

SYNTACTIC AWARENESS AND READING ABILITY

K.V.N.K.Murthy¹, G.Lova Krishna², K. Dasaradhi³

¹*PGT in English, A.P.Model School, VINUKONDA, A.P*

²*Asst.Professor in English, Amrita Sai Institute of Science and Technology PARITALA, Krishna Dt. A.P*

³*Research Scholar, RTM Nagpur University, NAGPUR*

ABSTRACT

Syntactic awareness has been linked to word reading and reading comprehension (Tunmer & Bowey, 1984). The predictive power of two syntactic awareness tasks (grammatical correction, word-order correction) for both aspects of reading was explored in eight- and ten-year-olds. The relative contributions of vocabulary, grammatical knowledge, and memory to each were assessed. After vocabulary, memory explained variance on the word- order correction task; in contrast grammatical knowledge explained performance on the grammatical correction task. The relation between syntactic awareness and reading comprehension was mediated by vocabulary, grammatical knowledge, and memory; in contrast, word reading and syntactic awareness shared unique variance not explained by these controls. The implications for how we measure syntactic awareness and its relation with reading ability are discussed.

Keywords: Syntactic awareness, grammar, language, relation, reading, task, vocabulary

II. SYNTACTIC AWARENESS AND READING ABILITY

Syntactic (or grammatical) awareness refers to the ability to manipulate and reflect on the grammatical structure of language. Tasks that assess this ability include word order correction tasks, in which the words of a sentence are presented in a jumbled order and have to be re-arranged, e.g. 'strokes the cat Sue', and grammatical correction tasks, where a grammatical or morphological anomaly in a sentence must be repaired, e.g. 'The girl eat the chocolate'. Syntactic awareness is a metalinguistic skill, distinct from the comprehension or production of a sentence, because it concerns the ability to consider the *structure* rather than the *meaning* of a sentence. Performance on measures of syntactic awareness improves with age and is related to reading ability (Bowey, 1986a, 1986b; Siegel & Ryan, 1989). The current research had two aims. First to determine the contribution made by vocabulary, grammatical knowledge and memory to performance on different measures of syntactic awareness. Second, to investigate whether or not these skills mediate the relations between syntactic awareness and reading ability.

The central focus in the study of syntactic awareness has been its relation to reading ability. Syntactic awareness has been hypothesised to relate specifically to both word reading and reading comprehension. It is thought to aid word recognition skills by enabling a reader to use the syntactic constraints of a sentence to decode unfamiliar words (Rego & Bryant, 1993; Tunmer, 1989; Tunmer & Hoover, 1992) and reading comprehension by facilitating sentence-and text-level integration and monitoring skills (Tunmer & Bowey, 1984). Syntactic awareness predicts 5-year-olds' ability to use context to read words that they are unable to

read in isolation (Rego & Bryant, 1993) and 9-year-old's accuracy at reading words in context (Muter & Snowling, 1998).

A number of studies have considered the relations between syntactic awareness and reading comprehension. The two skills are correlated in 6-10-year-olds (Bowey, 1986b; Bowey & Patel, 1988) and syntactic awareness in Grade 1 predicts reading comprehension one year later via its influence on decoding and listening comprehension (Tunmer, 1989). Cross-sectional studies of children with poor reading comprehension report weaknesses on measures of syntactic awareness relative to same-age good comprehenders (Bentin, Deutsch, Liberman, 1990; Gaux & Gombert, 1999; Nation & Snowling, 2000; Siegel & Ryan, 1988). Some studies find that syntactic awareness explains unique variance in reading comprehension after language and memory control measures (Willows & Ryan, 1986), although others do not (Bowey & Patel, 1988).

Despite over two decades of research investigating syntactic awareness and reading ability, the relation between the two is not clear: some studies report a specific relation between syntactic awareness and either word reading ability or reading comprehension, whereas other work suggests that the relation is mediated by language skills.

Many studies have controlled for vocabulary as a measure of general language ability (e.g., Bowey, 1986a, 1986b; Bowey & Patel, 1988; Willows & Ryan, 1986). Another language ability that may influence performance on measures of syntactic awareness is comprehension of different grammatical structures. If an assessment of syntactic awareness includes late-acquired grammatical structures with which the child is not overly familiar, the test might become one of knowledge rather than one of metalinguistic awareness. Tests of grammatical correction require the detection and repair of a grammatical or morphological anomaly in a sentence, e.g., 'The rabbit eat the carrot', whereas word-order correction tasks do not. Thus, some measures of syntactic awareness may be more dependent upon syntactic knowledge than others. Sentence-level comprehension is necessary to understand at the level of the paragraph and syntactic knowledge is correlated with passage comprehension (e.g., Goff, Pratt, & Ong, 2005). There do not appear to be any investigations of the relation between reading comprehension and syntactic awareness that have included measures of syntactic knowledge or sentence comprehension that are independent of metalinguistic skill. A comprehensive assessment of children's understanding of different syntactic structures was included in the current work, to determine how this knowledge was related to performance on different measures of syntactic awareness and whether or not it mediated the relation between syntactic awareness and reading comprehension.

Word-order correction tasks involve the storage and re-arrangement of the jumbled words. Both tasks tap into short-term storage of verbal information and, perhaps, the capacity to simultaneously process and store information. Memory is correlated with word reading and reading comprehension (Cain, Oakhill, & Bryant, 2004; Swanson & Howell, 2001) as well as with syntactic awareness (e.g. Siegel & Ryan, 1988) but syntactic awareness predicts reading ability after statistically controlling for memory (e.g., Gaux & Gombert, 1999; Gottardo, Stanovich, & Siegel, 1996; Willows & Ryan, 1986).

The type of syntactic awareness task used and the length of each trial may influence its relation with memory. Bowey (1994) suggests that word-order correction and grammatical correction trials make different demands on memory. Item length varies considerably (from between 3-10 words) in some measures of syntactic awareness (e.g., Bowey, 1986a; Gottardo et al., although these studies included memory controls). Independent measures of short-term and working memory were included in the current study to determine whether memory is

differentially related to performance on these measures of syntactic awareness and to control for its relation with both syntactic awareness and reading. For each task, length of item was also manipulated to explore further the influence of memory on performance.

III. THE ROLE OF SYNTACTIC AWARENESS

Besides vocabulary knowledge, many researchers have recognized the importance of syntactic awareness as an element of reading skill. Much evidence from correlational and experimental studies establishes its role in reading comprehension in the fields of L1 and L2 reading research. Specifically, syntactic awareness refers to the ability to understand the grammatical structures of language within sentences (Tunmer & Hoover, 1992) as well as the ability to “reflect on the syntactic structure of language and regard it objectively and separately from the meaning conveyed by language” (Blackmore, Pratt & Dewsbury, 1995, p. 405). Based on Gombert’s theoretical framework, the development of syntactic awareness follows a four-level path (Gombert, 1992).

The first level involves the acquisition of tacit knowledge of syntactic and grammatical rules related to word strings or sentences. Level 2 refers to the ability of manipulating the internal grammatical structure of sentences. Level 3 is determined by the ability to formulate the rules of syntax and to identify what the rules are. The highest level involves the ability of intentionally controlling and reflecting upon one’s knowledge of syntactic rules or one’s performance on tasks testing syntactic knowledge (Layton, Robinson & Lawson, 1998).

IV. CORRELATIONAL EVIDENCE

The presence of a relationship between syntactic awareness and reading comprehension has been well indicated in correlational studies. In the field of L1 reading research, research indicates that syntactic awareness is a statistically significant predictor of students’ reading comprehension performance and ongoing reading comprehension (Bowey, 1986; Dreher & Zenge, 1990). Tunmer et al. (1987) matched older, poor readers with younger, good readers on four measures of reading ability. Participants were 30 second-grade and 30 fourth-grade children. They found that good readers scored significantly higher than poor readers on two measures of syntactic awareness derived from oral cloze and oral correction tasks. This finding suggested the possibility of a causal connection between syntactic awareness and learning to read. Consistent with this, Siegel and Ryan (1988) reported that reading disabled children scored lower on measures of syntactic awareness than age-matched normal readers. A limitation of both Tunmer et al. (1987) and Siegel and Ryan’s (1988) studies, which both employed the reading level match design, was that the relation between syntactic awareness and reading comprehension was confounded by decoding skill. In order to overcome this limitation, Nation and Snowling (2000) matched children for age, decoding skill, and nonverbal ability and assessed syntactic awareness skills, with results suggesting that poor readers were delayed in developing syntactic awareness skills.

In addition, Gottardo, Siegel and Stanovich (1997) sketched out the relationship between syntactic awareness and reading comprehension with adults by choosing an orally presented sentence judgment task and an orally presented sentence correction task to measure syntactic awareness. They tested 76 adults and found a correlation of .69. For second language learners, Rabia and Siegel (2002) assessed the role of syntactic awareness in reading comprehension of 56 bilingual Arab-Canadian children aged 9-14 and found a correlation of .57. Consistent with this, Verhoeven (1990) suggested that syntactic knowledge of second language learners

significantly predicted their second-language reading comprehension for grade 2 students. In another study involving 397 Dutch grade 8 students, Gelderson et al. (2003) reported a correlation of .78 between grammatical knowledge and English reading comprehension. For advanced learners, moreover, limited syntactic knowledge and a basic unawareness of syntactic boundaries can impede their second-language reading process (Kirajima, 1997). For both L1 and L2 learners, the range of correlations varied depending mainly on three factors, including the syntactic awareness test format, the control of verbal intelligence, and the age of participants. There are two main test formats for the assessment of syntactic awareness. One is the written mode and the other is the oral mode. The written mode introduces a potential difficulty for research studies. Differences of performance in measures of syntactic awareness presented in a written mode may be caused by differences in the decoding abilities of good and poor readers, confounding decoding and syntactic awareness ability. For example, children having trouble identifying the words of text will have trouble organizing them into larger structural units (Tunmer et al., 1987). Therefore, the oral mode is more highly positively correlated with reading comprehension. Whether verbal intelligence is controlled also seems to affect the correlation between syntactic awareness and reading comprehension.

The age of participants additionally might affect the correlation between syntactic awareness and reading comprehension. The correlations between syntactic awareness and reading comprehension with children were respectively .35 and .40 in two previous studies (Bowey, 1986; Tunmer, Herriman & Nesdale, 1988). However, Gottardo et al. (1997) found a correlation of .69 with English-speaking adults, which is higher than those obtained from similar studies with children. The higher correlation with adults could be explained by the view proposed by the Rand reading group (2002). That is, individual differences in vocabulary and syntactic knowledge account for more variance in reading comprehension than do individual differences in word-level skills in readers with enough facility in word recognition to comprehend in print what they comprehend in spoken language. Since adults have acquired the ability of word recognition, syntactic awareness plays a more important role in reading comprehension for adults.

Two studies provided children with training in sentence organization and cloze procedure, which led to an improvement in sentence anagram performance and an increase in L1 reading comprehension (Kenney & Weener, 1973; Weaver, 1979). However, the training of both studies focused on low-level syntactic abilities. Therefore, they offered little support for a causal relation between high-level syntactic awareness and reading comprehension. In contrast, Layton et al. (1998) provided training tapping all levels of syntactic awareness for 30 grade- four L1 children. Opposite to previous intervention studies, syntactic training did not show any effect on their reading ability, even though it improved the high levels of syntactic awareness. These conflicting results lead to questions about the existence of causal relationships between syntactic awareness and reading comprehension across all levels of syntactic awareness. It is possible that the causal relation does not hold for high levels of syntactic awareness. In sum, the low-level of syntactic awareness appears to be casually related to reading comprehension, but whether the causal relations hold for all levels remains a matter of dispute. Compared with L1 reading research, there was very little experimental evidence to support the importance of syntactic awareness in reading comprehension in the body of L2 reading research. The dispute about whether there is causal relation between syntactic awareness and reading comprehension in L1 research still persists in the field of L2 reading comprehension. More specifically, whether the causal relations hold for all levels of L2

still needs to be clarified. In the present study, the L2 syntactic awareness construct, including both low-level and high-level syntactic ability, was assessed. Thus, the results have the potential to provide evidence about the relation between high-level L2 syntactic awareness and L2 reading comprehension. Even though one cannot make definitive conclusions concerning causal relations, given that the present study was correlational in design, this study provides a more accurate estimate of their correlation and their potential for a causal relation by using latent variables.

V. THE ROLE OF METACOGNITIVE AWARENESS

In the domain of both first and second language reading research, recent trends have led to an increasing emphasis on the role of metacognitive awareness of one's cognitive and motivational processes in reading (Alexander & Jetton, 2000; Pressley, 11 2000). Metacognition is defined as "knowledge about cognitive states and abilities that can be shared among individuals while at the same time expanding the construct to include affective and motivational characteristics of thinking" (Paris & Winograd, 1990, p. 15). The term "metacognitive awareness" refers to the same thing as metacognition. Applied to reading research, metacognitive awareness is conceptualized as the "knowledge of the readers' cognition relative to the reading process and the self-control mechanism they use to monitor and enhance comprehension" (Sheorey & Mokhtari, 2001, p. 423), which is a critical component of skilled reading. Pressley and Afflerbach (1995) depicted efficient readers as strategic or "constructively responsive" readers who carefully orchestrate cognitive resources when reading. Similarly, "second language learners are not mere sponges acquiring the new language by osmosis alone. They are thinking, reflective beings who consciously apply mental strategies to learning situations both in the classroom and outside of it" (Chamot, 1987, p. 82). The reader, thus, must use metacognitive awareness and invoke conscious strategies in order to comprehend the text successfully. What distinguishes the skilled readers from the unskilled is conscious awareness of the strategic reading process and actual usage of these reading strategies (Sheorey & Mokhtari, 2001). Correlational evidence. The importance of metacognitive awareness in reading comprehension has been recognized in previous correlational studies. Paris and Myers (1981) compared good and poor fourth-grade native speakers, matched for age, sex, and arithmetic achievement and found that good readers knew more about reading strategies, detect errors more often while reading, and had better memory for text than did poor readers. Likewise, in a subsequent study, Paris and Jacobs (1984) divided L1 participants into groups of high, middle, and low awareness about reading based on their metacognitive scores and concluded that children with higher awareness consistently scored higher than other children on standardized reading tests, cloze tests, and error detection test. The correlations between metacognitive awareness and these various measures of comprehension ranged from .24 to .40, which were all statistically significant. Furthermore, Forrest-Pressley and Waller (1984) reported on an extensive correlational study of children's awareness about reading in grade 3 and grade 6 native 12 speakers. Their results revealed that metacognitive awareness was correlated with reading comprehension at .83 for grade 3; the comparable correlation was .80 for grade 6.

These basic pieces of evidence lend support to the importance of metacognitive awareness in reading comprehension in L1. Similarly, correlational evidence was found in some studies of second language reading. Gelderen et al. (2003) administered a questionnaire as the measurement of metacognitive awareness and a

multiple-choice English Reading Test to 397 Dutch grade 8 students and also found a large correlation of .72. Barnett (1988) investigated the relationships among reading comprehension, strategy use, and perceived strategy use and found that all three were significantly correlated for cognitively mature university-level readers of French as a second language. She concluded “students who effectively consider and remember context as they read [i.e., strategy use] understand more of what they read than students who employ this strategy less or less well” (p.156). Experimental evidence. There is much experimental evidence to support the relationship between metacognitive awareness and reading comprehension (Carrell, Pharis & Liberto, 1989; Palincsar & Brown, 1984; Paris & Jacobs, 1984).

In L1 reading research, the training program called “Informed Strategies for Learning” taught 8-12-year olds what comprehension strategies are, how they operate, when they should be used, and why they are effective. This program proved effective in improving the reading abilities of all-aged children (Paris & Jacobs, 1984). In contrast to Paris and Jacobs’ study, which just focused on direct instruction about reading strategies, Palincsar and Brown (1984) developed “reciprocal teaching,” which involves modeling and practice, as well as gradual release of responsibility to students, in addition to direct instruction focused on applying the four important strategies: self- questioning, summarizing, paraphrasing, and predicting information in text. Results suggested that children participating in reciprocal teaching showed significant gains in L1 reading comprehension and memory. In addition, Duffy and his colleagues found that teachers, who provided explicit descriptions of strategies during L1 reading lessons, promote elementary students’ understanding of lesson content (Duffy, Roehler & Rackliff, 1986). For second language reading, there are a number of studies that examine the effectiveness of metacognitive training. Carrell, Pharis and Liberto (1989) provided 13 instruction in reading strategies to adult ELLs, who had various native language background (e.g., Chinese, French, Spanish, French, etc.). Instruction focused on four metacognitive awareness components: what the strategy is, why it should be used, how we use the strategy and when and where strategies should be used. Besides the four components proposed by Carrell et al. (1989), Raymond’s (1993) training program added another component to the training of English-speaking adults in the process of learning French: how to evaluate the use of a strategy. The instructor in this study taught these five components to the participants in five sequential sessions. Short quizzes were used as a measurement of the evaluation component. In both the above-mentioned L2 studies, it was found that strategy training improved ELLs’ reading comprehension. These five steps have been considered effective, direct instruction of reading comprehension (Winograd & Hare, 1988). A limitation of the design of these studies, however, is that they could not identify which components of these package interventions were essential to improvements in reading comprehension.

VI. CONCLUSION

This paper has demonstrated that different language and memory skills support different measures of syntactic awareness. These findings suggest that different measures of syntactic awareness are not comparable, a conclusion that has implications for the theoretical construct and the study of this aspect of metalinguistic awareness. The current findings support the hypothesis that syntactic awareness may facilitate the development of word reading in context; they also suggest that the relations between syntactic awareness and reading

comprehension may reflect the importance of memory and language to both measures, rather than a special relationship between the two.

REFERENCES

- [1.] Bentin, S., Deutsch, A., & Liberman, I. Y. (1990). Syntactic competence and reading ability in children. *Journal of Experimental Child Psychology*, 48, 147-172.
- [2.] Bowey, J. A. (1986b). Syntactic awareness in relation to reading skill and ongoing comprehension monitoring. *Journal of Experimental Child Psychology*, 41, 282-299.
- [3.] Cain, K., Oakhill, J., & Bryant, P. E. (2004). Children's reading comprehension ability: Concurrent prediction by working memory, verbal ability, and component skill. *Journal*
- [4.] Castles, A., & Coltheart, M. (2004). Is there a causal link from phonological awareness to success in learning to read? *Cognition*, 91, 77-111.
- [5.] Dunn, L. M., Dunn, L. M., Whetton, C., & Pintillie, D. (1992). *British Picture Vocabulary Scale*. Windsor: NFER-Nelson.
- [6.] Gaux, C., & Gombert, J. E. (1999). Implicit and explicit syntactic knowledge and reading in pre-adolescents. *British Journal of Developmental Psychology*, 17, 169-188.
- [7.] Muter, V., & Snowling, M. (1998). Concurrent and longitudinal predictors of reading:
- [8.] The role of metalinguistic and short-term memory skills. *Reading Research Quarterly*,
- [9.] 33, 320-337.
- [10.] Rego, L. L. B., & Bryant, P. E. (1993). The connection between phonological, syntactic and semantic skills and children's reading and spelling. *European Journal of Education*,
- [11.] 8, 235-246.
- [12.] Siegel, L. S., & Ryan, E. B. (1988). Development of grammatical-sensitivity, phonological, and short-term memory skills in normally achieving and learning disabled children. *Developmental Psychology*, 24, 28-37.
- [13.] Swanson, H. L., & Howell, M. (2001). Working memory, short-term memory, and speech
- [14.] rate as predictors of children's reading performance at different ages. *Journal of*
- [15.] *Educational Psychology*, 93, 720-734.
- [16.] 11. Tunmer, W., & Bowey, J. A. (1984). Metalinguistic awareness and reading acquisition.
- [17.] In W. E. Tunmer, J. A. Bowey, C. Pratt & M. L. Herriman (Eds.), *Metalinguistic*
- [18.] *awareness in children: Theory, research, and implications*. Berlin: Spring-Verlag.
- [19.] 12. Willows, D. M., & Ryan, E. B. (1986). The development of grammatical sensitivity and
- [20.] its relationship to early reading achievement. *Reading Research Quarterly*, 21, 253-266.