

NOTE

The ability to learn new word meanings from context by school-age children with and without language comprehension difficulties*

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ABSTRACT

This study investigated young children's ability to use narrative contexts to infer the meanings of novel vocabulary items. Two groups of 15 seven- to eight-year olds participated: children with normally developing reading comprehension skill and children with weak reading comprehension skill. The children read short stories containing a novel word and were required to produce a meaning for the novel word, both before and after its useful defining context. The proximity of the novel word to this context was manipulated. The results supported the hypothesis that children with weak reading comprehension skills are impaired in their ability to integrate information within a text, particularly when that information is non-adjacent and the processing demands are, therefore, high. Analysis of the error data revealed a similar pattern of types of errors for both groups: children with poor reading comprehension were not more likely to produce a thematically inappropriate response than their skilled peers.

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INTRODUCTION

Children with normally developing language skills have a remarkable ability to acquire new vocabulary items. Although estimates vary, word-learning rates of approximately 3000 words per year have been suggested (Nagy & Anderson, 1984; Jenkins, Mallock & Slocum, 1989; Beck & McKeown, 1991), a figure that cannot be achieved by direct instruction alone. In this paper, we explore one mechanism for vocabulary acquisition from written sources, learning from context, in relation to other aspects of children's language abilities.

Several studies have now demonstrated that children are able to derive new word meanings from context (e.g. Carnine, Kameenui & Coyle, 1984; Nagy, Herman & Anderson, 1985; Jenkins *et al.*, 1989). Although the effect sizes may be small, Nagy *et al.* have shown that learning a new word meaning from context can occur from a single exposure to that word. However, for the majority of words, it is generally assumed that word meanings are learned incrementally and refined with successive encounters (Nagy & Scott, 2000).

This ability to learn from context may affect more than just vocabulary growth. Many researchers have demonstrated and commented on the fact that vocabulary knowledge is one of the single best predictors of both verbal comprehension and verbal IQ. One hypothesis is that an individual's ability to learn or acquire new information from context is the process that mediates the relation between reading comprehension and verbal IQ, and also reading comprehension and vocabulary knowledge (Jensen, 1980; Sternberg & Powell, 1983; Daneman, 1988). For example, Sternberg & Powell found high correlations between students' ability to define uncommon words presented in text and their performance on measures of intelligence, vocabulary knowledge, and reading comprehension. They conclude that these interrelations arise because the same underlying process, the ability to learn from context, is contributing to performance on all of these measures.

In our own work to date, we have investigated the difficulties of young children with specific reading comprehension problems: children whose reading comprehension ability is depressed relative to their word reading accuracy (see Cain & Oakhill, *in press*, for a review). Children's reading comprehension level is related to their ability to integrate information across different sentences within a story either to generate inferences (Cain & Oakhill, 1999) or to monitor their comprehension, as measured by their ability to detect anomalies within a text (Oakhill, Cain & Bryant, *in press*). It is therefore plausible that children with specific text comprehension difficulties also lack the integrative and inferential skills necessary to use context to derive the meanings of unknown vocabulary items.

Previous work has demonstrated that the ability to learn new word meanings from context is related to children's age (van Daalen-Kapteijns &

Elshout-Mohr, 1981). It is plausible that the relation between learning from context and age arises because of developments in language comprehension ability. However the relation between this skill and language level has not been studied. One aim of the current study was to investigate whether there is a specific relation between a child's reading comprehension skill and their ability to learn, by inference, new word meanings from context.

A significant factor that affects vocabulary learning from context is the proximity of the useful context to the unknown word (Carnine *et al.*, 1984). Related to this idea, is Daneman's (1988) proposal that working memory capacity may account for individual differences in contextual learning. In support of this claim, Daneman & Green (1986) found that young adults' ability to construct the meanings of obscure words from context was related to their working memory capacity, as measured by reading span. There is also some evidence that 4th- to 6th-grade children's ability to learn from context is more strongly related to their working memory capacity than their chronological age (Cull, cited in Daneman, 1988). In relation to comprehension skill, distance between the pieces of information to be integrated in a text increases less-skilled comprehenders' difficulties with anaphor resolution and inconsistency detection (Oakhill, Hartt & Samols, 1996; Ehrlich & Remond, 1997). Less-skilled comprehenders have been found to experience working memory processing limitations (Yuill, Oakhill & Parkin, 1989). Therefore, it is plausible that their increased difficulties with distance arise because of processing limitations. In the present study, we manipulated the proximity of the useful context to the novel word (and therefore, the working memory demands of the task) so that we could investigate whether proximity affected learning from context in relation to comprehension skill.

Task considerations

Various tasks have been used to assess an individual's ability to acquire new word meanings from written contexts. For example, participants have been presented with passages that contain obscure words, the meanings of which can be inferred from the story context (e.g. Sternberg & Powell, 1983; Daneman & Green, 1986) or they have been presented with a series of factual statements about a novel word, a task that requires integration of information from the different statements (Werner & Kaplan, 1952; van Daalen-Kaptejns & Elshout-Mohr, 1981). In the present study, we chose a task that required young children to determine the meanings of unknown words that were embedded in short narratives. This task is more similar to how children encounter unknown words in everyday reading situations and, therefore, more ecologically valid, than some other task options.

In previous investigations into vocabulary learning, target words have often been obscure vocabulary items that are synonyms for real known words,

e.g. 'conflagration' for 'fire'. However, when using real words, one cannot rule out the possibility that the participant already has some (partial) knowledge of the word's meaning or the thematic context in which it commonly occurs. In the present study, we chose to investigate the learning of novel words rather than obscure ones. Thus, we were able to ensure that children did not already possess some clues to the word's meaning or usage. Furthermore, because we did not use obscure synonyms, we were able to measure the ability to integrate contextual clues to determine the meaning of a new word, rather than the ability to learn a new label for a known word, which a synonym task would do. We also chose to look at children's ability to derive the meanings of words, rather than their incidental learning of these words. Thus, in our task children were required to come up with an appropriate meaning for the novel word. Furthermore, children were asked to provide a definition of the novel word when first encountered, that is both before the useful context and again at the end of the story. By investigating the derivation of novel word meanings in this way, we were able to look at the quality (or precision) of definitions of words for which no single synonym existed and, thus, compare the extent to which different groups used the available context.

As stated earlier, one aim of the current study was to investigate the effect of the proximity of the useful context to the unknown word in relation to learning from context. Cull manipulated the working memory demands of the task by varying whether the target word preceded or followed the defining context. However, the processing required in these two conditions is rather different. When the context appears before a word the reader has to rely on their existing representation of the text to derive its meaning, whereas when the context follows an unknown word the reader can adopt a search strategy as they are reading the subsequent part of the story. When less-skilled readers are impaired in one condition, it is not clear whether the differences arise because of the additional processing demands across distance, knowledge about search strategies, or simply poor memory for the text *per se*. Therefore, we composed short stories in which the target word always preceded the useful context and we manipulated proximity by placing the useful story context either immediately after the target word, or after some filler text (see also, Carnine *et al.*, 1984), so that we could investigate whether proximity affected the performance of skilled and less-skilled comprehenders differently.

In summary, the present study investigated young children's ability to use narrative contexts to infer the meanings of novel vocabulary items. The primary aim was to determine whether children with weak reading comprehension skills were impaired in their ability to perform this task. We predicted that comprehension skill would be related to performance on the learning from context task, because expertise at both depends on the ability

to extract and integrate information from different parts of a text. The second aim was to investigate the effect of proximity between the novel word and its defining context. If proximity is an important factor affecting the use of context, performance should be better for texts where the useful context was adjacent to the novel vocabulary item. Based on previous results with anomaly detection and anaphor resolution, we predicted that the less-skilled comprehenders would do particularly poorly in the far condition. Specifically, we predicted that performance in the far condition would discriminate the skilled and less-skilled groups. Finally, we classified erroneous responses to determine the source of information used by each group in their production of (incorrect) meanings.

METHOD

Participants

Two groups participated in this study: seven- to eight-year old skilled comprehenders and less-skilled comprehenders. All of the children who participated in this study spoke English as their first language and were selected from a range of socioeconomic backgrounds. Children who did not speak English as their first language and/or those who were receiving additional support for any educational difficulties were excluded from the study.

It is now well established that some poor readers' comprehension difficulties stem from poor word reading skills (e.g. Perfetti, 1985). In this study we were not interested in generally poor readers but, rather, children who had a specific comprehension deficit in the presence of age-appropriate word reading skills. Therefore, the skilled and less-skilled comprehenders were matched for their ability to read words (both in and out of context) and chronological age, but were selected to differ on a measure of text comprehension. In this way, we aimed to control for the influence of lower level decoding and vocabulary skills on text comprehension.

Two tests were used to select the skilled and less-skilled comprehenders: *The Gates-MacGinitie Primary Two Vocabulary Test*, Level 2 (Form K) (MacGinitie & MacGinitie, 1989) and the *Neale Analysis of Reading Ability – Revised British Edition* (Neale, 1989). The Gates-MacGinitie is a group-administered test and was taken by 239 children in total. 'Exceptional' readers were excluded from the sample. These were children who obtained either very low or very high scores and whose reading-age (calculated using the Neale Analysis) would be predicted to be either substantially below or above their chronological age. The remaining 105 'average' readers were assessed using the Neale Analysis.

The Neale test is individually administered. Children read a series of short stories aloud and any word reading errors are corrected. They are asked a set of comprehension questions after each story. The passages are graded in

TABLE 1. *Group characteristics of skilled and less-skilled comprehenders (and S.D.)*

Skill group	Chronological age	Gates-MacGinitie (max. = 45)	Reading accuracy	Reading comprehension	Number of stories
Less-skilled comprehenders (<i>n</i> = 15)	8;0 (3.36)	37.20 (3.55)	8;4 (10.95)	7;2* (5.71)	3.53 (0.83)
Skilled comprehenders (<i>n</i> = 15)	8;1 (2.71)	36.73 (3.61)	8;1 (7.11)	8;7 (5.33)	3.73 (0.80)

Note. Where appropriate, ages are given as years, months (with standard deviations in months). The reading accuracy and comprehension scores are the age equivalent scores provided in the Neale test, and the number of stories read refers to the stories that were completed during this assessment.

* Different from skilled group, $p < 0.001$.

difficulty and testing stops once a prescribed number of reading accuracy errors has been made. The test provides separate scores for reading accuracy, based on the number of words read correctly, and reading comprehension, based on the number of comprehension questions that the child answers correctly. Performance on the Neale test was used to select and match the two groups (see Table 1 for group characteristics).

The skilled and less-skilled comprehenders all obtained age-appropriate reading accuracy scores and did not differ significantly on this measure: $t(28) < 1.0$. The skilled group (eight girls, seven boys) comprised children whose reading comprehension scores were at or above those predicted by their reading accuracy ability, whereas the less-skilled group (seven girls, eight boys) comprised children whose comprehension scores were depressed relative to their word reading age. As the values in Table 1 demonstrate, the mean difference between reading accuracy and reading comprehension for the less-skilled group was 17 months. In addition, the difference in reading comprehension age between the skilled and less-skilled comprehenders was 30 months: $t(28) = 8.62$, $p < 0.001$. The two groups were also matched for chronological age, sight vocabulary (Gates-MacGinitie test), and the number of Neale stories that they had completed (all $ts < 1.0$). The latter measure was necessary to ensure that the difference in comprehension scores did not arise because the less-skilled group had read fewer stories and, therefore, obtained lower comprehension scores simply because they had attempted fewer comprehension questions.

Materials and procedure

Eight short stories were written each containing a made-up word with a novel meaning. The meaning of the unknown word could be derived from

TABLE 2. *Example of text used in the vocabulary learning from context task*

Introduction: Bill was always very careful when riding his bike but the other day he fell off. When he looked round he saw that the problem was a *gromp*.

*

Informative context: He phoned the council to complain. They sent a workman to mend the road and soon it was safe to ride along again.

Filler text: Bill only got a small cut on his knee which did not hurt too much: no bones were broken. It was lucky that Bill had been wearing his crash hat. Otherwise he could have bumped his head when he fell off.

Note: In the far condition, the filler text appeared where marked by the asterisk (*). The text as presented to the children was continuous, not blocked as above, and the novel word was not underlined in the text that the children saw. The information printed in italics is included here for illustrative purposes only, and was not included in the version presented to the child.

Acceptable responses: something that he passed on his bike, a stone on the path (one point); a hole or a bump in the road (2 points).

information contained in a sentence that occurred either immediately after the unknown word (near condition) or after some additional filler sentences (far condition). Thus, there were two versions of each story. Two lists of materials were created. Each story appeared once in each list in either its near or far version. There were equal numbers of near and far stories in each list, so that each child read 8 stories, 4 in each condition. Allocation to lists was counterbalanced as completely as possible within group. An example of both versions of a story is shown in Table 2, below.

The child was read the following instructions: "Today I have brought along some stories that I would like you to read out loud to me. The person who wrote them got a bit stuck at times and didn't always know the right word to put in, so they've put a funny word in the story instead. I want you to tell me what you think the word means. If you have any ideas when you get to the word, then tell me what you think the word means then. But don't worry if you don't have any ideas. At the end of each story I will ask you to explain the meaning of a word. For example, if I asked you what a 'bed' was, you might tell me that it was 'a long piece of furniture that we sleep in'."

Children read the story out loud up to the end of the sentence in which the unknown word appeared.¹ The remainder of the text was kept covered with a piece of paper. The experimenter then asked the child what they thought the strange word might mean, e.g. "what do you think a 'gromp' might be?" Their responses were recorded verbatim and scored later (before context

[1] Word reading accuracy (number of words read correctly) and reading fluency (reading speed) of the experimental stories were not recorded in this study. The two groups were matched for word reading accuracy in the group selection phase and previous work has found no differences in the reading speed for either single words or connected prose between similarly selected groups of good and poor comprehenders (e.g. Yuill & Oakhill, 1991; Cain, 1999).

TABLE 3. Mean scores (and S.D.) obtained in vocabulary task (max. = 8 per condition)

	Response before context		Response after context	
	Near	Far	Near	Far
Skilled group	1.13 (1.19)	1.33 (1.23)	4.00 (2.24)	3.80 (1.90)
Less-skilled group	1.00 (1.20)	0.73 (0.96)	2.47 (2.53)	1.47 (1.36)

scores). The child then completed the story and, at the end, was asked: 'What do you think a 'gromp' might be? You can stick with your first idea or you can change your mind.' These responses made up the after context scores.

RESULTS

Scoring of correct responses

Points were awarded for the quality of the definition of the unknown word. Two points were awarded for responses where the full inference had been made, for example 'a hole or a bump in the road' for the example presented in Table 2. A less complete response, such as 'something that he passed on his bike' or 'a stone on the path' was awarded one point, because although the child had correctly inferred that something was wrong with the road, they had not integrated the information that 'They sent a workman to *mend the road*'. All responses were scored by two raters and any disagreements resolved by discussion. There were four stories in each condition, near and far, so a maximum of 8 points was achievable in each condition. The mean scores for each group are given in Table 3, below.

Analysis of correct responses

The scores in Table 3 indicate that the number of lucky guesses made by the children varied. Simple pair wise comparisons of these data revealed no significant group differences in either of the two conditions (near and far), $t(28) = 0.31$ and $t(28) = 1.49$, both $ps > 1.0$, respectively, but the number of lucky guesses (partially correct responses) varied considerably amongst participants from 0 to 4. Therefore, the effect of proximity (near versus distant context) had to be evaluated against the number of lucky guesses made by each child.

Given the design of the study, one would normally apply a repeated measures ANOVA to look for a significant three way interaction effect

between context (absent vs. present), proximity of context (near vs. far) and group (skilled comprehenders vs. less-skilled comprehenders). However, it has been shown that repeated measures ANOVAs are unreliable for analyses of accuracy data that fall outside a narrow band around 50% correct (Allerup & Elbro, 1998) and in the present study, accuracy scores covered the whole range from 0% to 100% (after context) correct. Thus another means of analysis was called for.

First, context effects in each of the conditions were calculated for each participant by means of log odds (Allerup & Elbro, 1998). A reader who obtains a score of 0 (out of 8) before context has greater room for improvement in their score after reading the context than does a reader who initially scores 3 (out of 8). Log odds take these differences in potential gain into account in a way that simply difference scores cannot. Thus, in this study the log odds scores were measures of how much more likely a participant was to give a correct response after context than before context was read.

These data were then subjected to a logistic regression to see whether context effects in the far condition contributed significantly to distinguish the skilled comprehenders from the less-skilled comprehenders, once context effects in the near condition were taken into account. The dependent variable in the subsequent logistic regression analysis was the group membership of each participant (skilled vs. less-skilled), and the independent variables were the two context effects (log odds scores) in the near and in the far condition. The prediction was that the context effect in the far condition would contribute to the prediction of group membership over and above the context effect in the near condition. This prediction was confirmed in the analysis. Context effects in the near condition were entered at the first step, but they did not significantly distinguish between the two groups of participants, Chi-square = 0.611, $df = 1$, $p > 1.0$. Individual context effects in the far condition were entered at the second step and contributed additional significant variance: Chi-square = 5.60, $df = 1$, $p < 0.02$. The final model was also significant: Chi-square = 6.21, $df = 2$, $p < 0.05$.

Summary. The logistic regression analysis confirmed the tendencies indicated by Table 3, that distance between a word and its defining context is relatively more detrimental to less-skilled comprehenders than to skilled comprehenders.

Analysis of error responses

Incorrect responses were analysed for their 'appropriateness' to the theme of the story, to determine whether the skilled and less-skilled comprehenders differed in this respect. Incorrect responses (both before and after context) were classified by type, as follows: responses that were rhymes or that sounded similar to the novel word, e.g. 'rope' or 'boat' for the novel word

TABLE 4. *Proportion and mean frequency of errors (and S.D.) by type*

	Similar sounding word	Thematically appropriate noun	Don't know	Repetitions/ other responses
Before context: when novel word first encountered				
Skilled group	0.043 (0.132) (freq. = 0.20)	0.630 (0.261) (freq. = 3.73)	0.241 (0.259) (freq. = 1.40)	0.086 (0.105) (freq. = 0.53)
Less-skilled group	0.057 (0.090) (freq. = 0.40)	0.607 (0.281) (freq. = 3.93)	0.253 (0.262) (freq. = 1.80)	0.084 (0.113) (freq. = 0.52)
After context: at end of story				
Skilled group	0.067 (S.D. = 0.176) (freq. = 0.13)	0.699 (S.D. = 0.283) (freq. = 1.93)	0.0 (S.D. = 0.0) (freq. = 0.0)	0.234 (S.D. = 0.173) (freq. = 0.80)
Less-skilled group	0.040 (S.D. = 0.07) (freq. = 0.12)	0.616 (S.D. = 0.30) (freq. = 3.4)	0.038 (S.D. = 0.08) (freq. = 0.27)	0.272 (S.D. = 0.18) (freq. = 1.4)

Note. Freq. is the mean frequency of each error type. These data are summed over the near and far condition, allowing a maximum of 8 per cell. The scores in Table 3 are the mean total points awarded per response (1 or 2 points). Therefore, the sum of the mean frequencies in Table 4 and the mean scores in Table 3 will not necessarily equal 8.

'bope'; thematically appropriate nouns, e.g. 'a puncture' or 'a patch of oil' for the novel word 'gromp' in the bicycle accident story (see example in Table 3); thematically inappropriate responses, e.g. 'a monster' for the novel word 'gromp'; repetitions of the story; other responses such as verb phrases. The proportions of errors that were classified as each type are shown in Table 4. Both groups presented a remarkably similar pattern of responses.

Before context. The proximity of the context (near vs. far) could not influence responses in the before context condition, so the data were collapsed across this factor. The different error types are not logically independent so the data were explored in the following way. Both groups made a similar number/proportion of 'don't know' responses, which accounted for approximately one quarter of incorrect responses. Of the remaining incorrect responses, the proportion that were 'appropriate' nouns in that context rather than rhyming/alliterative words or 'other' responses were subjected to a pair wise comparison. The *t*-test indicated that the skilled and less-skilled comprehenders did not differ in their ability to provide a thematically appropriate response, $t(28) < 1.0$, $p > 0.10$.

After context. Only a few of the less-skilled group made any 'don't know' responses, which accounted for less than 4% of response errors in either condition (near, far). Some children made no errors in either the near or the far condition, although all children made at least one error overall. Preliminary analysis revealed no effect of proximity, so the data were summed and

analysed by *t*-test. The skilled and less-skilled comprehenders did not differ, $t(28) = 1.65, p > 0.10$.

Summary. Qualitative analysis of incorrect responses revealed that both before and after the useful context had been read, the errors made by the skilled and less-skilled comprehenders were similarly distributed across error type.

DISCUSSION

The study reported in this paper set out to investigate young children's ability to infer the meanings of novel words from short narrative texts in relation to their language skills. In line with the experimental predictions, children with weak reading comprehension skills were impaired in their ability to perform this task relative to same age peers with age-appropriate reading comprehension. When incorrect responses were made, skilled and less-skilled comprehenders' patterns of error types were highly similar and there was no evidence of qualitative differences. Importantly, the groups were differently affected by the proximity manipulation. Performance in the near condition, where the novel word and its useful context were adjacent, did not reliably discriminate the groups, whereas performance in the far condition did. We discuss these findings, in turn, and consider the implications of these findings for vocabulary learning in general.

The main finding in this study was that children with weak reading comprehension skills are poor at inferring the meanings of novel words from context, relative to same-age normally developing peers. This finding is in line with previous studies that have demonstrated poor inferential skills in children with reading comprehension impairments (Cain & Oakhill, 1999).

However, this finding was qualified by the manipulation of the proximity of the novel word and its defining context. The less-skilled comprehenders did particularly poorly in the far condition and it was performance in this condition that reliably discriminated the two groups. Even though less-skilled comprehenders may be generally poorer than skilled comprehenders at learning the meaning of new words through context, they appear to be particularly poor when the supportive context is somewhat removed from the word whose meaning it elucidates. This finding qualifies the outcome of a previous study that demonstrated a relation between proximity of the useful context to the unknown word and acquisition of its meaning (Carnine *et al.*, 1984). The current study suggests that proximity effects are not uniform across all children in this age group: not all types of reader may be adversely affected by distance.

The current data could be interpreted in relation to Daneman's (1988) proposal that working memory capacity may account for individual differences in contextual learning and may be more influential than age in

predicting performance. We did not assess the working memory capacity of the participants in the current study. However, less-skilled comprehenders selected using the same criteria have well documented working memory deficits (e.g. Yuill *et al.*, 1989) and this group's difficulties on the current task were most evident in the 'far' condition, when the working memory demands of the task were greatest. Further work is needed to investigate the relation between working memory capacity and learning from context more precisely, in the light of the suggestion that working memory may affect performance on contextual learning tasks.

An alternative to the working memory explanation is that the less-skilled comprehenders' performance was hampered by their inefficient or inappropriate processing strategies, rather than by their limited processing resources. Less-skilled comprehenders differ from skilled comprehenders in both their knowledge about and their application of different reading strategies. They tend to focus on different aspects of the task of reading itself, such as 'getting the words right', they have immature strategies for comprehension repair, and they use less sophisticated strategies for locating information in a text (Cain, 1999; Cataldo & Oakhill, 2000). These inefficient processing strategies may have limited the processing resources available to them to consider more advanced aspects of the text, such as the generation of inferences to ensure local and global coherence. Such strategy and knowledge differences would affect performance more greatly when the processing demands of the task were high.

In the current study, the less-skilled group did not make proportionately more errors of a given type than the skilled comprehenders: they were simply poorer on the task in general. Their responses were, in general, related to the overall theme of the passage, but they did not always appear to use the information provided in the text to derive their responses in the same way that the skilled comprehenders did. Assessment of the strategies that children use to work out the meanings of the novel words is clearly needed, to understand the less-skilled comprehenders' performance. Further research could investigate whether less-skilled comprehenders lack the essential strategic knowledge to perform well on such measures of learning from context. Carnine *et al.* (1984) have successfully trained children to use context to deduce the meanings of unknown words. Thus, despite any limitations imposed by working memory impairments or poor processing skills, it may be possible to facilitate less-skilled comprehenders' weak learning from context skills by strategy instruction. The results of any such training study would help to identify whether learning from context is a possible determinant of reading comprehension skill or whether it is determined by reading comprehension ability.

The current findings have implications for our understanding of the relation between reading comprehension and vocabulary. Many researchers

note that vocabulary knowledge influences reading comprehension (e.g. Anderson & Freebody, 1981). However, children with poor reading comprehension skill often have age appropriate sight vocabulary (Cain & Oakhill, 1999) or receptive vocabulary (Stothard & Hulme, 1996), suggesting that vocabulary deficits alone are not responsible for all comprehension failures. The current findings suggest that a difficulty in inferring new word meanings from context may be related to a deficit in a crucial text comprehension skill, inference making. It is, therefore, plausible that a deficit in learning from context may impede growth in vocabulary growth in children with weak comprehension skills. Such effects may become greater as children become independent readers and engage in a wide variety of texts that do not have the controlled or restricted vocabularies often found in early reading books. If so, poor comprehenders' vocabulary growth may not keep pace with that of their better comprehending peers, such that vocabulary deficits in children with weak comprehension skills may become apparent as children get older. Thus, it is plausible that a difficulty with a 'higher-level' text processing skill, such as inference making, may lead to a 'lower-level' language deficit in subsequent years. Clearly, there is a need to study the relation between learning from context, comprehension skill and vocabulary growth over time.

In summary, this study has demonstrated that a child's ability to infer new word meanings from written contexts is not uniform within a single age group but is related to their current level of language skill and also to the proximity of a novel word and its defining context. Further work is necessary to determine the specific roles that memory capacity and strategy knowledge play in this process, and also the implications for vocabulary growth in children with language impairments.

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