

THE ROLE OF VERBAL THINKING AND LANGUAGE PROCESSES IN ADOLESCENTS' INTELLECTUAL DEVELOPMENT

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Abstract. *Adolescence is an important period for the development of higher cognitive processes, including abstract reasoning, conceptual thinking, analysis and problem solving. Language plays a significant role in these processes because it provides psychological means through which adolescents organise, interpret and express information. The present paper examines the role of verbal thinking and language processes in adolescents' intellectual development. Particular attention is given to vocabulary, verbal reasoning, concept formation, semantic processing and the ability to establish logical relationships between verbal units. It is argued that intellectual development during adolescence cannot be considered independently of the development of language-based cognitive processes.*

Keywords: *adolescence, intellectual development, verbal thinking, language processing, verbal reasoning, semantic processing, psycholinguistic factors.*

INTRODUCTION

Adolescence represents an important stage in cognitive development because intellectual activity gradually becomes more differentiated, abstract and consciously regulated. During this period, adolescents increasingly encounter tasks that require them not merely to remember information but to analyse it, establish relationships between concepts, formulate arguments, compare alternative explanations and draw independent conclusions. These changes are closely connected with the development of higher cognitive processes such as reasoning, working memory, cognitive flexibility and executive control (Diamond, 2013). At the same time, many of these processes are mediated by language, making linguistic development an important component of intellectual growth.

MAIN PART

Language performs more than a communicative function in intellectual activity. It provides a system through which information can be represented, categorised and

mentally reorganised (Vygotsky, 1986). When adolescents learn new concepts, they do not simply add new words to their vocabulary. They also acquire new ways of distinguishing phenomena, identifying relationships and organising knowledge. A richer and more differentiated system of verbal concepts can therefore create additional opportunities for intellectual analysis. Contemporary research on cognitive and linguistic development also emphasises close relationships between language processes and cognitive abilities such as memory, reasoning, executive functions and problem solving (Nippold, 2016).

Verbal thinking occupies a particularly important position in this relationship. It involves the use of linguistic means for analysing information, establishing logical relationships, making generalisations and solving intellectual problems. As adolescents progress through education, the content they encounter becomes increasingly abstract. Understanding scientific concepts, social phenomena, causal relationships and theoretical principles requires the ability to move beyond direct perceptual experience. Language provides an important psychological instrument for this transition because abstract information is largely represented and manipulated through verbal concepts.

Vocabulary development is one component of this process. The significance of vocabulary should not be understood simply in terms of the number of words known by an adolescent. Intellectual development also depends on the depth with which word meanings are understood and on the ability to establish semantic relationships between concepts (Nippold, 2016). An adolescent may recognise individual terms but still experience difficulty understanding their conceptual relationships. In contrast, a well-developed semantic system allows information to be grouped according to essential characteristics and incorporated into broader conceptual structures.

Semantic processing therefore becomes an important psycholinguistic mechanism of intellectual activity. Understanding a verbal message requires the individual to activate relevant meanings, distinguish them from competing interpretations, relate new information to existing knowledge and construct a coherent representation of the message. These operations become particularly significant when adolescents work with complex educational texts or information containing abstract relationships. The ability to process meaning efficiently can support comprehension and subsequent reasoning.

Verbal reasoning represents another important mechanism. Tasks involving analogies, classifications, causal relationships and logical conclusions require an adolescent to identify relations between linguistic units rather than simply reproduce

previously learned information. Such operations involve both linguistic knowledge and cognitive analysis. The development of verbal reasoning therefore reflects an intersection between language and intelligence. Research on adolescent cognitive development indicates that reasoning and executive processes continue to undergo important developmental changes during this period (Demetriou, Spanoudis & Makris, 2024).

The relationship between language and intellectual development can also be observed in concept formation. Concepts allow individuals to move from isolated examples towards generalised knowledge. During adolescence, the capacity to operate with increasingly abstract concepts expands, particularly through formal education. However, effective concept formation requires more than exposure to terminology. Adolescents need to identify essential characteristics, compare examples, distinguish relevant from irrelevant features and establish relationships between concepts. Linguistic resources make these cognitive operations more explicit and manageable.

An important characteristic of verbal intellectual activity is the ability to reformulate information. When adolescents can explain the same idea in different words, summarise complex material or construct their own argument, they demonstrate that information has been actively processed rather than mechanically reproduced. Reformulation requires the preservation of semantic meaning while changing its linguistic representation. Consequently, it can be considered an indicator of both language flexibility and intellectual understanding.

Educational interaction has considerable importance in the development of these abilities. Classroom discussions, analysis of texts, argumentation, explanation of reasoning and comparison of different viewpoints require adolescents to use language as an instrument of thought (Wertsch, 1991). Learning environments that encourage students to explain how they reached a conclusion may therefore contribute to the development of verbal reasoning more effectively than activities based primarily on reproduction of ready-made information.

At the same time, individual differences should be considered. Adolescents may differ considerably in vocabulary, verbal fluency, semantic organisation, speed of language processing and previous communicative experience. Such differences may influence how effectively they understand complex information and solve verbally mediated intellectual tasks. This suggests that intellectual difficulties should not always be interpreted exclusively as limitations of general cognitive ability. In some

cases, insufficiently developed language-processing mechanisms may restrict the way cognitive resources are expressed.

From a psycholinguistic perspective, the development of intellectual qualities can therefore be understood as a process in which language and cognition continuously interact. Language provides the means for organising and expressing thought, while increasingly complex cognitive activity creates a need for more differentiated linguistic structures. During adolescence, this interaction becomes especially significant because both educational requirements and social communication increasingly depend on abstract and logically organised information.

CONCLUSION

Verbal thinking and language processes constitute important components of adolescents' intellectual development. Vocabulary, semantic processing, verbal reasoning, concept formation and the ability to reformulate information provide psychological mechanisms through which adolescents organise knowledge, establish logical relationships and operate with increasingly abstract information. The development of intellectual qualities should therefore be considered in close connection with psycholinguistic development. Educational activities that encourage semantic analysis, verbal reasoning, comparison, argumentation and independent explanation can contribute to the development of adolescents' intellectual potential. Particular attention to individual differences in language processing may also make it possible to identify more precisely the psychological mechanisms underlying differences in intellectual performance.

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