PROMOTING PERSUASION KNOWLEDGE IN THIRD AND FOURTH GRADERS THROUGH ADVERTISING LITERACY AND ARGUMENTATION INTERVENTIONS

by

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ABSTRACT

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The goal of this study was to promote the development of persuasion knowledge in third and fourth graders by examining children's interpretation and production of persuasive messages through an instructional intervention. Two interventions were delivered to students that focused on the skills associated with critical thinking (e.g., evaluating effectiveness of arguments, writing a persuasive argument using valid reasoning, and understanding the persuasive intentions and tactics of advertisements). One intervention used advertising as the instructional tool, such that students were taught about the purpose of advertising, advertising tactics, and the companies and advertisers behind the ads. Students learned that ads are created to persuade people to think or do something. Additionally, students learned to ask questions about what information may be missing from the ad. A separate group of students participated in the Argumentation Intervention, which taught the basic components of an argument and the concept of biases. Students were taught the importance of using compelling evidence to support their side of a topic and how others' perspectives must be acknowledged when developing an effective argument. Both studies assessed the same areas to examine the scope of each intervention. Measures of

children's conceptual advertising knowledge and attitudes toward advertising in a pre-posttest design were used to identify changes in these areas. Students also participated in tasks that measured changes in their ability to evaluate argumentative messages and develop a written persuasive argument. These activities measured their use of tactics to create a persuasive argument and their ability to identify the more effective argument.

Beyond improving their written persuasive arguments, participants in the Argumentation Intervention significantly increased their understanding of selling intentions and understanding of persuasive tactics used in advertising . Those in the Advertising Literacy Intervention showed a significant improvement on their inclusion of others' perspectives when writing a persuasive argument in addition to making gains to their understanding of selling and persuasive intent and skepticism toward advertising. The ability of participants in both interventions to generalize what was explicitly taught to new domains is encouraging for educators who aim to instill critical thinking skills in students. The current study provides important insights into effective instructional strategies for increasing children's understanding and application of persuasion knowledge in everyday contexts.

To

my parents,

my beautiful children,

and my husband

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same way I did, but I want to be a good role model and show you that no matter how much you have going on in your life, you can still accomplish whatever it is you set out to do. I vividly remember coming home from the hospital with Madeline and almost immediately sitting down at the kitchen table with my laptop to work on an assignment for one of Dr. Lamborn's online courses. I thought to myself that finishing classes and research would be a piece of cake since babies seem to sleep all of the time. Even after finding out I was completely wrong, we still had another two little ones over the next few years. Life was, and still is, a bit crazy. Many nights I would let Madeline and Jim watch a movie and sleep in our bed, telling them it was a special treat just so I could have more time to type away on my computer. I also read you three many research articles, which put you to sleep rather quickly. If you end up being extremely skilled at persuading others, that could be one possibility why. I love you three more than you know and I thank you for being as patient as little kids can while I finish my dissertation. I hope that I inspire you three to go as far as you want in whatever direction life leads you.

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CHAPTER ONE: INTRODUCTION

Persuasion surrounds us; it embodies any attempt to be influenced or to influence others' thoughts, beliefs, or actions. From a young child attempting to persuade a parent to give them dessert or let them stay up late, to an older child evaluating an author's position on a topic or creating their own persuasive speech, having an understanding of persuasion knowledge is useful for a wide range of aspects in one's life. In addition, persuasion knowledge becomes increasingly more useful as we age (e.g., writing college papers, interviewing for a job, creating work presentations) making topics related to persuasion important areas of focus in education, as educators strive to prepare students for life outside of school.

The present study focuses on two methods designed to help third and fourth graders' acquire the ability to interpret and produce persuasive arguments. The concept of persuasion is a broad construct that represents an individual's knowledge about when, how, and why a message is intended to influence others (Friestad & Wright, 1994). Persuasion knowledge represents a critical thinking skill in that it provides individuals sophisticated skills to analyze, evaluate, and create valid persuasive arguments all while attending to others' perspectives, beliefs, and motives.

One area of research that inherently connects to persuasion is advertising. Advertisements are perfect examples of crafted persuasive arguments. The main goal of advertising is to persuade the audience to think about, buy, and use a product or service over another competitor's product or service. Research on advertising literacy has focused on children's awareness of the persuasive intentions and tactics of advertisers.

Another area that connects directly to developing children's persuasion knowledge is argumentation. Persuasion is at the very core of argumentation (Clark & Delia, 1976; Kuhn & Udell, 2003; Mercier, 2011). The ability to effectively communicate and evaluate arguments has direct connections to what educators consider critical thinking skills (Crowell & Kuhn, 2014; Mercier, 2016; Moshman, 2011). Argumentation skills are crucial not only in the classroom, but also in the real world as students learn to state their position on an issue, provide valid evidence to support their claim, and evaluate competing evidence from other perspectives. Although the skills of argumentation are required under current state standards (Council of Chief State School Officers & National Governs Association, 2010), argumentation skills are often not met with mastery leaving students underprepared for college and work experiences (Kuhn, 1991; National Assessment of Educational Progress, 2002). With the high level of persuasive arguments youth are exposed to on a daily basis (e.g., what game to play at recess, why one response provides a better answer to a question, media sources) a curriculum that teaches students how to analyze and evaluate the messages they are engaged in is necessary.

With these issues in mind the purpose of this study was to promote persuasion knowledge in the form of advertising literacy and argumentation skills in third and fourth grade students. Two short interventions were implemented to examine the relationship between advertising, argumentation, and persuasion. One approach to increasing the development of persuasion knowledge in children was through a lesson that explicitly teaches facts about advertising (e.g., selling intention, target audience, persuasive intent, and advertisers' biases). Another approach was to explicitly teach the components of an argument (i.e., claim, evidence, counterarguments, and rebuttals). The next chapter reviews research on the development of advertising knowledge and argumentation skills, as well as studies that have examined the effectiveness of interventions

on the topics. This review will provide evidence for why the types of interventions in the current study were used as well as why the specific age range of 8- to 10-year-olds was targeted as the optimal ages to increase persuasion knowledge.

CHAPTER TWO: LITERATURE REVIEW

Educators today place emphasis on developing skills such as analyzing and evaluating others' claims and reasoning presented in various medium (e.g., texts, social media, advertisements, speeches) and creating effective arguments (Kuhn & Dean, 2004). All of these skills fall under the umbrella of persuasion. The present study examined the impact of two interventions that were designed to promote persuasion skills in third and fourth graders. One of the interventions focused on teaching students about the purpose of advertising. While the other focused on teaching students about the components of an argument. This chapter reviews research findings from both advertising and argumentation literature as they pertain to the current study.

Development of Advertising Knowledge

Researchers have long been interested in identifying the age at which children understand the various intentions behind advertising. A vast amount of ads target children. In addition, advertisers are constantly creating new tactics of advertising that aim to persuade children (e.g., online advertising and advergames; Rozendaal, Buijzen, & Valkenburg, 2011). The concern surrounding advertisements is that children do not view ads with the same level of skepticism as adults, or even adolescents. Therefore, children are more susceptible to the persuasive intention of advertisements (Kunkel, Wilcox, Cantor, Palmer, Linn, & Dowrick, 2004). Young children lack the cognitive skills required to fully understand the persuasive intentions of commercials, and therefore are more credulous of advertisements (Brucks, Armstrong, & Goldberg, 1988; Moses & Baldwin, 2005).

The bulk of research on children's development of persuasion and advertising knowledge indicates that between 8- to 12-years of age, a major shift in thinking about advertising takes

place (Rozendaal, Buijzen, & Valkenburg, 2009). By about 8 years of age, children can discriminate commercials from surrounding television programs (Palmer & McDowell, 1979; Stutts, Vance, & Hudleson, 1981) and demonstrate a general understanding of the selling intent of ads (Blatt, Spencer, & Ward, 1972; Lapierre, 2015; Moses & Baldwin, 2005; Robertson & Rossiter, 1974; Ward, Reale, & Levinson, 1972). Once children have developed a sense of the persuasive intentions of advertisements, they have a better grasp on the purpose of advertising and they begin taking a more critical view of ads (Moses & Baldwin, 2005; Robertson & Rossiter, 1974).

Much of the prior work on advertising literacy has differentiated between children's understanding of the selling and persuasive intent of advertising (Bartch & London, 2000; Blatt, Spencer, & Ward, 1972; Lapierre, 2015; Robertson & Rossiter, 1974; Ward, Reale, & Levinson, 1972). Blatt, Spencer, and Ward (1972) asked children about the purpose of television commercials after viewing commercials the day before the interview. The authors found that 7- to 8-year olds recognized that ads had the intention to sell products and by 9 to 10 years of age, participants indicated a deeper understanding of the motives of advertisers, purpose of commercials (i.e., to persuade consumers), and some understanding of the tactics advertisers used. Robertson and Rossiter (1974) examined when children attribute persuasive intentions to commercials by asking a series of questions (e.g., "Why are commercials on television?" and "What do commercials try to get you to do?"). The authors found that it was not until about 10 or 11 years of age that the majority of children attributed the persuasive intent to commercials. In addition, children who attributed the persuasive intent instead of the assistive intent to commercials showed an understating of other key concepts of advertising knowledge (e.g., distinguishing the commercial from the program, appreciating the concept of an intended

audience, and noticing differences between the advertised product and the actual product). Moreover, children who attributed persuasive intent to commercials tended to be more skeptical of the commercial compared to those who attributed only an assistive intent. Thus, by seven children understand that advertisements aim to sell products, but it is not until about nine that they understand that commercials are designed to persuade them to buy products.

Research also indicates significant changes in children's understanding of the various tactics used by advertisers. Freeman and Shapiro (2014) found that 8- to 12-years-olds' were more aware of explicit tactics (e.g., advertising products on a cell phone, having a famous person use a product) over implicit tactics (e.g., get someone to write a blog about a product, get someone to use a product in a public place). Children's knowledge of explicit tactics remained constant across the ages; however, 12-year-olds appeared to have more awareness of implicit tactics than 8-year-olds. Indicating that by age 8, children have an awareness of the explicit tactics used by advertisers to sell products, but they have a limited awareness of the implicit tactics. There was also a positive association between skepticism toward advertising and awareness of explicit tactics. During this period of 8- to 12-years-old, children gain more advertising knowledge and become more skeptical toward the tactics employed. The authors argued that the development of skepticism toward advertising might promote a negative response to advertisers' tactics in which children are more likely to dislike the products advertised as well as advertising in general.

An appreciation of the selling intention, persuasive intention, and persuasive tactics of advertising indicate that an individual possesses a high level of advertising knowledge. Such an appreciation also appears to support increased skepticism toward advertising and an understanding that ads present biased information (D'Alessio, Laghi, & Baiocco, 2009;

Robertson & Rossiter, 1974; Rozendaal, Lapierre, Opree, & Buijzen, 2011; Moses & Baldwin, 2005). Understanding bias and the intent to promote one's interests requires a child to recognize that an ad often includes misleading information in order to present the best possible version of their product. Research on children's appreciation of biased information identifies that around the age of 8 or 9, children begin to believe statements that are inconsistent with self-interests (Mills & Elashi, 2014; Mills & Keil, 2005). Mills and Keil (2005) asked 5- to 10-year-olds to reason about a situation in which two runners finished a race close together, leaving the end result uncertain, and one runner claimed or denied he won the race. The authors concluded that children under 7-years-old failed to reject the runner's comments that were associated with his own self-interests. In fact, it was not until the age of nine that children began noting the runner's self-interests as a possible source of false information. In addition, Mills and Elashi (2014) examined developmental differences between two age groups (6- to 7-year-olds and 8- to 9-year-olds) on their responses to four different kinds of claims. In general, the findings indicated that both older and younger participants trusted those who had a lot of information about a product in the informative claims and did not find a worst enemy to be a good judge for a contest in the biased decision items. However, there were differences between the age groups on the other items. The older children (8- to 9-year-olds) were able to understand the possible distortion in the evaluative self-reports, comparative self-reports, and persuasive claims, while the younger children (6- to 7-year-olds) struggled to be skeptical of these flawed claims. Thus, children appear to develop a deeper understanding that others' self-interests may sway what they say or do. It is likely this development of skepticism toward biased information translates to the context of advertising (Lapierre, 2015).

Children mature from thinking ads are entertaining to thinking they are a source of information to finally thinking they are trying to persuade consumers' buying behavior using biased information (John, 1999). Clearly, there is a shift in children's ability to see a persuasive message from another point of view (i.e., the advertiser's). Perspective taking is undoubtedly an essential part of developing an appreciation of persuasion. The development of Theory of Mind (ToM) enables children to understand that others have intentions, perspectives, beliefs, and desires different from their own (Wellman, 1990). When a child has developed a ToM, they show an understanding that thought facilitates behavior, and subsequently can make predictions about future behaviors in others. This ability has been argued to link directly to a child's increase in knowledge of the underlying intentions of persuasion (Bartsch & London, 2007; Lapierre, 2015; McAlister & Cornwell, 2009; Moses & Baldwin, 2005). As early as 4- or 5-years-old children have shown to develop a ToM (Wimmer & Perner, 1983). A well-known task devised by Wimmer and Perner (1983) demonstrates a child's development of first-order mental states is the false-belief task. In one form of the task, children hear a story about a boy who does not know the location of some chocolate since he was absent when the chocolate was moved from one spot to another. When asked where the boy will look for the chocolate, younger children (2- and 3-year olds) believe the boy will look in the new location for the chocolate. Four-and five-year olds, however, most often believe that the boy will look in the original location for the chocolate. This difference in thinking is important in the development of persuasion knowledge. Children who understand that others can have false beliefs and that they may act in certain ways due to these beliefs have hit an important milestone.

Although children as young as four have shown an emerging appreciation of perspective taking, a later change in a child's theories of mind is crucial for explaining developments of

more complex persuasive skills (e.g., understanding advertisers' bias). Between 5- and 7-years-old children begin to show an understanding of second-order mental states (i.e., the idea that mental states may be embedded within other mental states; Kuhn, 1999; Lapierre, 2015; Moses & Baldwin, 2005; Perner & Wimmer, 1985). Understanding second-order mental states might be necessary to appreciate an advertisers' bias, insofar as advertisements can be viewed as purposefully designed to change another person's beliefs about a product. An even deeper understanding of persuasive intentions captured by ToM is awareness that someone thinks something different from what they are revealing. For example, Filippova and Astington (2008) examined age differences in children's ability to recognize a sarcastic response to a situation. The authors created an "interpretive" ToM task that asked children to reveal an individual's communicative intent by hearing a scenario where one player misses many easy basketball shots and another player states, "you sure are a *great* scorer." Children ages 9- to 10-years old were more likely to identify that the true meaning of the statement was the opposite of what was actually spoken (i.e., "great scorer" means the individual is not a great scorer since they missed many shots). Understanding persuasive arguments, both in a structured domain of advertising and in a more generalized manor requires the ability to attend to the intentions, beliefs, and biases of others.

The literature on the development of persuasion knowledge in children indicates that between the ages of 8- to 10-years-old, children's knowledge of advertising increases. Children first show an appreciation of the selling intentions of advertisements by 7- to 8-years-old. They then begin understanding the persuasive intention of advertisements around 9 years old. An understanding of persuasive tactics takes place between 8- to 10-years of age, beginning with an understanding of explicit tactics (i.e., celebrity endorsement) then implicit tactics (i.e., use of

advertised products in public). Part of developing a more sophisticated understanding of persuasion is the ability to use one's advertising knowledge (i.e., selling intent, persuasive intent, and persuasive tactics) to form a more skeptical view of the persuasive message. Children, between 9- to 12-years-old, are more likely to be skeptical of advertisements when they have acquired an understanding of the persuasive intention of ads and the understanding that ads present biased information (D'Alessio, Laghi, & Baiocco, 2009; Obermiller and Spangenberg, 1998; Rozendaal, et al., 2009).

What accounts for developmental differences in persuasion knowledge? One of the most widely used conceptual models to explain the acquisition, and development, of persuasion knowledge is the Persuasion Knowledge Model (PKM; Friestad & Wright, 1994). According to the PKM, persuasion knowledge is acquired many different ways (e.g., experience with advertised products, social interactions with friends and family, argumentative discourse, direct instruction). Due to the different ways of accumulating persuasion knowledge, over time, the effects of persuasion are likely to differ among individuals. This model presumes that an individual's persuasion knowledge continues developing over their lifetime. When an individual encounters a persuasive message, they will activate their persuasion knowledge, knowledge of others' underlying intentions, and knowledge about the specific topic. For every persuasive message that a child comes across, their knowledge on the topic will indeed play a role in their ability to prepare and defend their claim. As children get older, they will gather more information about persuasion (e.g., perspective taking, biases) that will decrease the effects of persuasive messages (Friestad & Wright, 1994).

A notable limitation of the PKM is that it neglects to describe the various components of persuasion knowledge that children acquire through their personal experiences. One model

indeed breaks down persuasion knowledge by the specific areas that comprise one's advertising literacy. Rozendaal, Lapierre, Van Reijmersdal, and Buijzen (2011) identified a child's *conceptual knowledge of advertising*, as consisting of seven subcategories (i.e., recognition of advertising, understanding selling intent, recognition of advertising's source, perception of intended audience, understanding persuasive intent, understanding persuasive tactics, and understanding advertiser's bias). Additionally, the authors included an individual's *attitude toward advertising* (e.g., skepticism toward advertising and disliking of advertisements) due to most advertising appealing to children on an affective level. Based on this model, Rozendaal, Opree, and Buijzen (2016) developed a measure to test 8- to 12-year-olds' advertising literacy that was adapted for the present study. Together these two models are excellent for examining how children acquire the components of persuasion knowledge for interpreting and producing persuasive messages. Critically, these models support the idea that instructional experiences in persuasion will contribute to the development of a child's persuasion knowledge and aid in their use of this knowledge in future persuasive events.

Interventions

Multiple interventions have been used to study the effectiveness of promoting advertising literacy skills to students. Some interventions provide entire curriculum for teachers to use (e.g., Admongo, 2012; Nelson, 2015). For example, a study by Nelson (2015) set out to examine the impact of an advertising literacy intervention on 8- to 9-year-olds. The author created six lessons in order to promote advertising literacy. The author found that the three-week intervention significantly increased students' understanding of selling intent, persuasive tactics, and target audience. Although the author focused on healthy food choices, which is an important area in advertising and child health, an intervention that applies to the more general domain of

advertising might be useful in transferring the persuasion knowledge gained in the lesson to other domains. More drawbacks to this intervention were the length of time and teacher training for implementation of intervention. The advertising literacy intervention consisted of six, 90-minute lessons. Additionally, teachers participated in a training on how to deliver the intervention, which added to the extended time commitment of this study; making it quite difficult to implement in a variety of settings. The present study measured the effectiveness of a single lesson on promoting persuasion knowledge in 8- to 10-year-olds.

Some evidence exists that one-lesson interventions can be effective at raising skills linked to persuasion knowledge, such as skepticism (Buijzen, 2009, 2007; Roberts et al., 1980; Brucks, et al., 1988; Christenson, 1980). For instance, Roberts and colleagues (1980) showed a 15-minute instructional film created by Consumer Union, titled "The Six Billion Dollar Sell" on the purpose of advertising to 7- to 10-year-olds. The results indicated that participants who viewed the film became more skeptical of ads. Still other interventions indicate that instruction on current advertising tactics improves children's understanding of persuasive tactics (Wollslager, 2009; An, Jim, & Park, 2014). Wollslager (2009) implemented a 10-minute training on the concept of online advertising to 9- to 11-year-olds and found that the short intervention increased their ability to identify future online advertising attempts.

An additional study that indicates that young children can be taught about advertising looks at the impact of two different types of interventions. Buijzen (2007) used three age groups to make comparisons of the impact of the interventions at different cognitive levels (ages 5-6, 7-8, and 9-10). The author created two interventions: factual and evaluative. The factual approach gave important information regarding the content in the media and tactics used by advertisers. The evaluative approach focused on children's affective responses to commercials. During the

evaluative intervention, researchers stated negative comments about the commercials and products while the children viewed the commercials. The factual intervention increased ad skepticism, negatively influenced attitudes toward commercials, and decreased children's intention to request the products. The evaluative intervention had the same effect except there was no significant impact on ad skepticism. It was also found that the 5- to 6-year-olds only benefited from the factual intervention. The older age groups (7- to 8-year-olds and 9- to 10-year-olds) benefited from both of the interventions; however, the 7- to 8-year-olds showed the strongest changes. One possibility for this larger improvement as compared to the other age groups may be due to the increases in perspective taking skills at this time.

These interventions show promising results for incorporating short lessons on advertising into students' already packed curriculum that can significantly increase persuasion knowledge and meet educational goals. However, many of these studies do not measure the level of transfer the intervention has on other skills. The present study aimed to test the scope of an advertising literacy intervention on increasing skills outside of the domain of advertising (e.g., analyzing and writing persuasive arguments).

Summary of research on advertising literacy

After examining the development of advertising knowledge and interventions aimed at increasing children's advertising literacy in children, we notice the emergence of persuasion knowledge in school-aged children. Developments of theories of mind contribute to children's ability to understand the biases behind advertising messages. According to the PKM, children acquire conceptual knowledge of advertising in different ways and combine this knowledge with their attitudes toward advertising to aid in their interpretation of persuasive messages. Having a deep understanding of persuasion may increase an individual's ability to produce and evaluate

persuasive messages, as one comprehends the influence advertisers have when delivering an effective persuasive message. Interventions have been shown to be an effective way to promote skills associated with persuasion knowledge. Next, the author will explore the development of argumentation skills in children and again, link at which ages might benefit most from a lesson by reviewing argumentation intervention studies.

Development of Argumentation Skills

Another context in which persuasiveness is crucial is argumentation. Understanding how to evaluate others' arguments and develop a persuasive argument requires an understanding of others' beliefs and intentions. Developing the ability to create and evaluate persuasive messages is a crucial skill that educators constantly attempt to instill in students. Creating a short intervention that explicitly teaches the concepts associated with argumentation may be a prosperous route for strengthening persuasive skills in students.

Children's ability to effectively communicate and evaluate persuasive messages, or their argumentation skills, undergoes considerable development (Clark & Delia, 1976; Kuhn & Udell, 2003). Argumentation requires the ability to engage in higher-order thought processes, which is why young children may lack the capacity and skills to perform well on argumentation tasks. For instance, many studies indicate that younger children focus their arguments on supporting their own claim, while ignoring the opponent's arguments about the topic (Felton, 2004; Felton & Kuhn, 2001; Kuhn & Udell, 2003). Individuals who can successfully develop and evaluate an argument must be able to conceptualize a claim and the evidence that is provided, in addition to assessing the validity of counterarguments and accepting them as either true or false (Kuhn, 1992; Gilbert, 1991). Older children possess many of these skills and yet still struggle to develop

and evaluate arguments, indicating that effective educational practices must be examined to promote these essential skills.

National standards indicate the skills associated with argumentation (e.g., supporting claim with valid evidence, analyzing the validity of others' claims) must be met with proficiency by students. The research on argumentation contributes to our understanding of these skills (Kuhn & Udell, 2003; Papathomas & Kuhn, 2017). Arguments contain several components (i.e., claim, evidence, counterargument, rebuttal, etc.) and can be applied in numerous ways (e.g., evaluating an argument, writing an argument, engaging in argumentative dialogue). Hence, there are different models for conceptualizing and measuring successful arguments (Reznitskaya & Anderson, 2002; Toulmin, 1958; Walton, 1989), making it difficult to determine effective teaching strategies to put in-place at each grade level.

Only a small percentage (about 2%) of 9- to 10-year-olds have been found to proficiently present a claim and support it with valid evidence on national standardized tests (National Assessment of Education Performance, 2002) and 13-to 14-year olds struggle to present arguments from both sides of an issue (Kuhn & Crowell, 2011; Kuhn & Udell, 2003). MacArthur, Ferretti, and Okolo (2002) indicated the majority of sixth graders did not connect their claims and evidence when participating in online discussions on science topics. Kuhn and colleagues (1989) argued that the ability to discriminate between evidence and a claim does not emerge until 11 or 12 years of age; possibly due to the need for higher-level metacognitive abilities, as one must have an understanding of how evidence creates a pattern to lead someone to reach a certain conclusion. The 2011 Nation's Report Card stated that by eighth-grade, students show weak performance on argument-related tasks (National Center for Education Statistics, 2011). Even high school and college students fail to identify an acceptable argument

when also presented with unwarranted and unsupported claims (Larson, Britt, & Kurby, 2009).

One possibility for children's poor performance can be attributed to the methods used to measure argumentation skills (e.g., asking a participant to create an impromptu argument, Clark & Delia, 1976; evaluating written arguments, Larson, Britt, & Kurby, 2009). Individuals do not always create their best arguments in non-authentic, spontaneous ways. In fact, in normal conversations or written arguments, individuals put forth multiple arguments in order to make their case (Mercier, 2011). When specifically looking at written persuasive arguments each study codes participants' responses in different ways (i.e., function, perspective, quality, total number of reasons). For example, Kuhn and colleagues (Kuhn et al., 1997; Kuhn & Udell, 2003) measured participants' ability to make reasons support the function of the topic in the claim (i.e., the function of a blanket is to keep your warm). Beyond teaching children to connect the function of the topic within the reasoning, argumentation necessarily involves the incorporation of at least two or more perspectives (Mercier, 2011; Walton, 1989). Moreover, to address only one side of a topic and ignore the other points of view, or the counterarguments, limits the ability to strengthen one's argument and increase support from those with opposing ideas. Kuhn & Crowell (2011) measured participants' written persuasive essays by judging their level of perspective (i.e., only includes their own position of the claim, includes information of the others' points of view, includes positive views of the other position and negative views of the favored position). While other scoring of arguments include participants' integration of all components of an argument while also judging their ability to use relevant justifications (Knight & McNeill, 2015).

Though children, as well as some adults (e.g. Britt & Larson, 2003), may still show weaknesses in some areas of argumentation, one area that does improve as a child develops is the

ability to provide more evidence to support their claim (Knudson, 1991, Kuhn & Udell, 2003; Stein & Albro, 2001). Clark and Delia (1976) looked at age as a factor in children's abilities to include others' perspectives in developing their own persuasive argument. Children from seven to 14 years of age were asked to persuade a parent to buy a specific present they would like to have, to persuade parents to throw the child a large birthday party, and to persuade a neighbor to keep a lost puppy. The authors found that 12- to 14-year-olds used arguments that included counterarguments, or incorporated opposing sides of the argument (e.g., "It doesn't cost much to feed the dog if you buy the big bags of food."), while 7- to 8-year-olds focused on their need of the item (e.g., "I need a new stereo." "I have wanted a new pony for a long time."). This provides evidence that as children age they acquire a more sophisticated understanding of how to create effective persuasive arguments (i.e., including others' perspectives, adding reasoning that is more valid).

One conceptual model of argumentation that serves as a key framework for explaining how children acquire a deeper understanding of how to create effective persuasive arguments is the argument schema theory (Reznitskaya & Anderson, 2002). Argument schema theory suggests that the development of argumentation skills is domain-general, in that the main components of an argument (i.e., claim, support, counterargument, and rebuttal) can be applied to any topic in both informal and formal situations. From this perspective, the knowledge an individual has on argumentation, or the breadth and depth of their schema, depends on the cumulative experiences they have encountered with arguments. With each argument experience (e.g., advertisement, debate, analyzing others' claims and reasoning, conversations with peers, instruction, etc.) an individual's argument schema will change, due to developments in their ability to spontaneously use the components of the argument, reflect on others' ideas, and

develop an effective argument. This framework provides support for the idea that instruction may increase children's argumentation skills by developing their schema related to the structure of an effective argument. The general nature of this schema also provides a basis for explicitly teaching the components of an argument (i.e., claim, reasoning, counterargument, and rebuttal) in the hopes the knowledge will generalize to many domains.

Children can use their personal experiences with arguments and apply this schema as a framework to any argument, both interpreting and producing persuasive arguments. However, what developmental changes take place that allow children to apply this general framework to produce effective arguments? Beyond developing an appreciation that others have different intentions that may lead them to present biased information, children must also develop the skills to evaluate the evidence provided to support all sides of an argument.

Directly linked to a child's development of Theory of Mind is the construct of metacognition (Kuhn & Dean, 2004; Kuhn, 2000; McAlister & Cornwell, 2005; Moses & Baldwin, 2005). Metacognition (often defined as, "thinking about thinking"; Kuhn & Dean, 2004), is an important aspect of decision-making, which connects to how an individual may evaluate the validity of the persuasive claims they hear in advertisements and other arguments and either agree or disagree with the claim. As children learn to use their metacognitive abilities, they are better able to think about the reasons they are providing to support their claim, in addition to showing awareness of alternatives, or counterarguments, to the topic (Kuhn, 1989).

Teaching kids the metacognitive skills needed to attend to the relevant information in an argument, evaluate the validity of the reasoning, and account for the other perspectives when creating an argument might be an effective way to equip children with the critical thinking skills they can apply to a variety of domains. Since many cognitive demands take place when people

create or evaluate arguments (e.g., identify the claim and reasoning, evaluate the evidence, identify the counterarguments, present valid reasoning, develop a rebuttal, etc.) clearly, some young children, and even some adults, struggle with argumentation. However, the argument schema theory provides evidence that children can acquire knowledge through instruction that adds to their understanding and use of arguments, such as paying attention to competing claims, evidence, and counterarguments. Therefore, educational practices that provide multiple opportunities for children to practice argumentation may be effective.

Interventions

If individuals at all age levels struggle to produce effective arguments, yet argumentation can be linked to critical thinking skills (Kuhn, 1992), a call for more effective instructional practices is crucial. Indeed, educational standards have been put in place to require the mastery of argumentation skills. Turning to national standards, argument-related skills are introduced as early as 1st grade (e.g. "write opinion pieces in which they introduce the topic or name the book they are writing about, state an opinion, supply a reason for the opinion, and provide some sense of closure," CCSS ELA-Literacy.W.1.1, 2017). Interestingly, the term "argument" is not used in standards until grade 6 (e.g. "Write arguments to support claims with clear reasons and relevant evidence." CCSS ELA-Literacy, W.6.1.A). Additionally, incorporating counterarguments and rebuttals is not required until grade 7 (e.g., "Introduce claim(s), acknowledge alternate or opposing claims, and organize the reasons and evidence logically," CCSS ELA-Literacy.W.7.1.A). With the term "counterclaim" not appearing until grade 8.

Therefore, there is a great need for effective instruction to provide a bridge for reaching these learning goals as children progress through the grades. Studies have indicated that peer discourse (Mercier, 2016; Kuhn & Crowell, 2011; Kuhn, Hemberger, & Khait, 2016;

Papathomas & Kuhn, 2017; Reznitskaya et al., 2009) and explicit teaching of abstract principles of argumentation can improve students' performance on argument-related tasks (e.g., argumentative debate, written arguments, evaluating arguments) in a school setting (Crowell & Kuhn, 2014; Kuhn & Udell, 2003; Osborne, Simon, & Erduran, 2004; Zohar & Nemet, 2002; Klein, Olson, & Stanovich, 1997). For instance, Klein, Olson, and Stanovich (1997) developed a study to examine 10- to 11-year-olds' changes in ability to evaluate arguments and write arguments after participating in one of four treatment conditions. Each condition consisted of five, 45-minute lessons that provided students the opportunity to read, write, and discuss arguments; however, the instructional strategies varied among the conditions. One condition emphasized concepts related to an argument (e.g., the claim is what the author wants the reader to believe, the evidence is the reason to believe the claim). A second condition focused on organizational strategies for evaluating or developing an argument (e.g., "I'll try to figure out what the author wants me to believe."). One other condition used a combination of concepts and strategies while the final condition used neither of the two instructional approaches. Participants who received lessons focused on concepts showed improvements in their ability to evaluate an argument. While the lessons emphasizing strategies for organizing and evaluating arguments significantly improved participants' written arguments. An additional finding is that all treatment groups showed transfer effects from social-related to science-related arguments. Therefore, the incorporation of concepts and strategies of argumentation interpretation and production in lessons is a beneficial route for promoting children's argumentation skills.

Reznitskaya, Anderson, and Kuo (2007) extended this previous study and compared two different teaching strategies on improving fourth and fifth graders' argumentation skills. Students in one group engaged in discussions on moral and social issues from their regular reading

materials. Students in the second condition additionally received explicit instruction on principles of argumentation using a familiar house metaphor (e.g., building an argument is similar to building a house with supportive reasons holding the claim or the roof of the structure, etc.). The authors found that students' performance on written and oral argument tasks improved with discussion, whether or not they received the explicit instruction. These results indicate that interventions in the area of argumentation are effective; however, they might not provide the same gains in younger students due to limits in the advanced developments of Theory of Mind and metacognition. In addition, it has not been examined if less direct pathways (e.g., lesson about advertising) help students evaluate and produce persuasive arguments.

Summary

The research on the development of argumentation indicates that as children age they begin to use more reasons to support their claim and they are better able to navigate through arguments, counterarguments, and evidence based on improvements to their metacognitive and executive function skills. One possible explanation for the increase in skills is that in order to create sound arguments and prepare for counterarguments, one must have a wealth of knowledge on the subject they are discussing. As children age they gain more content knowledge on a variety of topics. Although children ages 7 to 14 show promising gains in their argumentation skills after instruction, only a marginal amount of children graduate high school performing proficiently on many persuasion-related skills (e.g., evaluating an author's claim, writing a persuasive argument, engaging in argumentative discourse).

Present Study

The current study aimed to expand on the body of work on interventions that promote persuasion skills in children by creating two short interventions that will target children's interpretation and production of persuasive arguments. Connections between research on argumentation and advertising knowledge indicate an interesting gap in overall persuasion-related skills. Eight- to ten-year-olds are capable of developing an understanding of the underlying intentions of advertisements and becoming increasingly more skeptical of others' claims. However, most work shows that the majority of children 13- to 14-years-old do not always consider counterarguments and do not present the most effective reasoning as support for their claim without adequate training. There appears to be a gap between possessing this level of persuasion knowledge and truly being able to apply it in authentic argumentative experiences. One possible explanation for this gap is that kids may not yet possess the skills (e.g., ToM, metacognition) necessary to successfully solve these problems. However, there also appears to be compelling evidence that children can learn the critical thinking skills of interpreting and producing persuasive arguments through effective, purposeful instruction.

This study focused on 8- to 10-years-old as this is the age range that children start to develop a sense of perspective taking, the ability to exercise skepticism toward others' claims, an understanding that others can supply biased information, and the ability to effectively persuasive argumentation skills. Notably, the Persuasion Knowledge Model (Friestad & Wright, 1994) and the argument schema theory (Reznitskaya & Anderson, 2002) postulate that children can acquire effective argumentation skills through instruction and experiences with arguments and still may show an increase in their persuasion-related skills. Research on interventions in both advertising and argumentation provide support that lessons taught to 8- to 10-year-olds can be beneficial

(e.g., Nelson, 2014; Kuhn & Crowell, 2007; Klein, Olson, and Stanovich, 1997; Goldberg et al., 1988).

A major goal of the current study was to examine two instructional paths for increasing third and fourth graders' ability to interpret and produce persuasive arguments. Two areas of focus for building persuasion knowledge in the current study were advertising and argumentation. These two areas, although different, target the same overarching concept of persuasion knowledge. Developing the skills to interpret and create persuasive messages are crucial areas of focus in the field of education. The current study intended to expand on current research on instructional strategies for promoting advertising literacy and argumentation skills by examining cross-domain instructional effects. Thus, this study will provide educators with evidence of the broad impact they can have teaching third and fourth graders about persuasion knowledge through advertising or argumentation.

Research on the effectiveness of interventions in advertising and argumentation support the idea that explicit instruction and practice promotes participants' knowledge and abilities on performance tasks specific to their instructional topics. Therefore, the current study set out to answer the question: Do the interventions work? The first hypothesis of the study was that they would. Specifically, this study set out to show that, participants taught explicitly about the purpose of advertising would show an increase in their advertising literacy. While participants taught explicitly about the components of an effective argument would show an improvement on the argumentation measures.

A second research question that drove the current study related to whether the effects from each intervention transferred across domains. It was hypothesized that there would be some transfer of knowledge and skills as both areas relate to one's understanding of persuasion

knowledge. Since argumentation is used across a range of domains, it was predicted that an intervention on the general components of an argument is likely to increase advertising literacy. Based on the argument schema theory, through experience individuals acquire and adapt a general concept of the structure of an argument and can apply this structure to argumentative situations (Reznitskaya & Anderson, 2002). Therefore, children may be more likely to apply their developing argument schema to more domain-specific contexts, such as advertising. A second part of this research question, was that participants in the Advertising Literacy Intervention might not show as broad of generalizations to other argumentation tasks as it is a more domain-specific topic. Therefore, it is expected that there will not be as many gains for participants in the Advertising Literacy Intervention on measures of argumentation skills since these measures involve applying persuasion knowledge in a different way (e.g., creating a persuasive argument instead of understanding the persuasive intent of commercials).

Based on the literature on the developments of persuasion knowledge and argumentation skills, there appears to be age differences in children's abilities to understand persuasion-related skills and actually apply these skills in an argumentative task (e.g., written persuasive argument). Therefore, a final hypothesis of the current study was that there would be age differences on children's performance on the measures. It was believed that the age differences are due to experiences and skills that can be acquired rather than developmental milestones. Therefore, fourth graders may have more experiences that allow them to perform better on tasks measuring persuasion knowledge. Students can learn the skills that will assist them to be successful on tasks related to persuasion knowledge. In Chapter 3, the research design, participants, measures, and procedures will be presented in detail as one approach to answering these research questions.

CHAPTER THREE: METHODOLOGY

The goal of the present study was to examine the effectiveness of two instructional routes for improving third and fourth graders' ability to interpret and produce persuasive messages. A pretest-posttest design was employed over the course of three weeks to test the effectiveness of two different interventions. Both interventions were 25 minutes long and included explicit instruction on the main components of either advertising or argumentation and one in-class activity that provided students the opportunity to explore their lesson's topics in groups or independently. The Advertising Literacy Intervention covered concepts of the purpose of advertising, target audience, and persuasive tactics. The Argumentation Intervention included the key parts of an argument (i.e., claim, reasons, counterargument, and rebuttal) through multiple examples and the concept of bias was discussed. Prior to the intervention participants in both conditions were assessed with three measures: *Advertising Literacy Scale*, *Argument Evaluation Task*, and *Written Persuasive Argument Task* (described in detail below). These three measures were also administered after the intervention to examine changes within each measure and between the two conditions. Classrooms were randomly assigned to either the Advertising Literacy Intervention or the Argumentation Intervention. The data collected in the pretest and posttest were used to test the main hypotheses of the study. It was predicted that the results would indicate pretest-posttest effects for each intervention, with greater effects for measures that assess domain-specific knowledge (e.g., advertising knowledge).

Participants

This study focused on children ages 8-10 years of age. This range covers the age at which individuals have developed the capacity to understand and reason about advertising-related content (i.e., selling intent, persuasive intent, and skepticism toward advertising) (Rozendaal et

al., 2009; Friestad, Boush, & Wright, 1998; Moses & Baldwin, 2005). Additionally, 8- to 10-year-olds have demonstrated a growing aptitude to evaluate valid arguments and develop arguments with effective support (Kuhn & Udell, 2007). However, these crucial skills may still be emerging and not mastered in children in this age range; therefore, providing advertising literacy and argumentation instruction in third and fourth grades may yield gains in these subjects (Rozendaal et al., 2011; 2009).

The current study was approved by University of Wisconsin – Milwaukee's Institutional Review Board committee. Students were recruited from an elementary school within a suburban, Midwest school district, after the researcher communicated with a school administrator and met with a Library and Technology teacher at the school. The PK-5 school had a total enrollment of 583 students, with 76.5% of the student population White, 11.1% Asian or Pacific Islander, 8.9% Black, 3.3% Hispanic, and 0.2% American Indian. Students with disabilities accounted for 13.6% of the population, 11.7% are labeled economically disadvantaged, and 6.2% are English Language Learners. Although, demographics were not collected due to confidentiality of participants, the students in the nine classrooms that participated in the study were comparable to the overall demographics of the school. Originally, parental consent forms were sent home with all students in third through fifth grades (See Appendix A for parental consent form). Parents were asked by the students' Library and Technology teacher and homeroom teachers to return the consent forms within one week of being sent home. A minimal amount of consent forms were returned for students in fifth grade, therefore the school requested that the researcher only work with the five 3rd grade classrooms and four 4th grade classrooms. A total of 205 third and fourth graders (8-10 year olds) participated in the lessons, while only those with parental consent (N=94) were allowed to participate in the pretests and posttests. Three 3rd grade classrooms and

two 4th grade classrooms were assigned to the Advertising Literacy Intervention (*N* = 50 participants with consent; *N*=112 total students) and two 3rd grade and two 4th grade classrooms were assigned to the Argumentation Intervention (*N*=44 participants with consent; *N*=93 total students).

Design

Both conditions employed a pretest-posttest design that was conducted over three weeks. Data for the *Advertising Literacy Scale, Argument Evaluation Task*, and *Written Persuasive Argument Task* were collected in a whole-group setting during the first and third week of the study.

Materials

Pretests. (See Appendix B for a list of all items as they were presented to participants). One of the pretest measures was an adapted version of the *Advertising Literacy Scale.* This scale was developed by Rozendaal, Opree, and Buijzen (2016) as a measure of 8- to 12-year-olds' advertising literacy. Due to the time constraints of the school's schedule, the present study carefully selected 12 items from the researchers' 25-item scale (16-item conceptual advertising literacy: α=.61; 9-item attitudinal advertising literacy: α=.78). For example, the author eliminated specific items within subcategories that were repeated versions of previous items (e.g., "Do you think commercials are truthful?" "Do you think commercials tell the truth?" and "Do you think commercials lie?"). The adapted scale for the current study incorporated five subcategories of a child's advertising knowledge (i.e., *understanding selling intent, understanding persuasive intent, understanding persuasive tactics, skepticism toward advertising* and *understanding of advertisers' bias*). Each of the five subcategories had two items, with the exception of

understanding persuasive tactics, which had four items. Pearson correlations revealed significant relationships between items of each subcategory except for understanding persuasive tactics, indicating reliability within four subcategories (selling intent, r=.42, n=94, p<.02, persuasive intent, r=.39, n=94, p<.02, advertisers' bias, r=.23, n=94, p=.03, and skepticism toward advertising, r=.42, n=94, p<.02). For each of the 12 items participants were asked to circle one of the four predetermined answers on their sheet of paper. There were three different coding schemes based on the scale created by Rozendaal and colleagues (2016). For *understanding selling intent* and *understanding persuasive intent,* the responses were coded as follows: 4 = yes, for sure, 3 = yes, I think so, 2 = no, I don't think so, and 1= no, certainly not. For *understanding advertising bias* and *skepticism toward advertising* responses were coded as follows: 4 = very often, 3 = often, 2 = sometimes, and 1 = never. For *understanding persuasive tactics*, each item's response was coded according to why an advertiser is most likely choosing the advertising tactic (Rozendaal & Buijzen, 2011). For example, the tactic of using a product demonstration in an ad is most often chosen by advertisers so the audience can learn about the ad. Therefore the coding of the four responses was 4 = to learn about the product, 3 = to believe what the ad says, 2 = to recall the ad, and 1 = to like the ad.

Another pretest/posttest assessment was the *Argument Evaluation Task.* This task measured a participants' ability to evaluate the quality of arguments. Items were modeled after a study conducted by Larson, Britt, and Kurby (2009). The original items were given to high school and college students, therefore the content and language was changed to be more age-appropriate for 8- to 10-year-olds. Three sentences were grouped together as one item, each stating the same claim and then supported or not supported with an acceptable or unwarranted reason to produce three quality levels of an argument (i.e., acceptable, unwarranted, and

unsupported). An acceptable argument is one in which the reasoning supports the claim effectively (e.g., "Kids should not be allowed to watch movies, because there is often violence and bad language.") An unwarranted argument has a reason, but the reason does not effectively support the claim (i.e., the reasoning is not logical). For example, "Kids should not be allowed to watch movies, because they cost a lot to produce." An unsupported argument provides no support, but simply states the claim (e.g., "Kids should not be allowed to watch movies."). In order to measure participants' ability to distinguish between a claim with a valid reason of support with one supported with illogical reasoning or no reasoning at all, participants were advised to choose the argument they believed was the best at supporting the claim. Participants were told they might not agree with the statements, but their task was to choose an answer based on which argument had the best support and was most logical. Responses to each of the four items were coded in relation to which of the three sentences participants selected. For each item a response received a score of 2 if the participant selected the acceptable statement, a response received a score of 1 if the participants selected the unwarranted statement, and a response received a score of 0 if the participants selected the unsupported statement.

The final pretest/posttest measure was the *Written Persuasive Argument Task.* Children were asked to choose one scenario they would like to use as a topic for a persuasive argument. This task was left open-ended to provide students the opportunity to write about a topic they felt strongly about and had a large amount of content knowledge. This task was adapted from studies by Clark and Delia (1976), Kuhn and Udell (2003), and Knight and McNeill (2014). The written responses were coded by two raters based on the function of the argument, the perspective of the argument, and the overall quality of the argument (described below). Cohen's κ was run to determine if there was agreement between two raters on these three variations of coding

participants' written persuasive arguments. There was high agreement between the two raters for the overall quality of the argument ($\kappa = 0.815$, $p < 0.005$), function of the argument ($\kappa = 0.83$, $p < 0.005$), and perspective of the argument ($\kappa = 0.85$, $p < 0.005$). Participants' written argument was coded four different ways (i.e., function, perspective, quality, and total number of reasons).

The strategy for coding the function of an argument was modeled after the coding scheme created by Kuhn and colleagues (2003; 1997). Written arguments were coded a "2" if the reasons provided were linked to the purpose of the topic in the claim (e.g., "You should buy me new clothes, because the clothes I have now do not fit"). A "1" identified arguments in which the reasons did not provide evidence of the purpose of the claim. For example, the reasoning of "Mom, you should buy me new shoes, because they look cool," does not indicate the purpose of needing new shoes (e.g., old ones do not fit, need shoes for walking, running, playing basketball, etc.). A written argument was coded "0" if the justification was based on sentiment or appealing to the majority (e.g., "you should buy me new clothes, because all of my friends get new clothes all of the time").

Another coding scheme for the *Written Persuasive Argument Task* represented the perspective the participant included in their argument and was modeled after Kuhn & Crowell (2011). A higher score was given to an argument if the participant looked beyond their perspective and integrated any counterarguments when supporting their claim. Scores ranged from three to zero. If the argument included negatives of the favored position or positives of the opposing side the argument was coded as a "3" for an integrative perspective (e.g., "I know you think a new computer is too expensive, but I could use some of my allowance to help pay for it." Or "Golf is a really fun sport, but I think we would have more fun if we played football because more people could participate."). If a participant included information of the opposing side, their

argument was coded as a "2" for having a dual perspective (e.g., "You need to clean my room so that you can have some alone time."). A "1" indicated the participant only included positive of his or her own position of the claim (e.g., "I want to go to Florida, because the weather is warm."). Finally, a "0" was given if it was not a valid argument or no reasons of support were provided.

Written arguments were also coded based on the overall quality of the argument. This coding scheme was modeled after Knight and McNeill (2014) and included the integration of other perspectives as well as the use of relevant justification to support the participant's claim. An argument was coded as a "4" if the participant used relevant justifications for the claim as well as justifications for rebuttals that commented on a counterargument (e.g., "I want to go to a waterpark because it is something we can do as a family. You may think it is too expensive, but we can all chip in allowance so we have enough."). An argument received a "3" if the persuasive argument included relevant justification to support the claim (e.g., "I think we should get a pet, because it will teach me how to take care of something."). Arguments were coded as a "2" if the claim was justified, however the justifications were not relevant or accurate (e.g., "Mom, we should have dessert after dinner because I like chocolate."). A "1" was given to arguments that showed a claim, but no reasoning or rebuttals to other perspectives (e.g., "We need to get a new puppy."). Finally, a "0" was given if a participant did not provide a claim to argue.

Finally, the written persuasive argument was coded by the number of reasons a participant used to support their claim. A reason was counted as "1" if it was a full thought that support the claim of the persuasive argument, whether it was relevant or not to the claim. For example, the argument "We should have dessert tonight, because I completed my homework and

it would be a delicious treat," would count as two reasons to support the claim (i.e., "because I completed my homework," and "it would be a delicious treat").

Procedure

The study took place over the course of three weeks. All classes were seen a total of three days for the pretest, intervention, and posttest. All classes had equal time between visits. The study was conducted during the school's Library and Technology class, which students in grades 1^{st}-5^{th} attended once a week for 35 minutes. This eliminated any additional disruption of classes and curriculum. The study consisted of pretests, administered to all participants within the first week of the study. The intervention took place during the second week of the study, exactly 7 days after each participant took the pretest. Finally, the posttests were administered to all participants exactly 7 days after the intervention.

Week 1: Pretests. Classes came to their Library and Technology class at their regularly scheduled time. The Library and Technology teacher reminded students of the parental consent forms that were sent home and the connection they had with the next few weeks of class. The researcher introduced herself and handed out the pretests to the participants whose parents signed the consent. Those students in the class who did not have parental consent were given a worksheet (e.g., crossword puzzles, word searches that related to topics they were learning in their other classes) to complete quietly while the participants took the pretests. All three measures (*Advertising Literacy Scale, Argument Evaluation Task* and *Written Persuasive Argument Task*) were printed on a double-sided worksheet. Participants were asked to write their name at the top of the pretest in order to connect pretest and posttest scores to the same participant. The directions for each measure were printed on the worksheet. Each item was read aloud to avoid any cognitive demands of reading and to ensure the group was following along

with the correct item. The measures were administered by the researcher or the students' Library and Technology teacher. Participants were reminded that there was no right or wrong answer to any of the items. They were also ensured that their performance on these tasks had no impact on their grades for other classes.

Participants were first given the *Advertising Literacy Scale* with the 12 items and 4 pre-determined answers from which to choose and told to listen to the question and answers read aloud and then circle the answer they thought best answers the question. Participants were advised to circle the response that they believed best answered the question on the sheet of paper. The participants were told to turn their pretest over to continue with the next measure, the *Argumentation Evaluation Task*. Students were told to listen to the three sentences read aloud and circle the sentence they thought was the most effective argument. A total of eight groupings of sentences were used, four in the pretest and four in the posttest. Half of the participants received one set of the items at pretest, while the other participants received the second set of four items. The items were then switched for each classroom in the posttest so each participant received all eight items. This ensured there were no item effects by presenting the same set of four items at pretest to all students. Each of the four items contained three quality levels of an argument from which to choose. The order of the three levels of quality (i.e., acceptable, unwarranted, or unsupported) were randomized. Participants were advised to circle the argument they believed had the best support for its claim. Finally, the participants were able to create their own persuasive argument for the *Written Persuasive Argument Task*. Students were told they could write a persuasive argument in which they could persuade anyone (e.g., parents, sibling, teacher, or friend) to do anything (e.g., eat what they want for dinner, buy a new toy, clean room). Ideas for topics were written in the directions on the sheet and said aloud for students in

case they were unclear of the directions or unable to think of a topic. Students were encouraged to write as much as they wanted to persuade someone to do something. All three measures were administered in one visit for each class and took participants approximately 20 minutes to complete.

Week 2: Intervention. Classes were randomly placed in either the Advertising Literacy Intervention or the Argumentation Intervention. Each intervention consisted of the same format: a 25-minute lesson, which combined explicit instruction on the topic followed by an in-class activity. Each class met with the primary experimenter (author) or the Library and Technology teacher one time.

Advertising Literacy Intervention. Three 3rd grade classrooms and two 4th grade classrooms participated in the Advertising Literacy Intervention. All students who were present in class during the second week of the study participated in the lesson and in-class activity. The lesson used a presentation-format (i.e., Prezi) on a SmartBoard to teach the purpose of advertising, target audience, and tactics advertisers use to persuade a target audience (See Appendix B for listing of presentation slides). The topics were chosen based on current advertising literacy programs (Nelson, 2014; Admongo, 2012; Buijzen, 2007; Hobbs & Frost, 2003; Austin & Johnson, 1997) and components of advertising literacy assessed in the *Advertising Literacy Scale* (Rozendaal, Opree, & Buijzen, 2016). Examples of print ads and commercials were shown to the class to cover these topics (See Appendix C). For example, to look at how ads target different audiences a print ad for a shampoo using a female celebrity was shown, followed by a discussion in which the class was asked to reflect on whom this ad may be targeting. The researcher called on multiple students to answer this question. Then a commercial for Wisconsin Dells Waterparks was shown, followed by a discussion of whom the advertisers

might be targeting to buy their service. To examine tactics advertisers use to persuade their audiences, three commercials were chosen that focused on how products work, the use of celebrities, and making people laugh (e.g., Billy Mays demonstrating how OxyClean works, Aaron Rodgers for All State Insurance, and a Evian water commercial with babies dancing). A print ad for Heinz Ketchup was used to ask the class what information was missing or misleading in the advertisement.

After examining many examples of ads and covering the major concepts of advertising literacy, the class took part in a group activity that allowed them to engage in peer discussions as they explored the advertising literacy topics with print ads (See Appendix D for worksheet). The activity asked students to choose one print ad and answer five questions as a group: (1) identify who the target audience was, (2) what the ad was trying to get them to think, feel, and buy, (3) the persuasive tactics the advertiser used to create the ad, (4) if they believed the ad was truthful, and (5) what information might be missing or misleading in the ad. The students worked together in their groups to answer the questions, while the researcher circulated providing feedback to students. The intervention ended with a brief summary of what the students learned in the lesson.

Argumentation Intervention. Two classrooms from each grade level participated in the Argumentation Intervention. All students present during the second week of the study participated in the intervention. The lesson used a presentation-format, called Prezi, on a SmartBoard to teach the components of an argument (i.e., claim, evidence, counterargument, and rebuttal). Examples of well-constructed and poorly constructed arguments were shown on the screen to students and the class engaged in discussions about each argument (e.g., I should get a bike for my birthday, because I want one). After dissecting multiple examples of arguments, students watched a short clip from *Zootopia*, a popular animated movie that the majority of the

students had seen. The clip illustrated a conversation between three characters comprised of the components discussed previously in the lesson. Students were asked to identify the claim, reasons, counterargument, and rebuttal in a conversation between the main character, Judy Hops, and her parents. Table 3.1 provides the full script of the clip shown to students. The majority of students in all classes receiving this intervention easily identified the parents' claim that "predators should be feared; foxes are the worst" and the support they provided "remember what happened with Gideon Grey (a fox that bullied Judy as a child)?" Judy Hops' counterargument was that this incident happened many years ago when she was only 9-years old. The parents' rebuttal to her counterargument was to bring "Fox Spray" with her to the big city to protect herself.

Table 3.1
Script of *Zootopia* Movie Clip.

Mom Bunny: We're real proud of you, Judy.
Dad Bunny: Yeah, scared too. It's really a proud-scared combo. I mean Zootopia, it's so far away. It's such a big city.
Judy Hops: Guys, I've been working for this my whole life.
Mom: We know. We are just a little excited for you, but terrified.
Judy: The only thing we have to fear is fear itself.
Dad: And also bears. We have bears to fear, say nothing about lions, wolves, weasels.
Mom: You play cribbage with a weasel.
Dad: Yeah and he cheats like there's no tomorrow. You know what? Pretty much all predators and Zootopia is full of them. And foxes are the worst.
Mom: Actually, your dad does have a point there. It's in their biology. Remember what happened with Giddeon Grey?
Judy: When I was 9! Giddeon Grey was a jerk who happened to be a fox, I know plenty of bunnies who are jerks.
Dad: Sure, we all do, absolutely. But just in case we made you a care package with fox repellant.
Judy: Ok, I will take this (the fox spray) to have you stop talking!
Dad: Perfect! Everyone wins!

After breaking down these argument components in a familiar movie clip, students were asked to complete the in-class activity, which gave them opportunity to create their own

persuasive argument. Students were encouraged to fill out their worksheet independently; however, they could discuss their ideas with each other or the researcher. Using a worksheet as a guide, students stated where they wanted to go on their next class fieldtrip (i.e., the claim) and came up with reasons why the class should go to this location. They also identified why the other side (i.e., parents, teachers, administrators, other students, etc.) might be hesitant or show opposition to go, and finally formulated rebuttals to the counterarguments (See Appendix C for worksheet). Dependent on time, students were able to engage in an argumentative discourse and attempt to persuade a peer to want to go on their field trip. However, not all students were able to engage in the argumentative discourse with partners due to the amount of time each student put forth in writing their ideas for a persuasive argument. The intervention ended with a brief summary of what the students had learned in the lesson.

Week 3: Posttests. The Posttest measures took place in the third week and were identical to the Pretest measures, with the exception that four different items that were similar in content and format were presented for the *Argument Evaluation Task* and participants were asked to pick a different scenario for the *Written Persuasive Argument Task* (all items are shown in Appendix B). Administration and timing of all measures were identical to the Pretest.

CHAPTER FOUR: RESULTS

In this chapter, the results of the data analysis are presented and discussed. The first hypothesis was that providing students in third and fourth grades a short intervention on either advertising literacy or argumentation concepts would increase their knowledge and skills in the respective area. Of particular interest was the change in responses for measures within each intervention (e.g., did children show an increase on advertising/argumentation measures in the respective instructional conditions?). The second hypothesis was that interventions in advertising and argumentation would yield cross-domain effects. It was predicted that the intervention focused on promoting argumentation skills would generalize to the advertising literacy subcategories, as the concepts taught in the intervention are broader and may allow for transfer to domains outside of what was explicitly taught. Whereas, the concepts covered in the Advertising Literacy Intervention are more specific to advertising and may not provide as much generalization to domains outside of advertising. The analyses also explored potential differences between grades. The author predicted that both grade levels would make significant gains, but differ in the areas in which gains are made. Specifically, third graders would make more gains that are significant in advertising literacy subcategories based on developments in ToM and fourth graders would make gains that are more significant on the argumentation tasks based on developments of metacognition, as discussed in Chapter Two.

To investigate these predictions, paired-samples t-tests and one-way ANOVAs were conducted for the *Advertising Literacy Scale*, the *Argument Evaluation Task*, and the *Written Persuasive Argument Task for each intervention*. The data analysis was broken down by the three research questions in the study.

Did the interventions work?

Averaged responses for each subcategory of the Advertising Literacy Scale were submitted to paired-samples *t*-tests to identify if the Advertising Literacy Intervention yielded significant changes in participants' advertising knowledge from pretest to posttest. Results indicated that participants in the Advertising Literacy Intervention significantly improved their advertising knowledge from pretest to posttest in the subcategories of *understanding selling intent,* $t(49) = 3.62$, $p<.02$, *understanding persuasive intent*, $t(49)=6.57$, $p<.02$, and *skepticism toward advertising,* $t(49)=2.03$, $p=.04$. *Understanding advertisers' bias* and *understanding persuasive tactics* did not show significant gains ($p>.05$) from pretest to posttest. Figure 4.1 shows the differences from pretest to posttest on each subcategory for the Advertising Literacy Intervention.

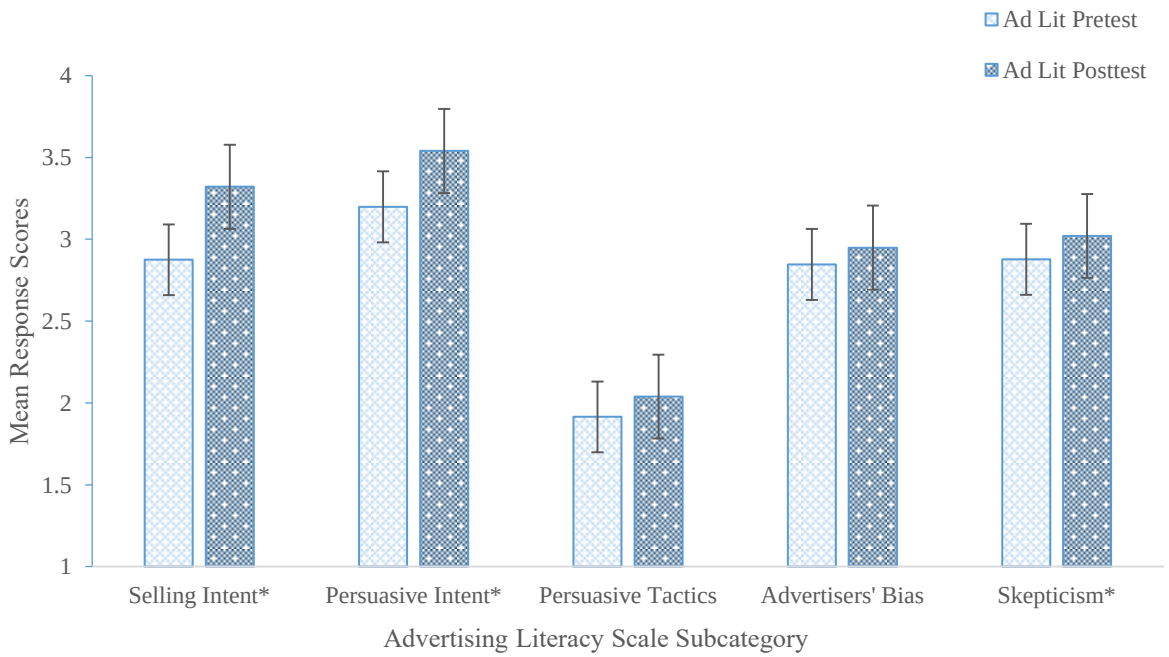

Figure 4.1 Mean response scores for each subcategory of the Advertising Literacy Scale. Bars indicate pretest and posttest for each subcategory for participants in the Advertising Literacy Intervention. Error bars represent one standard error from the mean. * Significant difference from pretest to posttest.

To examine if the Argumentation Intervention influenced participants' ability to interpret and produce persuasive arguments, paired-samples *t*-tests were conducted for the argumentation measures. Participants in the Argumentation Intervention significantly improved on their use of function to support their topic, $t(43)=8.42$, $p<.02$, perspective, $t(43)=5.50$, $p<.02$, quality of argument, $t(43)=7.23$, $p<.02$, and the number of reasons used to support their claims, $t(43)=2.83$, $p<.02$. Figure 4.2 shows differences from pretest to posttest for participants in the Argumentation Intervention on all coding measures of the *Written Persuasive Argument Task*. There was not a significant improvement on the *Argument Evaluation Task* ($p>,05$), due to the high scores at pretest, leaving little room for improvements on this task.

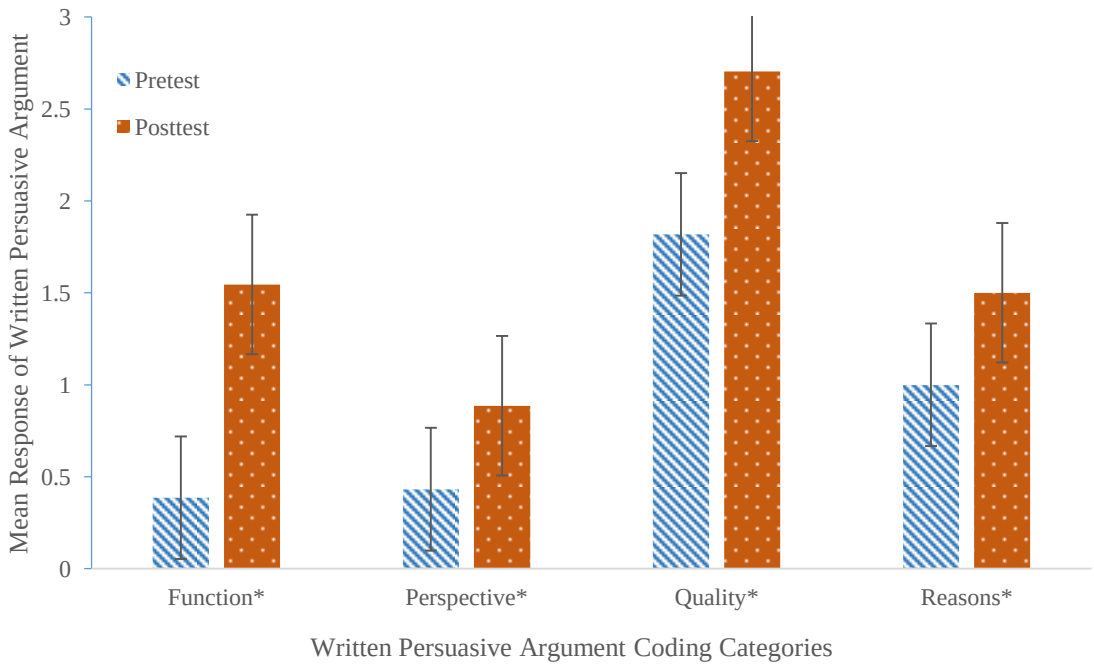

Figure 4.2 Mean response scores for each coding category of the Written Persuasive Argument Task. Bars indicate pretest and posttest scores for participants in the Argumentation Intervention. Error bars represent one standard error from the mean. *Significant difference from pretest to posttest.

These results indicate that both interventions did work, showing significant improvements in their respective measures. One interesting finding is that participants in the Advertising Literacy Intervention did not show significant improvements across all subcategories of the *Advertising Literacy Scale* (i.e., understanding advertisers' bias and understanding persuasive tactics). The intervention did not explicitly teach bias therefore it could be expected that little to no improvements on this concept of advertising were made. However, the intervention did explicitly teach persuasive tactics advertisers use, making it surprising that participants did not significantly improve in this subcategory. Additionally, participants in the Argumentation Intervention showed significant improvements across all coding schemes for the *Written Persuasive Argument Task*.

Were there cross-domain transfer effects?

In order to examine whether the skills taught in each intervention generalized to other topics, paired samples *t*-tests were conducted for each measure. Participants in the Advertising Literacy Intervention showed significant improvements from pretest to posttest on their incorporation of other perspectives when writing a persuasive argument, $t(49)=2.89$, $p<.02$. However, the transfer of knowledge taught in the Advertising Literacy Intervention did not go beyond that, with no other significant improvements for the function, quality, and number of reasons used, as well as no significant changes on the *Argument Evaluation Task* ($p>.05$). Figure 4.3 shows changes from pretest to posttest across all coding schemes for the *Written Persuasive Argument Task* for the Advertising Literacy Intervention.

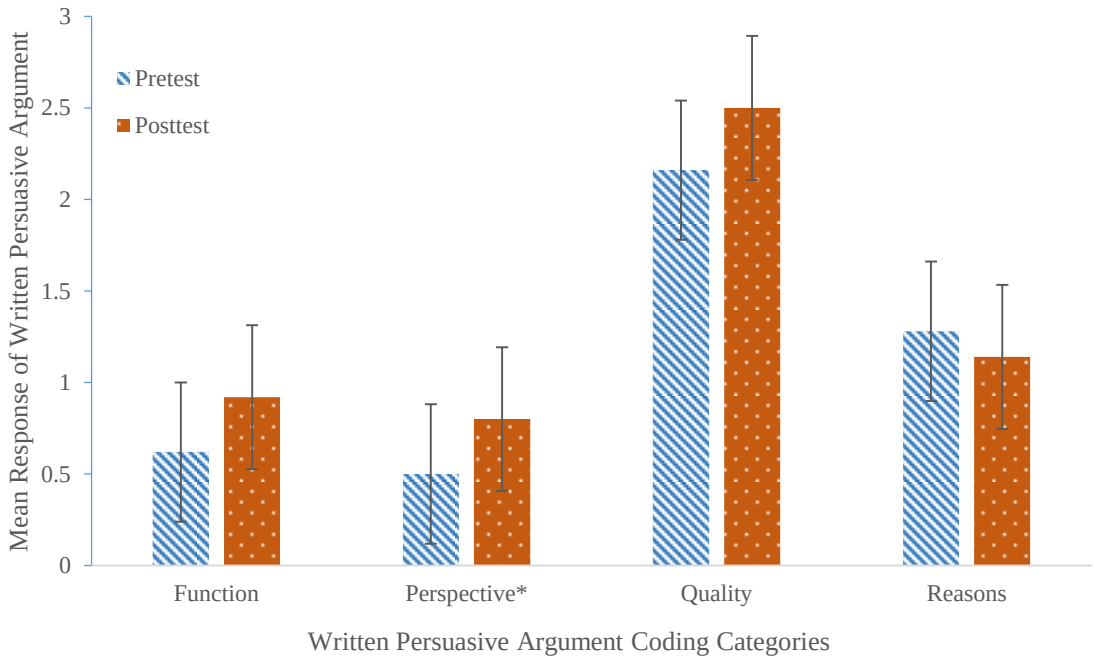

Figure 4.3 Mean response scores for each coding category of the Written Persuasive Argument Task. Bars indicate pretest and posttest scores for participants in the Advertising Literacy Intervention. Error bars represent one standard error from the mean. *Significant difference from pretest to posttest.

Paired-samples *t*-test indicated significant improvements from pretest to posttest for participants in the Argumentation Intervention on the *understanding persuasive tactics* $t(43)=4.79$, $p<.02$, and *understanding selling intent*, $t(43)=2.28$, $p=.03$ on the *Advertising Literacy Scale*. The subcategories of *understanding persuasive intent*, *understanding advertisers' bias*, and *skepticism toward advertising* did not yield significant improvements ($p>.05$) for participants in the Argumentation Intervention. Figure 4.4 shows differences from pretest to posttest for each subcategory of the *Advertising Literacy Scale* for participants in the Argumentation Intervention.

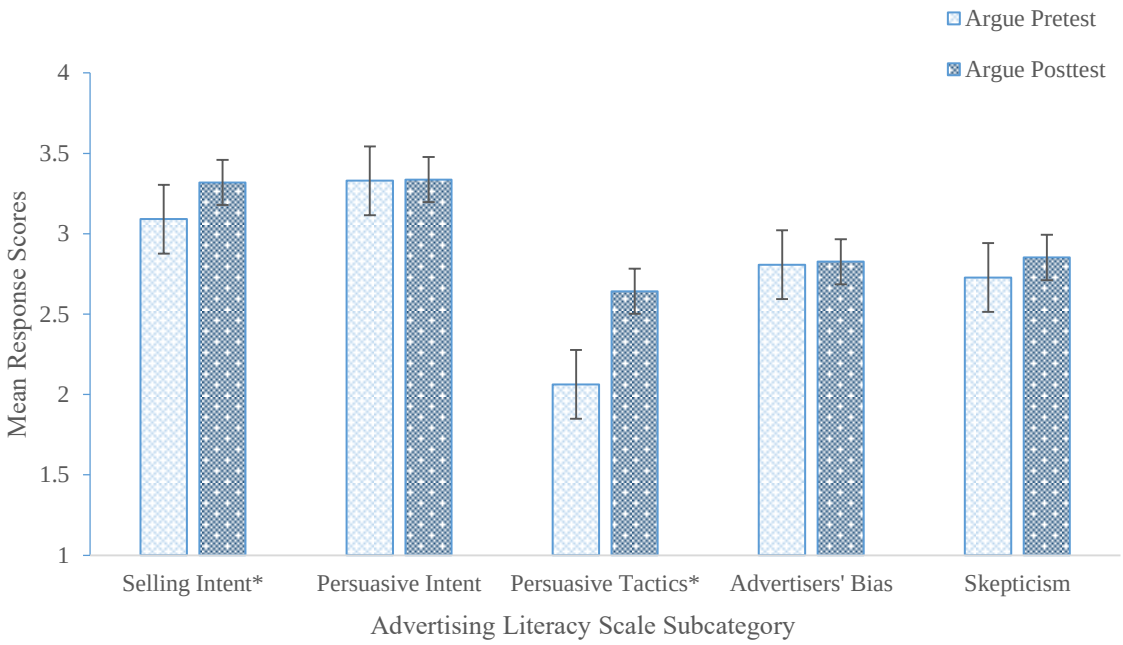

Figure 4.4 Mean response scores for each subcategory of the Advertising Literacy Scale. Bars indicate pretest and posttest scores for participants in the Argumentation Intervention. Error bars represent one standard error from the mean. *Significant difference from pretest to posttest.

These results are exciting to report in that a short intervention on the topics of advertising and argumentation generalized to other contexts. The domain-specific concept of advertising transferred to children's ability to incorporate others' perspectives when creating their own persuasive argument. Additionally, participants who learned about the domain-general topic of argumentation were able to apply themselves in a novel context of advertising, as they increased their knowledge of selling intent and persuasive tactics.

Were there grade differences?

One-way ANOVAs were conducted to examine grade differences for each measure. There were significant grade differences at pretest, but not at posttest ($p>.05$) for *understanding advertisers' bias* $F(1, 93)=10.92$, $p<.02$ and *skepticism toward advertising*, $F(1,93)=12.44$, $p<.02$, on the Advertising Literacy Scale, indicating fourth graders ($M=3.00$, $SD=.06$) scored higher than third graders ($M=2.74$, $SD=.07$) overall. Fourth graders showed more understanding of advertisers' bias and skepticism toward advertising at pretest compared to third graders, while third graders increased their level of understanding of advertisers' bias and skepticism toward that of a fourth graders' at posttest. This result is depicted in Figure 4.5.

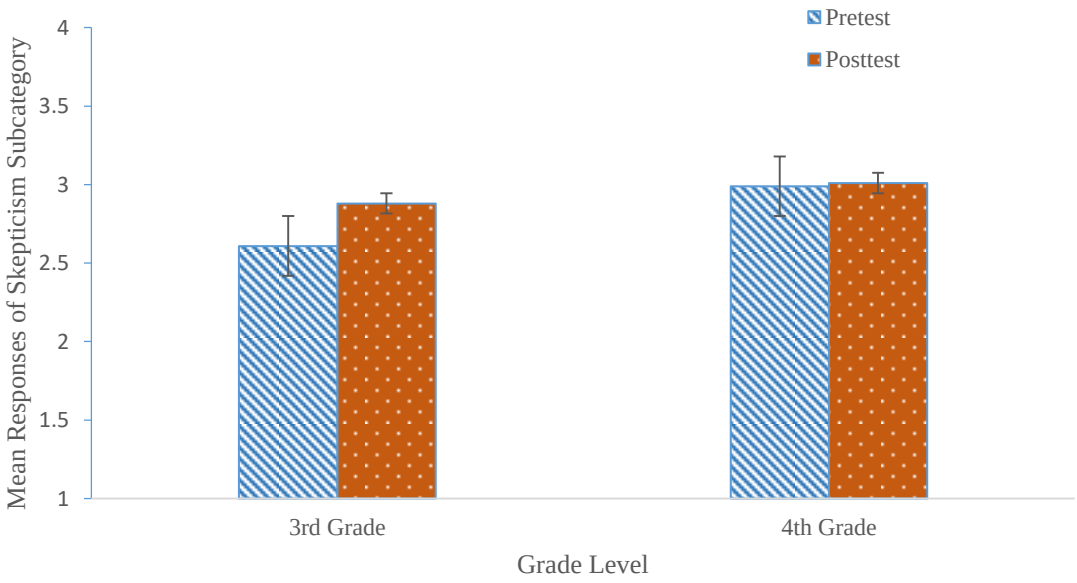

Figure 4.5. Mean response scores for third and fourth graders on the s*kepticism toward advertising* subcategory of the Advertising Literacy Scale. Bars indicate the pretest and posttest averaged responses at each grade level. Error bars indicate one standard error from the mean.

There were significant grade differences at pretest, $F(1,93)=9.70$, $p<.02$, and posttest, $F(1,93)=12.31$, $p<.02$, for the *Argument Evaluation Task*, indicating that fourth graders scored higher than third graders at both pretest and posttest on this measure.

Finally, there were significant grade differences at pretest for the *Written Persuasive Argument Task* for perspective, $F(1,93)=4.27$, $p=.04$, quality, $F(1,93)=13.01$, $p<.02$, and total number of reasons, $F(1,93)=8.95$, $p<.02$, but not significant grade differences at posttest ($p<.05$). Indicating that fourth graders scored higher at posttest than third graders on these measures, but third graders improved their persuasive writing abilities toward that of a fourth graders' at posttest.

Table 4.1
Results by Measure

	Advertising Literacy		Argumentation	
Measure	*t*(49)	*p*	*t*(43)	*p*
Advertising Literacy Scale				
Understanding Selling Intent	3.62	*<.02*	2.28	.03
Understanding Persuasive Intent	6.57	<.02		
Understanding Persuasive Tactics			4.79	<.02
Understanding Advertisers' Bias				
Skepticism toward Advertising	2.03	.04		
Argument Evaluation Task				
Written Persuasive Argument				
Function			8.42	<.02
Perspective	2.89	<.02	5.50	<.02
Quality			7.23	<.02
Number of Reasons			2.83	<.02

Note. Items left blank did not yield significant differences between pretest to posttest ($p>.05$).

In summary, these results help support the three hypotheses of the current study. The first hypothesis was that the interventions would teach the concepts directly related to the material. Participants in the Advertising Literacy Intervention showed significant improvements on the *understanding selling intent, understanding persuasive intent,* and *skepticism toward advertising*

items. Therefore, the intervention focused on advertising did in fact improve participants' advertising literacy. These analyses indicated that the function component of argumentation was more prevalent after the Argumentation Intervention. Additionally, the Argumentation Intervention improved participants' overall quality of the argument, and increased the number of reasons used to support their claims. These significant increases support the first hypothesis that participants in the Argumentation Intervention would show improvements on argument-related measures. The second hypothesis was that the interventions would generalize to the other measures. Participants in the Advertising Literacy Intervention showed improvements in their use of others' perspectives in their persuasive written arguments. Another impressive finding that supports this hypothesis was that although advertising tactics were not explicitly taught in the lesson, the Argumentation Intervention significantly increased participants' *understanding selling intent* and *understanding persuasive tactics*. The third hypothesis of the study expected grade differences. The results support this hypothesis by identifying that third graders showed a significant increase in their *skepticism toward advertising*, while fourth graders did not. Third graders also showed significant improvements from pretest to posttest on perspective and overall quality of their written persuasive argument. The results are broken down by intervention type and measure in Table 4.1. Further discussion of the results will follow in Chapter five.

CHAPTER FIVE: DISCUSSION

Skills associated with persuasion link directly to critical thinking (e.g., evaluating arguments, creating an effective argument supported with valid evidence, interpreting persuasive messages). Additionally, persuasive messages surround us every day in multiple contexts. Instilling the knowledge and skills in students associated with persuasion will support their ability to evaluate and create persuasive arguments in and out of the classroom. One way to encourage the development of these skills is through explicit instruction. This study set out to investigate the effects of two interventions on specific aspects of children's persuasion knowledge. In particular, the aim of the study was to analyze two different instructional pathways (i.e., advertising literacy or argumentation) for increasing children's interpretation and production of persuasive messages.

The first hypothesis of the study predicted that the interventions would increase skills explicitly taught to participants. It was expected that explicitly teaching advertising concepts would increase participants' performance on the *Advertising Literacy Scale*. Not surprisingly, those in the Advertising Literacy Intervention showed significant gains in multiple subcategories of advertising literacy (*understanding selling intent*, *understanding persuasive intent*, and *skepticism toward advertising*). These findings are in-line with previous research showing that advertising literacy programs are effective at increasing children's knowledge of advertising (Kunkel et al, 2004; Nelson, 2014). The areas of *understanding persuasive tactics* did not show significant gains after the Advertising Literacy Intervention, suggesting perhaps that these concepts may not have been adequately taught to the students during the short lesson. Although specific advertising tactics were discussed with students and examples were shown (e.g., product demonstration, humor, and celebrity endorsement), the students may not have noticed the

differences of why an advertiser might choose one tactic over another. Therefore, this type of intervention may not have provided students sufficient practice to think about persuasive tactics from the advertisers' perspective. An alternative explanation is that the items used to measure participants' understanding of persuasive tactics did not reliably measure this concepts.

Additionally, the *understanding advertisers' bias* subcategory did not show a significant change in responses from pretest to posttest in the Advertising Literacy Intervention, though there was improvement. The concept of advertisers' bias was not explicitly taught to students in the Advertising Literacy Intervention therefore the lack of significant improvement is not necessarily surprising. Children were taught about the idea that information presented in advertisements is often misleading, therefore it is important to ask questions about what might be missing from the persuasive message. The items also seem to go along with the concept of how real the commercial and advertised product is (e.g., Do you think television commercials are real? How often do you think what you see in television commercials is like things are in reality?). The concept of reality versus the world of the commercial could have been included in the intervention to better address the students' understanding of how commercials are created by advertisers with the purpose of selling their products. The concept of advertisers' bias may have been measured better by presenting the questions in a different way (e.g., Do the people who make commercials use misleading information to sell a product?). Additionally, participants' experiences with advertised products they have encountered may not have been very different from what they expected from the commercial. In-line with research on children's understanding of biased information, children often struggle to identify others' self-interests as a reason for providing misleading information (Mills & Elashi, 2014; Mills & Keil, 2005).

Also, supporting the first hypothesis, it was predicted that participants in the Argumentation Intervention would show improvements on argument-related measures (i.e., *Argument Evaluation Task* and *Written Persuasive Argument Task*). All areas of coding the *Written Persuasive Argument Task* (i.e., function, perspective, quality, and number of reasons) significantly increased for participants in the Argumentation Intervention, these results are very promising in that a short intervention in argumentation skills greatly improved these skills in third and fourth graders. It is interesting that the function category increased as it was not explicitly discussed in the intervention to use the purpose of the topic to help validate the reasoning. It is also important to note that although children showed significant improvements in the area of incorporating different perspectives, the scores remain well below a mastery of this area. This finding follows the work that indicates it is not until a child is 13 to 14 or even older that they incorporate more counterarguments and views of others (Knight & McNeil, 2014; Clark & Delia, 1976; Kuhn & Udell, 2003; 2007). Since children struggle with this area of persuasion, it is crucial to improve these skills, which evidently can occur through a short lesson.

What is often most appealing about choosing various instructional strategies to educators is the idea of transfer; that the information explicitly taught to children in the classroom allows them to problem solve or apply the information in a new setting or task not necessarily related to the original topic. The second aim of this study was to investigate if two interventions regarding persuasion knowledge could generalize to skills outside the instructional domain. Examining the scope of a short intervention in advertising or argumentation provides evidence for implementing a lesson in the classroom of third and fourth graders that increases the critical thinking skills associated with persuasion knowledge.

Some of the most intriguing findings indicated that the Argumentation Intervention showed significant gains in certain areas of the *Advertising Literacy Scale* even though the concepts related to advertising were not explicitly taught to students. These results are extremely exciting to report in that a short intervention on the domain-general concepts of Argumentation has the power to transfer to a specific area related to persuasion knowledge (i.e., advertising). The Argumentation Intervention showed a significant increase from pretest to posttest on *understanding selling intent* and *understanding persuasive tactics*. According to the research on the development of persuasion knowledge, children show a developing understanding of persuasion around 8- to 10-years of age (Freeman & Shapiro, 2014; Rozendaal et al., 2009; Robertson & Rossiter, 1976). However, since no concepts of selling intention or persuasive tactics specifically used in advertising were discussed in the Argumentation Intervention, it is interesting that the participants' significantly increased their understanding of the tactics at posttest. A possible explanation for this transfer of knowledge is that during the Argumentation Intervention students learned about the components of an argument (i.e., claim, reasoning, counter-argument, and rebuttal) as well as whether one type of reasoning was effective or ineffective. These strategies for teaching students about argumentation may have provided participants a platform for thinking about why a certain persuasive tactic was used to sell the product (e.g., why did the commercial use a product demonstration as their source of evidence to support their claim?). This is consistent with the PKM and the argument schema theory in that children develop an understanding of the general structure of a persuasive argument and apply this structure to other arguments with which they are presented. Thus, both interventions are at the heart of teaching crucial persuasion skills.

The current study also examined the transfer effects of a lesson on advertising to promoting argumentation skills. An interesting finding was that participants in the Advertising Literacy Intervention also showed improvements in their use of perspective in their persuasive writing, supporting hypothesis two. This is noteworthy to report in that students in this intervention were taught a domain-specific topic of advertising; however, components of this lesson allowed them to generalize to broader tasks such as writing a persuasive argument. The PKM posits that individuals fluctuate between being the target of persuasive attempts and being the creator of persuasive messages throughout the day. The persuasion knowledge an individual acquires will alter how they interact with future persuasive attempts, whether they are the target of the persuasive message or the one attempting to persuade others. Therefore, although the focus of the Advertising Literacy Intervention was the concepts of persuasion as they apply to advertising (i.e., student as a target of a persuasive attempt) the persuasion knowledge taught during the lesson may have changed how they create their own persuasive message. Increasing participants' knowledge on the intentions of advertisers and tactics used, as well as allowing participants freedom to choose a topic they felt knowledgeable about, may have contributed to their improvements on components of argumentation.

The third research question looked at differences between grades on the improvement of argumentation and advertising knowledge. It was expected that third graders might show more improvement on advertising related task due to their developing knowledge of persuasion knowledge as it applies to advertising. A finding that supports this hypothesis was third graders showed a significant increase in their level of *skepticism toward advertisements*, whereas, the fourth graders did not show a significant change in their level of skepticism toward advertising in either intervention. Research on children's skepticism toward others' claims indicates that older

children hold more skeptical views of others (Mills & Kiel, 2005); however, after a training that focuses on advertising or argumentation, young children's level of skepticism can be influenced (Buijzen, 2009; Robertson & Rossiter, 1976). This result adds to the body of research that indicates 8- to 9-year-olds can develop a more skeptical stance toward advertisements as they are acquiring more knowledge about advertisements and the purpose of persuasion. What is surprising, however, is that third graders in the Argumentation condition increased their level of skepticism even without explicit instruction on the purpose of advertising. One reason is that the Argumentation Intervention hinted at how arguments are created to persuade someone to do or want something and this may have generalized to advertisements as another form of persuasive argument. In addition, the significant increase in the participants' *understanding of persuasive tactics* may have played a role in the significant increase in their level of *skepticism toward advertising* (Freeman & Shapiro, 2014; Rozendaal et al., 2016; Friestad & Wright, 1998).

The results do not go much further in supporting significant grade differences on the argumentation tasks. However, overall the differences at pretest relative to the similarities between grades at posttest are useful for concluding that the interventions had a stronger impact on third graders. Overall, fourth graders had a deeper understanding of advertising related knowledge and a better grasp on evaluating and producing a persuasive argument, which is indicated in the developmental research on advertising literacy (Robertson & Rossiter, 1974; Rozendaal, Lapierre, Opree, & Buijzen, 2011; Moses & Baldwin, 2005) and argumentation skills (Kuhn 2004; Kuhn 2000; Reznitskaya et al., 2009). However, it is exciting to report that third graders showed gains in their use of perspective, number of reasons to support a claim, and overall quality of their argument. This indicates that the interventions were successful at increasing both grades, but appear to have a larger impact on third graders' persuasion

knowledge. This may be due to fourth graders having more experiences with writing tasks and persuasion-related tasks and therefore having more accumulated persuasion knowledge than third graders. Making modifications to the interventions which allow fourth graders to show more gains in their application of persuasion knowledge may be impactful.

In summary, to the researcher's knowledge this study is the first to examine the transfer effects of a short, one-lesson intervention on the topics of advertising and argumentation on persuasion knowledge. Some intriguing findings emerged after analyzing the data from the pretests and posttests. Namely, the participants in the Argumentation Intervention benefitted from this type of intervention as it increased not only all areas of creating a written persuasive argument (i.e., function, perspective, quality, and number of reasons), but also increased their ability to understand concepts in advertising (i.e., selling intent and persuasive tactics). Participants in the Argumentation Invention showed significant increases in *understanding selling intent* and *understanding persuasive tactics* on the *Advertising Literacy Scale*. The significant increases in third graders' level of skepticism and evaluation and development of persuasive arguments are also promising. Quite possibly an argumentation intervention delivered to third graders may create the optimum increases in argumentation skills as well as transfer to advertising literacy. An intervention on the domain-general structure of a persuasive argument may allow children the opportunity to apply this schema to many other persuasive contexts, such as advertising (Reznitskaya et al., 2007).

Additionally, the Advertising Literacy Intervention showed some ability to generalize their persuasion knowledge to contexts outside of advertising. Beyond significantly increasing their advertising literacy in understanding selling and persuasive intents and skepticism toward advertising, participants also improved their ability to incorporate perspectives of others..

These findings are promising for increasing 8- to 10-year-olds' abilities to critically navigate through persuasive messages by interpreting (e.g., advertising literacy, argument evaluation) and producing (e.g., writing a persuasive argument) persuasive messages. The importance of this research is in the significant gains from implementing one 25-minute intervention to students in third and fourth grades. This short intervention allows teachers to quickly integrate concepts of advertising literacy and argumentation in one lesson and strengthen students' persuasion-related skills.

CHAPTER SIX: CONCLUSIONS

Persuasion is a valued skill that can apply to many contexts. Instructional interventions that promote students' abilities to evaluate and create persuasive messages are essential in the field of education. The current study examines effective ways to support the development of the critical thinking skills of persuasion in third and fourth grade students. One way children can develop persuasion-related skills is through practice. The amount of practice, both in and out of the classroom, an individual has engaged in with interpreting and producing persuasive arguments plays a key role in their development of persuasion knowledge (Reznitskaya & Anderson, 2002; Friestad & Wright, 1994).

The present study examined two instructional paths for promoting these crucial skills of persuasion in third and fourth grade students. Concepts from advertising and argumentation were used to provide students with knowledge of the purpose of advertising or the structure of an effective argument. Much of the research that surrounds advertising literacy indicates that the range of 8- to 10-years old is a prime time to increase children's concepts of advertising literacy (Buijzen et al., 2009; Rozendaal et al., 2012). Research on argumentation concludes that children often struggle with evaluating and creating effective arguments, but interventions in these areas are productive (Kuhn & Udell, 2011; Kuhn & Crowell, 2003). Therefore, instruction on these different, but overlapping, concepts is useful at encouraging the development of critical thinking skills.

A goal of the present study was to identify if students would increase the skills that were directly taught to them in their respective intervention. Another goal was to examine if either intervention created transfer effects. It was predicted that the interventions would differ on the amount of significant outcomes based on the content that was taught. For instance, the structure

of an argument can be seen as a skeleton that can be applied to any topic in any situation (Reznitskaya et al., 2002). Therefore, the general nature of this concept encouraged the ability of participants to apply their argument schema to other contexts such as creating a persuasive argument or understanding the persuasive nature of advertising. The concepts of advertising although specific to the context of advertising still appeared broad enough for students to generalize to their writing of persuasive arguments. These results provide support for the argument schema theory in that children's experiences, such as the explicit instruction provided in the present study, strengthen their understanding of how successful persuasive messages are created and how this information can generalize to other areas of their life.

Some intriguing findings emerged from implementing lessons on argumentation and advertising. First, participants in the Argumentation Intervention significantly increased their *understanding selling intent* and *understanding persuasive tactics* on the *Advertising Literacy Scale*. This finding is exciting in that the way in which argumentation was presented to students in this intervention allowed them to think differently about how persuasive arguments work in other contexts, like advertising. The present study also indicated that the Advertising Literacy Intervention was successful at promoting participants' ability to include others' perspectives in their own persuasive argument. This has implications for education in that if one short lesson has a profound impact on increasing children's abilities in persuasion, implementing a longer or more focused lesson on argumentation may result in significant increases in other areas being measured.

Limitations

Although there were many strengths in the present study, there were also limitations. One limitation of the present study was there was no control group to make stronger conclusions about the effectiveness of each intervention. Although a control group would have strengthened the conclusions drawn from results, it was not ideal to submit students in public schools to more testing without the possibility of gaining important new skills and knowledge. Another limitation in the methodology was the sampling of participants. Only one school within a district was used for the study. The use of more schools from different districts might have been more representative of the population of third and fourth graders and added to the power of the results. In addition, in order to oblige the school's schedule, the pretests and posttests were administered in a whole group setting, which allowed for a large amount of data collection at once, however limited the benefits of working one-on-one with participants to ensure their understanding of each item. Additionally, time constraints required the researcher to eliminate and change items on the pretests and posttests, as well as shorten the interventions. Participants might have also felt rushed when noticing peers finishing items during the pretests and posttests. Most schools and teachers were reluctant to participate in the study due to current standardized testing practices consuming much of the students' time outside of the structured curriculum. Another limitation of the current study was the changes made to the measures. Specifically, the reduction of items of the *Advertising Literacy Scale* may have inadequately captured what the participants were able to understand. As identified with Pearson correlations, the persuasive tactics subcategory may not have reliably measured children's understanding of persuasive tactics which may have influenced the results. However, each one of these tactics differs in what it aims

to accomplish with consumers (e.g., like the ad, recall the ad, or learn about a product) which may have also led to the non-significant correlations between items of this subcategory.

Future Research

Knowledge and skills associated with persuasion deserve much attention in educational research as these abilities are linked to many contexts and instill critical thinking skills that prepare students for life outside of school. The current study highlighted two approaches for promoting these skills in children in third and fourth grades. However, there are multiple other methods to examine for increasing persuasion knowledge in children. Focusing future research on topics that allow students to gain more practice with argumentation and generalize to a variety of topics may contribute most to the field of education.

From the results, the Argumentation Intervention appeared to benefit children's understanding of persuasion knowledge and abilities to produce effective persuasive arguments. If focusing on a domain-general concept like the structure of effective arguments yielded benefits to multiple contexts this appears to be a path to explore for future research. Research that also explores the multiple modes arguments can take as well as encouraging more peer discourse and feedback may be a positive platform for increasing children's persuasion skills that can be applied to all aspects of their life and encourage growth as a future student and employee.

Additionally, the Advertising Literacy Intervention encouraged participants to apply their advertising knowledge to incorporating others' perspectives in their persuasive arguments. More research is needed on the scope of the interventions and if other grade levels may show more significant gains in the different areas. Interventions that combine the aspects of both argumentation and advertising may be another route for future research. Another direction for

future research is measuring the long-term effects of these two interventions, which would lead to stronger conclusions regarding the effectiveness of these specific interventions on children's persuasion knowledge.

Educational strategies for increasing critical thinking skills in young children are seen as a priority in schools today. The present study adds to the literature on the effectiveness of a short one-lesson intervention by promoting persuasion-related skills in new contexts. Students who master the abilities to effectively justify claims, attend to others' beliefs and intentions, and evaluate persuasive messages may be more successful in and outside of the classroom as they can apply these skills to a broad range of contexts in the real world.

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APPENDIX A

Parental Consent Forms

Informed Consent | IRB Protocol Number: 17.022

Version: 1 | IRB Approval Date: August 31, 2016

UNIVERSITY OF WISCONSIN – MILWAUKEE
PARENTAL CONSENT FOR CHILD TO PARTICIPATE IN RESEARCH

Study title:
Increasing argumentation skills in children through advertising literacy education

Person in Charge of Study (Principal Investigator):
Susie Stanley, MS
Chris Lawson, PhD
Department of Educational Psychology

We are very excited that your child's school has agreed to participate in the research project being conducted by the Cognitive Development Research Group at the University of Wisconsin – Milwaukee. We are writing to inform you that your child will be participating in a study that will be conducted at their school. Your child's participation in the pretest-posttest measures is completely voluntary. Your child does not have to participate in the pretest-posttest portion of the study if you do not want him/her to participate. However, all members of the classroom will participate in the 25-minute classroom lesson.

The purpose of this study is to examine the effectiveness of two interventions in increasing advertising literacy and argumentation skills; two skills that are required under Wisconsin state standards at this grade-level. Identifying effective instructional strategies at specific grade levels have implications for education. Introducing a short intervention that uses advertising tactics or components of arguments to engage and teach students in 3rd-5th grade classrooms will not only increase these valuable critical thinking skills, but also allow students to transfer these skills to everyday situations.

What will your child be asked to do if he/she participates in the study?
The study will take place over the course of three visits. The first visit will include a pretest, the second visit will involve one 25-minute classroom lesson, and the final visit will include posttests. Depending on which lesson your child's classroom is assigned to, they will either be provided with information regarding the purpose of advertising and the persuasive tactics used in advertising or the components of an effective argument. The pretest and posttest measures are included to see what students learned from the lesson and to asses if they are able to transfer what they learned from their intervention to other situations in their daily lives. This lesson will be taught to your child's whole class.

If you agree to allow your child to participate in the pre-posttest portions, he or she will be asked questions regarding their media literacy and argumentation skills to measure growth in these areas. For example, they will be asked to develop an argument to try to persuade an individual (e.g., "What would you say to someone to get them to play your favorite game?"). The pretest and posttest will be administered in a whole-group setting and will take approximately 15 minutes.

What risks will my child face by participating in this study?
The study involves minimal risk. Testing will end immediately if your child expresses discomfort.

Will my child receive any benefit from my participation in this study?
There are no direct benefits to you or your child. It is our hope that the findings from this study will contribute to our understanding of learning and therefore help develop more effective teaching practices in the classroom.

Will I or my child be charged anything to participate in this study?
You will not be responsible for any of the costs from taking part in this research study.

Will I or my child be paid or given anything for being in the study?
You will not be paid for taking part in this research study.

What happens to the information collected?
All information collected about your child during the course of this study will be kept confidential to the extent permitted by law. We may decide to present what we find to others, or publish our results in scientific journals or at scientific conferences. Your child's anonymity will be maintained during data

analysis and publication/presentation of the results by the following means: (1) S/he will be assigned a number, (2) The researchers will save the data file by a number, not your child's name, (3) only members of the researcher group will view collected data in detail, (4) any files will be stored in a secured location accessed only by authorized researchers, (5) no reference will be made to individuals in oral or written reports that could link individuals to the study.

Are there alternatives to participating in the study?
There are no known alternatives available to your child other than not taking part in this study.

What happens if I decide not to allow my child to be in this study?
Your child's participation the pre-posttest portions of the study are entirely voluntary. You may choose to not allow your child to take part in the pre-posttests. If you decide to allow your child to take part in the pre-posttests, you can change your mind later and withdraw him/her from these portions of the study. In addition, your child will also be asked whether he/she would like to participate in the pre-posttest by hearing a description of the study and verbally agreeing to participate. Your child will be free to not answer any questions or withdraw at any time. Your and your child's decision will not change any present or future relationships with the University of Wisconsin Milwaukee or your child's school.

Who do I contact for questions about this study?
For more information about the study or the study procedures or treatments, or to withdraw your child from the study, contact:

Susie Stanley, Doctoral Candidate
Department of Educational Psychology
shlocke@uwm.edu
414-550-3100

Who do I contact for questions about my child's rights or complaints about my child's treatment as a research subject?
The Institutional Review Board may ask your name, but all complaints are kept in confidence.

Institutional Review Board
Human Research Protection Program
Department of University Safety and Assurances
University of Wisconsin – Milwaukee
P.O. Box 413
Milwaukee, WI 53201
(414) 229-3173

Parental/Guardian Consent:

I have read or had read to me this entire consent form, including the risks and benefits. I have had all of my questions answered. I understand that I may withdraw my child from the study at any time. I am not giving up any legal rights by signing this form. I am signing below to give consent for my child to participate in this study.

_____ _____
Printed Name of Child Participant Date of Birth

_____
Printed Name of Parent/Guardian

_____ _____
Signature of Parent/Guardian Date

APPENDIX B

Measures Presented to Students

Name: _____ **Date of Birth:** _____

Part 1

Directions: After hearing the question and answers read aloud, please circle your answer.

1. Are commercials on television there to make you buy the advertised products?
   A. Yes, for sure
   B. Yes, I think so
   C. No, I don't think so
   D. No, certainly not

2. Are commercials on television there to make you ask your parents to buy the advertised products?
   A. Yes, for sure
   B. Yes, I think so
   C. No, I don't think so
   D. No, certainly not

3. Are commercials on television there to make you want to have the advertised products?
   A. Yes, for sure
   B. Yes, I think so
   C. No, I don't think so
   D. No, certainly not

4. Are commercials on television there to make you think positively (i.e., happy thoughts) about the advertised products?
   A. Yes, for sure
   B. Yes, I think so
   C. No, I don't think so
   D. No, certainly not

5. Commercials often show happy children who are playing together with the advertised products. Why do you think that is?
   A. To help children learn about the product
   B. To get children to recall the ad
   C. To get children to believe what the ad says
   D. To make children like the ad

6. Commercials often show how products are working. Why do you think that is?
   A. To help children learn about the product
   B. To get children to recall the ad
   C. To get children to believe what the ad says
   D. To make children like the ad

7. Commercials are often funny. Why do you think that is?
   A. To help children learn about the product
   B. To get children to recall the ad
   C. To get children to believe what the ad says
   D. To make children like the ad

8. Commercials often show a famous person or a cartoon character. Why do you think that is?
   A. To help children learn about the product
   B. To get children to recall the ad
   C. To get children to believe what the ad says
   D. To make children like the ad

9. How often do you think television commercials are real?
   A. Never
   B. Sometimes
   C. Often
   D. Very Often

10. How often do you think that what you see in television commercials is like things are in reality?
    A. Never
    B. Sometimes
    C. Often
    D. Very Often

11. How often do you think television commercials tell the truth?
    A. Never
    B. Sometimes
    C. Often
    D. Very Often

12. How often do you think you can believe television commercials?
    A. Never
    B. Sometimes
    C. Often
    D. Very Often

Part 2
Directions: After listening to the sentences read aloud, please circle the sentence you think states the best argument.

1a. Kids should be allowed to have cell phones.
1b. Kids should be allowed to have cell phones in case they need to contact someone in an emergency.
1c. Kids should be allowed to have cell phones because they look cool.

2a. Schools should enforce a uniform policy because school is a place to focus on academics not fashion.
2b. Schools should enforce a uniform policy because uniforms are cheap.
2c. Schools should enforce a uniform policy.

3a. Children should get an allowance for doing chores around the house.
3b. Children should get an allowance for doing chores around the house because it builds work ethic.
3c. Children should get an allowance for doing chores because money makes people happy.

4a. I should get ice cream after receiving my report card because ice cream is a dairy product.
4b. I should get ice cream after receiving my report card.
4c. I should get ice cream after receiving my report card because it would be a nice reward for my hard work.

Part 3
Directions: In the space below please write out an argument in which you try to persuade someone (examples: your parent, friend, sibling, teacher) to do or get something you want (examples: get a puppy, buy a new iPad, play your favorite game, get dessert, eat what you want for dinner, watch your favorite movie, buy new clothes/shoes).

Part 2
Directions: After listening to the sentences read aloud, please circle the sentence you think states the best argument.

1a. Students should not be allowed to celebrate their birthdays with their class because it takes away from the learning that should go on in the classroom.
1b. Students should not be allowed to celebrate their birthdays with their class because treats are high in calories and fat.
1c. Students should not be allowed to celebrate their birthdays with their class.

2a. Kids should not be allowed to watch movies.
2b. Kids should not be allowed to watch movies because there is often violence and bad language.
2c. Kids should not be allowed to watch movies because they are expensive to produce.

3a. I should be allowed to get a puppy as a pet because puppies are cute animals.
3b. I should be allowed to get a puppy as a pet.
3c. I should be allowed to get a puppy as a pet because it will teach me how to be responsible.

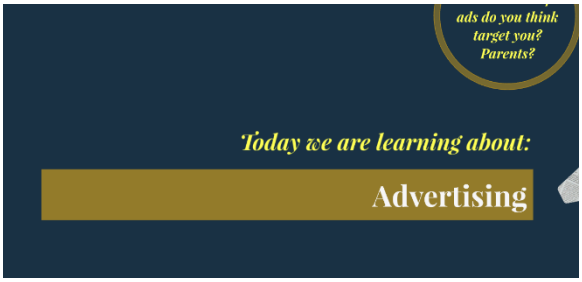
4a. People should be required by law to recycle.
4b. People should be required by law to recycle because it protects the environment.
4c. People should be required by law to recycle because it is easy to do.

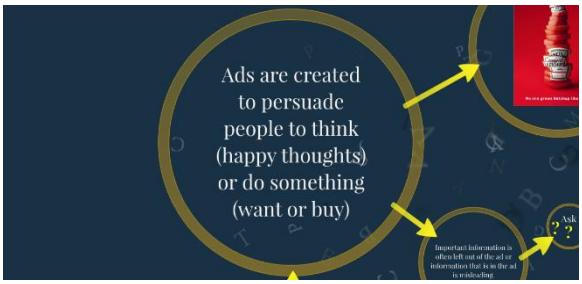
Part 3
Directions: In the space below please write out an argument in which you try to persuade someone (examples: your parent, friend, sibling, teacher) to do or get something you want (examples: get a kitten, buy a new computer, play what you want at recess, buy a new toy, eat what you want for dinner, watch your favorite TV show, clean your room for you).

APPENDIX C

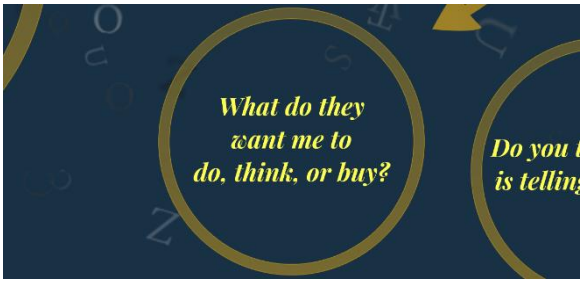
Lesson Presentations

Advertising Literacy Intervention Presentation






Ask
? ? ?


What do they want me to do, think, or buy?


Do you think the ad is telling the truth?

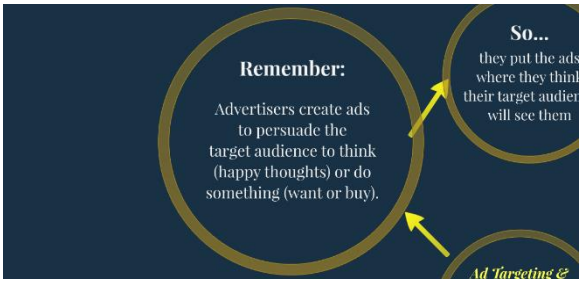

Is any information missing or misleading?


HEINZ
TOMATO KETCHUP
No one grows Ketchup like Heinz.


Ad Targeting & Techniques
Advertisers use techniques to target specific audiences with their ads.


Target Audience


a group of people who advertisers think will buy or use the product


Remember:
Advertisers create ads to persuade the target audience to think (happy thoughts) or do something (want or buy).
So...
they put the ads where they think their target audience will see them


So...
they put the ads where they think their target audience will see them

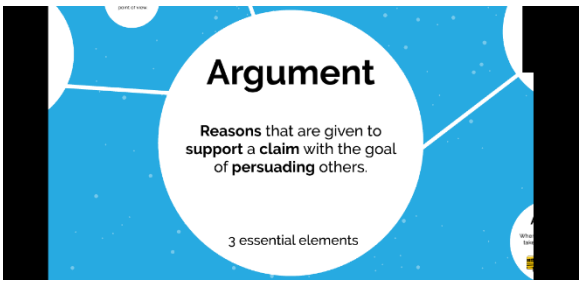
Note: Wisconsin Dells Commercial

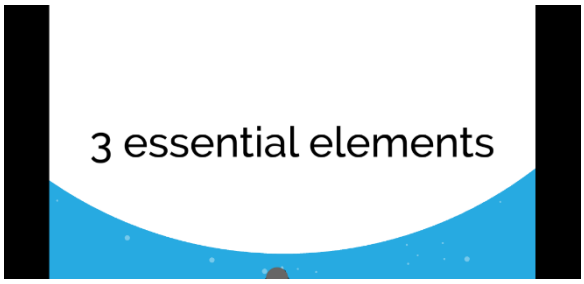
Note: Billy Mays in OxyClean Commercial

Note: Aaron Rodgers in AllState Insurance Commercial

Note: Dancing Babies in Evian Water Commercial

Argumentation Intervention Presentation





Notice each of these examples:

- Is a personal opinion
- Is stated as fact
- Could be argued against with an opposing opinion

Reasoning

The **facts** or proof that **support** the **claim**.

McDonald's would be a good idea for dinner tonight, **because we will pass a couple of them on the way home.**

Zootopia is a great movie, **because it teaches us to never give up until we achieve our dreams.**

My parents should get me a bike for my birthday, **because it is a great way to exercise.**

Counter-argument & Rebuttal

The **OTHER SIDE** of the argument. Reasoning that supports the other side.

A lot of people think fast food is unhealthy, but there are a lot of healthy options on McDonald's menu.

healthy options on McDonald's menu.

I know you think movies are a not educational, but I can learn a lot about different animals in Zootopia.

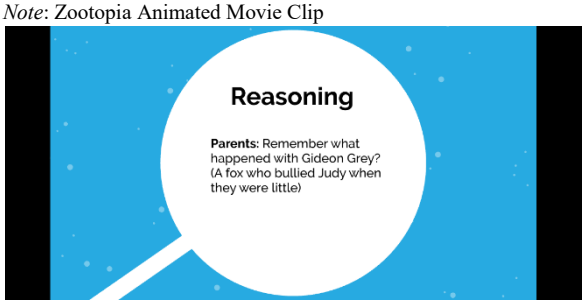
Effective or Not Effective?

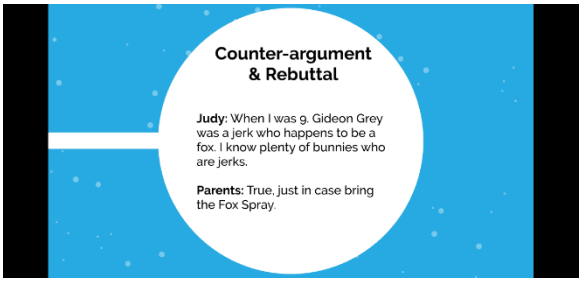
I should get a bike for my birthday. because I want one.

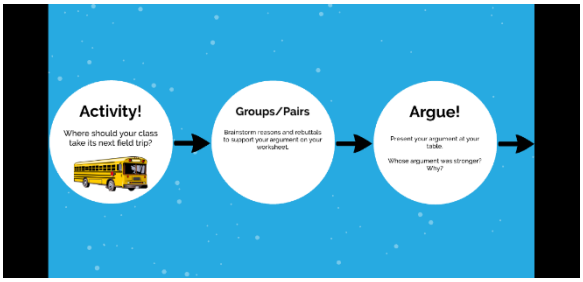
Effective or Not Effective?

We should get a dog for a pet. because it will teach me how to be responsible and take care of something.

Note: Zootopia Animated Movie Clip







APPENDIX D

In-Class Activities

Advertising Literacy Intervention Worksheet

Ad Awareness

Choose two ads above and answer the questions below with a partner.

AD	Who is the target audience?	What is the ad trying to get you to buy, feel, and think?	What persuasive tactics does the advertiser use?	Do you think the ad is telling the truth?	What information is missing or misleading in the ad?
1					
2					

Argumentation Intervention Worksheet

Constructing a Persuasive Argument

Use the chart to help you develop an effective argument with your group.

Claim Identify the topic and your position on the topic "We should go to _____ on our next class field trip."	
Reasons or Evidence List all the reasons that support your claim	
Counter-Arguments Think of reasons the other side might disagree with	
Rebuttal Use evidence to support your claim and counter what the other side disagrees with	

Did your partner persuade you to see things from their point of view? Why or why not?

APPENDIX E
CURRICULUM VITAE

SUSIE L. STANLEY

EDUCATION

University of Wisconsin - Milwaukee
2017: Ph.D. in Educational Psychology
Specialization: Learning & Development

Cardinal Stritch University
2012: Master of Arts in Urban Special Education

University of Wisconsin - Madison
2006: Bachelor of Science - Art/Graphic Design

ACADEMIC POSITIONS

Instructional Design Consultant (January 2017 – Present)
Concordia University Wisconsin
Office of Continuing and Distance Education

Adjunct Instructor (August 2014 – Present)
Marquette University, College of Education
Children and Youth with Exceptional Needs (EDUC 5217)
Theories of Learning Applied to Instruction (EDPL 6450)

Graduate Research Assistant (January 2013 – Present)
University of Wisconsin – Milwaukee, Department of Educational Psychology
Cognitive Development Research Group

Associate Lecturer (August 2015 – January 2016)
University of Wisconsin – Milwaukee, Department of Educational Psychology
Introduction to Learning & Development (Ed Psych 330)

Graduate Assistant (January 2014 – January 2015)
University of Wisconsin – Milwaukee, School of Education
Office of Student Services, Educational Resource Center

Instructor (January 2014 – May 2014)
University of Wisconsin – Milwaukee, Department of Educational Psychology
Introduction to Learning & Development (Ed Psych 330)

Special Education Teacher (August 2010 – January 2014)
Milwaukee Public Schools
George Washington Carver Academy of Mathematics & Science

RESEARCH INTERESTS

Teacher Education; Educational Technology; Media Literacy; Cognitive Development; Development of Persuasion and Argumentation; Urban Education; Special Education; Critical Thinking Skills

PUBLICATIONS

Lawson, C.A., & Stanley, S. (invited resubmission). Developing discerning consumers: An intervention to help preschoolers become skeptical of advertisements. *Journal of Children and Media*, xx, zz-zz.

Stanley, S. L. & Lawson, C.A. (2014). The impact of statistical training on children's inductive reasoning. *In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), Proceedings of the 36th Annual Conference of the Cognitive Science Society.* Quebec City, Canada: Cognitive Science Society.

CONFERENCE PRESENTATIONS

Stanley, S. & Lawson, C. (2017). *Improving persuasion knowledge though an argumentation intervention.* Poster to be presented at the Cognitive Development Society Biennial Conference. Portland, OR.

Stanley, S. & Lawson, C. (2016). *A short intervention increases children's skepticism toward advertisements and the claims of others.* Poster presented at Society for Research in Child Development: Technology and Media in Children's Development. Irvine, CA.

Stanley, S. & Lawson, C. (2015). *Increasing children's skepticism toward advertising.* Poster presented at the 9th Biennial Meeting of the Cognitive Development Society. Columbus, OH.

Stanley, S. L. & Lawson, C. A. (2014). *The impact of statistical training on children's inductive reasoning.* Paper presented at the CogSci 2014 conference. Quebec City, Quebec, Canada. 36th Annual Meeting of the Cognitive Science Society.

Stanley, S. L. & Lawson, C. A. (2014). *The impact of statistical training on children's inductive reasoning.* Poster presented at the Annual Meeting of the Midwestern Psychological Association. Chicago, IL.