

# **The Role of Prior Knowledge in Interpretive Inferences and Reasoning**

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THESIS

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## PRIOR KNOWLEDGE AND INTERPRETATION

### **DEDICATION**

I would like to dedicate this dissertation my parents, Bob and Marie McCarthy, and my husband, Scott Hinze, for their unwaivering support and unconditional love.

## PRIOR KNOWLEDGE AND INTERPRETATION

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## **LIST OF ABBREVIATIONS**

ANOVA	Analysis of Variance
ART	Author Recognition Test
LES	Literature Epistemology Scale
RBI	Reader Belief Inventory

## PRIOR KNOWLEDGE AND INTERPRETATION

### SUMMARY

Successful literary reading requires not only an understanding of the literal aspects of the text, but also an understanding of the author's message about the world. The purpose of the present research was to examine how providing aspects of experts' knowledge affected novice interpretive behavior when reasoning about a literary short story. Experiment 1 indicated that a reading prompt that provided literary convention information elicited more interpretive behavior than control. Experiment 2 used processing information from experts to construct three new reading instructions: 1) rules of notice, 2) satire, 3) combination of both. Results indicated that the combined reading instruction yielded more interpretive behavior than the rules of notice instruction. Additional analysis revealed that this relationship was related to the participants' attention to rhetorical choices in the text. These findings suggest that access to literary-relevant knowledge promotes more discipline-appropriate reasoning.

## 1. INTRODUCTION

When reading a work in an English Language Arts classroom, a student must not only understand the literal aspects of the plot (such as characters, setting, and major events), but also must work to make interpretations. That is, they must make inferences about what the author may have meant and how he or she used language to convey that meaning (Lee, 2007; Lee & Spratley, 2010).

Literary interpretations are inferences about the deeper meaning of a text that go beyond the world of the story to speak to the world at large (Langer, 2010; Lee, 2007). They are statements about the text's meaning "without specific reference to story elements" (Kurtz & Schoeber, 2001, p. 141). In other words, there is an important distinction between an inference about what a character learned within the world of the story and an inference about meaning beyond the story. Both are inferences about the text as a whole, but the former ties the inference to specific events, states, or characters in the text whereas the latter generalizes or abstracts from the text to more general or universal statements (McCarthy & Goldman, 2015). For example, in reference to *The Three Little Pigs*, a story-world inference might be "the third pig fared better than his friends because he worked hard to make sure the job was done correctly", whereas an abstracted, interpretive inference might be "the lesson of the story is that a job worth doing is worth doing well". Other researchers identified these interpretive inferences as *point* (Dorfman & Brewer, 1994), *thematic inferences* (Graesser, Pomeroy, & Craig, 2002; Kurtz & Schoeber, 2001; Zhang & Hoosain, 2005), *subtext* (Schraw, 1997) *significance* (Peskin, 2007), and *signification* (Rabinowitz, 1987). While there are nuances in the definitions across these terms, all constitute interpretation because they require the reader to connect information from across the entire text and to make a statement about the "deeper meaning" of the story abstracted from

text itself. For clarity, we refer to the inferences generated about the meaning of the text beyond the story world as *interpretive inferences* (McCarthy & Goldman, 2015).

The purpose of the present research is to further investigate how these interpretive inferences are constructed. We examine the impact of providing novice literary readers with access to some of the disciplinary knowledge that literary experts bring to the reading. First, we review the prior research that speaks to what the nature of this expert knowledge might be. We then experimentally manipulate a subset of these kinds of knowledge to investigate how it affects interpretive behaviors.

### **Inferences and Literary Reading**

Magliano and colleagues (Magliano, Baggett, & Graesser, 1996; Magliano & Graesser, 1991) proposed a taxonomy of 11 kinds of inferences relevant to literary texts. The first eight are important to constructing literal aspects of the story such as the goals, causal actions, and event sequences. These are the kinds of inferences that have been the focus of much of traditional discourse processing research that uses expository or narrative text as stimuli (McNamara & Magliano, 2009). Such inferences are necessary but not sufficient for successful literary reading.

The other three types of inferences in this taxonomy are reader emotion, theme, and author intent. *Reader emotion* is the affective response a reader has to the text. Although affect plays an important role in literature (Miall & Kuiken, 1994) and attention to affect has been shown to promote literary interpretation (Levine & Horton, 2013), there is disagreement regarding whether affect is in itself an inference or if it is simply a physiological response that can lead to the generation of inferences (Magliano & Graesser, 1991). Though we do not deny the importance of affect in literary interpretation, we will not further address reader emotion in this investigation.

The last two types of inferences in this taxonomy, theme and author intent, are those of interest for this study focused on literary interpretation. Theme inferences are statements about the moral or message of the text and author intent inferences are statements about the author's possible purpose for writing the text. Distinctions between these two types of inferences are sometimes blurred. However, the separation in the Magliano taxonomy highlights an important distinction in literary reasoning. What this taxonomy of inferences, and other taxonomies related to literary reasoning (e.g. Hillocks & Ludlow, 1984), reflect is that readers must not only construct an inference about what the text means, but also must reason about how the specific language used in the text is used to convey this meaning (Lee & Spratley, 2010; Levine & Horton, 2013).

### **Knowledge of the Nature and Purpose of Literature**

Comparisons of expert to novice think-alouds indicate that experts attend to specific language in the text and generate interpretive inferences. In contrast, novice literary readers in these studies tended to paraphrase the text (Earthman, 1992; Graves & Frederiksen, 1991). This suggests that novice readers tend to rely on a *literal stance*, in which their goal for reading is to understand the plot and characterization of the work instead of adopting a literary-appropriate *interpretive stance* (Goldman, McCarthy, & Burkett, 2015). Adopting a particular stance or reading goal is consistent with a goal-directed, constructionist approach to discourse comprehension (Graesser, Singer, Trabasso, 1994; van den Broek, Lorch, Linderholm, & Gustafson, 2001; van den Broek, Young, Tzeng, & Linderholm, 1999). Specifically, it is likely that this interpretive stance sets a certain *standard of coherence* (van den Broek, et al., 1999) or criterion at which successful comprehension is achieved. This standard guides the kinds of inferences that are generated.

Task instruction manipulations can also be used to encourage readers to adopt a more domain-appropriate stance toward the text. Novice readers that are biased towards an interpretive stance produced more interpretive inferences than participants biased toward a literal stance. These participants who were explicitly encouraged to adopt an interpretive stance also produced more of these inferences than participants who are not given specific direction as to which stance to adopt (McCarthy & Goldman, 2015). This highlights that understanding the nature and purpose of literary texts, in order to adopt an appropriate stance, may be prerequisite for the construction of interpretations.

### **Knowledge of Literary Conventions**

In most kinds of reading, more resources are allocated to understanding the causal structure than the surface form of the text (McNamara & Magliano, 2009). Given the emphasis on point-over-plot, one might think that this would be especially true in literary reading. However, literary theorists cite attention to the specific language of a literary work as central to the interpretive process (e.g. Lee & Spratley, 2010).

Studies that have used authentic texts indicate that “striking language” is an important feature of literary texts (Dixon, Bortolussi, Twilley, & Leung, 1993; Miall & Kuiken, 1994). Harker (1996) suggests that the purpose of reading literature is to see the world from a new perspective. He proposes that the way literature does this by using stylistic variations that place emphasis on some parts of the text and not others in order to *defamiliarize* everyday events or ideas. This defamiliarization then forces the reading to attend to the information in new ways.

Rabinowitz (1987) argues that these stylistic variations or literary conventions (standardized ways of manipulating language) might be important to literature for two reasons: 1) these stylistic variations signal to the reader that the text might have a deeper meaning, and

that it is appropriate to adopt an interpretive stance, and 2) these literary conventions highlight which parts of the text the reader should attend to as they may be a vehicle the author may use to communicate his or her message.

Rabinowitz (1987) refers to such literary conventions as *rules of notice* -- signals within the text left by the author to draw attention to certain aspects of the text. Specifically, these rules signal that the reader should not take them at face value. These rules include, but are not limited to, repetition, a shift in tone, juxtaposition, privileged position (information appearing at the beginning or end of a chapter or in the title, etc.), deviations from norms, disruptions, and discrepancies. Some conventions are common across all forms of literature, while others are only seen in some kinds of literature, such as an explicitly stated moral at the end of a fable. Others still are specific to a certain genre, such as the use of prosodic language as opposed to iambic pentameter to depict the less-educated in Shakespearean drama. If a reader does not have knowledge of these rules, then he or she may miss the signal to think about the text at a deeper level.

Research suggests that even novice readers show significantly better memory for the surface code of a literary work than a nonliterary one (Hanauer, 1998). These data showed that when readers read poetry (versus an excerpt from an encyclopedia), they read more slowly and demonstrated significantly better free recall of the surface text. These data indicate that literary text led readers to spend more time attending to the specific words and language in literary works (Hanauer, 1998). This suggests that even novice literary readers are at least somewhat aware of the importance of the specific language in literary works.

Beyond providing information for literary reasoning, knowledge of literary conventions may determine whether or not the reader approaches the text with an interpretive goal in mind.

These conventions signal to the reader that there is a need to adopt an interpretive stance (Goldman, McCarthy, & Burkett, 2015). The experts, who are familiar with and sensitive to these conventions, recognize them and are able to determine that an interpretive stance is appropriate. In the absence of direct instruction, readers appear to initially approach a text with a generic, literal stance, as it is most familiar (e.g. Earthman, 1992; McCarthy & Goldman, 2015; Peskin, 1998). If they are able to construct a satisfactory plot-level representation, they may be oblivious to the rules of notice and not move to the interpretive stance. Burkett and Goldman (2016) found that novice readers do not make note of many of these rules of notice in their think-aloud responses during reading. When they do notice, they most often attended to disruptions and discrepancies (*ruptures*). However, this noticing of ruptures did not predict interpretive behavior. One explanation of these findings is that novices lack the knowledge that rules of notice serve a purpose. A text that has many disruptions would impede local coherence. In theory, such a coherence break should encourage a switch to an interpretive stance that pulls emphasis away from local coherence and focuses on global coherence. In practice, however, it seems that novice readers are unsure of how to deal with these stylistic literary conventions. This is consistent with findings from Graves and Frederiksen (1991). When one expert read a passage from *The Color Purple*, she noted that the strangely written dialogue in the text is a dialect and identified it as Southern Black, which allowed her to contextualize the story and draw upon prior knowledge of that time and themes of race. In contrast, a novice reader recognized that the words were odd and struggled to understand them, but the novice did not further ponder why the text was written this way or any implications for “deeper” meaning.



Although novices appear to rarely adopt an interpretive stance, previous work indicates that novice readers do have some sense of genre norms. In classrooms, students are taught that in short stories they should attend to the plot and characterization of the work, whereas in poetry more emphasis is put on rhetorical choices and how the language works to create affect or imagery. In a genre manipulation study (McCarthy, 2013), the same text appeared as a poem or as a short story. Those who thought the text was a poem were more attentive to the language in their responses, but did not construct more interpretations than those who saw the text as a short story. This suggests that even if the novice reader adopts an interpretive stance and is attentive to the language, they may still struggle with the construction of an interpretation because they lack the knowledge of the function of these literary conventions. Thus, it seems that it is important to consider both types of knowledge not only in isolation, but existing within the same text, reader, or particular reading situation.

### **The Current Study**

The present research was drawn from the possible explanations of expert-novice differences mentioned above. More specifically, the following set of studies was conducted to investigate how providing knowledge about the purpose and nature of literature and knowledge about relevant literary conventions affects novice literary readers' interpretive behavior. Experiment 1 explored if 1) a reading instruction that provided information about the satiric nature of a short story and 2) a task instruction that biased novices towards an interpretive stance would encourage the generation of more interpretive inferences than control. Experiment 2 furthered this investigation by providing more specific information about the relevant literary conventions in a particular story. Expert literary readers were asked to think aloud while reading the story *The Elephant*. From their protocols, we constructed three reading instructions that

informed readers of 1) the rules of notice present in the text, 2) the satiric nature of the text and the purpose of satire, or 3) both of these pieces of information. In both experiments, we assessed and analyzed novice literary readers' essays to understand how these reading instruction manipulations affected their interpretive behavior.

## 2. EXPERIMENT 1

Experiment 1 examined the independent and combined effects of knowledge of the purpose of reading literature and of literary convention (in particular, satire) on the generation of interpretive inferences. We varied the presentation of a reading instruction that included information about satire as a rhetorical device. To test the effect of knowledge of the purpose of reading literature, we examined responses to two versions of an open-ended prompt provided after reading: one general and one biasing the reader toward interpretive meaning. We predicted that each of the manipulations would increase the amount of interpretive behavior observed.

Experiment 1 employed two stories for purposes of establishing some generalizability of the findings. A type of literary text that has successfully been employed in other investigations of interpretation is satire (e.g. Pfaff & Gibbs, 1997). Satire works particularly well for this set of experiments because satires are written to ridicule something or someone without direct criticism (Pfaff & Gibbs, 1997). Consequently, the need to construct a representation of the author's intention is important, but not explicitly stated. This requires the reader to be able to recognize the cues that indicate this deeper meaning.

### **2.1 Method**

#### **2.1.1 Participants**

Seventy-nine undergraduates (Female:  $N = 35$ ;  $M_{age} = 19.24$ ,  $SD = 1.36$ ) in an introductory psychology course at a large, urban, midwestern university received course credit for their participation. All participants reported that they had been speaking English for at least 10 years. Eight of these participants were excluded due to familiarity with the story and two were excluded due to missing data, resulting in 69 participants in the analyses.

### **2.1.2 Design & Materials**

The experiment employed a 2(reading instruction: control, satire information) x 2(open-ended response prompt: general, interpretive) mixed-design, in which the reading instruction was manipulated between-participants and the open-ended response prompt manipulated within-participants.

#### **2.1.2.1 Short Stories**

Two short stories served as stimuli. One story was *Harrison Bergeron* by Kurt Vonnegut. The story contained 2,201 words, a Flesh-Kincaid Reading Ease score of 66.4, grade equivalent of 8.9, and Lexile score of 750. The other story was an English translation of short story, *The Elephant* by Slawomir Mrozek. The story contained 1,180 words, had a Flesch-Kincaid Reading Ease score of 67.1, grade equivalent of 7.7, and a 1130 Lexile score. These two stories (See Appendix A for full versions of both stories) were chosen as they are both satiric short stories that are similar to the kinds of stories that students see in their English Language Arts classrooms, but are not so common that most students would be familiar with them. Additionally, pilot work indicated that undergraduate readers have little trouble understanding the story-world situation model of either story. This allows us to assess their interpretation of the text without concern that these processes are being hindered by story-level comprehension problems. Prior work with other students in this subject pool revealed similar patterns of interpretive behavior across the two stories (McCarthy & Goldman, 2015).

#### **2.1.2.2 Reading Instructions**

Prior to reading the text, participants were either given a control reading instruction: *Please read the following text* or were given relevant literary convention information (satire

information): *The story you are about to read is by [Kurt Vonnegut/Slawomir Mrozek]. [Vonnegut/Mrozek] is known for his use of satire. Satire is a literary device that authors sometimes use to expose or criticize an individual or a society through the use of humor, irony, exaggeration, or ridicule.*

### **2.1.2.3 Open-Ended Essay Prompts**

The open-ended essay prompts were adapted from the task instruction manipulation in McCarthy and Goldman (2015). The general prompt (*What is this story about?*) was designed to assess the participants' representation of the text without specific direction as a means of exploring spontaneous interpretive behaviors. The interpretive prompt (*What could the author be saying about the world? Why do you think he or she wrote the story?*) was designed to directly probe the participants' interpretation of the text.

### **2.1.2.4 Demographic Questionnaire**

The demographic questionnaire (Appendix B) asked participants about their age, gender, year in school, major, native language, and years of English spoken for those who indicated that English was not their native language. Participants were asked to rate their familiarity with the stories from having never read the story before to having read and analyzed the story in a class so that we could remove anyone with prior familiarity with the story. Additionally, they were asked to comment on what parts of the text or prior knowledge they had relied upon to make sense of the story.

### **2.1.3 Procedure**

Participants were run in groups of up to six, with each condition and story randomly assigned to the group. After signing informed consent, participants were given a copy of the short story. Participants were given 15 minutes to read. Once everyone in the group finished

reading, the text was collected and participants were given a task packet with the open-ended responses and demographic information. In this packet, the general prompt was always presented first. After completing the first response, participants were asked to turn the page and complete the second open-ended response with the interpretive prompt. Readers then answered a final prompt that asked the readers to comment on what parts of the text or prior knowledge they used in making sense of the text. Finally, participants completed the demographic questionnaire.

#### **2.1.4 Scoring**

The open-ended responses were parsed into idea units and scored as verbatim, paraphrase, text-based inference, interpretive inference, or “other” units, using the codebook from McCarthy and Goldman (2015; See Appendix C). Two raters were trained using the original codebook with two responses, one from each type of prompt. Both raters scored a random sample of five essays and achieved an intra-class correlation of .88. The remaining essays were divided between the two raters. To ensure continued reliability, both raters scored five of the remaining essays. This produced an intra-class correlation of .89. Less than 3% of the total idea units were categorized as other and were omitted from analyses.

#### **2.2 Results**

An initial 2(text: *Harrison Bergeron*, *The Elephant*) x 2(reading instruction: control, satire) x 2(response prompt: general, interpretive) analysis of variance (ANOVA) on the number of interpretive inferences revealed a significant text x reading instruction interaction,  $F(1, 65) = 5.05$ ,  $p < .03$ ,  $\eta^2_p = .07$ . Consequently, we analyzed the effects of reading instruction and essay prompt for each text separately.

### **2.2.1 Results for *Harrison Bergeron***

A 2x2 repeated-measures ANOVA revealed no main effect of reading instruction or essay prompt on the total number of idea units,  $F < 1.00$ . There was also no interaction,  $F < 1.00$ . Because there were no differences in overall length related to reading instruction, the following analyses for each kind of idea unit reported were based on number of idea units rather than proportions. Table 1 shows the average number of each kind of idea unit as a function of reading instruction condition.

Table 1. Means and standard deviations of each kind of idea unit as a function of reading instruction and essay prompt conditions for *Harrison Bergeron*.

	General Prompt			Interpretive Prompt		
	Verbatim/ Paraphrase	Textbased Inferences	Interpretive Inferences	Verbatim /Paraphrase	Textbased Inferences	Interpretive Inferences
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Control Instruction	1.84 (1.98)	.58 (.84)	1.47 (1.71)	.05 (.22)	.20 (.52)	3.65 (1.42)
Satire Instruction	1.67 (1.64)	.61 (.85)	1.39 (.98)	0	0	3.26 (2.13)

#### **2.2.1.1 Verbatim and Paraphrase Units**

No verbatim units were found in the responses. There was a main effect for response prompt, where participants wrote significantly less paraphrase units for the interpretive prompt

than for the general prompt,  $F(1, 29) = 26.08, p < .001, \eta^2_p = .47$ . There was no main effect of reading instruction nor was there an interaction,  $F < 1.00$ .

### **2.2.1.2 Text-Based Inference Units**

A 2x2 ANOVA indicated a main effect for essay prompt, such that participants included more text-based inferences in the general prompt response than the interpretive prompt response,  $F(1, 29) = 7.84, p < .01, \eta^2_p = .21$ . There was neither an effect of reading instruction nor an interaction,  $F < 1.00$ .

### **2.2.1.3 Interpretive Inference Units**

A 2x2 ANOVA revealed a main effect of essay prompt, but in the opposite direction of the text-based inferences, such that participants wrote significantly fewer interpretive inferences in the general prompt than the interpretive prompt,  $F(1, 29) = 35.64, p < .001, \eta^2_p = .55$ . There was neither a main effect of reading instruction nor an interaction,  $F < 1.00$ .

### **2.2.2 Results for *The Elephant***

A 2x2 repeated-measures ANOVA indicated no main effect of reading instruction on the total number of idea units in the essays,  $F < 1.00$ . However, there was a main effect of essay prompt such that participants wrote significantly less in the second, interpretive prompt response ( $M = 3.63, SD = 2.14$ ) than in the first, general response ( $M = 5.20, SD = 2.43$ ),  $F(1, 36) = 11.56, p < .01, \eta^2_p = .24$ . There was no significant interaction,  $F < 1.00$ . Because there were no differences in overall length related to reading instruction, the following analyses for each type of idea unit were based on number of idea units rather than proportions. Table II shows the mean number of idea units of each type for each reading instruction condition and prompt type.



Table II. Means and standard deviations of each kind of idea unit as a function of reading instruction and essay prompt conditions for *The Elephant*.

	General Prompt			Interpretive Prompt		
	Verbatim/ Paraphrase	Textbased Inferences	Interpretive Inferences	Verbatim /Paraphrase	Textbased Inferences	Interpretive Inferences
Control Instruction	4.5 (3.19)	.10 (.31)	.45 (1.1)	.30 (.66)	.55 (1.19)	2.25 (1.55)
Satire Instruction	2.6 (2.14)	.35 (.81)	1.4 (1.96)	.05 (.22)	.30 (.73)	2.9 (1.68)

### **2.2.2.1 Verbatim and Paraphrase Units**

No verbatim statements were found in the essays. A 2x2 ANOVA indicated a main effect of reading instruction on the production of paraphrase units, such that those in the control condition produced significantly more paraphrase statements than those in the satire information condition,  $F(1, 36) = 6.89, p < .001, \eta^2_p = .51$ . This ANOVA also indicated a main effect of response prompt, such that participants produced more paraphrase statements in the first essay (with the general prompt) than they did in the second essay (with the interpretive prompt),  $F(1, 36) = 64.73, p < .001, \eta^2_p = .64$ . The interaction was not significant,  $F(1, 36) = 3.87, ns$ .

### **2.2.2.2. Text-based Inference Units**

A 2x2 ANOVA revealed no main effect of reading instruction,  $F < 1.00$ , nor essay prompt,  $F(1, 36) = 1.13, ns$  on the amount of text-based inference idea units produced. There was no significant interaction,  $F(1, 36) = 1.77, ns$ .

### **2.2.2.3 Interpretive Inference Units**

A 2x2 ANOVA indicated main effects for both reading instruction and response prompt. More specifically, participants in the satire information condition produced significantly more

interpretive inferences than participants in the control condition,  $F(1, 36) = 8.31, p < .01, \eta^2_p = .19$ , and participants produced more interpretive inferences when responding to the interpretive prompt than when responding to the general prompt,  $F(1, 36) = 26.00, p < .001, \eta^2_p = .41$ . There was no significant interaction,  $F < 1.00$ .

### **2.3 Discussion**

This study explored the effects of providing information about a literary convention (satire) on both spontaneous and directed production of interpretive inferences. The data indicated differences in the effect of these manipulations as a function of which story the participant read.

In *The Elephant*, participants produced fewer total idea units for the interpretive prompt response than the general prompt response. It is important to acknowledge that the prompts were always presented in the same order to avoid carryover effects from the general to interpretive condition. As a result, one could argue that that these findings could simply be a result of fatigue. However, this decrease in total number of idea units was only seen for one story. In our previous research with these texts (McCarthy & Goldman, 2015), we manipulated the prompt between-subjects and similarly found that responses to the interpretive prompt were significantly shorter than those responses to the general prompt, suggesting that fatigue is not the driving factor in the present study.

The story *The Elephant* also showed sensitivity to the reading instruction manipulation such that there was a significant effect of reading instruction on number of interpretive inferences. This manipulation was not significant for *Harrison Bergeron*. Although both are satires, they reflect different genres and there are likely differences in familiarity for undergraduates. *Harrison Bergeron* is a dystopian science fiction story whereas *The Elephant* is

a surreal allegory. Dixon and Bortolussi (2009) have previously shown that novice literary readers are more familiar with the conventions and themes of science fiction than other genres of fiction. Indeed, of the eight participants excluded from the analysis, six had read *Harrison Bergeron*. In addition, participants' responses about what prior knowledge they relied on to make sense of the story revealed that 33% of participants who read *Harrison Bergeron* referenced another science fiction novel or movie, such as *1984* or *The Hunger Games*. There were no novels or movies mentioned for those who read *The Elephant*. We suspect that the reading instruction manipulation for *Harrison Bergeron* did not reach statistical significance because participants had sufficient relevant prior knowledge of literary conventions in this genre that there was no benefit to providing the information in the reading instruction. In other words, readers may have relied on prior knowledge in responding to the *Harrison Bergeron* text minimizing the impact of the information that was provided in the instructions. For *The Elephant*, the reading instruction manipulation seems to have been more informative for the readers in that it provided them with information they did not already know. Participants who were provided with the satire information produced more interpretive inferences. This suggests that providing information about a relevant literary convention (in this case, satire) encouraged them to engage in more interpretive behavior.

The composition of the essays for *The Elephant* replicated findings from McCarthy and Goldman (2015). In the general prompt, participants wrote responses that were dominated by paraphrases of the text with few interpretive inferences. In contrast, for the interpretive prompt, participants produced few paraphrases and had a higher number of interpretive inferences. Importantly, the reading instruction x essay prompt interaction did not reach significance. If it were the case that the reading instruction merely served as a cue to adopt an interpretive stance,

the interpretive prompt would have attenuated any differences in interpretive behavior between those in the satire information condition and those in the control condition. Instead, the results revealed an additive effect of the reading instruction and essay prompt on the amount of interpretive inferences produced. The findings of this experiment indicated that the literary convention information is providing or activating additional knowledge beyond simply encouraging the reader to adopt an interpretive stance toward the text. Thus, both types of knowledge are relevant for literary interpretation.

Importantly, these findings did not replicate for the *Harrison Bergeron* story, a genre for which participants reported greater familiarity. Although the lack of significant effects in *Harrison Bergeron* can be explained in ways consistent with the overall theory in question, these differences highlight an issue in text comprehension research. Since the early days of discourse comprehension, researchers have emphasized the importance of generalizability, but have noted that different texts introduce a variety of possible confounds that can make the interpretation of results difficult (Clark, 1973). Authentic literary texts, in particular, vary on a wide array of dimensions that are not captured by traditional assessments of text complexity (Burkett, Goldman, Lee, Briner, McCarthy, & Magliano, 2013; Lee & Goldman, 2015; McCarthy, Briner, Magliano, & Goldman, 2014). Experiment 1 established that participants might have prior knowledge that would encourage an interpretive stance for *Harrison Bergeron*. Thus, for purposes of more detailed investigation of the role of prior knowledge of literary conventions on adopting an interpretive stance, only one story, *The Elephant*, was used.

### **3. EXPERIMENT 2**

In Experiment 2, we further investigated how providing expert-like literary knowledge might affect novices' interpretive behavior. Rather than guess at whether, where, and what kind of cues expert literary readers would notice and use in interpreting the story, think-aloud study of expert literary readers (Study 2a) was conducted. The data from Study 2a were intended to provide an empirical basis for the design of the literary knowledge manipulation that was examined in Study 2b. Based on the results of Experiment 1, a single story, *The Elephant* was selected as the text. In Study 2a, expert literary readers read *The Elephant*, under instructions to think aloud as they were reading. These data were used to construct reading instructions that provided different types of interpretation-relevant "knowledge" to novice literary readers in Study 2b.

#### **3.1 Study 2a: Expert Think-Aloud Study**

Literary experts read a work not only to understand what the text means, but the rhetorical choices the author made to convey this meaning (Levine & Horton, 2013). Expert readers may be more likely to spontaneously produce interpretations because they are more familiar with and sensitive to these rules of notice (Goldman, McCarthy, & Burkett, 2015; McCarthy, 2015). These features help experts know when it is appropriate to adopt an interpretive stance and encourage the reader to pay more attention to important parts of the text.

One way in which we may be able to encourage novice readers to engage in interpretive reasoning is to familiarize them with these signals and inform them of their purpose. To construct such a scaffold requires us to know what parts of the text serve as signals to expert readers. In this study, we asked expert literary readers to think aloud while reading *The Elephant* to assess what parts of the text drew their attention while they read.

In previous expert-novice work, experts were defined as English graduate students or faculty. Consistent with this work, in this study experts were defined as individuals who had earned a doctoral degree in English. Experts also completed the Author Recognition Task (ART; Acheson, Welles, & MacDonald, 2008, Appendix E) -- an individual difference measure of familiarity and exposure to literature and fiction. This score was collected as additional evidence of the experts' status as experts in comparison to the undergraduate sample in Study 2b. Additionally, the experts completed the Reader Belief Inventory (RBI; Schraw & Bruning, 1996; Schraw, 2000, Appendix D). This 14-question survey assesses readers' epistemology through support of transmission beliefs (the meaning of text is determined by the author and it is the reader's job to find this meaning) and transaction beliefs (the reader co-constructs meaning with the author). The RBI was collected as a means of understanding more about our experts' literary experience and was selected because the transaction score has been shown to be positively correlated with interpretive behavior in middle, high school, and undergraduate novice samples (Mason, Scrica, & Salvi, 2006; Schraw & Bruning, 1996). However, it had not yet been tested with experts.

### **3.1.1 Method**

#### **3.1.1.1 Participants**

Participants were 4 faculty who held Ph.Ds in English and were employed as full-time members of the English Department at a small mid-Atlantic liberal arts college. Participants were recruited through posted flyers and circulated emails. They were each paid \$10 as compensation for their time.

### **3.1.1.2 Materials**

#### **3.1.1.2.1 Reader Belief Inventory**

The Reader Belief Inventory (RBI; Schraw & Bruning, 1996) is a 14-question survey that yields two dimensions: transmission score and transaction score.

#### **3.1.1.2.2 Author Recognition Task**

The Author Recognition Task (ART; Acheson, Wells, & MacDonald, 2008, Appendix E) lists 130 names. Participants are asked to put an X by those names they are certain are names of authors. The final ART score is calculated by subtracting the number of false alarm recognitions (those names marked with an X that are not famous authors) from correct recognitions. As there are 65 real authors, the highest score possible is 65.

#### **3.1.1.2.3 Think-aloud and Reading Instruction**

The think-aloud and reading instruction was adapted from Peskin (1998, 2007):

*Today you will be reading a story. When you are finished reading, you will be asked to answer a few questions about the text. As you read aloud, I'd like you to think aloud as you try to make sense of the text. Say everything you are thinking. It's just as if you are turning up the volume on your associations, inferences, or any minor thoughts as they flit through your mind. Don't censor anything.*

Graves and Frederiksen (1991), who used a similarly short and open-ended think-aloud instruction, note that such a task is “familiar and appropriate for anyone studying English literature” (p. 8). Consequently, it was decided that additional scaffolding would be unnecessary and could bias the experts into different behaviors than they would provide by themselves.

#### **3.1.1.2.4 Short Story**

The text was the same English adaptation of *The Elephant* used in Experiment 1.

### **3.1.1.3 Procedure**

Expert participants were run individually in one-hour sessions. After signing informed consent, participants completed the RBI and ART. Consistent with previous think-aloud work (Burkett, 2015; Graves & Frederiksen, 1991; Kurtz & Schober, 2001), participants were asked to read *The Elephant* aloud and “talk out loud” about what they were reading and thinking. To acquaint the participants with this process and allow them to become more comfortable with it, the experimenter modeled the think-aloud process and participants had an opportunity to practice it prior to beginning their own reading of *The Elephant*. Participants then read and thought aloud about the target text, *The Elephant*. The think-aloud was audio-recorded.

## **3.1.2 Results**

### **3.1.2.1 Reader Belief Inventory**

Higher transmission scores on the RBI indicate a stronger endorsement of the belief that there is a specific meaning left in the text by the author that the reader must discover (Schraw, 2000; Schraw & Bruning, 1996). The experts in the present study had a mean transmission score of  $M = 2.21$  ( $SD = .34$ ) and an average transaction score of  $M = 3.69$  ( $SD = .31$ ). For comparison, introductory psychology students in the original work by Schraw and Bruning had an average transmission score of  $M = 2.80$  and an average transaction score of  $M = 3.71$ .

### **3.1.2.2 Author Recognition Task**

Prior work with this version of the ART indicates that the average score for an undergraduate is  $M = 22.70$  out of a possible 65 (MacDonald, Acheson, & Welles, 2008). The expert participants in this study produced a mean score of 54.50 ( $SD = 8.29$ ), nearly three standard deviations above the undergraduate mean. Thus, the experts’ familiarity with literary works is consistent with their level of expertise.



### **3.1.2.3 Think-Aloud**

The think-aloud protocols were transcribed and analyzed for references to satire or rules of notice as well as for convergence among the experts' comments.

Importantly, even though they were not given information about the nature of the text, two of the four experts identified the text as "satire" during their think-aloud. A third did not explicitly use the term, but acknowledged the story was mocking the government. She commented: "[...] This is written in the style of absurdity. There's this absurdity to it which you see in a lot of Soviet literature, which shows the absurdity of the ways that the socialist authorities governed."

### **3.1.2.3.1 Rules of Notice**

Of Rabinowitz's (1987) six rules of notice (1) repetition, 2) tone shift, 3) juxtaposition, 4) privileged position, 5) deviations from the norm, and 6) disruptions or discrepancies), three were present in the think-alouds of multiple experts: deviations from the norm, juxtaposition, and disruption. Examples of each are provided below. Note that excerpts from the think-aloud protocols have been edited to remove disfluencies.

### **3.1.2.3.1.1 Deviations from the Norm**

In this story, the experts indicated that the story must have a deeper meaning because of its absurdity. Indeed, one expert explicitly hypothesized that the text must be satiric because of its absurd nature. She commented, "...So I'm wondering if this is a satire or a farce? Because certainly, this does not make sense as a straight story because if it was supposed to be a straight story, this would be just ridiculous and wouldn't make any sense."

### **3.1.2.3.1.2 Juxtaposition**

Three of the experts noted the sentence *Placed in front of a large real rock, [the elephant] looked fierce and magnificent* noting it was both humorous and telling that the author made a point to identify the inanimate rock as real while discussing a fake elephant. This sentence draws attention to the absurdity of the situation at hand.

### **3.1.2.3.1.3 Disruptions**

Disruptions are parts of the text that are strange or unusual and that slow comprehension. The disruptions in this text were largely related to specific word choices. Three of the four experts pondered the use of the word “carcass” to describe the hide of the rubber elephant. One noted that this was a particularly “ugly image”. Another noted that this was an unusual word to choose as a description. While they mentioned they were interested in understanding why the author chose this word instead of something more traditional, none of them resolved this in the think aloud.

All four experts commented that the choice of “the jackass” in the sentence *Outside, human voices were stilled and only the cry of the jackass interrupted the silence* was deliberate. Three of them explicitly identified the duality of this word as a jab at either the characters or the system in general.

Three of the experts noted that the final line *And they no longer believe in elephants* was interesting or “profound”. One expert noted, “How could you believe in an elephant? Well, clearly, what the word *believe* is telling me is that the elephants are metaphorical and they mean more than just the actual existence of the animal, right?”

Though the story hints at government and bureaucracy, there is only one specific mention of political parties. The sentence reads, *Blowing up an elephant is not an everyday job. And it’s*

*because our director is a leftist.* All four experts commented on this abrupt introduction of politics. Two experts noted that the sudden introduction of politics was quite surprising and, thus, something they should pay attention to. The other two, who had already suspected a political agenda in the story, used this information to confirm their suspicions that the story was intended as a criticism of socialism or communism.

### **3.1.2.3.2 Contextualization**

The think-alouds also indicate that the experts tended to contextualize the story. These experts used information from the text to figure out where the text was set and then used this information to construct their interpretation. All four experts paid attention to the line “However, as our country developed, the gaps were being filled in a well-planned manner. On the occasion of the liberation of the 22nd of July, the zoo was notified that it had at long last been allocated an elephant”. While none knew which country celebrated its liberation on July 22<sup>nd</sup>, they all discussed that they were trying to figure out where the text was set based on this information. A few lines later, the text mentioned the director sent a letter to Warsaw. All four experts acknowledged this information and were able to identify the setting of the story as Poland. Two of the experts then used this information to construct a hypothesis that the text was likely a criticism of communism or socialism. This hypothesis was later confirmed for them when one of the characters criticizes the zoo director as being a “leftist”.

### **3.1.3 Discussion**

This think-aloud study explored expert’s attention to rules of notice in the satiric story, *The Elephant*. The Author Recognition Test indicated that these experts were, unsurprisingly, highly familiar with literature. The Reader Belief Inventory indicated that these experts had lower transmission scores than undergraduates in a comparable study, but that the experts had

equivalent transaction scores to these undergraduates. This was a bit surprising, as we would have expected experts to have high transaction scores as this score is positively correlated with interpretive behavior. However, these scales are not a measure of expertise, but of individual beliefs about literature. In the Schraw and Bruning (1996) work, the cutoff points for high and low scores were one half standard deviation above or below the mean score. By this calculation, in the present study, there was one expert with high transaction beliefs, two with average endorsement of transaction beliefs, and one expert with low endorsement of transaction beliefs. This suggests that, even within experts, there is variability in epistemology. A larger sample and further investigation into how this variation may affect both on-line and post-reading behaviors would be an important future direction. Future work should explore, the variability of these scores across bands of experts as well as compare these scores to novices.

The data from the think-alouds are consistent with previous expert studies (e.g. Graves & Frederiksen, 1991; Peskin, 1998) in that these participants produced interpretations that drew on prior knowledge about conventions, themes, and the context of the story. The think-alouds also indicated that the author of *The Elephant* heavily employed disruptions and deviations from the norm to cue the reader that this story has a deeper meaning or message.

The experts also contextualized the work to understand the setting and the time when the story was written as a means of understanding what the author may have intended. They drew on prior knowledge about communism and socialism. Further examination of the effects of prior knowledge of historical context would be valuable in future work, but is outside the scope of the current investigation. It would be of value to engage in a more fine-grained analysis of these think-alouds and to compare them to think-alouds conducted with novices with or without scaffolding.

What is most important to note is that even without being told to look for an interpretive meaning and without explicit description of the short story as a satire, these experts made explicit mention of rules of notice in their reading of the story and all engaged in interpretive behaviors. Most recognized the satiric nature of the text and that this informed their interpretation of the work.

### **3.2 Study 2b: Reading Instruction Manipulation**

In Study 2b, the expert think-aloud data informed the construction of three different reading instructions to investigate how this “expert-like” knowledge affected both the generation of interpretive inferences, attention to devices and the author’s rhetorical choices and the use of these in justifications of interpretations. In the first instruction condition (rules of notice), readers were told that experts use rules of notice to signal them to think about a deeper meaning in the text. In addition several rules of notice (based on the expert data from Study 2a) were identified. In a second instructional condition (satire), readers were provided with a brief definition of satire and some examples drawn from contemporary everyday culture. Finally, the third condition combined both of these instructions, providing information about rules of notice as well as about satire.

Participants were also given the ART and RBI and a second epistemology survey that specifically targets literary reading, the Literary Epistemology Scale (LES; Yuhkemenko-Lescroart, et al., under revision). These measures were collected to 1) compare the participant’s familiarity with literature and epistemological beliefs to the experts from Study 2a and 2) explore if there were group differences in these factors across the reading instruction conditions.

In the current study, the purpose was to explore whether providing different kinds of prior knowledge impacted what, how, and why novices engaged in interpretive behavior. Thus,

we used an interpretive prompt: *What do you think the author is trying to say about the world? Be sure to use evidence from the text to support your claims.*

In the present study, we examined this relationship by exploring the meditational role of attention to language (rules of notice) on the frequency of interpretive inferences and whether this relationship was affected by the three different types of information provided in the three instructional conditions.

In order to assess participants' attention to language in the story, the essays were scored for the 1) mention of rules of notice, 2) mention of satire, 3) reference to a specific target of criticism, and 4) were given a Reasoning Score that assessed the kinds of evidence (none, event-based, language-based) used to support the claims made about the meaning of the story. We predicted that mention of rules of notice would be more likely in the essays constructed by those in the Rules of Notice and Combined reading instruction conditions. We predicted that mention of satire and reference to a specific target of criticism would be more likely in the essays constructed by those in the Satire and Combined reading instruction conditions. We also predicted that the Rules of Notice and Combined conditions would be more likely to bias participants toward relying on the language of the text, resulting in a higher Reasoning Score than the Satire instruction, which did not provide information about the language in the text. The essays were also scored for the number of each kind of idea unit (paraphrase, textbased inferences, and interpretive inferences). In particular we were interested in how the reading instruction affected the production of interpretive inferences. Rabinowitz (1987) and other rhetorical theorists indicate that attention to rules of notice is only a first step in an interpretive process. Readers must additionally engage in additional processes to construct meaning. Previous research has shown that novice readers can and do detect rules of notice, but that this

noticing does not relate to interpretive behavior (Burkett & Goldman, 2015; Graves & Frederiksen, 1991). Thus, without having further knowledge upon which to draw, the novices may not be able to use this information to generate interpretive inferences. Consequently, the Rules of Notice condition would yield the lowest number of interpretive inferences and that the combined instruction would yield the highest number of inferences and with the satire instruction falling somewhere in between. We predicted the least benefit of the rules of notice condition because rules of notice do not indicate anything about what kind of deeper meaning to look for in a text. In contrast, the satire instruction was expected to bias readers toward satiric interpretation.

In addition, we conducted meditational analyses to further analyze the relationship between the reading instruction manipulation, attention to language, and amount of interpretive inferences.

### **3.2.1 Method**

#### **3.2.1.1 Participants**

Ninety-three undergraduates (Female:  $N = 62$ ;  $M_{age} = 19.18$ ,  $SD = 1.25$ ) from the Psychology Department Subject Pool received course credit for their participation. Two participants' data were omitted due to less than 10 years of English language experience. All other participants reported that they had been speaking English for at least 10 years. Additionally, one participant's data was omitted due to non-compliance, leaving a total of 90 participants in the analysis (Rules of Notice: 29; Satire: 32; Combined: 29).

#### **3.2.1.2 Design & Materials**

This study employed a 3-level reading instruction manipulation (rules of notice, satire, combined) in a between-subjects design.

#### **3.2.1.2.1 Author Recognition Test**

The ART was again used as a measure of familiarity and exposure to literature and fiction.

#### **3.2.1.2.2 Reader Belief Inventory**

The same 14-question RBI used in the expert think-aloud was distributed to assess participants' literary epistemology. The RBI yields a transmission score and a transaction score.

#### **3.2.1.2.3 Literary Epistemology Scale**

The Literary Epistemology Scale (LES; Yuhkymehenko-Lescroart, et al., under revision) is composed of three parts (Appendix F). The first part is an 18-question Likert survey that yields three factors: multiple meanings, relevance to life, and multiple readings. The multiple meanings factor reveals the degree to which the reader believes that a text can have more than one point or message. An example question is *When my best friend and I have different opinions about what the same piece of literature means, we both can be correct.* The relevance to life factor reveals the degree to which the reader believes that reading literature can help to understand the world at large. An example question is *Reading literature helps me understand why people act the way they do.* Finally the multiple readings factor reveals the extent to which the reader believes there is value in reading a piece of literature more than once. An example question is *Reading the same piece of literature again is useless.* These factors are calculated by taking the average score on each question in the factor. Multiple readings questions were reverse coded so that a higher score reflected a stronger belief in the benefits of reading a text more than once.

#### **3.2.1.2.4 Short Story**

This study employed the same version of *The Elephant* used in Experiment 1 and Study 2b.



### **3.2.1.2.5 Comprehension Test**

A comprehension test (Appendix G) was constructed to assess participants understanding of the basic elements of the story. The experts from the previous think-aloud study were asked to identify ten main events in the story. Statements were constructed to represent these events along with ten distractor statements that were constructed using characters from the story engaging in plausible, events but that had not occurred in the story. Participants were asked to indicate whether each of the 20 events had (True) or had not (False) occurred in the story. Three versions of this test were constructed with the sentences presented in randomized orders.

### **3.2.1.2.6 Reading Instructions**

The *rules of notice instruction* was constructed based on the data from the expert think-aloud study. The three rules of notice (deviations, juxtapositions, disruptions) that were commonly used by experts while reading in *The Elephant* were included. The instruction in this condition was the following:

*The story you are about to read is The Elephant by Slawomir Mrozek. When experts read literary texts, they pay attention to clues in the text that signal to them that the text has a deeper meaning. Here are three signals that experts often noticed in The Elephant but keep in mind that not everyone noticed the same signals or all of these.*

- 1) things that deviate from the norm (things or events differ from what you might expect in the real world,*
- 2) juxtaposition (things or events that seem to contrast each other),*
- 3) disruptions (unexpected word choices, things, or events).*

*Consider this information as you read the story.*

Importantly, the phrase *keep in mind that not everyone noticed the same signals or all of these* was included to discourage participants from treating the task as a search task rather than a reading task.

The satire instruction presented a definition of satire, including its purpose. The same satire prompt from Experiment 1 was used with the inclusion of an additional paragraph that

identified examples of satire from popular media that were intended to help the students understand and apply the definition of satire.

*The story you are about to read is The Elephant by Slawomir Mrozek. Mrozek is known for his use of satire. Satire is a literary device that authors sometimes use to ridicule or criticize an individual or a society.*

*You might be familiar with how satire operates from shows like The Colbert Report, Saturday Night Live, Key & Peele, and Inside Amy Schumer. These shows use exaggeration and humor to point out and criticize current social problems. When making sense of satiric works, you should consider what the target of this criticism might be.*

The combined instruction included both the information about rules of notice and satire. It largely used the same language as the previous two reading instructions, but changed one key phrase in the first sentence of the rules of notice paragraph (bolded and underlined below) to avoid repetition and to provide the information that experts use rules of notice in recognizing and understanding texts as satiric.

*The story you are about to read is The Elephant by Slawomir Mrozek. Mrozek is known for his use of satire. Satire is a literary device that authors sometimes use to ridicule or criticize an individual or a society.*

*You might be familiar with how satire operates from shows like The Colbert Report, Saturday Night Live, Key & Peele, and Inside Amy Schumer. These shows use exaggeration and humor to point out and criticize current social problems. When making sense of satiric works, you should consider what the target of this criticism might be.*

**In order to recognize satire and to understand how it works in a particular story, experts** pay attention to clues in the text that signal to them that the text has a deeper meaning. Here are three signals that experts often noticed in The Elephant but keep in mind that not everyone noticed the same signals or all of these.

- 1) things that deviate from the norm (things or events differ from what you might expect in the real world,
- 2) juxtaposition (things or events that seem to contrast each other),
- 3) disruptions (unexpected word choices, things, or events).

### **3.2.1.2.7 Essay Prompt**

The essay prompt in Experiment 2b is an adaptation of the interpretive prompt in Experiment 1. In Experiment 1, participants were asked to respond to two questions (*What could*

*the author be saying about the world? Why do you think he or she wrote the story?*). For clarity, the prompt was simplified to a single question. The prompt read: *Please write an essay answering the following question: What do you think the author is trying to say about the world? Be sure to use evidence from the text to support your claims.* This prompt explicitly encouraged the reader to engage in interpretation as well as to justify this interpretation with evidence from the text.

#### **3.2.1.2.8 Demographic Questionnaire**

The same demographic questionnaire from Experiment 1 (Appendix B) was used.

#### **3.2.1.3 Procedure**

The Author Recognition Test (ART) and Reader Belief Inventory (RBI) were distributed at the beginning of the semester in mass testing of the Psychology Subject Pool. Participants received course credit for doing this mass testing online outside of their regular class time where they answered a series of short (five minutes or less) surveys provided by various research laboratories in the department to be used as individual difference measures. The ART and RBI were distributed to approximately one-third of the entire introductory psychology sample. Taking the ART and RBI were not prerequisite for participating in the study.

This reading instruction manipulation study was administered as paper-and-pencil task. It was conducted in groups no larger than five, with each group being randomly assigned to a reading instruction condition. After signing informed consent, participants were given the appropriate reading instruction. After all participants finished reading the story, participants turned the page and responded to the essay prompt and were encouraged to use the text as a resource while answering the question. After completing the essay, the experimenter collected

the packet. Participants then completed the comprehension test and the demographic questionnaire.

#### **3.2.1.4. Essay Scoring**

##### **3.2.1.4.1 Idea Units**

Again using the procedure and codebook from McCarthy and Goldman (2015), essays were parsed into idea units (total: 1058). The same two raters who scored Experiment 1 scored a random subset of 20 essays for verbatim/paraphrase, text-based inference units, interpretive inference units, or other, achieving an intra-class correlation of .93. Other idea units represented less than 2% of the total idea units and were not included in the analyses.

##### **3.2.1.4.2 Mentions of Rules of Notice and Satire**

We identified where rules of notice or satire were explicitly mentioned in the essays to explore how this may have been affected by reading instruction manipulation. These rules of notice included those directly mentioned in the reading instructions: deviation from the norm, disruptions, and juxtaposition. In addition to these specific terms, essays were scored for mention of these rules of notice when participants noted that behaviors or events in the story were “bizarre”, “absurd”, “extreme”, or “ludicrous in the context of the real world” (deviation from the norm). or when participants noted events or behaviors were a “contradiction” or “the exact opposite” (juxtaposition). Satire was scored when a participant mentioned “satire”, “satirical”, or “mocking”. In addition, each essay was put into one of four categories: did not mention rules of notice or satire, mentioned rules of notice, mentioned satire, or mentioned both. A score of 0 was assigned if none were present, 1 if either rules or satire was present, and 2 if both were present. Two raters, the first author and a research assistant, scored a subset of 20 essays for mention of

any of these rules of notice and/or identification of satire. They had 100% agreement. The author scored the remainder of the essays.

#### **3.2.1.4.3 Target Group**

The satire instruction indicated to the readers that satiric texts were used to mock or criticize a particular person or group. We were interested in whether this instruction would bias readers toward identifying a particular group that the story could be about. Thus, essays were also scored for mention of a particular target group. These target groups included government, media, the education system, and more general references to people in positions of authority. The same two raters scored the entire set of essays and had 100% agreement on the identification of a target group.

#### **3.2.1.4.4 Reasoning Score**

The reasoning scoring rubric was adapted and simplified from a set of literary reasoning rubrics developed to assess literary argumentation about short stories (Lee et al, in preparation). Each essay was given a Reasoning Score from 0-3. Essays scored as a zero included no claims about the world at large. Essays scored as a one included at least one claim, but no evidence. Essays scored as a two included at least one claim and at least one piece of evidence that drew upon the events in the text to support the claim, but no reference to how the author used language. Essays scored as a three included at least one claim and at least one piece of evidence that drew upon how the author uses language to convey his message (Appendix H). The same two raters independently scored the entire set of essays. The raters scored only one of the 90 essays differently. This disagreement was resolved through discussion.

### **3.2.2 Results**

A series of preliminary analyses were conducted to determine whether the ART, RBI, or LES scores differed across the reading conditions and if the reading instruction affected basic comprehension of the text.

#### **3.2.2.1 Preliminary Analyses**

Fifty-five of the participants in this study completed the ART and RBI in mass testing. These participants were evenly distributed across reading instruction conditions (Rules of Notice:  $n = 16$ ; Satire:  $n = 17$ ; Combined:  $n = 19$ ). All participants completed the LES. ART, RBI, and LES scores in each of the reading instruction conditions are reported in Appendix I.

ART Scores ranged from -1 to 32, with a mean score of 7.18 ( $SD = 6.14$ ), suggesting that these participants were less familiar with literary text than the experts in Study 2a ( $M = 54.50$ ). There was no difference in ART scores across the three reading instruction conditions,  $F < 1.00$ .

On the RBI, participants obtained a mean transmission score of 3.05 ( $SD = .57$ ), and a mean transaction score of 3.57 ( $SD = .64$ ). There were no differences in transmission or transaction RBI scores across the three conditions,  $F_s < 1.00$ .

All participants completed the Literature Epistemology Scale (Yuhkymehnkko-Lescroart, et al., under review). The 18 questions, on a Likert scale from one to six, yield three factors: *multiple meanings*, *relevance to life*, and *multiple readings*. Participants yielded a Multiple Meanings score of 5.23 ( $SD = .52$ ), a Relevance to Life score of 4.05 ( $SD = .80$ ), and a Multiple Readings score of 4.89 ( $SD = .82$ ). There were no significant differences in these epistemological factors across the reading instruction conditions, Multiple Meanings:  $F < 1.00$ ; Relevance to Life:  $F(2, 87) = 1.06$ , *ns*; Multiple Readings:  $F(2, 87) = 2.27$ , *ns*.

Given the lack of significant relationships between any of these individual differences and instruction condition, these measures are not considered further.

The comprehension test indicated that participants understood the plot of the story, with an average of 16.84 questions correct out of 20. An ANOVA revealed no significant differences across reading instruction condition,  $F < 1.00$ .

### **3.2.2.2 Kinds of Idea Units**

A three-level one-way analysis of variance (ANOVA) revealed a significant difference in total idea units as a function of reading instruction condition,  $F(2, 87) = 4.75, p < .01, \eta^2_p = .09$ . Post-hoc Tukey HSD tests indicated a significant difference between the rules of notice and combined conditions ( $p < .01$ ) such that those in the combined condition ( $M = 12.76, SD = 3.48$ ) produced significantly more idea units than those in the rules of notice condition ( $M = 10.07, SD = 3.69$ ). The satire condition ( $M = 11.78, SD = 2.93$ ) did not differ significantly from either the combined or the rules of notice conditions.

Table III shows the mean number of each kind of idea unit as a function of reading instruction condition. An ANOVA indicated the predicted effect of reading instruction condition on the number of interpretive inference idea units,  $F(2,87) = 4.83, p < .01, \eta^2_p = .10$ . Post-hoc Tukey HSD tests ( $p < .01$ ) indicated participants in the combined condition produced more interpretive inferences than participants in the rules of notice condition, but that the satire instruction condition was not significantly different from either. Two additional ANOVAs indicated no effect of reading instruction condition on the amount of verbatim/paraphrase idea units,  $F < 1.00, ns$ , nor amount of text-based inference idea units,  $F(2, 87) = 1.40, ns^1$ .

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<sup>11</sup> Due to the main effect of reading instruction on total number of idea units, we calculated the proportion of each type of idea unit in each participant's essay. A series of ANOVAs indicated

Table III. Mean number of verbatim/paraphrase, text-based inference, and interpretive inference idea units as a function of reading information condition.

	Verbatim/Paraphrase		Text-based Inferences		Interpretive Inferences	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Rules of Notice Instruction	3.79	3.09	2.41	1.88	3.86	2.31
Satire Instruction	3.34	2.09	3.38	2.73	5.06	3.05
Combined Instruction	3.72	2.49	2.9	2.25	6.14	2.92

### **3.2.2.3 Mention Score: Rules of Notice and Satire**

Table IV shows the essays categorized by mention of rules of notice and satire. A majority (75 of 90) of the essays do not explicitly mention rules of notice or satire. However, the distribution of the remaining 15 essays indicates that no participants in the Rules of Notice reading instruction produced essays that made reference to satire. In contrast, participants in the Satire and Combined conditions generated essays that included rules of notice, satire, and both.

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no main effect of reading instruction on the proportion of verbatim/paraphrase idea units,  $F(2, 87) = 1.96$ , *ns*, proportion of text-based interpretive inferences,  $F < 1.00$ , *ns*, nor proportion of interpretive inferences,  $F(2, 87) = 1.07$ , *ns*.



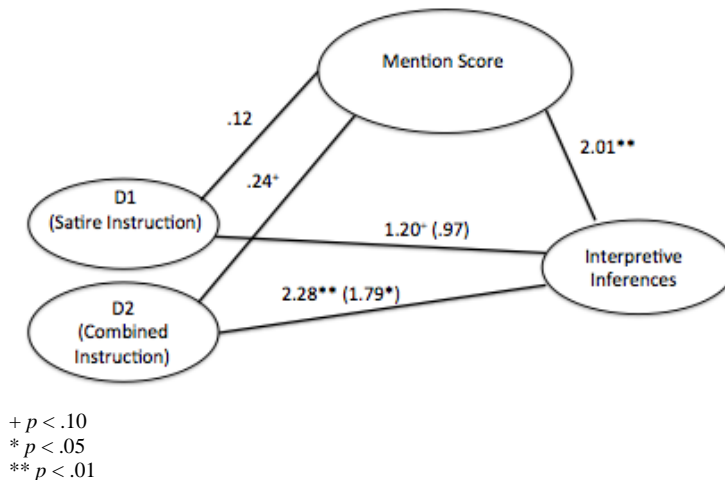
Table IV.

*Distribution of essays that included rules of notice and/or satire as a function of reading instruction condition*

	Does not Mention Rules of Notice or Satire	Mentions only Rules of Notice	Mentions only Satire	Mentions Both Rules of Notice and Satire
Rules of Notice Condition	26	3	0	0
Satire Condition	27	2	1	2
Combined Condition	22	2	2	3

To test the mediational effects of attention to rules of notice or satire as indicated by mentioning them in the essays, we used a statistical procedure appropriate for categorical variables. The PROCESS macro for SPSS employs a bootstrapping method to test the effect of a mediating variable on the relationship between a multicategorical (i.e. non-continuous) independent variable and a continuous dependent variable (Hayes & Preacher, 2014). In this case, the Rules of Notice condition was used as the referent group (D0). D1 reflects the contrast between the Satire condition and the Rules of Notice condition and D2 reflects the contrast between the Combined condition and the Rules of Notice condition. Results are based on 1000 bootstrap samples. This model is presented in Figure 1. Variables are represented in the ovals and the numbers on the lines between ovals are the unstandardized regression coefficients. These coefficients indicate the strength of the relationship between the two variables linked by the line with higher numbers indicating a stronger relationship. Significant relationships are indicated with asterisks. For the relationship directly between reading instruction (D1 and D2) and interpretive inferences, the coefficients outside of the parentheses reflect strength of the

relationship when Mention Score is not included in the analysis. The coefficients inside the parentheses reflect the strength of the relationship when the Mention Score is included. A reduction from significant to non-significant would indicate full mediation, whereas a reduction from significant at  $p < .001$  to  $p < .01$  or  $p < .05$  would indicate partial mediation. The overall model produced significant results,  $R^2 = .10$ ,  $F(2, 86) = 4.83$ ,  $p < .01$ . Consistent with predictions, adding Mention Score to the model, partially mediates the relationship between reading instruction condition and interpretive inferences,  $R^2 = .06$ ,  $F(2, 86) = 3.36$ ,  $p < .05$ . The mediation effect is driven by the combined reading instruction condition. This is indicated by the fact that the contrast between the Rules of Notice instruction and the Combined reading instruction significantly predicts Mention Score (with a point of estimate of .49 and a 95% confidence interval of .02 and 1.44), but the contrast between the Rules of Notice reading instruction and the Satire reading instruction did not significantly predict Mention Score.



*Figure 1.* Relationship between reading instruction manipulation and amount of interpretive inference mediated by Mention Score.

#### **3.2.2.4 Target Group**

As seen in Table V, thirty of the 90 participants indicated that the story was about a target group. A chi-square analysis revealed a significant relationship between this reference to a target group and reading instruction condition,  $\chi^2(1, N = 90) = 7.90, p < .02$ . To follow-up this significant Chi-Square, adjusted residuals were calculated. Residuals with an absolute value of 1.96 indicate a p-value less than .05 for that comparison (Agresti, 2002). These residuals indicated that those in the rules of notice reading instruction condition were less likely than chance to produce essays that referenced a specific group or target of criticism. In contrast, those in the satire reading instruction condition were more likely than chance to produce essays that referenced a specific target. Surprisingly, the likelihood of a participant in the combined reading instruction identifying a specific target was at chance. It worth noting that some participants specified that the story's target was government in general or an obvious jab at the American bipartisan system. Unlike the experts in Study 2a, none of the novice literary readers indicated that the story was addressing communism or socialism, suggesting that these novice readers did not possess or did not activate this historical knowledge to contextualize the story.

Table V.

*Frequency of references to a specific group as the target of criticism as a function of reading instruction condition.*

	No Reference of to Specific Target	References Specific Target	Adjusted Residuals
Rules of Notice Instruction	25	4	-2.7*
Satire Instruction	17	15	2.0*
Combined Instruction	18	11	0.6

\*  $p < .05$

### **3.2.2.5 Reasoning Score**

Table VI shows the relationship between Reasoning Score and Mention Score. The distribution indicated that these scores are related, but not redundant. That is, not all participants who mentioned rules of notice or satire constructed essays that received a Reasoning Score of three. Nor was it the case that all participants who received a Reasoning Score of three mentioned rules of notice or satire in their essay. With that in mind, it is worth noting that all five participants who mentioned both rules of notice and satire received the highest Reasoning Score.

Table VI.

*Distribution of essays based on Mention of Rules of Notice and/or Satire and Reasoning Score.*

	No Claims	Claims, No Evidence	Claims, Event Evidence	Claims, Language Evidence
No Mention of R of N or Satire	1	2	59	13
Mentions R of N	0	0	0	7
Mentions Satire	0	0	2	1
Mentions Both R of N and Satire	0	0	0	5

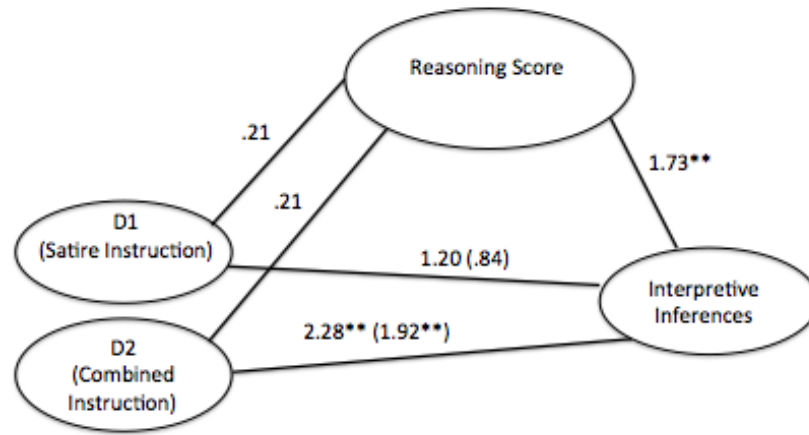
As can be seen in Table VI, most of the essays provided claims about the author's message and supported these claims with evidence. This is not surprising, given that this was explicitly asked for in the essay prompt. A majority of the participants (51 of 90) provided claims that were supported by evidence that was drawn from the events in the text. Given this distribution with many cells with less than five participants, it is inappropriate to conduct a chi-square analysis. However, it can be noted that 26 of the 90 participants wrote essays that included claims that were supported by evidence drawn from attention to use of specific language in the text. Interestingly, most of these participants were in the Satire reading instruction condition that did not include instruction to attend to language rather than the Rules of Notice or Combined condition which did include this information.

Table VII.

*Distribution of essays based on Reasoning Score and reading instruction condition.*

	(0) No Claims	(1) Claims, No Evidence	(2) Claims, Event Evidence	(3) Claims, Language Evidence
Rules of Notice Instruction	0	0	26	3
Satire Instruction	1	2	15	14
Combined Instruction	0	0	20	9

The same PROCESS macro was used to investigate the effect of Reasoning Score on the relationship between reading instruction condition and the amount of interpretive inferences in the essay. As seen in Figure 2, the overall model was significant  $R^2 = .10$ ,  $F(2, 86) = 4.83$ ,  $p < .01$ . When Reasoning Score was added into the model, the relationship between reading instruction and amount of interpretive inferences was partially mediated,  $R^2 = .07$   $F(2, 86) = 3.77$ ,  $p < .05$ . Sobel tests to look at the relationship between each level of the reading instruction manipulation and the amount of interpretive inferences indicated that this mediation was driven by the Combined reading instruction condition with a point of estimate of .36 and a 95% confidence interval of .02 and 1.15.



\*\* $p < .01$

*Figure 2.* Relationship between reading instruction manipulation and amount of interpretive inference mediated by reasoning score.

### **3.2.3 Discussion**

This reading instruction manipulation study revealed that providing different kinds of expert-like knowledge to novice literary readers affected the amount of interpretative inferences produced. As predicted, participants in the rules of notice condition produced significantly fewer interpretive inferences than those in the combined condition. Additionally, mediational analyses using Mention Score and Reasoning Score suggested that this relationship between reading instruction and interpretive inferences could be explained, at least in part, by participants' attention to rules of notice and satire expressed in their written responses. These findings suggest that experts are relying on specific information about both the nature and purpose of reading literature and information about literary conventions and what they mean in order to generate

interpretations. Further, providing these kinds of knowledge to novice readers, even in a short lab study, appeared to encourage them to engage in more discipline-appropriate behavior.

The increase in interpretive practices even within this limited lab-based study, suggests that additional scaffolding and training of the type reflected in the instructional conditions in this study would lead to greater effects and perhaps long-lasting increases in interpretive behavior.

Literary researchers have noted that students' difficulty with literary reasoning is due not only to issues of comprehension, but also issues of composition (Lee & Goldman, 2015). Thus, it may be that novice readers are attending to this information during reading, but do not know how to construct appropriate arguments that include using the language of the text and connecting evidence and claims through explicit warrants. It would be of value to do further research that teaches not only how to read literature, but also how to write about literature and to do more fine-grained analysis of the subsequent written arguments. One educational application for this work would be to construct a longer-term intervention that exposes novice readers to expert knowledge that includes not only how to identify that a text should be interpreted, but also the process through which experts construct their interpretations and how experts construct written arguments about their interpretations. Interpreting meaning from a work is an important part of literary reading. Such an intervention would allow students time to practice these skills as well as receive feedback on their work and also allow them to see how these themes and rhetorical choices manifest across a variety of texts.

Another direction for this kind of work would be in training other types of expert knowledge. As seen in previous expert-novice comparison studies (e.g. Graves & Frederiksen, 1991; Peskin, 1998) experts have prior knowledge about common themes and genres of works, but also knowledge about specific authors or groups of authors who repeatedly use a certain



rhetorical device or often write about a certain set of themes. With this comes prior knowledge about the time and place a story was written and, importantly, the knowledge that literary works should be contextualized. As mentioned previously, all four experts identified that the story took place in Poland and a majority of them used this information to interpret that the story was a satire meant to mock Soviet-era communism. In contrast, none of the ninety novice readers mentioned communism. The essays reveal that the novices were quite egocentric –suggesting that the story was about American politics or that the story was an obvious allusion to lazy millennials. These interpretations are not inherently incorrect. Indeed, good works of literature often have themes that are timeless (which is why directors can stage and restage Shakespearean dramas in a variety of times and settings), however, Graesser and colleagues (1994) suggest that interpretations are likely “difficult to construct without the pragmatic context of the text, such as who wrote the text, why it was written, who read the text, and why it was read” (p. 373). This is to say that, even if a reader adopts an interpretive stance, it may be difficult to generate inferences about the author’s intended meaning if the reader has no knowledge about the author or the time in which the author was writing (Lee & Spratley, 2010). Understanding the context of the work (the biographical or historical background of a work; Charters, 1991), is likely an important aspect of knowledge that experts can activate that sheds light upon why it was written, the messages the author may be trying to communicate, and the techniques the author might be using to communicate those messages (i.e. what literary conventions might be particularly relevant to this text) all of which are relevant to the construction of interpretations. Further work should be conducted to encourage novice literary readers to consider where and when the text might have been written and how this might color their interpretation.

#### 4. GENERAL DISCUSSION

The overall goal of the present study was to examine the impact of providing novice literary readers with different amounts and types of knowledge of literature hypothesized to be important in literary interpretation. A review of the existing research indicated that literary experts engage in a variety of interpretive behaviors that are uncommon in novices (e.g. Graves & Frederiksen, 1991, Peskin, 1998). Literary experts tend to make inferences, connect ideas to the world outside the text, and justify claims about authors' messages by appealing to features of the way authors use language in their texts. Novices, on the other hand, tend to paraphrase what they read and inference tend to remain within the world of the text they are reading. The experiments reported in this paper stem from the assumption that these differences in the amount and quality of interpretations generated by literary experts as compared to novices are related to differences in the kinds of knowledge that experts draw upon when reading and writing about literary works. In these experiments, we manipulated the explicitness of the idea that the purpose of reading literature was to construct an interpretation as well as the information provided about various literary conventions and their function with respect to this interpretive meaning. We examined the impact of these manipulations on the content of novice readers' essays in response to question prompts that varied in terms of how explicitly they asked for interpretations.

Experiment 1 manipulated reading instruction and essay prompt. Analysis of the essays about the story *The Elephant* indicated that participants who received the control reading instruction produced less interpretive inferences than those who received the reading instruction that identified the text as satire and explained the purpose of satire. Analyses also indicated that the interpretive essay prompt yielded more interpretive inferences than the general essay prompt. In Experiment 2, the think-alouds of literary experts guided the construction of reading

instructions that 1) provided information about rules of notice, 2) defined satire with examples, or 3) combined the two. We then examined the effects of the three reading instructions on the number of interpretive inferences generated, the attention to language referred to in the essays, and the reasoning that was reflected in these essays. The data revealed that participants who received the combined reading instruction that included both rules of notice and satire information produced the most interpretive inferences. Further analysis indicated that this relationship between reading instruction and interpretive inference generation was partially mediated by both mention of rules of notice or satire (Mention Score) as well as quality of reasoning (Reasoning Score). This study has shown that constructing interpretive inferences is a strategic process that requires the activation of a variety of kinds of knowledge. Together, these two experiments suggest that differences in knowledge of literary conventions and structural forms may indeed be one important source of differences in the way literary novices and experts “read” literary texts.

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## 6. APPENDICES

### Appendix A

*Text of Harrison Bergeron*

THE YEAR WAS 2081, and everybody was finally equal. They weren't only equal before God and the law. They were equal every which way. Nobody was smarter than anybody else. Nobody was better looking than anybody else. Nobody was stronger or quicker than anybody else. All this equality was due to the 211th, 212th, and 213th Amendments to the Constitution, and to the unceasing vigilance of agents of the United States Handicapper General.

Some things about living still weren't quite right, though. April for instance, still drove people crazy by not being springtime. And it was in that clammy month that the H-G men took George and Hazel Bergeron's fourteen-year-old son, Harrison, away.

It was tragic, all right, but George and Hazel couldn't think about it very hard. Hazel had a perfectly average intelligence, which meant she couldn't think about anything except in short bursts. And George, while his intelligence was way above normal, had a little mental handicap radio in his ear. He was required by law to wear it at all times. It was tuned to a government transmitter. Every twenty seconds or so, the transmitter would send out some sharp noise to keep people like George from taking unfair advantage of their brains.

George and Hazel were watching television. There were tears on Hazel's cheeks, but she'd forgotten for the moment what they were about.

On the television screen were ballerinas.

A buzzer sounded in George's head. His thoughts fled in panic, like bandits from a burglar alarm.

"That was a real pretty dance, that dance they just did," said Hazel.

"Huh" said George.

"That dance-it was nice," said Hazel.

"Yup, " said George. He tried to think a little about the ballerinas. They weren't really very good-no better than anybody else would have been, anyway. They were burdened with sashweights and bags of birdshot, and their faces were masked, so that no one, seeing a free and graceful gesture or a pretty face, would feel like something the cat drug in. George was toying with the vague notion that maybe dancers shouldn't be handicapped. But he didn't get very far with it before another noise in his ear radio scattered his thoughts.

George winced. So did two out of the eight ballerinas.

Hazel saw him wince. Having no mental handicap herself, she had to ask George what the latest sound had been.

"Sounded like somebody hitting a milk bottle with a ball peen hammer, " said George.

"I'd think it would be real interesting, hearing all the different sounds," said Hazel a little envious. "All the things they think up."

"Urn, " said George.

"Only, if I was Handicapper General, you know what I would do?" said Hazel. Hazel, as a matter of fact, bore a strong resemblance to the Handicapper General, a woman named Diana Moon Glampers. "If I was Diana Moon Glampers," said Hazel, "I'd have chimes on Sunday- just chimes. Kind of in honor of religion."

"I could think, if it was just chimes," said George.

"Well-maybe make 'em real loud," said Hazel. "I think I'd make a good Handicapper General."

"Good as anybody else," said George.

"Who knows better then I do what normal is?" said Hazel.

"Right," said George. He began to think glimmeringly about his abnormal son who was now in jail, about Harrison, but a twenty-one-gun salute in his head stopped that.

"Boy!" said Hazel, "that was a doozy, wasn't it?"

It was such a doozy that George was white and trembling, and tears stood on the rims of his red eyes. Two of the eight ballerinas had collapsed to the studio floor, were holding their temples.

"All of a sudden you look so tired," said Hazel. "Why don't you stretch out on the sofa, so's you can rest your handicap bag on the pillows, honeybunch." She was referring to the forty-seven pounds of birdshot in a canvas bag, which was padlocked around George's neck. "Go on and rest the bag for a little while," she said. "I don't care if you're not equal to me for a while."

George weighed the bag with his hands. "I don't mind it," he said. "I don't notice it any more. It's just a part of me."

"You been so tired lately-kind of wore out," said Hazel. "If there was just some way we could make a little hole in the bottom of the bag, and just take out a few of them lead balls. Just a few."

"Two years in prison and two thousand dollars fine for every ball I took out," said George. "I don't call that a bargain."

"If you could just take a few out when you came home from work," said Hazel. "I mean-you don't compete with anybody around here. You just set around."

"If I tried to get away with it," said George, "then other people'd get away with it-and pretty soon we'd be right back to the dark ages again, with everybody competing against everybody else. You wouldn't like that, would you?"

"I'd hate it," said Hazel.

"There you are," said George. The minute people start cheating on laws, what do you think happens to society?"

If Hazel hadn't been able to come up with an answer to this question, George couldn't have supplied one. A siren was going off in his head.

"Reckon it'd fall all apart," said Hazel.

"What would?" said George blankly.

"Society," said Hazel uncertainly. "Wasn't that what you just said?"

"Who knows?" said George.

The television program was suddenly interrupted for a news bulletin. It wasn't clear at first as to what the bulletin was about, since the announcer, like all announcers, had a serious speech impediment. For about half a minute, and in a state of high excitement, the announcer tried to say, "Ladies and Gentlemen."

He finally gave up, handed the bulletin to a ballerina to read.

"That's all right-" Hazel said of the announcer, "he tried. That's the big thing. He tried to do the best he could with what God gave him. He should get a nice raise for trying so hard."

"Ladies and Gentlemen," said the ballerina, reading the bulletin. She must have been extraordinarily beautiful, because the mask she wore was hideous. And it was easy to see that she was the strongest and most graceful of all the dancers, for her handicap bags were as big as those worn by two-hundred pound men.

And she had to apologize at once for her voice, which was a very unfair voice for a woman to use. Her voice was a warm, luminous, timeless melody. "Excuse me-" she said, and she began again, making her voice absolutely uncompetitive.

"Harrison Bergeron, age fourteen," she said in a grackle squawk, "has just escaped from jail, where he was held on suspicion of plotting to overthrow the government. He is a genius and an athlete, is under-handicapped, and should be regarded as extremely dangerous."

A police photograph of Harrison Bergeron was flashed on the screen-upside down, then sideways, upside down again, then right side up. The picture showed the full length of Harrison against a background calibrated in feet and inches. He was exactly seven feet tall.

The rest of Harrison's appearance was Halloween and hardware. Nobody had ever born heavier handicaps. He had outgrown hindrances faster than the H-G men could think them up. Instead of a little ear radio for a mental handicap, he wore a tremendous pair of earphones, and spectacles with thick wavy lenses. The spectacles were intended to make him not only half blind, but to give him whanging headaches besides.

Scrap metal was hung all over him. Ordinarily, there was a certain symmetry, a military neatness to the handicaps issued to strong people, but Harrison looked like a walking junkyard. In the race of life, Harrison carried three hundred pounds.

And to offset his good looks, the H-G men required that he wear at all times a red rubber ball for a nose, keep his eyebrows shaved off, and cover his even white teeth with black caps at snaggle-tooth random.

"If you see this boy, " said the ballerina, "do not - I repeat, do not - try to reason with him."

There was the shriek of a door being torn from its hinges.

Screams and barking cries of consternation came from the television set. The photograph of Harrison Bergeron on the screen jumped again and again, as though dancing to the tune of an earthquake.

George Bergeron correctly identified the earthquake, and well he might have - for many was the time his own home had danced to the same crashing tune. "My God-" said George, "that must be Harrison!"

The realization was blasted from his mind instantly by the sound of an automobile collision in his head.

When George could open his eyes again, the photograph of Harrison was gone. A living, breathing Harrison filled the screen.

Clanking, clownish, and huge, Harrison stood - in the center of the studio. The knob of the uprooted studio door was still in his hand. Ballerinas, technicians, musicians, and announcers cowered on their knees before him, expecting to die.

"I am the Emperor!" cried Harrison. "Do you hear? I am the Emperor! Everybody must do what I say at once!" He stamped his foot and the studio shook.

"Even as I stand here" he bellowed, "crippled, hobbled, sickened - I am a greater ruler than any man who ever lived! Now watch me become what I can become!"

Harrison tore the straps of his handicap harness like wet tissue paper, tore straps guaranteed to support five thousand pounds.

Harrison's scrap-iron handicaps crashed to the floor.

Harrison thrust his thumbs under the bar of the padlock that secured his head harness. The bar snapped like celery. Harrison smashed his headphones and spectacles against the wall.

He flung away his rubber-ball nose, revealed a man that would have awed Thor, the god of thunder.

"I shall now select my Empress!" he said, looking down on the cowering people. "Let the first woman who dares rise to her feet claim her mate and her throne!"

A moment passed, and then a ballerina arose, swaying like a willow.

Harrison plucked the mental handicap from her ear, snapped off her physical handicaps with marvelous delicacy. Last of all he removed her mask.

She was blindingly beautiful.

"Now-" said Harrison, taking her hand, "shall we show the people the meaning of the word dance? Music!" he commanded.

The musicians scrambled back into their chairs, and Harrison stripped them of their handicaps, too. "Play your best," he told them, "and I'll make you barons and dukes and earls."

The music began. It was normal at first-cheap, silly, false. But Harrison snatched two musicians from their chairs, waved them like batons as he sang the music as he wanted it played. He slammed them back into their chairs.

The music began again and was much improved.

Harrison and his Empress merely listened to the music for a while-listened gravely, as though synchronizing their heartbeats with it.

They shifted their weights to their toes.

Harrison placed his big hands on the girl's tiny waist, letting her sense the weightlessness that would soon be hers.

And then, in an explosion of joy and grace, into the air they sprang!

Not only were the laws of the land abandoned, but the law of gravity and the laws of motion as well.

They reeled, whirled, swiveled, flounced, capered, gamboled, and spun.

They leaped like deer on the moon.

The studio ceiling was thirty feet high, but each leap brought the dancers nearer to it.

It became their obvious intention to kiss the ceiling. They kissed it.

And then, neutralizing gravity with love and pure will, they remained suspended in air inches below the ceiling, and they kissed each other for a long, long time.

It was then that Diana Moon Glampers, the Handicapper General, came into the studio with a double-barreled ten-gauge shotgun. She fired twice, and the Emperor and the Empress were dead before they hit the floor.

Diana Moon Glampers loaded the gun again. She aimed it at the musicians and told them they had ten seconds to get their handicaps back on.

It was then that the Bergerons' television tube burned out.

Hazel turned to comment about the blackout to George. But George had gone out into the kitchen for a can of beer.

George came back in with the beer, paused while a handicap signal shook him up. And then he sat down again. "You been crying" he said to Hazel.

"Yup, " she said.

"What about?" he said.

"I forget," she said. "Something real sad on television."

"What was it?" he said.

"It's all kind of mixed up in my mind," said Hazel.

"Forget sad things," said George.

"I always do," said Hazel.

"That's my girl," said George. He winced. There was the sound of a riveting gun in his head.

"Gee - I could tell that one was a doozy, " said Hazel.

"You can say that again," said George.

"Gee-" said Hazel, "I could tell that one was a doozy."

*Text of The Elephant*

The director at the Zoological Gardens had shown himself to be an upstart. He regarded his animals simply as stepping stones on the road of his own career. He was indifferent to the educational importance of his establishment. In his zoo the giraffe had a short neck, the badger had no burrow and the whistlers, having lost all interest, whistled rarely and with some reluctance. These shortcomings should not have been allowed, especially as the zoo was often visited by parties of schoolchildren.

The zoo was in a provincial town, and it was short of some of the most important animals, among them the elephant. Three thousand rabbits were a poor substitute for the noble giant. However, as our country developed, the gaps were being filled in a well-planned manner. On the occasion of the anniversary of the liberation on the 22<sup>nd</sup> of July, the zoo was notified that it had at long last been allocated an elephant. All the staff, who were devoted to their work, rejoiced at this news. All the greater was their surprise when they learned that the director had sent a letter to Warsaw, renouncing the allocation and putting forward a plan for obtaining an elephant by more economic means.

"I, and the staff" he had written, "are fully aware how heavy a burden falls upon the shoulders of Polish miners and foundry men because of the elephant. Desirous of reducing our costs, I suggest that the elephant mentioned in your communication should be replaced by one of our own procurement. We can make an elephant out of rubber, or the correct size, fill it with air and place it behind railings. It will be carefully painted the correct color and even on close inspection will be indistinguishable from the real animal. It is well known that the elephant is a sluggish animal and it does not run and jump about. In the notice on the railings we can state that this particular elephant is particularly sluggish. The money saved in this way can be turned to the purchase of a jet plane or the conservation of some church monument.

"Kindly note that both the idea and its execution are my modest contribution to the common task and struggle."

This communication must have reached a soulless official, who regarded his duties in a purely bureaucratic manner and did not examine the heart of the matter but, following only the directive about reduction of expenditure, accepted the director's plan. On hearing the Ministry's approval, the director issues instruction for the making of the rubber elephant.

The carcass was to have been filled with air by two keepers blowing into it from opposite ends. To keep the operation secret the work was to be completed during the night because the people of the town, having heard that an elephant was joining the zoo, were anxious to see it. The director insisted on haste also because he expected a bonus, should his idea turn out to be a success.

The two keepers locked themselves in a shed normally housing a workshop, and began to blow. After two hours of hard blowing they discovered that the rubber skin had risen only a few inches above the floor and its bulge in no way resembled an elephant. The night progressed. Outside, human voices were stilled and only the cry of the jackass interrupted the silence. Exhausted, the keepers stopped blowing and made sure the air already inside the elephant should not escape. They were not young and were unaccustomed to this kind of work.

"If we are to go on at this rate," said one of them, "we shan't finish by morning. And what am I to tell my missus? She'll never believe me if I say that I spent the night blowing up an elephant."

"Quite right," agreed the second keeper. "Blowing up an elephant is not an everyday job. And it's because our director is a leftist."

They resumed their blowing, but after another half-hour they felt too tired to continue. The bulge on the floor was larger but still nothing like the shape of an elephant.

"It's getting harder all the time," said the first keeper.

"It's an uphill job, all right," agreed the second. "Let's have a little rest."

While they were resting, one of them noticed a gas pipe ending in a valve. Could they not fill the elephant with gas? He suggested it to his mate.

They decided to try. They connected the elephant to the gas pipe, turned on the valve, and to their joy in a few minutes there was a full sized beast standing in the shed. It looked real: the enormous body, legs like columns, huge ears and the inevitable trunk. Driven by ambition the direction had made sure of having in his zoo a very large elephant indeed.

"First class," declared the keeper who had the idea of using gas. "Now we can go home."

In the morning the elephant was moved to a special run in a central position, next to the monkey cage. Placed in front of a large real rock it looked fierce and magnificent. A big notice proclaimed: "Particularly sluggish. Hardly moves."

Among the first visitors that morning was a party of children from the local school. The teacher in charge of them was planning to give them an object-lesson about the elephant. He halted the group in front of the animal and began:

"The elephant is a herbivorous mammal. By means of its trunk it pulls out young trees and eats their leaves."

The children were looking at the elephant with enraptured admiration. They were waiting for it to pull out a young tree, but the beast stood still behind the railings.

"...The elephant is a direct descendant of the now-extinct mammoth. It's not surprising, therefore, that it's the largest living land animal."

The more conscientious pupils were making notes.

"...Only the whale is heavier than the elephant, but then the whale lives in the sea. We can safely say that on land the elephant reigns supreme."

A slight breeze moved the branches of the trees in the zoo.

"The weight of a fully grown elephant is between one and thirteen thousand pounds."

At that moment the elephant shuddered and rose in the air. For a few seconds it stayed just above the ground, but a gust of wind blew it upward until its mighty silhouette was against the sky. For a short while people on the ground could see the four circles of its feet, its bulging belly and the trunk, but soon, propelled by the wind, the elephant sailed above the fence and disappeared above the treetops. Astonished monkeys in their cage continued staring at the sky.

They found the elephant in the neighboring botanical gardens. It had landed on a cactus and punctured its rubber hide.

The schoolchildren who had witnessed the scene in the zoo soon started neglecting their studies and turned into hooligans. It is reported they drink liquor and break windows. And they no longer believe in elephants.

**Appendix B**

PIN: \_\_\_\_\_

Year in School      FR      SO      JR      SR

Major: \_\_\_\_\_

Native Language: \_\_\_\_\_

If your native language is NOT English, how long have you spoken English? \_\_\_\_\_

How familiar are you with the story that you read today? (Circle one)

I had never seen this story before.

This story seemed familiar to me.

I have read this story before.

I have read this story and analyzed it in a class before.

What parts of the text or prior knowledge did you use to make your interpretation and how did they help you to understand the author's message?

Have you ever taken any AP English or undergraduate level English courses? If so, which ones?



### Appendix C

Open-Ended Response Scoring adapted from McCarthy & Goldman (2015)

	Description	Example from <i>Harrison Bergeron</i>	Example from <i>The Elephant</i>
Verbatim	Copied directly from the text	<i>The Handicapper General, came into the studio with a double-barreled ten-gauge shotgun. She fired twice, and the Emperor and the Empress were dead before they hit the floor.</i>	<i>The schoolchildren who had witnessed the scene in the zoo soon started neglecting their studies and turned into hooligans. It is reported they drink liquor and break windows. And they no longer believe in elephants.</i>
Paraphrase	Rewording of the sentences from the text; Summary or combining of multiple sentences from the text	<i>Then [Harrison] and the ballerina were killed by Diana Moon Glampers, the [sic] Handicapped General.</i>	<i>After seeing this the students gave up on education became drunks and stopped believing in elephants.</i>
Text-Based Inference	Reasoning-based on information presented in the story, with some use of prior knowledge; connecting information from two parts of the text	<i>Diana Moon Glampers killed them because they tried to show their true selves.</i>	<i>After being deceived [sic] by the fake elephant, the children became poor students, and grew up behaving badly because they were lied to.</i>
Interpretive Inference	Inferences that reflect nonliteral, interpretive interpretations of the text	<i>It shows what kind of a place the world can turn out to be if we let [the government] get out of control.</i>	<i>The theme is that being lied to ends the innocence of the young boys and girls.</i>

**Appendix D**  
Reader Belief Inventory (RBI; Schraw, 2000; Schraw & Bruning, 1996)

	1 – Strongly disagree	2	3	4	5 – Strongly Agree
Good readers remember most of what they read verbatim	1	2	3	4	5
The main purpose of reading is to learn new information	1	2	3	4	5
I like to pay attention to the author's style while I read	1	2	3	4	5
When I read, I try to bring away exactly what they author meant	1	2	3	4	5
I often have strong emotional responses to what I read	1	2	3	4	5
I like poetry more than technical text because it is more interpretive	1	2	3	4	5
People should agree on what a book means	1	2	3	4	5
When I read, I like to imagine I am living through the experience myself	1	2	3	4	5
Reading for pleasure is the best kind of reading	1	2	3	4	5
I like books in which the author's message is strong and clear	1	2	3	4	5
I enjoy sharing the thoughts and reactions of characters in a book	1	2	3	4	5
When I read, I focus on what the author says is important	1	2	3	4	5
Most books mean exactly what they say	1	2	3	4	5
When I read, I focus more on how I feel about the information than on what I learn	1	2	3	4	5

## Appendix E

### Author Recognition Test (Acheson, Wells & MacDonald, 2008)

Below is a list of names. Some of them are authors of books, and some of them are not. Please put a check mark next to the ones that you know for sure are authors. There is a penalty for guessing, so you should check only those names about which you are absolutely certain. Thank you.

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Patrick Banville      | <input type="checkbox"/> Umberto Eco            | <input type="checkbox"/> Elizabeth May Kenyon |
| <input type="checkbox"/> Kristen Steinke       | <input type="checkbox"/> David Ashley           | <input type="checkbox"/> Frederick Mundow     |
| <input type="checkbox"/> Ernest Hemingway      | <input type="checkbox"/> Jack London            | <input type="checkbox"/> Tony Hillerman       |
| <input type="checkbox"/> Clive Cussler         | <input type="checkbox"/> Seth Bakis             | <input type="checkbox"/> Amy R. Baskin        |
| <input type="checkbox"/> Hiroyuki Oshita       | <input type="checkbox"/> Padraig O'seaghda      | <input type="checkbox"/> James Clavell        |
| <input type="checkbox"/> Kurt Vonnegut         | <input type="checkbox"/> E.B. White             | <input type="checkbox"/> Salmon Rushdie       |
| <input type="checkbox"/> Anne McCaffrey        | <input type="checkbox"/> Giles Mallon           | <input type="checkbox"/> Maryann Phillips     |
| <input type="checkbox"/> Elinor Haring         | <input type="checkbox"/> Raymond Chandler       | <input type="checkbox"/> Scott Alexander      |
| <input type="checkbox"/> Sue Grafton           | <input type="checkbox"/> Isabel Allende         | <input type="checkbox"/> Ayn Rand             |
| <input type="checkbox"/> Lisa Woodward         | <input type="checkbox"/> Amy Graham             | <input type="checkbox"/> Alex D. Miles        |
| <input type="checkbox"/> David Harper Townsend | <input type="checkbox"/> Marion Coles Snow      | <input type="checkbox"/> Margaret Mitchell    |
| <input type="checkbox"/> Anna Tsing            | <input type="checkbox"/> George Orwell          | <input type="checkbox"/> Leslie Kraus         |
| <input type="checkbox"/> T.C. Boyle            | <input type="checkbox"/> Maya Angelou           | <input type="checkbox"/> Ralph Ellison        |
| <input type="checkbox"/> Jonathan Kellerman    | <input type="checkbox"/> Bernard Malamud        | <input type="checkbox"/> Sidney Sheldon       |
| <input type="checkbox"/> Cameron McGrath       | <input type="checkbox"/> John Grisham           | <input type="checkbox"/> Brian Herbert        |
| <input type="checkbox"/> F. Scott Fitzgerald   | <input type="checkbox"/> Erich Fagles           | <input type="checkbox"/> Sue Hammond          |
| <input type="checkbox"/> A.C. Kelly            | <input type="checkbox"/> Walter Dorris          | <input type="checkbox"/> Jared Gibbons        |
| <input type="checkbox"/> Peter Flaegerty       | <input type="checkbox"/> Gabriel Garcia Marquez | <input type="checkbox"/> Michael Ondaatje     |
| <input type="checkbox"/> Kazuo Ishiguro        | <input type="checkbox"/> Virginia Woolf         | <input type="checkbox"/> Thomas Wolfe         |
| <input type="checkbox"/> Jane Smiley           | <input type="checkbox"/> John Landau            | <input type="checkbox"/> Jeremy Weissman      |
| <input type="checkbox"/> James Patterson       | <input type="checkbox"/> Toni Morrison          | <input type="checkbox"/> Willa Cather         |
| <input type="checkbox"/> Martha Farah          | <input type="checkbox"/> Harriet Troudeau       | <input type="checkbox"/> J.D. Salinger        |
| <input type="checkbox"/> Craig DeLord          | <input type="checkbox"/> Roswell Strong         | <input type="checkbox"/> Antonia Cialdini     |
| <input type="checkbox"/> Nora Ephron           | <input type="checkbox"/> J.R.R. Tolkien         | <input type="checkbox"/> Lisa Hong Chan       |
| <input type="checkbox"/> Ann Beattie           | <input type="checkbox"/> Margaret Atwood        | <input type="checkbox"/> Samuel Beckett       |
| <input type="checkbox"/> Stewart Simon         | <input type="checkbox"/> Seamus Huneven         | <input type="checkbox"/> Beatrice Dobkin      |
| <input type="checkbox"/> Danielle Steel        | <input type="checkbox"/> Harper Lee             | <input type="checkbox"/> Wally Lamb           |
| <input type="checkbox"/> Dick Francis          | <input type="checkbox"/> Chris Schwartz         | <input type="checkbox"/> Katherine Kreutz     |
| <input type="checkbox"/> Ted Mantel            | <input type="checkbox"/> Walter LeMour          | <input type="checkbox"/> James Michener       |
| <input type="checkbox"/> I.K. Nachbar          | <input type="checkbox"/> Alice Walker           | <input type="checkbox"/> William Faulkner     |
| <input type="checkbox"/> Judith Krantz         | <input type="checkbox"/> Elizabeth Engle        | <input type="checkbox"/> Isaac Asimov         |
| <input type="checkbox"/> Thomas Pynchon        | <input type="checkbox"/> T.S. Elliot            | <input type="checkbox"/> Lindsay Carter       |
| <input type="checkbox"/> Wayne Fillback        | <input type="checkbox"/> Marvin Benoit          | <input type="checkbox"/> Paul Theroux         |
| <input type="checkbox"/> Harry Coltheart       | <input type="checkbox"/> Joyce Carol Oates      | <input type="checkbox"/> Francine Preston     |
| <input type="checkbox"/> Gary Curwen           | <input type="checkbox"/> Jessica Ann Lewis      |   |
| <input type="checkbox"/> Herman Wouk           | <input type="checkbox"/> Nelson Demille         |   |
| <input type="checkbox"/> Geoffrey Pritchett    | <input type="checkbox"/> Arturo Garcia Perez    |   |
| <input type="checkbox"/> Ray Bradbury          | <input type="checkbox"/> S.L. Holloway          |   |
| <input type="checkbox"/> Jay Peter Holmes      | <input type="checkbox"/> John Irving            |   |
| <input type="checkbox"/> Christina Johnson     | <input type="checkbox"/> Stephen Houston        |   |
| <input type="checkbox"/> Jean M. Auel          | <input type="checkbox"/> Marcus Lecherou        |   |
| <input type="checkbox"/> Judith Stanley        | <input type="checkbox"/> Valerie Cooper         |   |
| <input type="checkbox"/> Gloria McCumber       | <input type="checkbox"/> Tom Clancy             |   |
| <input type="checkbox"/> James Joyce           | <input type="checkbox"/> Vladimir Nabokov       |   |
| <input type="checkbox"/> Robert Ludlum         | <input type="checkbox"/> Pamela Lovejoy         |   |
| <input type="checkbox"/> Larry Applegate       | <input type="checkbox"/> Vikram Roy             |   |
| <input type="checkbox"/> Keith Cartwright      | <input type="checkbox"/> Saul Bellow            |   |
| <input type="checkbox"/> Jackie Collins        | <input type="checkbox"/> Stephen King           |   |

## Appendix F

### Literary Epistemology Scale (LES; Yuhkymehnkno-Lescroart, under review)

#### Literature Beliefs

##### Part I.

**Instructions:** Many people enjoy reading literature. There are many genres to choose from: traditional literature, realistic fiction, science fiction, mystery, fantasy, informational non-fiction, and poetry, to just name a few. The following questions ask about your beliefs about literature pieces you read. There are no right or wrong answers. Please read each of the statements listed below and indicate how much you personally agree with each statement. Circle the response that best represents your opinion.

	Questions	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Somewhat Disagree</i>	<i>Somewhat Agree</i>	<i>Agree</i>	<i>Strongly Agree</i>
1	A piece of literature can have several possible meanings.	1	2	3	4	5	6
2	I am more open to others' opinions because of reading literature.	1	2	3	4	5	6
3	I can better understand behaviors of my friends because I read.	1	2	3	4	5	6
4	I can come up with more than one meaning for the same piece of literature.	1	2	3	4	5	6
5	I do not learn anything new when I read the same piece of literature again.	1	2	3	4	5	6
6	I do not understand why people read their favorite books multiple times.	1	2	3	4	5	6
7	Literature helps me value other people's point of view.	1	2	3	4	5	6
8	One piece of literature can be interpreted in more than one way.	1	2	3	4	5	6
9	Re-reading a piece of literature is a waste of my time because I already know the ending.	1	2	3	4	5	6
10	Re-reading the same piece of literature is meaningless.	1	2	3	4	5	6
11	Reading literature helps me appreciate how other people see the world.	1	2	3	4	5	6
12	Reading literature helps me understand why people act the way they do.	1	2	3	4	5	6
13	Reading the same piece of literature again is useless.	1	2	3	4	5	6
14	The more I read, the better I understand other people.	1	2	3	4	5	6
15	The same piece of literature can have different meanings to different readers.	1	2	3	4	5	6
16	There is no point in re-reading something you have already read before.	1	2	3	4	5	6
17	Two people can read the same piece of literature and take away different meanings.	1	2	3	4	5	6
18	When my best friend and I have different opinions about what the same piece of literature means, we both can be correct.	1	2	3	4	5	6

**Part II.**

**Instructions.** Circle the number that shows how the statement describes you. There are no right or wrong answers. If the statement is exactly like you, circle 5. If the statement is nothing like you, circle 1. You can also circle a number in between.

Questions	<i>Nothing like me</i>		<i>Somewhat like me</i>		<i>Exactly like me</i>
1 I am sure that I can read literature.	1	2	3	4	5
2 I can get a good grade in literature.	1	2	3	4	5
3 I am sure I could read an advanced piece of literature.	1	2	3	4	5
4 I have a lot of self-confidence when it comes to literature.	1	2	3	4	5
5 I am not the type to do well in literature.	1	2	3	4	5
6 It takes me a long time to catch on to new pieces of literature.	1	2	3	4	5
7 Even before I begin a new piece of literature, I feel confident I'll be able to understand it.	1	2	3	4	5
8 I think I have good skills and strategies to read literature.	1	2	3	4	5

**Part III. Experiences and Demography**

**Instructions.** Please indicate your responses below:

1. Gender: \_\_\_\_\_Male \_\_\_\_\_Female

2. Race / Ethnicity:

\_\_\_\_\_Hispanic/Latino

\_\_\_\_\_Asian

\_\_\_\_\_Native Hawaiian or Pacific Islander

\_\_\_\_\_American Indian or Alaska Native

\_\_\_\_\_Black or African American

\_\_\_\_\_White

\_\_\_\_\_Other: Specify\_\_\_\_\_

3. What is your age: \_\_\_\_\_

4. How much do you like reading outside of schoolwork?

\_\_\_\_\_Not at all \_\_\_\_\_Somewhat \_\_\_\_\_A lot

5. Compared to your peers, how much time do you spend reading outside of schoolwork?

\_\_\_\_\_Less time \_\_\_\_\_As much time \_\_\_\_\_More time

**Thank you!**

**Appendix G**  
Comprehension Test

Statement	TRUE	FALSE
The government refuses to give the zoo an elephant.		
The workers refuse to make the elephant because they are worried about lying.		
<b>The Zoo Director is only interested in furthering his career.*</b>		
<b>Students visit the zoo to see and learn about the elephant, notably how heavy it is.</b>		
<b>Workers get tired and fill elephant with gas instead of air.</b>		
The majestic elephant stomps around the enclosure.		
The people in the province did not want an elephant in their zoo.		
<b>The gas-filled fake elephant blows away.</b>		
<b>Students and the public are excited to visit the zoo and see the elephant.</b>		
The teacher lectures the students about whales.		
The monkey snuck into the elephant exhibit and popped the rubber elephant.		
<b>Director wants to make a fake elephant to save money.</b>		
<b>Students become hooligans and no longer believe in elephants.</b>		
<b>The Zoo Director rejects the government's offer of an elephant.</b>		
<b>Ministry approves the fake elephant plan.</b>		
One zoo worker warns the other worker that the gas-filled elephant is a bad idea.		
The zoo director cares deeply about the local students.		
The Ministry stops the Zoo Director from replacing the Elephant.		
Nobody comes to see the elephant.		
<b>Two workers told to build elephant and fill with air.</b>		

**\*Bold indicates a true statement.**

### Appendix H

#### Reasoning Score Rubric

Essays are scored holistically. If there are multiple claims and/or multiple pieces of evidence, the essay received the highest score for which any of the individual pieces of evidence qualify.		
Score	Criteria	Example Essay
0	The essay has no claim about the world at large. It is just a summary of the story or analysis stays purely in the story world.	The author uses the director's lack of consideration to show that there is a problem. The director thinks of the zoo solely as "stepping stones" for his own career. When the opportunity to have an elephant arrives, he suggests they hake their own rather than pay money for the live elephant. He makes two keepers blow air into a rubber elephant and has signs put up to deter the visitors from realizing it's a fake. By doing this, he is taking away from the education of the children who frequent the zoo. The teacher is informing in the schoolchildren about elephants while they're all in-front of the fake elephant. The children believe what they're teacher is telling them, but elephant ends up blowing away because it's filled up with gas, instead of oxygen. The teacher says it weighs between one and thirteen thousand pounds but this one just ends up floating away. All of this is the fault of the director and his desire to save money. He just though of himself.
1	The essay has at least one claim about the world at large, but does not have evidence to support that claim.	I'm not sure what this about but the first thing I thought was that it was about the importance of money in society. The director of the zoo wanted to save money by taking a shortcut and not taking care of a real elephant. The worker wanted to save time so they took a shortcut by filling it with gas. Although at the time this seemed like a good idea, it affected the school kids' education. I think this story is trying to show that making things easier for yourself could negatively affect someone else. And in the long run it wasn't good for the zoo owner because his "elephant" is now gone and he wasted his time and money on it. Trying to gain wealth could cost you (others) in the long run. You have to consider the possible consequence your choice can have. When people don't think about the possible outcomes of their choice, there can be negative effects. Money is a big reason that a lot of poor choices are made, just like the zoo owners choice. The point of this story might be that people's desire for money and power can cause them to disregard negative effects on themselves and other people as well.
2	The essay has at least one claim about the world at large and has at least one piece of evidence to support that claim.  AND  The evidence is drawn from a particular event in the text.	I think the author is trying to say that sometimes the entertainment of things you spend on to see or experience, might just be fake or an illusion. In the text, the town's people were very excited to see the new elephant at the zoo, but it turned out to be just an air/gas filled elephant. I think the author is also trying to say that taking the easy way out can lead to bad things or nor success. For example, the zoo workers who were in charge of blowing up the elephant were tired, so they found a gas pipe to quickly fill up the elephant. This "easy way out" resulted in the elephant later floating away and being carried away by the wind in front of all the people or students. Another example is when the director decided to save money by constructing his own elephant instead of spending money to get a real one.
3	The essay has at least one claim about the world at large and has at least one piece of	In the reading, the elephant is merely a symbol meant to represent an abstract idea. The idea is that the world or education in general take shortcuts that eventually affect the way children grow up and what they

	<p>evidence to support that claim.</p> <p>AND</p> <p>The evidence is drawn from specific language used in the text (i.e. notes particular word choice, identifies that a specific character or object is symbolic)</p>	<p>decide to do in the future. The director at the zoological Gardens regarded his animals simply as stepping stones that would make his career flourish. But, the author is using animals as a metaphor to represent the youth that are under the care of someone who doesn't receive the education that they should be getting it. You can see how the author uses satire by making it amusing using elephant. Most people would find it ridiculous that the author would be using elephant to demonstrate the selfishness of the director, but in reality it's meant to represent a bigger picture. In the last paragraph of the reading the author states that the school children have turned into "hooligans" after seeing the "elephant" fly away. The author is trying to show that it's ridiculous that just because children see an "elephant" fly away that they are going to turn into "bad" people. At that key moment you can see that it's not because of an elephant but rather something else that is meant to show the bigger picture. The world is filled with humble people that lead others to end up "drinking liquor" and "breaking windows".</p>
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**Appendix I**

Means, standard deviations, and ANOVA scores for ART, RBI, and LES measures as a function of reading instruction condition.

	ART	RBI Transmission Score	RBI Transaction Score
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Rules of Notice Instruction	6.00 (.78)	3.08 (.57)	3.67 (.51)
Satire Instruction	7.58 (4.67)	3.05 (.61)	3.40 (.68)
Combined Instruction	7.75 (6.08)	3.02 (.57)	3.64 (.69)
F =	0.41	0.05	0.92

	LES Multiple Meanings Score	LES Relevance to Life Score	LES Multiple Readings Score
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>
Rules of Notice Instruction	5.18 (.54)	3.98 (.81)	4.64 (.87)
Satire Instruction	5.32 (.48)	4.21 (.54)	5.05 (.75)
Combined Instruction	5.18 (.56)	3.93 (1.01)	4.99 (.80)
F =	0.76	1.06	2.27

## **7. HUMAN SUBJECTS COMMITTEE PROTOCOL APPROVAL**

This research was approved by the University of Illinois Human Subjects Institutional Review Board under protocol 2009-1044.

## 8. CURRICULUM VITAE

**KATHRYN S. MCCARTHY, ABD**Email: [kmccart5@uic.edu](mailto:kmccart5@uic.edu)Web: <https://sites.google.com/site/kathrynmccarthy/>**EMPLOYMENT**

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August 2016-Present      Postdoctoral Scholar  
 Institute for the Science of Teaching and Learning  
 Arizona State University

**EDUCATION**

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Ph.D., 2016      University of Illinois at Chicago  
 Major: Cognition  
 Minor: Mixed Methods in Literacy Research

Prelim. Exam, 2013      University of Illinois at Chicago  
*A Cognitive Approach to Literary Comprehension*

M.A., 2012      University of Illinois at Chicago  
*The Role of Genre Expectation in Literary Readers' Engagement in Interpretive Literary Reasoning*

B.A., 2009      Augustana College, *Cum Laude*  
 Majors: Psychology & Theatre Arts

**PUBLICATIONS**

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Yukhymenko-Lescroart, M., Briner, S. W., Lawless, K., Levine, S., Magliano, J. P., Burkett, C.,  
**McCarthy, K. S.**, Lee, C. D., & Goldman, S. R. (under revision). *Development and Initial Validation of the Literature Epistemology Scale*.

**McCarthy, K. S.** (2015). Reading beyond the lines: A critical review of cognitive approaches to literary interpretation and comprehension. *Scientific Study of Literature*, 5, 99-128.

**McCarthy, K. S.** & Goldman, S. R. (2015). Comprehension of short stories: Effects of task instructions on literary interpretation. *Discourse Processes*, 52, 585-608. DOI: [10.1080/0163853X.2014.967610](https://doi.org/10.1080/0163853X.2014.967610)

Goldman, S. R., **McCarthy, K. S.**, & Burkett, C. (2015). Interpretive inferences in literature. In E. O'Brien, A. Cook, & R. Lorch (Eds.), *Inferences during reading* (pp. 386-415). New York, NY: Cambridge University Press.

## PAPER PRESENTATIONS

---

**McCarthy, K. S.** & Goldman, S. R. (2016, July). *The Effects of Prior Knowledge on the Generation of Interpretive Inferences*. Paper to be presented at the Conference for the International Society of the Empirical Study of Literature and Media (IGEL), Chicago, IL.

**McCarthy, K. S.** (2016, January). *Promoting Interpretive Reasoning in Novice Literary Readers*. Presented at the University of Illinois at Chicago Cognitive Division Brown Bag, Chicago, IL.

Briner, S. W., Yukhymenko-Lescroart, M. A., **McCarthy, K. S.**, Burkett, C., Magliano, J. P., Lee, C. D., & Goldman, S. R. (2015, April). *Adult readers' epistemological beliefs about reading literature*. Paper presented at the American Educational Research Association Annual Meeting, Chicago, IL.

**McCarthy, K. S.**, Burkett, C., Briner, S. W., & Goldman, S. R. (2014, August). *Title affects both literal and interpretive representations of literary texts*. Paper presented at the Annual Meeting of the Society for Text & Discourse, Chicago, IL.

**McCarthy, K. S.**, Briner, S. W., Magliano, J. P., & Goldman, S. R. (2014, July). *Developing assessments of students' literary reasoning: The complexity of understanding rhetorical devices*. Paper presented at the Conference for the International Society of the Empirical Study of Literature and Media (IGEL), Turin, Italy.

Briner, S. W., **McCarthy, K. S.**, Burkett, C., Levine, S., Lee, C. D., Goldman, S. R., & Magliano, J. P. (2014, April). *A rubric-based approach for analyzing dimensions of literary reasoning*. Paper presented at the American Educational Research Association Annual Meeting, Philadelphia, PA.

Lee, C. D., Goldman, S. R., Levine, S., Sosa, T., George, M., Magliano, J. P., Coppola, R., **McCarthy, K. S.** & Burkett, C. (2014, April). *Literary reasoning and argumentation: Re-conceptualizing pedagogical implications of the domain*. Paper presented at the American Educational Research Association Annual Meeting, Philadelphia, PA.

Yukhymenko, M., Briner, S. W., Burkett, C., **McCarthy, K. S.**, Levine, S., Magliano, J. P., Lee, C. D., & Goldman, S. R. (2014, April). *Development of the literature epistemology scale*. Paper presented at the American Educational Research Association Annual Meeting, Philadelphia, PA.

**McCarthy, K. S.** (2014, November). *Reading between the lines: A Cognitive Approach to Literary Interpretation*. Presented at the University of Illinois at Chicago Cognitive Division Brown Bag, Chicago, IL.

**McCarthy, K. S.** & Goldman, S. R. (2013, July). *Literary interpretation of poems and short stories: Is there a genre expectation effect?* Paper presented at the Annual Meeting of the Society for Text & Discourse. Valencia, Spain.

Briner, S. W., Burkett, C. **McCarthy, K. S.**, Levine, S., Sullivan, M. P., Lee, C. D., Goldman, S. R., & Magliano, J. P. (2013, July). *Developmental trends in literary reasoning*. Paper presented at the Annual Meeting of the Society for Text & Discourse, Valencia, Spain.

Burkett, C., Goldman, S. R., Lee, C. D., Briner, S. W., **McCarthy, K. S.**, & Magliano, J. P. (2013, July). *Interpretive processing in literary works: Sources of complexity*. Paper presented at the Annual Meeting of the Society for Text & Discourse, Valencia, Spain.

**McCarthy, K. S.** & Goldman, S. R. (2013, May). *Genre Expectations and the Construction of Literary Interpretations*. Paper presented at the Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

Burkett, C., Briner, S. W., **McCarthy, K. S.**, Goldman, S. R., Lee, C. D., & Magliano, J. P. (2013, May). *Making Sense of Literary Text*. Paper presented at the Annual Meeting Midwestern Psychological Association. Chicago, IL.

Lee, C. D., Briner, S., George, M., Goldman, S. R., Hall, A. H., Jensen, R., Levine, S., Magliano, J., **McCarthy, K. S.**, Sosa, T., & Sullivan, M. P. (2012, April). *Reexamining Literary Reasoning: Understanding Progressions and Argumentation*. Paper presented at the American Educational Research Association Annual Meeting. Vancouver, BC.

**McCarthy, K. S.** (2012, October). *Examining the Impact of Genre Expectation on the Interpretation of Literary Texts*. Paper presented at the University of Illinois at Chicago Cognitive Division Brown Bag, Chicago, IL.

**McCarthy, K. S.**, & Goldman, S. R. (2010, April). *The Effects of Task Instruction on the Interpretation of Literary Text*. Presented at the University of Illinois at Chicago Cognitive Division Brown Bag, Chicago, IL.

## **POSTER PRESENTATIONS**

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\* denotes undergraduate researcher

**McCarthy, K. S.** & Goldman, S. R. (2016, July). *Promoting Interpretive Inference Generation in Novice Literary Readers*. Poster to be presented at the Annual Meeting of the Society for Text & Discourse, Kassel, Germany.

Jarosz, A. F. & **McCarthy, K. S.** (2016, July). *The Impact of Reading Literature on Creative and Analytic Problem Solving*. Poster to be presented at the Annual Meeting of the Society for Text & Discourse, Kassel, Germany.

Tsang, A.\*, Senecal, L.\*, Joy, E.\*, & **McCarthy, K. S.** (2016, May). *Promoting Literary Interpretation in Novices Through Activation of Knowledge of Literary Conventions*.

Poster to be presented at the Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

Gonzalez, C.\*, Toledo, G.\*, & **McCarthy, K. S.** (2015, May). *The Role of Affective Priming on the Literal and Interpretive Representations of a Short Story*. Poster presented at the Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

Toledo, G.\*, Gonzalez, C.\*, & McCarthy, K. S. (2015, April). *Does Affective Priming Change the Literal and Interpretive Representation of a Short Story?* Poster presented at the UIC Student Research Forum, Chicago, IL.

Forcier, G.\* & **McCarthy, K. S.** (2014, May). *The Role of Text, Task, and Reader in Literary interpretation*. Poster to be presented at the Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

Forcier, G.\* & **McCarthy, K. S.** (2013, April). *The Effect of Task Instruction and Genre on Novice Readers' Engagement in Literary Reasoning*. Poster presented at the UIC Student Research Forum, Chicago, IL.

Briner, S. W., **McCarthy, K. S.**, Burkett, C., Levine, S., Magliano, J. P., Lee, C. D., & Goldman, S. R. (2012, July). *Toward an Assessment of Literary Reasoning in High School Students*. Poster presented at the Annual Meeting of the Society for Text & Discourse, Montreal, QC.

**McCarthy K. S.** & Goldman, S. R. (2012, April). *Interpretation of Authentic Literary Texts*. Poster presented at the American Educational Research Association Annual Meeting. Vancouver, BC.

**McCarthy, K. S.** & Goldman, S. R. (2011, July). *Effects of Multiple Sources and Pre-Reading Instruction on Literary Text Interpretation*. Poster presented at the Annual Meeting of the Society for Text & Discourse, Poitiers, France.

**McCarthy, K. S.** & Goldman, S. R. (2011, April). *Encouraging Interpretation of Literary Text*. Poster presented at the American Educational Research Association Annual Meeting. New Orleans, LA.

**McCarthy, K. S.** & Goldman, S. R. (2010, August). *Effects of Task Instruction on the Interpretation of Literary Text*. Poster presented at the 2010 Annual Meeting of the Society for Text & Discourse, Chicago, IL.

Campbell, S., Fox, N., & **McCarthy, K.** (2009). *Situation Models Facilitate Comprehension Within Metaphor Clusters*. Poster presented at the Annual Meeting of the Association for Psychological Science, San Francisco, CA.

Campbell, S., Fox, N., & **McCarthy, K.** (2009). *Clusters Facilitate Metaphor Comprehension: A Career of Metaphor Perspective*. Poster presented at the Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

## **PRESENTATIONS AS FACULTY SPONSOR**

\* denotes undergraduate researcher

Garcia, R. D.\* (2016, April). *Does Reading Literature Promote Creativity?* Paper presented at Social Science Division Undergraduate Research Symposium at Virginia Wesleyan College, Norfolk, VA.

Senecal, L.\* & Joy, E.\* (2016, April). *Effects of Prior Knowledge and Genre Familiarity on Literary Interpretation*. Paper presented at the Inaugural Meeting of the Virginia Association for Psychological Science, Newport News, VA.

Garcia, R. D.\* (2016, April). *Does Reading Literature Promote Creativity?* Paper presented at the Inaugural Meeting of the Virginia Association for Psychological Science, Newport News, VA.

## **INVITED PRESENTATIONS & PANELS**

*Graduate School Q&A Session*. VWC Psi Chi. Virginia Wesleyan College, Norfolk, VA. September 17, 2015.

*Building your CV for Graduate School Applications*. UIC Psi Chi CV Building Workshop. Chicago, IL. November, 20, 2014.

*Incongruity and Benign Violation in Humor*. Augustana College, Rock Island, IL. May 12, 2014.

## **TEACHING EXPERIENCE: Instructor**

### **Virginia Wesleyan College**

Introduction to Psychology, Pt. 1 & 2

*Fall 2015, Spring 2016*

### **Illinois School of Professional Psychology**

Cognitive and Affective Processes (*Graduate Seminar*)

*Spring 2015; Summer 2015*

### **University of Illinois at Chicago**

Introduction to Research in Psychology

*Spring 2014; Summer 2015*

## **TEACHING EXPERIENCE: Teaching Assistant**

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### **University of Illinois at Chicago**

Social Psychology

*Fall 2014*

Introduction to Research in Psychology

*Spring 2010, Summer 2010, Fall 2013*

Introduction to Psychology

*Spring 2012, Spring 2013*

Cognition & Memory

*Fall 2009*

### **Augustana College**

History of Psychology

*Spring 2008, Fall 2009, Spring 2009*

Statistics

*Spring 2009*

## **RESEARCH EXPERIENCE**

---

### **Immediate and Long-term Effects of Exposure to Literature**

*Fall 2015-Present*

Collaborator: Andrew F. Jarosz (Mississippi State University)

It is important to consider the relevancy of the arts and humanities in our STEM-focused educational climate. We are investigating how reading literature might yield cognitive benefits, specifically in terms of divergent thinking and creativity, for both immediate and long-term exposure to literature.

### **Dissertation Project Research: Promoting Novices Generation of Interpretive Inferences**

*Spring 2014-Present*

Committee: Susan R. Goldman, Jennifer Wiley, Gary E. Raney, Joseph P. Magliano (Northern Illinois University), & David N. Rapp (Northwestern University)

My dissertation research is a series of studies that test the role of epistemological knowledge and literary-specific conventional knowledge on novice readers' propensity to generate interpretive inferences. I used expert literary readers' think-aloud data to construct a variety of pre-reading instructions for novice readers to explore how these different instructions promote and bias interpretive reasoning about a short story.

### **Project READI (Reading and Evidence-Based Argumentation in Disciplinary Instruction)**

*Fall 2010 – Spring 2015*

Part of IES Reading for Understanding project examining to promote evidence-based argumentation and discipline-specific literacy skills in grades 6-12. Worked with collaborators from Northwestern, ETS, Northern Illinois University, and WestEd to develop assessments and interventions in the domains of history, science, and literature.

### **Master's Project Research: Genre Expectation Effects in Literary Interpretive Behavior**

*Fall 2010-Fall 2013*

Committee: Susan R. Goldman, Jennifer Wiley, Joseph P. Magliano (Northern Illinois University)

To assess the role of prior knowledge in the generation of interpretive inferences, I used a genre expectation manipulation to examine how readers prior knowledge about the nature of poetry and short stories affected the amount and quality of interpretations about the works.



**First Year Project Research: Impact of Task Instruction on Literary Interpretation***Fall 2009-Spring 2010*

Used an experimental design to explore how biasing novice literary readers towards adopting a domain-appropriate reading goal affected the generation of interpretive inferences. This work also stresses the importance of authentic literary works as stimuli to conduct more ecologically-valid investigations of literary reading processes.

**McGurk Effect in Simulated Auditory Impairment***Spring 2008-Spring 2009*

Faculty Advisor: Ian Harrington

The McGurk Effect shows that both our visual and auditory systems work together to perceive the world around us. In this particular effect, people are shown the video of a person speaking one syllable, but are played audio of a the person saying a different syllable. This results in the participant perceiving an entirely different syllable. In this study, we built stimuli and ran participants to test the boundaries of the McGurk effect in English-speaking hearing impaired adults through manipulating different levels of computer simulated impairment.

**Examining Metaphor Processing through Clustering***Spring 2006-Spring 2009*

Faculty Advisor: Daniel P. Corts

In a series of studies we tested the notion of conceptual metaphor by using reading and reaction time measures to assess if clusters of metaphors that shared a common concept (e.g. argument is war) were read faster than random presentation of different metaphors or similar literal phrases.

**Rock Island Regional Office of Education (RIROE)***Summer 2008*

Faculty Advisor: Daniel P. Corts

Data entry and analysis of a longitudinal data with Quad City School districts to examine the efficacy of their after-school programs.

**UNDERGRADUATE MENTORING**

---

**Virginia Wesleyan College**

Iyana Downie

Spring 2016-Present

Emily Joy

Fall 2015-Present

Laurissa Senecal

Fall 2015-Present

Riana Garcia

Fall 2015-Present

Amber-Rose Marmol

Fall 2015

**University of Illinois at Chicago**

Alan Tsang	Summer 2014-Present
Sara Jo Sternard	Summer 2015
Shaista Hasan	Fall 2014-Spring 2015
Lucy Mircheva	Spring 2014-Spring 2015
Carolina Gonzalez	Spring 2014-Spring 2015
Guadalupe Toledo	Spring 2014-Spring 2015
Amy Liang	Summer 2014-Fall 2014
Gabrielle Forcier	Fall 2012-Spring 2014
Nachi Salasini	Spring 2013
Lidiane Gabiera	Spring 2010
Amal Shakir	Spring 2010

**AWARDS AND HONORS**

---

**UIC Department of Psychology Harry S. Upshaw Award for Excellence in Teaching**  
*Spring 2016*

**UIC Excellence in Undergraduate Mentoring Award, Honorable Mention**  
*Spring 2015*

**Augustana College Ralph Waldo Hansen Excellence in Psychology Award**  
*Spring 2009*

**Midwestern Psychological Association Regional Research Award**  
*Spring 2009*

**Omicron Delta Kappa National Leadership Honors Society**  
*Spring 2009*

**Psi Chi National Honors Society**  
*Spring 2007*

**PROFESSIONAL SERVICE & AFFILIATIONS**

---

**Conference Presentation Judge**  
 Virginia Association for Psychological Science

**Ad-Hoc Reviewer**  
*Discourse Processes*  
 Conference of the International Society of the Empirical Study of Literature and Media (IGEL)

**Professional Membership**  
 Society for Text & Discourse (Student Member)  
 Virginia Association of Psychological Science (Member)

**UIC Psychology Dept. First Annual Cross-Program Conference Coordinating Committee**  
*Fall 2014-Spring 2015*

**Student Organizer/Volunteer for the Society of Text and Discourse**  
*Summer 2010, Summer 2014*

**Special Olympics Illinois State Summer Games**  
*Volunteer 2002-Present, Director of Award Staging in Aquatics, 2008-Present*