which facilitates the preschool child's speech production in general and communicatively aimed speech production in particular (Caparulo & Cohen 1983).

The study of listening comprehension by preschool children (further in the article – 'preschoolers') enables a scientific insight into educational and developmental variables. The educational variables involved in listening comprehension by preschoolers may refer to information retrieval, knowledge acquisition and the mechanisms of aural input processing. Developmental variables of listening comprehension may refer to the age-specific skills of perception and understanding of speech (Rost & Candlin 2014).

## **Methods**

The present research methodology involves a meta-analysis of previous psychological and psycholinguistic literature. The meta-analysis involves further generalization of the analyzed sources, as well as the formulation of deductions and conclusions.

*Hypothesis and specific research questions.* The hypothesis involves the following consideration: Presumably, a meta-analysis of the previous research conducted with the period of time from 1947 until 2013 in Eastern European countries of the former Soviet Union will yield data referring to the problem of listening comprehension and its development by preschoolers. Specifically, the present meta-research seeks to discover interrelations between the preschoolers' listening comprehension and their general cognitive development.

*Materials.* The materials of the present article comprise previous psycholinguistic research conducted in Eastern European countries of the former Soviet Union between the period of time from 1947 until 2013.

### **The study and discussion**

In Eastern European countries of the former Soviet Union, there is a rich tradition of research on listening comprehension by children in general and by preschoolers in particular (Galperin 1981; Harchenko 2013; Kalmykova 2008; Kostiuk 1988; Liubliskaya 1965; Morozova 1947; Rubinstein 1989; Rumyantseva 2004; Ushakova et al. 1989; Vygotsky 1956; Zimniaya 2001). It is inferred from the previous research findings that listening comprehension is a complex type of oral activity, which consists of a dynamic coordination of multiple systems, e.g. simultaneous mnemonic perceptive and thinking cooperation and active complex information transformation and retrieval, etc. (Rubinstein 1989; Rumyantseva 2004; Zimniaya 2001). The following operations are thought to be involved in listening comprehension i) auditory perception of language codes/forms (lexical and grammatical constructions – words, word-combinations, sentences, utterances) which represent reality; ii) their recognition, decoding and maintenance in short-term memory; iii) understanding of the semantic input of the verbal message (Galperin 1981; Liubliskaya 1965). The latter is achieved by means of the call-back to the mechanisms of internal speech, which decodes the surface values of the linguistic forms and transforms them into internal mental representations. This process may result in i) the recreation of the addressee's input by the recipient; ii) the construction of the novel individual sense; and iii) comprehension variability (Kalmykova 2008; Kostiuk 1988).

The meta-analysis of the previous research findings in the paradigm of psycholinguistics in the former Soviet Union allows the following generalization concerning listening comprehension: Listening comprehension is a complex and perceptive-cognitive-affective process, which involves perception, memory, concept formation, presentation, creativity, emotional-volitional processes, as well as personal qualities and capabilities of an individual person (Zalevskaya 2005). Assuming that the *'the development of speech production and comprehension depends on the development of all other psychical processes, including both cognitive and emotional, these processes are not only interdependent but also are necessary constituents in oral speech comprehension'* (Rumyantseva 2004:189). Additionally, previous research is unanimous in the view that it considers the development of listening comprehension by preschoolers as taking place concurrently with the preschoolers' development of psychical functions and processes.

Attention is believed to be the critically involved in the development of listening comprehension by preschoolers (Galperin 1981; Harchenko, 2013). Success of listening comprehension depends on the level of the preschoolers' attention, their ability to be concentrated and focused, as well as the ability to listen without distraction. Involuntary attention is a spontaneous feature in the preschooler's behavior. However, previous research findings indicate that it is critical to develop arbitrary, or volitional attention for a successful listening comprehension by a preschooler (Liubliskaya, 1965). Volitional attention is believed to be regulated by the conscious aim-setting and will of a preschooler.

Attention in preschool childhood is not stable, therefore its maintenance requires the development of the preschooler's interest in listening comprehension: '*Interest shows up foremost in attention*' (Rubinstein 1989:113). Previous research posits that in order to facilitate the preschooler's interest, it is necessary to involve audio input of a high artistic value, characterized by literary norms of usage, vividness and liveliness of the language, simplicity and clearness of composition, taken in conjunction with an entertaining and dynamic plot, and age-appropriate story characters (Rumyantseva, 2004). It is suggested that interest is combined with attention, as well as emotional and intellectual input (Rumyantseva 2004:201). If a preschooler is interested in an oral text, be it a fairy-tale, a story, a poem, etc. and if a preschooler is fully captivated by the process of listening, then involuntary attention of a preschooler feeds into arbitrary attention (ibid.). To facilitate the desired level of the preschooler's attention, the caregiver's or the teacher's aural input should be expressive, varied, vivid and emotional. Additionally, it should involve enrichment activities for preschoolers to create a favorable emotional rapport and a relaxed atmosphere in the group of preschoolers. Successful listening comprehension significantly depends on the attentive listening, or in other words, on the process of attending to the oral text. It is important for educators to explain to preschoolers that in order to grasp the content of a new oral text, it is necessary to be attentive, concentrated, not to be distracted, listen attentively to every word. It is critical to attend to all the utterances from the beginning up to the end (it is impossible to interrupt an educator or an interlocutor with questions, cries, by conversations with other children during listening).

Listening comprehension is closely related to *memory*, seen as a function of memorizing, maintenance and information retrieval (Rumyantseva 2004: 204). Memory is said to be involved in speech perception and speech comprehension. Memory is involved in verbal codes and images, gestalts, schemata and other mental representations (Blonsky 2001). Verbal symbols, codes and their images are maintained by long-term and short-term memory (Kalmykova 2011:331). Short-term memory is a buffer which stores the perceived information, its treatment and transforms it into long-term memory representations, where the following features are noted: i) the articulation of words, word combinations and syntactic constructions, rules and schemes of their syntagmatic and paradigmatic usage; ii) the comprehension of the incoming semantic input. For successful listening comprehension all types of memory are equally critical. For instance, auditory memory allows a preschooler to memorize and reproduce a phrase as well to maintain the recall of the oral text. Photographic memory enables the preschooler to recall an oral text in conjunction with a visual symbol which is concurrently presented with the oral text. Well-developed motive memory enables preschoolers to express their listening comprehension. Verbal-logical memory is necessary for maintenance and reproduction of verbal expressions and for memorizing of the semantic input. It is indicated that insufficient memory capacity compromises semantic input of an oral text given to the preschoolers in a recall task (Zimniaya 1976:7). The preschoolers' development of long-term memory is assisted by

semantic anticipation, i.e. after listening to the fragment of an oral text preschoolers may anticipate the continuation of the plot of the text, or anticipate a general way how the events can subsequently develop in the oral text (ibid.). Operational memory can be developed by a call-back to the lexemes and grammatical forms stored in the preschoolers' long-term memory. It is indicated that the development of listening comprehension by preschoolers may involve arbitrary memorizing and reproduction of oral input. As assumed by Liublinskaya (1972), the *'ability to memorize arbitrarily and reproduce everything that was perceived is reflected in experimental tasks aimed at structured recall of the oral input.'* (Liublinskaya, 1972:217). Istomina (1978) and Zinchenko (1978) posit that the productivity of arbitrary memorizing depends on the aim and motivation of memorizing. Previous research shares the assumption that *interest and motivation* of preschoolers in memorizing tasks are a necessary prerequisite for their successful listening comprehension development.

The preschoolers' general cognitive abilities play a substantial role in their listening comprehension development. The importance and necessity of the development of cognitive abilities are determined by their connection with the mechanisms of information processing and information retrieval. Rubinstein (1958) asserts that these mechanisms are identical with other mechanisms of cognitive development. In this regard, Kostiuk (1988) emphasizes that *'comprehension is a cognitive process aimed at solving cognitive tasks by the person, therefore there are no grounds to dissociate comprehension from cognition, to examine it as an independent process. Taken as a process, it is a process of thinking'* (Kostiuk 1988: 199). Hence, for the development of listening comprehend by preschoolers it is necessary to use auditive-developing tasks, containing a problem and problem-solving activities, which require a preschooler to implement practical actions aimed at finding the answers to the problems. For example, a preschooler could be i) asked to listen to the oral text and then choose one of the pictures, which illustrate the key points of the text; ii) listen to the oral text and identify the difference between the plot of the oral text and the picture; iii) listen to the text and correlate its plot with the series of pictures, placed in the random sequence, etc.

Preschoolers' cognitive development is assisted by the development of semantic skills. According to Morozova (1947), the preschoolers' development of semantic skills involves two stages. The first stage is referred to by Morozova (1947) as a 'plan of value'. The second stage refers to the 'plan of sense' (Morozova 1947:191–193). This view is further extended by Klychnikova (1983) who suggests that there is a mechanism which comprises the level of the actionable comprehension, where *'the recipient recognizes not only logical and emotional but also volitional structure of the text. The text is understood so deeply that a listener from a passive recipient transforms into an active experiencer'*. (Klychnikova 1983: 101). Vygotsky (2011) indicates that a *'complete understanding of the idea becomes possible only when we reveal its effective, highly emotional and volitional hidden motive'* (Vygotsky 2011: 457–458). The latter assumption is in concert with Haplerin (1981) who posits that there is *'a system of ideas and feelings of the*

author, which he represents in the text, and which must be decoded by recipients' (Galperin 1981). In this regard, previous research asserts that in order to facilitate the preschoolers' listening comprehension it is important to introduce questions referring to the '*plan of value*', such as 'What is this story about?', 'Who is this story about?', 'Who is the main hero of this fairy-tale?', 'Where do the events in the story take place?'. On the '*plan of sense*', the questions referring to an oral text in an listening comprehension task may involve the following: 'What did the writer want to tell us?', 'What does the author of the story want us to know beforehand?', 'What does the story teach us?', 'What does the writer caution us against?', 'Why did the author write this story for us?', 'Why did the author name the work in this way?', etc. The affective and volitional motives in the listening comprehension task may involve the following range of questions: 'What motive made the author write this story?', 'What mood did the author have when he/she wrote this story?', 'In your opinion, in what parts of the story does the author convey gladness, inspiration, or sadness/grief?', etc.

Previous research appears to be unanimous in the opinion that imagination is involved in the mechanisms of listening comprehension. In this regard, listening comprehension is possible in case when the preschooler's imagination is alerted by a picture which depicts the oral text. Consequently, the development of *imagination* and *creative imagination* constitute an important part of the preschooler's listening comprehension development. Consequently, research indicates that it is appropriate to use the creative tasks, such as 'Listen, present and tell', 'Listen, present and draw', etc., and also the method of verbal drawing. To facilitate the preschooler's listening comprehension process, it is necessary to select such audio material which will stipulate the preschoolers' imagination.

Listening comprehension is closely related to the *emotions and feelings*. Emotions, as Rumyantseva notes, are included in any perception. They influence attention and aid the memory to work (Rumyantseva 2004: 227). Rubinstein (1999) indicates that listening comprehension involves a unity of perceptible and rational, perceptible and logical, perceptible and semantic, feelings and ideas (Rubinstein 1999:239). Similarly, Teplov (1947) suggests that '*to comprehend an oral text means foremost to perceive, to experience it emotionally and then to reflect on it*' (Teplov 1947: 10). Positive emotions stimulate listening comprehension and assist in listening comprehension development (Teplov 1947). In contrast, such emotions as fear, alarm and tension negatively influence the mental condition of a preschooler. Negative emotions do not allow to attract attention to aural input and exacerbate the process of listening comprehension. It should be noted that in preschool childhood the emotions of children are not stable, therefore it is necessary to support them in the process of listening comprehension. For instance, after listening to an aural text it is important to conduct a conversation about the preschoolers' emotional relation to that aural text. In the process of such a conversation, it is important to solicit the preschoolers' responses in regard of their feelings caused by a story and what was especially remembered, what caused positive emotions, and what caused negative ones, etc. It is possible to offer

preschoolers to draw their mood connected with the oral text, to choose pictograms which reflect their emotions in relation to the separate chunks of the text and the text as a whole. It is possible to create the album of illustration containing the preschoolers' emotional perceptions of an oral text used in a listening comprehension task. However, research indicates that strong emotional response can interfere with the preschoolers' listening comprehension (Karpinskaya 1972: 63).

### Conclusions

To conclude, in Eastern European countries of the former Soviet Union psycholinguistic research involving listening comprehension by preschoolers indicates that the development of listening comprehension is a type of oral activity, a psychical processes, which involves dynamic states and qualities (perceptive, cognitive, emotional-volitional, personal, etc.). It can be generalized from the previous research that the basic general psychological principle of listening comprehension by preschoolers involves the development of all complexes of psychical processes, such as attention, memory, perception, concept formation, imagination, emotions and will, interest and great number of other psychical features of the preschooler's personality.

### References

1. Blonskiy, P. (2001). *Pamjat i Myshlenie [Memory and Thinking]*. S.-Petersburg: Piter.
2. Caparulo, B. & Cohen, D. (1983). Developmental language studies in the neuropsychiatric disorders of childhood. *Children's language*, 4.
3. Galperin, I. (1981). *Tekst kak Obyekt Lingvisticheskogo Issledovaniya [Text as an Object of Linguistic Study]*. Moscow: Nauka.
4. Dickinson, D., & Smith, M. (1994). Long-term effects of preschool teachers' book readings on low-income children's vocabulary and story comprehension. *Reading Research Quarterly*, 105–122.
5. Harchenko, N. (2013). Uchim doshkolnikov ponimaniyu ustnyih razvernutyih vyiskazyvaniy [Teaching the preschoolers to understand oral expanded utterances]. *Innovatsionnaya deyatel'nost v doshkolnykh obrazovatelnyh uchrezhdeniyah: Materialy VI Mezhdunarodnoy nauchno-prakticheskoy konferentsii (488–495)*. Yaroslavl-Moscow: Kantsler.
6. Istomina, Z. (1967). *Vozrastnyie i Individualnyie Razlichiya v Sootnoshenii Raznyh Vidov i Storon Pamyati v Doshkolnom Vozraste [Age and Individual Differences in Correlation of Different Types and Kinds of Memory in a Preschool Age]*. Moscow: Pedagogika
7. Kalmykova, L. (2011). *Psyhologiya rozvytku movlennevoi diyalnosti ditey doshkol'nogo viku [Psychology of speech activities of preschool age children]*. Unpublished Ph.D. thesis. Kyiv.
8. Karpinskaya, N. (1972). *Hudozhestvennoe Slovo v Vospitanii Detey [Literary Word in Upbringing of Children]*. Moscow: Pedagogika.
9. Klychnikova, Z. (1983). *Psihologicheskie Osobennosti Obucheniya Chteniyu na Inostrannom Yazyike [Psychological Peculiarities in Teaching Foreign Language Reading]*. Moscow: Prosveschenie.
10. Kooijman, V., Hagoort, P., & Cutler, A. (2005). Electrophysiological evidence for prelinguistic infants' word recognition in continuous speech. *Cognitive Brain Research*, 24(1), 109–116.
11. Kostyuk, G. (1988). *O Psihologii Ponimaniya [On Psychology of Understanding]*. *Izbrannyye psihologicheskie trudy*. Moscow: Pedagogika.

12. Lyublinskaya, A. (1972). *Vospitatel'nyy o Razvitiy Rebyonka [To Educator on Development of a Child]*. Moscow: Prosveschenie.
13. Lyublinskaya, A.A. (1965). *Ocherki Psichicheskogo Razvitiya Rebyonka [Essays on Psychic Development of a Child]*. Moscow: Prosveschenie.
14. Morozova, N. (1947). O ponimaniy teksta [On understanding of text]. *Izvestiya APN RSFSR*, 7, 191–240.
15. Pezzulo, G., & Castelfranchi, C. (2009). Intentional action: from anticipation to goal-directed behavior. *Psychological Research PRPF*, 73(4), 437–440.
16. Rost, M., & Candlin, C. N. (2014). *Listening in Language Learning*. Routledge.
17. Rubinshteyn, S. (1958). *O myishlenii i Putyah Yego Issledovaniya [On Thinking and Ways of Its Investigation]*. Moscow: AN SSSR.
18. Rumyantseva, I. (2004). *Psichologiya Rechi i Lingvopedagogicheskaya Psichologiya [Psychology of Speech and Linguopedagogical Psychology]*. Moscow: PERSE; Logos.
19. Rubinshteyn, S. (1989). *Osnovnyy Obschey Psichologii [Fundamentals of general psychology]*. Moscow: Pedagogika.
20. Teplov, B. (1947). Psichologicheskiye voprosy hudozhestvennogo vospitaniya [Psychological problems of artistic upbringing]. *Izvestiya APN RSFSR*, 11.
21. Ushakova, N., Pavlova, I., Zachesova, M. (1989). *Rech Cheloveka v Obschenii [Human Speech in Communication]*. Moscow: Nauka.
22. Vygotsky, L. (2011), *Myshlenie i Rech [Thinking and Speech]*. Moscow: AST: Astrel.
23. Welsh, J., Nix, R., Blair, C., Bierman, K., & Nelson, K. (2010). The development of cognitive skills and gains in academic school readiness for children from low-income families. *Journal of educational psychology*, 102(1), 43.
24. Zalevskaya, A.A. (2005). *Psicholingvisticheskiye Issledovaniya. Slovo. Tekst. [Psycholinguistic Researches. Word. Text]*. Moscow: Gnozis.
25. Zimniaya, I.A. (1976). Smyislovoe vospriyatye rechevogo soobscheniya [Semantic perception of a vocal message]. *Smyislovoe Vospriyatye Rechevogo Soobscheniya*, 5, 33.