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Journal

Proceedings of the Annual Meeting of the Cognitive Science Society, 48(0)

Author

Moe, Miranda

Publication Date

2026

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Peer reviewed

Self-Explanation Improves Multiple Document Comprehension

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Abstract

Individuals are frequently presented with information that must be integrated across multiple sources. The current study explores the role of self-explanation strategies in supporting across-text integration during multiple document comprehension. Participants (n=139) read a multiple document text set, while either self-explaining or thinking aloud, then completed verification questions (sentence and inference verification), a prior knowledge test, and an essay task. Results demonstrated that participants with higher prior knowledge outperformed those with lower knowledge across comprehension assessments. Critically, self-explanation was associated with higher performance on across-text inference verification items, with no corresponding effect for within-text inferences. Computational linguistic analyses revealed that self-explanation was associated with increased cohesion in readers' constructed responses across lexical, semantic, and connective-based indices. Together, these findings suggest that self-explanation promotes integration during multiple-document comprehension by strengthening inferential coherence-building mechanisms, and that across-text integration represents a key challenge that benefits from strategic instructional support.

Keywords: comprehension; integration; multiple documents; natural language processing

Introduction

An inherent aspect of life in the 21st century is that readers are potentially exposed to massive amounts of information on any given topic, often spread across a variety of texts and sources (Goldman et al., 2012; List & Alexander, 2017). People often read about a topic across multiple documents—to develop a thorough understanding. This situation requires readers to comprehend each document and discern how the documents relate to one another. These demands emerge across a variety of commonplace contexts, such as reading product reviews to inform a purchase, understanding news reports from different media outlets, and within academic assignments (Braasch et al., 2018; Rouet, 2006). However, integrating information across multiple documents is challenging, even when texts are consistent or complementary (Firetto, 2020; McCrudden et al., 2021; Wiley et al., 2009). Readers often struggle to integrate and represent information across multiple sources and tend to process documents in isolation rather than constructing coherent across-text representations (Britt & Rouet, 2012).

A central mechanism supporting integration during comprehension is inferencing. Writers do not explicitly state all

information or connections in a text, leaving readers to fill in the gaps to maintain coherence as they progress through text (Graesser et al., 1994; O'Brien et al., 2015). Inferences arise when information that becomes available to the reader from memory converges (McKoon & Ratcliff, 1992; Myers & O'Brien, 1998), allowing readers to connect ideas and build a coherent representation of what they are reading. In multiple-document contexts, this inferential work is especially demanding because readers must retrieve and coordinate information from prior documents that are no longer perceptually available while processing a new source. Preliminary evidence indicates that information from previous texts is activated during comprehension of subsequent texts (Beker et al., 2016), yet forming inferences that link information across documents remains challenging. This suggests that across-text integration represents a central challenge for multiple-document comprehension.

One potential comprehension strategy that may support this difficulty is self-explanation. Self-explanation strategies instruct individuals to explain the meaning of segments of the text as they read, encouraging them to generate inferences, activate relevant knowledge, and make causal connections among ideas in text (Allen et al., 2015; Chi et al., 1989; McNamara, 2004). Recent work has demonstrated that self-explanation prompts influence readers' use of comprehension strategies (Christhilf et al., 2025). In single-document comprehension tasks, engaging readers in self-explanation has been shown to increase coherence-building processes and improve performance on inference-based comprehension measures (Chi, 2000; McNamara, 2004; Ozuru et al., 2010). Prompting readers to self-explain supports the formation of inferences, particularly under conditions of higher cognitive demand. If across-text integration relies on similar inferential mechanisms, self-explanation may be especially beneficial for comprehension processes that require linking information distributed across documents rather than within a single text.

However, effective self-explanation is related to prior knowledge. Individual differences in prior knowledge can influence inferential processing during comprehension by shaping the availability of information that supports coherence-building. During reading, both previous portions of the text and a reader's prior knowledge are accessible from memory and support comprehension and inferencing (Albrecht & O'Brien, 1993; O'Brien & Albrecht, 1992). Readers with more relevant knowledge are generally better able to generate

inferences and connect new information as it is encountered (McNamara, 2004). In the present context, prior knowledge is relevant insofar as it influences baseline inferential capacity during reading, and thus it provides important context for interpreting how strategic support may affect integration across documents.

Models of Evaluating Integration

There are several ways in which researchers can examine the extent to which readers are making connections and generating inferences as they read (McCarthy et al., 2018; McKoon & Ratcliff, 2015). Broadly, these approaches include outcome-based measures that assess readers' representations after reading and process-based measures that provide insight into coherence-building during comprehension. Using multiple measures affords the opportunity to examine integration processes with converging evidence by pairing downstream comprehension outcomes with indicators of online inferential activity.

Post-reading verification questions evaluate the nature of a reader's mental model by probing for specific inferences (Royer et al., 1996). The reader's ability to discern sentences supported by information presented in the text from unsupported statements allows researchers to make assumptions about the coherence or interconnectedness of the mental model. Sentence verification items are designed to evaluate a reader's surface-level understanding of a text, whereas inference verification items require participants to discern sentences that reflect inferences supported by the text (Bråten & Strømsø, 2006; Wiley & Voss, 1999). In the context of multiple-document comprehension, verification tasks are extended to include inferences that reflect within-text (intra-textual) and across-text (intertextual) connections (Bråten et al., 2009). In addition to verification questions, multiple-document comprehension researchers also rely heavily on source-based integrative essays, in which readers are asked to compose an essay based on the texts they have read (e.g., Britt & Aglinskas, 2002; Wiley et al., 2009, 2014). These essays are commonly used to assess how well readers transform, organize, and integrate information across sources.

Examining the content of readers' constructed responses to text (e.g., think-alouds or self-explanations) has provided researchers with insight into comprehension processes that support the construction and maintenance of a coherent mental representation (Ozuru et al., 2009; Pressley & Afflerbach, 1995). Analyses of constructed responses are sensitive to differences across readers as well as to the impact of task instructions on comprehension (Magliano & Graesser, 2012; Millis & Magliano, 2012). Recent advances in computational methodologies have afforded researchers new ways to examine readers' responses through natural language processing (NLP) methodologies (McCarthy et al., 2018). Of particular interest in the study of integration is that NLP indices can provide a relatively objective measure of cohesion. Cohesion is the degree to which a text contains cues that signal

its readers to make connections between ideas (Halliday & Hasan, 1978). The presence of cohesion in readers' responses indicates that they are engaging in processes, such as inferencing, that promote integration during reading (Allen et al., 2015; S. Crossley & McNamara, 2011). In the context of multiple-document comprehension, cohesion indices can be used to capture both local connections within individual texts and broader connections across texts (Allen et al., 2021).

Overview of the Present Study

The current study was designed to explore integration in the context of multiple-document comprehension by examining whether self-explanation supports across-text inferencing during reading. Participants read a text set on a scientific topic (global warming) and either self-explained or thought aloud at target sentences. Think-aloud instructions served as a control for assessing the impact of self-explanation on coherence-building processes within and across texts. After reading, participants completed inference verification questions and wrote a source-based essay that required them to use information across the texts. In addition, participants' constructed responses were analyzed using NLP-based measures of cohesion to provide a process-level index of online integration.

The primary research question guiding this study was the extent that self-explanation enhances across-text integration during multiple-document comprehension. We examined integration primarily using inference verification questions and analyses of readers' constructed responses, with source-based essays included as a secondary outcome measure. Based on prior literature, we predicted that self-explanation would increase performance on inference verification items compared to thinking aloud, particularly for items that required across-text inferences. Given that across-text inferencing places higher demands on coherence-building processes, we further predicted that self-explanation would be more strongly associated with improvements in across-text inference performance than with within-text inference performance.

In addition to outcome measures, we examined whether self-explanation altered online processing during reading, as indexed by cohesion in readers' constructed responses. Given the results of previous work in single-text research, we predicted that cohesion would be higher for participants in the self-explanation condition, reflecting greater engagement in integrative processes while reading. Prior knowledge was included to account for baseline differences in inferential capacity and to provide context for interpreting the effects of instructional support.

Methods

Transparency and openness The processed data and analysis can be accessed and are publicly available at: https://osf.io/uty7j/?view_only=1eee926e3956498db7121ea19a709f3f

Participants Undergraduates ($N = 139$; 98 female, 41 male, $\text{Mage} = 19.68$, $\text{SDage} = 1.43$) from a university in the south-

eastern United States participated for course credit. Seven additional participants were excluded for incomplete data. Participants were assigned to either think-aloud ($N = 76$) or self-explanation ($N = 63$) condition.

Materials

Multiple Document Text Set The multiple-document text set was adopted from prior multiple-document studies (Bråten et al., 2009). The original materials were published in Norwegian and contained eight texts on the topic of global warming, presenting two different positions (i.e., positive and negative impacts of climate change). In the current study, four texts were selected, translated, and slightly modified for use. Two texts discussed the causes of global warming, and two texts discussed the positive and negative consequences of climate change. Minor modifications were made to increase clarity and to include concepts that had been removed by reducing the number of texts in the set to four. The texts ranged from 237–307 words and had a Flesch–Kincaid grade level range from 10.5 to 14.5. Each text was presented with source content (i.e., title, author’s name and credentials, publication source, and date of publication). Texts were presented in the same order to all participants.

Constructed Responses Participants generated constructed responses while reading the texts. Depending on condition, these responses took the form of either think-alouds or self-explanations. In the think-aloud condition, participants were instructed to “report your thoughts that immediately come to mind regarding how you understand the meaning of the text.” In the self-explanation condition, participants were instructed to “explain the meaning of the text, elaborating beyond your initial understanding of the text.” Constructed responses were collected at multiple points within each text, yielding between three and eight responses per text. These responses served as the basis for subsequent linguistic analyses of cohesion.

Verification Items Participants completed three verification tasks (adapted from Bråten et al. 2009) to assess comprehension at different levels. Sentence verification items captured shallow or surface-level understanding and asked participants to judge whether sentences had the same meaning as individual sentences from the texts. Within-text inference verification items assessed situational, meaning-based understanding within single texts and asked whether information could be readily inferred from two sentences in an individual text. Across-text inference verification items assessed deeper comprehension across multiple texts and asked whether information could be readily inferred from information in two or more documents in the set. The number of verification items was reduced to align with reducing the original text set from eight to four. Participants answered 22 sentence verification items, and 19 across-text inference verification items. Each item required a “yes” or “no” response, and tasks were scored from 0–100%.

Linguistic Analysis of Constructed Responses The study employed an aggregation technique to calculate the cohesion of constructed responses generated across multiple documents. As shown in Figure 1, the constructed responses for each text were collapsed into a single “paragraph.” This aggregation resulted in a single, multi-paragraph response per participant, in which sentence-to-sentence measures reflected within-document cohesion and paragraph-to-paragraph measures reflected across-text cohesion. These responses were submitted to the Tool for the Automatic Analysis of Cohesion (TAACO; S. A. Crossley et al. 2016, 2019).

Cohesion refers to the degree to which a text contains cues that signal connections among ideas, including overlap between words or concepts and the use of explicit connectives. Because such cues reflect the extent to which readers are making connections and generating inferences, indices of cohesion provide a process-level proxy for coherence-building and integrative processing during reading. Six indices were calculated to capture cohesion at multiple levels. Four indices measured cohesion ranging from a narrow focus on local and explicit cohesion to a broader focus on global and semantic cohesion (see Figure 1). Specifically, two indices of lexical cohesion were calculated: word overlap in adjacent sentences (adjacent_overlap_all_sent_div_seg) and word overlap across two adjacent sentences (adjacent_overlap_2_all_sent_div_seg). Two indices of semantic cohesion were calculated: semantic overlap within paragraphs (word2vec_1_all_para) and semantic overlap across paragraphs (word2vec_2_all_para). The two remaining indices measured the use of connectives (i.e., and, because): all connectives and causal connectives. Together, these indices provided a multi-level characterization of the extent to which participants’ constructed responses contained cues signaling integration within and across texts.

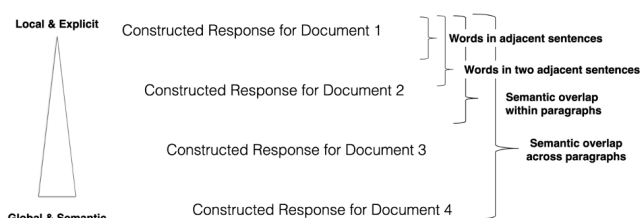


Figure 1: Measurements of Cohesion in the Document Set.

Prior Knowledge Participants completed an assessment of general prior knowledge comprising 30 multiple-choice questions (Allen et al., 2016; Roscoe et al., 2014). The test consisted of 10 science items, 10 history items, and 10 literature items. Scores were computed as percent correct. The reliability of this test is high, typically ranging from $\alpha = .72$ to $.81$ (Allen et al., 2016).

Demographic Questionnaire The participants completed a brief demographics questionnaire, which included questions about their gender, age, and ethnicity.

Procedure

After providing consent, participants completed the demographics questionnaire and were then randomly assigned to either the think-aloud or self-explanation condition while reading the four texts. At designated points in each text, participants typed their constructed responses in the space provided. After reading all texts, participants completed the verification tasks, the prior knowledge test, and a source-based essay.

Results

Descriptives and Preliminary Analyses

A t-test revealed no significant difference in prior knowledge scores for participants randomly assigned to the think-aloud condition ($M = 61.62$, $SD = 17.51$) and those assigned to the self-explanation condition ($M = 58.84$, $SD = 16.02$), $t(135.63) = .98$, $p = .33$, indicating that random assignment produced comparable groups with respect to baseline topic knowledge.

Verification Tests

One-sample t-tests confirmed that average performance across all verification tasks was significantly different from chance (i.e., 50%), indicating that participants were not merely guessing and were reliably making both within- and across-text inferences during reading. Performance across the three verification tasks was weakly correlated ($r_s = .21$ to $.29$, $p_s < .05$), suggesting that they captured partially overlapping but distinct aspects of comprehension.

Consistent with prior work showing that across-text integration poses greater challenges than within-text integration, performance on the across-text inference verification task ($M = 59.37$, $SD = 13.59$) was significantly lower than performance on the within-text inference verification task ($M = 63.63$, $SD = 12.05$), $F(2, 414) = 4.16$, $p < .05$. This pattern aligns with evidence that readers often struggle to coordinate information across sources even when texts are complementary or consistent (e.g., McCrudden et al., 2021; Wiley et al., 2009). There was no reliable difference between the sentence verification task and either inference task ($p_s > .05$).

Linear regression models were used to examine the effects of constructed response prompt or reading instruction (self-explanation vs. think-aloud) and prior knowledge on each verification task. For both the sentence verification task and the within-text inference task, the models yielded only a significant main effect of prior knowledge ($p_s < .001$), with no effect of reading instruction.

By contrast, the model for across-text inference verification revealed both a significant main effect of reading instruction and a significant main effect of prior knowledge. Participants in the self-explanation condition scored higher on across-text inference verification ($M = 61.32$, $SD = 13.51$) than participants in the think-aloud condition ($M = 57.75$, $SD = 13.53$),

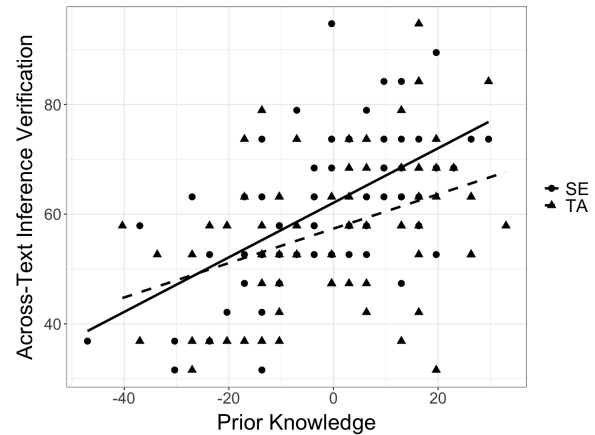


Figure 2: Across-text inference verification score as a function of condition (think-aloud, self-explanation) and prior knowledge score.

$p < .05$. In addition, across-text inference performance increased as a function of prior knowledge, $p < .001$. The interaction between reading instruction and prior knowledge was not significant, $p = .13$ (see Figure 2). Together, these findings indicate that self-explanation selectively supported across-text inferencing, while leaving within-text inferencing relatively unchanged.

Cohesiveness of the Constructed Responses

Given that self-explanation selectively supported across-text inferencing, linguistic analyses were conducted to examine whether reading instruction was also associated with differences in the cohesion of participants' constructed responses. Because self-explanation is intended to promote integration processes, such differences were expected to be reflected in indices of cohesion.

Due to missing constructed response data from two participants, the sample was $n = 137$ for these analyses. Constructed responses in the self-explanation condition were more cohesive than those in the think-aloud condition across all indices. Specifically, self-explanation was associated with greater lexical overlap in adjacent sentences, $t(102.35) = -8.55$, $p < .001$, and across two adjacent sentences, $t(112.13) = -8.63$, $p < .001$; greater semantic overlap within paragraphs, $t(134.79) = -10.76$, $p < .001$, and across paragraphs, $t(134.80) = -10.20$, $p < .001$; and greater use of both all connectives, $t(134.90) = -2.55$, $p < .05$, and causal connectives, $t(133.88) = -3.04$, $p < .01$ (see Table 1).

These findings indicate that instructional differences were linked to systematic differences in the cohesion of readers' constructed responses at multiple levels, ranging from shallow lexical overlap to deeper semantic consistency and explicit rhetorical marking of relations. Participants instructed to self-explain produced responses that were more lexically, semantically cohesive than those of participants instructed to think aloud, consistent with the interpretation that self-explanation

Table 1: Mean (SD) cohesion indices as a function of condition (think-aloud, self-explanation) and prior knowledge.

Index	Think-Aloud	Self-Expl.
Words in adjacent sentences	1.77 (.72)	3.11 (1.04)
Words across two adj. sentences	2.80 (1.05)	4.62 (1.34)
Semantic overlap within paragraphs	.83 (.03)	.89 (.03)
Semantic overlap across paragraphs	.88 (.03)	.92 (.02)
All connectives	.06 (.02)	.07 (.01)
Causal connectives	.02 (.01)	.03 (.01)

promoted greater coherence-building and integrative processing during reading. Together with the selective across-text inference advantage observed for the self-explanation condition, these cohesion findings provide converging process-level evidence that self-explanation supports integration during multiple-document comprehension by strengthening inferential coherence-building mechanisms.

General Discussion

The current study explored integration in the context of multiple-document comprehension, with a specific focus on whether self-explanation selectively supports across-text inferencing during reading. Participants read a text set while either self-explaining or thinking aloud, answered sentence and inference verification questions, and completed a prior knowledge measure. In addition, cohesive features of readers' constructed responses were assessed using NLP methodologies to examine potential mechanisms underlying the impact of reading instruction.

Consistent with our primary research question, the findings indicate that comprehension strategies that have traditionally been beneficial in single-text comprehension may likewise be beneficial in a multiple-document setting, particularly for more demanding forms of integration. Specifically, self-explanation supported the instantiation of across-text inferences when reading a multiple-document text set. The across-text inference verification task required readers to make connections between texts and was a more challenging task, as evidenced by lower overall performance. Participants who received self-explanation instructions outperformed participants who received think-aloud instructions on this more difficult, across-text inferencing task, indicating that the comprehension strategy was successful in supporting the instantiation of inferences across texts in the document set. These findings are consistent with the well-documented difficulty of making across-text connections (e.g., Firetto, 2020; McCruden et al., 2021; Saux et al., 2021; Wiley et al., 2009) and suggest that strategies targeting coherence building may be particularly beneficial for this aspect of multiple-document comprehension.

One explanation for why self-explanation supported across-text integration lies in the nature of self-explanation as a constructive activity (Chi et al., 1994). Texts do not always explicitly state everything the reader needs to build a coherent

representation, and self-explanation prompts the reader to fill those gaps, including inferences that connect prior knowledge with new information (Chi et al., 1989, 1994). This constructive activity also creates opportunities for readers to detect conflicts between incoming text information and their evolving mental representation, encouraging deeper processing and self-repair (Chi et al., 1994). These mechanisms may be particularly beneficial for multiple-document contexts, where integration requires readers to identify how information from different sources relates or conflicts.

While self-explanation benefited readers on the across-text inference verification task, it did not support performance on the within-text inference verification task. This pattern contrasts with prior research in single-text contexts showing that self-explanation increases within-text inferencing (e.g., Magliano et al., 2005; McNamara, 2004). One possible explanation for this difference lies in the overall goal structure of the multiple-document task. Contemporary perspectives of reading literacy conceptualize reading as a problem-solving, task-oriented activity; thus, reading goals have nontrivial implications for how mental models are constructed (e.g., Britt et al., 2017). In the current study, as in many multiple-document tasks, participants were told at the beginning of the experiment that they would read a set of texts and complete an essay-writing task. Such instructions may have set expectations about task demands and biased participants' reading goals (Higgs et al., 2017; Ritchey & List, 2021; van den Broek et al., 2001). Reading goals are likely to change readers' standards of coherence, which in turn alters how they direct attention and engage in different comprehension strategies (Van Den Broek et al., 1995). It is possible that these instructions were sufficient to prompt a relatively high standard of coherence across conditions, thereby attenuating the typical self-explanation advantage for within-text inferencing.

An additional contribution of the current study is the use of computational linguistic measures to explore potential mechanisms underlying the impact of self-explanation instructions on individuals' constructed responses in a multiple-document task. In line with prior research examining constructed responses during single- and multiple-document comprehension (Allen et al., 2015, 2021; Magliano et al., 2011), self-explanation instructions were associated with increased cohesion in readers' constructed responses compared to think-aloud instructions. This was true across multiple indices of cohesion, including lexical, semantic, and connective-based measures. These findings provide preliminary evidence that self-explanation supports coherence-building processes, such as inferencing, which ultimately promote integration during multiple-document comprehension. More broadly, these findings suggest that cohesion in constructed responses can serve as a process-level indicator of the mechanisms through which instructional support influences integration.

Taken together, self-explanation selectively supports across-text integration. This pattern is consistent with the view that across-text integration

Limitations and Future Directions

Several limitations of the present study point to important directions for future research. First, the study employed a single text set consisting of four documents on a scientific topic. Although this design afforded controlled examination of across-text integration processes, it necessarily limits the generalizability of the findings. Future research would benefit from examining readers' online comprehension processes while reading larger document sets, as well as sets that include conflicting or contradictory information. Such work would further contribute to the growing literature on sourcing, evaluation, and integration of information across multiple documents (e.g., Braasch et al., 2014; Bråten & Strømsø, 2006; Britt & Aglinskias, 2002; Wiley & Voss, 1999).

A related limitation concerns the topic of the text set. The texts focused on global warming, a topic that is often embedded in socio-political discourse and may evoke strong prior beliefs. Although prior knowledge was measured and included as a covariate, the present study did not assess participants' attitudes toward climate change or their political beliefs. Future studies could incorporate such measures to better understand how beliefs and attitudes interact with integration processes during multiple-document comprehension, particularly when readers encounter information that conflicts with their existing views.

Another limitation of the present study is that participants were instructed to self-explain without receiving explicit training in how to engage in effective self-explanation strategies. Prior research has shown that self-explanation training can enhance comprehension outcomes, particularly for readers with lower prior knowledge (McNamara, 2004; McNamara et al., 2006). In the current study, self-explanation instructions selectively supported across-text inferencing even in the absence of training, suggesting that self-explanation may be especially beneficial for addressing the demands of across-text integration. Nevertheless, future research should examine whether providing explicit self-explanation training further enhances both within-text and across-text integration during multiple-document comprehension.

Beyond instructional considerations, the present study highlights the value of computational linguistic methodologies for examining online comprehension. By analyzing cohesion in readers' constructed responses, the study provides process-level evidence that complements traditional outcome measures. Future research could extend this approach to examine how different instructional prompts, task goals, or document characteristics influence coherence-building processes over time. Additionally, such methodologies may support the refinement of instructional interventions by identifying the specific mechanisms through which strategies like self-explanation promote integration.

These limitations and future directions underscore the need for continued research on the processes that support successful multiple-document comprehension. As multiple-document tasks become increasingly prevalent in educational and real-

world contexts, understanding how readers integrate information across texts (and how instructional supports can facilitate this integration) remains a critical goal for research on multiple-document literacy.

Conclusion

The present study contributes to research on multiple-document comprehension by demonstrating that self-explanation selectively supports across-text inferencing and is associated with increased inferential cohesion in readers' constructed responses. These findings suggest that across-text integration is a key challenge in multiple-document comprehension and that instructional prompts encouraging coherence-building can support the processes required to overcome this challenge. By combining outcome measures with process-level linguistic analyses, the study provides converging evidence that self-explanation promotes integration during reading by strengthening inferential connections across texts. As multiple-document tasks become increasingly prevalent across educational and real-world contexts, understanding the mechanisms that support successful integration across sources remains a central goal for research on multiple-document literacy.

Acknowledgments

This research was supported by Bonnie Westby Huebner Chair in Education & Technology to L. Allen from the University of Minnesota and IES Grant R305A180144. Opinions, conclusions, or recommendations do not necessarily reflect the University of Minnesota or IES.

References

- Albrecht, J. E., & O'Brien, E. J. (1993). Updating a mental model: Maintaining both local and global coherence. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 19(5), 1061–1070.
- Allen, L. K., Magliano, J. P., McCarthy, K. S., Sonia, A. N., Creer, S., & McNamara, D. S. (2021). Coherence-building in multiple document comprehension. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 43. <https://escholarship.org/uc/item/4qs6j38d>
- Allen, L. K., McNamara, D. S., & McCrudden, M. T. (2015). Change your mind: Investigating the effects of self-explanation in the resolution of misconceptions. In D. C. Noelle, R. Dale, A. S. Warlaumont, J. Yoshimi, T. Matlock, C. D. Jennings, & P. Maglio (Eds.), *Proceedings of the 37th annual meeting of the cognitive science society (CogSci 2015)* (pp. 78–83). Cognitive Science Society.
- Allen, L. K., Snow, E. L., & McNamara, D. S. (2016). The narrative waltz: The role of flexibility in writing proficiency. *Journal of Educational Psychology*, 108, 911–924. <https://doi.org/10.1037/edu0000109>

- Beker, K., Jolles, D., Lorch, R. F., & van den Broek, P. (2016). Learning from texts: Activation of information from previous texts during reading. *Reading and Writing*, 29(6), 1161–1178. <https://doi.org/10.1007/s11145-016-9630-3>
- Braasch, J. L. G., Bråten, I., Britt, M. A., Steffens, B., & Strømsø, H. I. (2014). Sensitivity to inaccurate argumentation in health news articles: Potential contributions of readers' topic and epistemic beliefs. In D. N. Rapp & J. L. G. Braasch (Eds.), *Processing inaccurate information: Theoretical and applied perspectives from cognitive science and the educational sciences* (pp. 117–137). MIT Press.
- Braasch, J. L. G., Bråten, I., & McCrudden, M. T. (2018). *Handbook of multiple source use*. Routledge.
- Bråten, I., & Strømsø, H. I. (2006). Effects of personal epistemology on the understanding of multiple texts. *Reading Psychology*, 27(5), 457–484.
- Bråten, I., Strømsø, H. I., & Britt, M. A. (2009). Trust matters: Examining the role of source evaluation in students' construction of meaning within and across multiple texts. *Reading Research Quarterly*, 44(1), 6–28. <https://doi.org/10.1598/RRQ.44.1.1>
- Britt, M. A., & Aglinskis, C. (2002). Improving students' ability to identify and use source information. *Cognition and Instruction*, 20(4), 485–522. https://doi.org/10.1207/S1532690XCI2004_2
- Britt, M. A., & Rouet, J.-F. (2012). Learning with multiple documents: Component skills and their acquisition. In M. J. Lawson & J. R. Kirby (Eds.), *Enhancing the quality of learning: Dispositions, instruction, and learning processes* (pp. 276–314). Cambridge University Press. <https://doi.org/10.1017/CBO9781139048224.017>
- Britt, M. A., Rouet, J.-F., & Durik, A. M. (2017). *Literacy beyond text comprehension: A theory of purposeful reading*. Routledge.
- Chi, M. T. H. (2000). Self-explaining expository texts: The dual processes of generating inferences and repairing mental models. In R. Glaser (Ed.), *Advances in instructional psychology* (pp. 161–238, Vol. 5).
- Chi, M. T. H., Bassok, M., Lewis, M. W., Reimann, P., & Glaser, R. (1989). Self-explanations: How students study and use examples in learning to solve problems. *Cognitive Science*, 13(2), 145–182.
- Chi, M. T. H., De Leeuw, N., Chiu, M.-H., & Lavancher, C. (1994). Eliciting self-explanations improves understanding. *Cognitive Science*, 18(3), 439–477. https://doi.org/10.1207/s15516709cog1803_3
- Christhilf, K., Potter, A., Magliano, J. P., McCarthy, K. S., Allen, L. K., & McNamara, D. S. (2025). Constructed responses as a window into strategic processing: The role of prompts in multiple-document reading. *Discourse Processes*, 62(8–9). <https://doi.org/10.1080/0163853X.2025.2578594>
- Crossley, S., & McNamara, D. S. (2011). Text coherence and judgments of essay quality: Models of quality and coherence. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 33(33).
- Crossley, S. A., Kyle, K., & Dascalu, M. (2019). The tool for the automatic analysis of cohesion 2.0: Integrating semantic similarity and text overlap. *Behavior Research Methods*, 51(1), 14–27. <https://doi.org/10.3758/s13428-018-1142-4>
- Crossley, S. A., Kyle, K., & McNamara, D. S. (2016). The tool for the automatic analysis of text cohesion (TAACO): Automatic assessment of local, global, and text cohesion. *Behavior Research Methods*, 48(4), 1227–1237. <https://doi.org/10.3758/s13428-015-0651-7>
- Firetto, C. M. (2020). Learning from multiple complementary perspectives: A systematic review. In *Handbook of learning from multiple representations and perspectives* (pp. 223–244).
- Goldman, S. R., Braasch, J. L. G., Wiley, J., Graesser, A. C., & Brodowinska, K. (2012). Comprehending and learning from internet sources: Processing patterns of better and poorer learners. *Reading Research Quarterly*, 47(4), 356–381. <https://doi.org/10.1002/RRQ.027>
- Graesser, A. C., Singer, M., & Trabasso, T. (1994). Constructing inferences during narrative text comprehension. *Psychological Review*, 101(3), 371–395.
- Halliday, M. A. K., & Hasan, R. (1978). *Grammatical cohesion in spoken and written english*. Longman.
- Higgs, K., Magliano, J. P., Vidal-Abarca, E., Martínez, T., & McNamara, D. S. (2017). Bridging skill and task-oriented reading. *Discourse Processes*, 54(1), 19–39. <https://doi.org/10.1080/0163853X.2015.1100572>
- List, A., & Alexander, P. A. (2017). Analyzing and integrating models of multiple text comprehension. *Educational Psychologist*, 52(3), 143–147. <https://doi.org/10.1080/00461520.2017.1328309>
- Magliano, J. P., & Graesser, A. C. (2012). Computer-based assessment of student-constructed responses. *Behavioral Research Methods*, 44, 608–621. <https://doi.org/10.3758/s13428-012-0211-3>
- Magliano, J. P., Millis, K. K., & Levinstein, I. (2011). Assessing comprehension during reading with the reading strategy assessment tool (RSAT). *Metacognition and Learning*, 6(2), 131–154. <https://doi.org/10.1007/s11409-010-9064-2>
- Magliano, J. P., Todaro, S., Millis, K., Wiemer-Hastings, K., Kim, H. J., & McNamara, D. S. (2005). Changes in reading strategies as a function of reading training: A comparison of live and computerized training. *Journal of Educational Computing Research*, 32(2), 185–208.
- McCarthy, K. S., Kopp, K. J., Allen, L. K., & McNamara, D. S. (2018). Methods of studying text: Memory, comprehension, and learning. In H. Otani & B. L. Schwartz (Eds.), *Handbook of research methods in human memory*. Routledge.
- McCrudden, M. T., Huynh, L., Lyu, B., & Kulikowich, J. M. (2021). Bridging inferences and learning from multiple complementary texts. *Discourse Processes*, 58(5–6), 529–548.

- McKoon, G., & Ratcliff, R. (1992). Inference during reading. *Psychological Review*, 99(3), 440–466.
- McKoon, G., & Ratcliff, R. (2015). Cognitive theories in discourse-processing research. In *Inferences during reading* (pp. 42–67).
- McNamara, D. S. (2004). SERT: Self-explanation reading training. *Discourse Processes*, 38(1), 1–30. https://doi.org/10.1207/s15326950dp3801_1
- McNamara, D. S., O'Reilly, T., Best, R., & Ozuru, Y. (2006). Improving adolescent students' reading comprehension with iSTART. *Journal of Educational Computing Research*, 34(2), 147–171. <https://doi.org/10.2190/1RU5-HDTJ-A5C8-JVWE>
- Millis, K. K., & Magliano, J. P. (2012). Assessing comprehension processes during reading. In J. P. Sabatini, E. R. Albrow, & T. O'Reilly (Eds.), *Reaching an understanding: Innovations in how we view reading assessment* (pp. 35–54). R & L Publishing.
- Myers, J. L., & O'Brien, E. J. (1998). Accessing the discourse representation during reading. *Discourse Processes*, 26(2–3), 131–157. <https://doi.org/10.1080/01638539809545042>
- O'Brien, E. J., & Albrecht, J. E. (1992). Comprehension strategies in the development of a mental model. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 18(4), 777–784. <https://doi.org/10.1037/0278-7393.18.4.777>
- O'Brien, E. J., Cook, A. E., & Lorch, R. (Eds.). (2015). *Inferences during reading*. Cambridge University Press. <https://doi.org/10.1017/CBO9781107279186>
- Ozuru, Y., Briner, S., Best, R., & McNamara, D. S. (2010). Contributions of self-explanation to comprehension of high- and low-cohesion texts. *Discourse Processes*, 47(8), 641–667. <https://doi.org/10.1080/01638531003628809>
- Ozuru, Y., Dempsey, K., & McNamara, D. S. (2009). Prior knowledge, reading skill, and text cohesion in the comprehension of science texts. *Learning and Instruction*, 19(3), 228–242. <https://doi.org/10.1016/j.learninstruc.2008.04.003>
- Pressley, M., & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading*. Lawrence Erlbaum Associates.
- Ritchey, K. A., & List, A. (2021). Task-oriented reading: A framework for improving college students' reading compliance and comprehension. *College Teaching*, 1–16.
- Roscoe, R. D., Crossley, S. A., Snow, E. L., Varner, L. K., & McNamara, D. S. (2014). Writing quality, knowledge, and comprehension correlates of human and automated essay scoring. *The Twenty-Seventh International FLAIRS Conference*.
- Rouet, J.-F. (2006). *The skills of document use: From text comprehension to web-based learning*. Erlbaum.
- Royer, J. M., Carlo, M. S., Dufresne, R., & Mestre, J. (1996). The assessment of levels of domain expertise while reading. *Cognition and Instruction*, 14(3), 373–408.
- Saux, G., Britt, M. A., Vibert, N., & Rouet, J.-F. (2021). Building mental models from multiple texts: How readers construct coherence from inconsistent sources. *Language and Linguistics Compass*, 15(3), e12409.
- Van Den Broek, P., Risdien, K., & Husebye-Hartmann, E. (1995). The role of readers' standards for coherence in the generation of inferences during reading. In R. F. Lorch & E. J. O'Brien (Eds.), *Sources of coherence in reading* (pp. 353–373). Lawrence Erlbaum Associates.
- van den Broek, P., Lorch, R. F., Linderholm, T., & Gustafson, M. (2001). The effects of readers' goals on inference generation and memory for texts. *Memory & Cognition*, 29(8), 1081–1087. <https://doi.org/10.3758/BF03206376>
- Wiley, J., Goldman, S. R., Graesser, A. C., Sanchez, C. A., Ash, I. K., & Hemmerich, J. A. (2009). Source evaluation, comprehension, and learning in internet science inquiry tasks. *American Educational Research Journal*, 46(4), 1060–1106. <https://doi.org/10.3102/0002831209333183>
- Wiley, J., Steffens, B., Britt, M. A., & Griffin, T. D. (2014). Writing to learn from multiple-source inquiry activities in history. In *Writing as a learning activity* (pp. 120–148). Brill.
- Wiley, J., & Voss, J. F. (1999). Constructing arguments from multiple sources: Tasks that promote understanding and not just memory for text. *Journal of Educational Psychology*, 91(2), 301–311.