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ACQUISITION OF VERBA COGITANDI BY CHILDREN

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În articol sunt reflectate unele probleme legate de însuşirea verbelor care exprimă activitatea mentală la copii. De asemenea, sunt evidențiate dificultățile cu care aceştia se confruntă în procesul de percepere şi utilizare a verbelor respective, precum şi factorii care contribuie la o însuşire mai eficientă a lor.

Due to their specificity, verbs denoting mental states (verba cogitandi) present a particular problem for young language learners. As Scholnick posited, there does not exist coherent theory of how children actually acquire the mental verbs [21]. Research in mental state verbs and their acquisition has grown considerably over the past forty years or so, and approached the subject depending on whether researchers come from a linguistic tradition, or a cognitive psychological one, and whether the focus is on adults' knowledge of mental terms or on their children's acquisition. Accordingly, this or that aspect of the issue was highlighted, thereby a. emphasizing the role of the input of "Motherese", i.e. the influence of mothers' language on children's acquisition of mental verbs (e.g. Snow and Ferguson) [22]; or b. showing how much in this acquisition process was actually directed by the children themselves (e.g., Newport, Gleitman, and Gleitman) [15]; or c. targeting aspects of children's cognitive or emotional maturation as the prime instigating factors (e.g. Leslie) [11] etc. Given, the input plays a critical role in children's mental verbs acquisition; it would not be productive to "stick" to one or another school or trend. For example, too much emphasis on maturational change in children's development of mental language and states may ultimately be just as misleading as too much emphasis on Motherese input [16]. Therefore it is seen logical to combine the linguistic and psychological traditions in approaching the subject.

Among the authors whose works were studied for the given research purposes were Bartsch, Bloom, Booth, Bowerman, Carey, Cassidy, Chiasson, Cross, Dickinson, Furrow, Gleitman, Gopnik, Hall, Hoff-Ginsberg, Johnson, Maratsos, Leslie, Nagy, Newport, Ninio, Papafragou, Paquin, Perner, Piaget, Shatz, Silber, Snow, Smith, Tomasello, Watson, Wellman etc. Verbs that denote mental activity are special in many ways, one of the factors that contribute to that being the complexity and interconnections of the mental (psychic) processes going on in human's mind. It cannot but influence the way such verbs are perceived and acquired by children.

Amongst the main factors contributing to that are the following: a. mental objects, by their very nature, are invisible, as they represent private and subjective states or events in human's minds, and are unavailable for outside inspection; b. they do not refer to perceptually transparent properties of the reference world; c. semantically, these verbs refer to units that can not be objectively "caught"; c. pragmatically, they generate contexts which are referentially hard or impossible to understand, therefore they are hard to identify from context even by adults who understand their meanings; d. mental verbs provide insight into human cognition, as they can reveal our access to our own internal states and our notions about the internal states of others (i.e., a folk theory of mind); e. the concepts that such verbs encode are rather complex or abstract; f. being abstract, they are removed from purely sensory experience (Scholnick [21], Gleitman [6] (e.g. even in the most obvious cases, thinking is not perceivable); f. mental verbs require a long and gradual period of development during child language acquisition, apparently unlike that which occurs with concrete verbs (e.g. jump, cry); g. they appear frequently in maternal speech to kids, but occur comparatively late in the children's own speech; h. each of mental verbs is associated with multiple senses, which is reflected in their high polysemy.

To add to the latter, the meanings associated with such verbs as, for instance, think, know, guess etc. are particularly frequent and diverse. Even though most uses of these verbs engage mental states or processes, some turn out to serve primarily conversational purposes (e.g., you know, …; you know what, …? I think, Guess who I saw today!). L. Naigles poses that the observed relation found between verbs denoting mental states and theory of mind (TOM) development suggests that children's transition from realizing that think and know refer to mental objects to understanding how they differ is similar to children's transition from realizing that thoughts exist abstractly to realizing that thoughts may be in conflict with reality [16].

There can be tracked different views on whether and at what age children posses the TOM. Researchers like, for example, Gopnik [7] posit that 3-year-old children vs. 4-year-old ones do not possess the TOM, and thereby are not aware of their own and other people's psychological states yet (i.e. the issues associated with 'folk psychology'). The author also claims that children undergo a major conceptual shift between the ages of three and four, this shift being marked by the acquisition of a theory of mind (TOM). Admitting the fact that children have psychological experiences and psychological states even before this conceptual shift takes place, she insists, however, that they do not comprehend the intentionality of certainty of their own, and others', psychological states (e.g. beliefs) [7]. Following Gopnik, children are, therefore, believed to comprehend the representational nature of their own and others' psychological states, as well as the intentionality of those states only after the TOM acquisition.

A large body of research shows that children between the ages of 4 and 5 years undergo dramatic changes in their ability to understand and reason about other people's mental states (Gopnik &Meltzoff [8]; Hale & Tager-Flusberg [4]; Perner [19], Wimmer &Perner [24]. On the other hand, there is substantial evidence that children's TOM develops over several years, and that thereby before the age of 4 children already understand other people's intentions and desires, and are at least indirectly aware of their beliefs [24]. Similarly, Bartsch and Wellman's results show that children begin to use some mental state verbs referentially before the age at which they would be expected to have a fully developed TOM. As postulates, for example, M. Israel, it appears that children start using mental state verbs as soon as they start to combine words. Children have demonstrated to understand the perceptual and cognitive aspects of, for instance, know before its evaluative and metacognitive aspects (Booth and Hall [2]). It was also listed that such verbs as know, think, and remember, are the last to emerge, but they rapidly become frequent. After the first verbs are established, children fast acquire a variety of forms with different meanings. The first verbs of perception acquired by children (e.g. see) can be traced already even before the age of 2, and are used primarily as devices for managing joint attention. Following Israel, verba cogitandi including know, think, remember, guess, wonder, etc., are common in the spontaneous speech of children as young as 3 and 4 years old, or even younger.

Given the use of mental activity verbs is sometimes an issue even for adults, it is not surprising that children face the problems with them as well. The well-understood fact is, however, that despite those verbs are abstract and complex in their implications, children still use them. In other words, something makes these verbs easy to acquire. Reflecting on the above mentioned, M. Israel, for example, suggests that that "something" is discourse pragmatics, and that in this case, pragmatics comes before semantics [9]. The author refers to two main uses of mental state verbs: 1. depictive uses (in which the verb simply denotes a mental state), and 2. discursive ones (where the verb serves a performative function). Given the constructions with the verbs that denote mental activity modify the performance of a speech act rather than the content of what is said, the utterances that relate them involve "discourse performative" or "discursive" uses of verbs, thereby being distinguished from ordinary "depictive" or "referential" uses of the same verbs. Thereby, a binary distinction between truly referential (depictive) uses of verbs and more pragmatically loaded (discursive) ones are highlighted by the author, as well as the fact that in practice, however, the two uses may shade into one another.

The main conclusion one can arrive to easily is that special difficulty of acquiring mental verbs is related, first of all, to their unobservability during usual conversational exchange. There is no getting away from the fact that the process of thinking is invisible and takes "inside nontransparent heads", which is reflected in the mental verbs meanings that are in turn obsolete and hard to understand for children. The truth is that there is no obvious 'visual' correlation for the verbs referring to mental states, therefore, it is much more difficult for a young learner to perceive and to further produce the verb "think" than, for example, the verb "fall down", as it is much easier to see/observe that somebody/something is falling down than that somebody is, for example, thinking. The longer developmental trajectory of such verbs as think and know takes place not only because these verbs are more abstract and more polysemous than, for instance, jump and cry, but also because the input provided for think and know is more confusing for children than that provided for the concrete action verbs [17].

The more complicated question, nonetheless, is related to how their perception and understanding comes, i.e. the developing understanding of such verbs as think, know etc. is of most interest. What often happens is that at the initial stages confusion of internal mental states with external facts or events may take place. What is often easily confused refers, for example, to the verbs think and know, which can be explained by the fact

that knowing implies knowing a truth, while thinking can be either true or false. The results of the study made by Johnson and Maratsos [10], however, revealed no consistent pattern of confusion of internal and external, and showed that 4-year-olds, but not 3-year-olds, comprehended the different implications of the terms. Stern, for instance, commenting on 3-year-olds' use of terms meaning "to think", was impressed that such use implied the cognitive ability to differentiate opinion from fact.

In what regards semantics, Macnamara, Baker, and Olson [12] have demonstrated that 4-year-olds understand propositional implications of such verbs as pretend, forget, and know (less convincingly though). In pragmatics aspect, the cases of differential use of verbs such as think and know by 4-year-olds in producing expressions of relative certainty were demonstrated by Gelman [5]. In mature usage, the verb think tends to mean "to hold a belief" (correct or incorrect), while know, in contrast, refers to a belief, which the speaker presumes to be true.

There is no agreement on what is to be considered right: 1) whether children first understand mental verbs as coming from concrete external events and later refer them to internal mental states, or 2) they are already aware of mental states; 3) semantic understanding and thereby acquisition of mental verbs can take place in a variable manner, i.e. their semantic acquisition does not necessarily proceed in a logical step-by-step way.

Children may early believe that one cannot use think to refer to the holding of an opinion known to be false, or children might begin believing that for others to say something is for them to actually think it [10], which would demonstrate approach/ view # 1, which thereby sticks to the idea that children's acquisition of mental verbs comes through the 'from external to internal" formula. Among the main conclusions of the study [by Johnson and Maratsos] in which preschoolers divided into a 3-year-old and a 4-year-old groups on the use of remember, know, guess, were examined, were that: a. thinking can be false; b. knowing presumes truth; c. thinking is not equivalent to saying. The results also revealed that while six of the 4-year-olds responded perfectly to all questions on each of the four story items, none of the 3-year-olds responded perfectly. In the mentioned study, it was highlighted that the 4-year-olds showed no tendency to confuse mental states with external events, and that thought was clearly differentiated from what was said and what was actual fact. In contrast to the 4-year-olds, however, the results of the 3-year-olds demonstrated little evidence of differential comprehension of the terms.

In his early work, Piaget often noted that young children are not able to monitor their mental processes and referred to their tendency to confuse such processes with external things and events. The studies by Miscione, J. L.; Marvin, R. S.; O'Brien, R. G. Greenberg, M. T. [13] Wellman, H. M., & Johnson, G. N [also describe a period during the preschool years when children interpret mental terms with reference to external states. Those results, however, can be treated in two ways. If to follow the traditional manner, supporting the #1 approach, that children first understand mental verbs as coming from concrete external events and later refer them to internal mental states, will apply. Therefore, since young children's thinking is 'limited to' external appearances, they initially comprehend mental terms as referring to externally perceptible situations (Miscione et al) [13]. The authors, however, believe that such approach is misleading, or is not necessarily true, positing that, although young children's judgments may be limited to the perception of performance states in many contexts, there are situations where children should be well aware of mental states (in contrast to external perception). This refers especially to situations in which a child's own immediate expectancy (belief) is contradicted by external events that take place.

Whichever approach is followed, the main observations and conclusions from the researches done, refer to the ages from 3-4 to grade school years. To sum it up, the general picture would include the following. In most of studies it is marked that by the age of 4, the verb know, for example, is understood as used to assert things that are presumed to be true, and if compared with the uses of guess, is understood as relatively more related to reliable statements than guess. In the school years guess also acquires a further interpretation as describing a definitive lack of an evidential basis. Already in the grade-school years children distinguish the terms know and guess as logically different types.

The study implemented by Johnson & Wellman [10] presented results that also indicate to a development in the understanding of remember that refers to the period of between the preschool and school years. It showed that even though the participating five year-olds demonstrated some discrimination of remember from conditions of present prospect, inference, and no information, the widespread understanding still appeared only in the school-age groups. It was also demonstrated that the 4-year-olds notably differentiated application of the

verbs denoting mental state, they thereby more often attesting to remember present events for a future occasion (e.g. being aware tomorrow of something that occurred today) and personal past experiences (e.g. that they personally went swimming last summer). According to the authors, the mentioned observations draw to the evidence that young children can selectively use mental verbs quite appropriately, even while having ill-defined notions of their meaning. Overall, the results accounted for in the study turned out to be consistent with the approach that young children have some, even though not complete, understanding of the cognitive states of self and others. It was also highlighted that in limited contexts, they are able to distinguish between "mental" and external states and between different uses of mental terms. However, it is only during the early school years that the children typically show evidence of a more definitive understanding of the cognitive implications of the terms. To sum up on the main interpretations of Johnson & Wellman's study [10], one can trace that the developing understanding of the verbs described there is consistent with evidence that semantic acquisition does not proceed in a logical step-by-step way but, rather, in a more variable manner, from context-dependent uses to more crystallized meanings (Anglin, Carey, Kuczaj & Lederberg), i.e. it links us to approach #3. It is well evidenced through the achieved results of the study that children's acquisitions cannot be explained simply as a change from understanding mental verbs with reference to external states toward understanding them with reference to internal ones as children, on the contrary, first interpreted mental terms with respect to variable contexts of use.

It is generally considered that children (those without mental deficiencies) progress through a series of main steps in their understanding of mental states, that include the following: 1. at about 4 years old, children understand that people's actions and utterances are guided by their beliefs (be those beliefs true or false); 2. at around 5 to 6 years of age, they come to realize that people's emotions are also influenced by their beliefs (Pons, Harris, & de Rosnay) [20], which is, in fact, the demonstration of theory of mind development. Harris and Rosnay illustrate such a gradual acquisition of a theory of mind with the classic fairy tale of Little Red Riding Hood. It reveals that: a. when 3-year-old children are told that the wolf is waiting for Little Red Riding Hood, they typically fail to realize that she mistakenly expects to be "welcomed" by her grandmother, as she is ready to knock at the door. ; b. on the contrary, 4- and 5-year-olds understand Little Red Riding Hood's false belief; c. by the age of 6 years, however, most children fully grasp Little Red Riding Hood's naiveté, i.e. they comprehend not only that she fails to realize that a wolf is waiting to eat her, but also that she feels no fear. Irrespective of which of three mentioned above approaches on children's mental verbs' acquisition is followed, it has proved important that individual children vary markedly in their speed of progress. Astington and Jenkins [1] also found that preschoolers' theory-of-mind performance was not a predictor of subsequent gains in language (view #3), evidencing by their research the data that the reverse was true, i.e. that language ability was a good predictor of improvement in TOM performance.

Another important aspect that affects children's acquisition of mental verbs is the way the language/ conversation is used by those who deal with them (e.g. their parents/mothers, siblings, friends, preschool teachers etc.) influences the process of those verbs perception and consequently use. The research highlighted in the work by Harris, Rosnay and Pons, traces several main lines, namely: a. it indicates that language and conversation play a role in individual development; b. it points to the fact that children with advanced language skills are better at mental-state understanding than those without advanced language skills; c. exposure to maternal conversation which is rich in references to mental states motivates mental-state understanding. As mentioned above mental verbs take place rather frequently in maternal speech to their babies, however, they occur in the latter's appropriate use in own speech comparatively late. Ninio [18] posited that children's single-word utterances are likely to be learned directly from mothers.

Brown et al's study [3] targeted the children (47 month old) observed in interaction with their siblings, friends (46 months), and mothers, and covered a wide range of socioeconomic backgrounds of the participants. Among the main observations made were the following: a. mental reference characterized the function of mental state terms most clearly for conversations between the children and their mothers; b. earlier mother child discourse may play as a precursor to children's use of mental state terms in the conversations observed; c. mental terms were more likely to have "conversational" functions in child-child than in mother-child discourse, and the children were more likely to refer to shared thoughts and ideas than the mother-child dyads; d. only 17 of the children used mental state terms in conversation with their mothers, while 31 did so with their siblings and 37 with their friends; e. children in sibling or friend dyads whose interaction was characterized by positive,

cooperative play were more likely to refer frequently to their own and each other's thoughts and ideas as they played together. The study by Moore et al [14] has related parental input and child mental verb understanding. The authors tracked a positive correlation between the frequency of maternal belief-term use (think, know, and guess) when children were two years of age and those same children's success at distinguishing those three verbs in a comprehension task when they were four.

The studies related to the use of mental verbs by children and adults also demonstrated that adults typically use verbs denoting mental activity, for example, think, in its conversational sense when speaking to very young children, however, shifting this usage as the children mature, so that think typically expresses its certainty sense in speech to five-year-olds. It has also been observed that parents' talk to their children primarily for the purposes of socialization and care, not for language teaching [15].

At the same time, other than socialization and care issues present the case when it refers to new input which comes not from parents, but from, for example, preschool teachers and from communication with the peers. To that point, the preschool experience may be much different from the earlier type of care (i.e. when the children communicate mostly with their parents, siblings etc.), in that: a. there are more children with whom to interact, and more children close in age (while big difference in age may be a case of communication with siblings, parents etc.); b. there is more structure to the day; and c. teacher-child interactions tend to be more purposely instructive than mother-child interactions. Some recent studies have shown that preschool interactions potentially relevant to development of verba cogitandi, are different in kind from interactions at home with parents. On the whole, the linguistic input provided in preschool by teachers has been found to be both more formal and more complex than that heard at home (Dickinson and Smith). It was shown that the typical parental usage was different from the typical teacher usage (this also varied by social class). Brown et al [3] compared mental state verbs usage in mothers, siblings, and friends in conversation with four-year-olds, and established that friends' and siblings' use of verbs denoting mental state (think and know being the most common ones) included more modulations of assertion than their mothers'.

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