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## Characteristics of Award-Winning Children's Books About Agriculture: An Analysis of Content, and The Perspectives of Authors, Illustrators, and Publishers

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Characteristics of Award-Winning Children's Books About Agriculture: An Analysis of  
Content, and The Perspectives of Authors, Illustrators, and Publishers

A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Master of Science in Agricultural and Extension Education

by

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Arkansas Tech University  
Bachelor of Science in Agricultural Business - Public Relations, 2021

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This thesis is approved for recommendation to the Graduate Council.

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## Abstract

The purpose of this two-article qualitative study was to characterize children's literature about agriculture and to describe the perceptions of authors and illustrators who are responsible for writing and designing these successful publications. This will result in the ability of organizations like Feeding Minds Press to provide writers, illustrators, and publishers with effective strategies and techniques to improve the accuracy and overall quality of children's literature about agriculture. Few parameters exist for authors of children's books about agriculture (Biser, 2007). These parameters are necessary to ensure the quality and accuracy of these educational efforts (Serafini, 2012). Though Feeding Minds Press has an established set of guidelines for authors, this publisher and others like it need empirical evidence on which to base these parameters and set future expectations for authors, illustrators, and publishers of books promoting agricultural literacy (R. Henningfield, personal communication, October 2021). Grounded in *Jean Piaget's Theory of Cognitive Development*, this study comprised of both content analysis and semi-structured interview route. The content analysis was comprised of 14 American Farm Bureau Foundation for Agriculture award-winning children's books about agriculture which were analyzed for predetermined literary features. The top three characteristics were *pictorial realism*, *fantastical context*, and *critical anthropomorphism*. Each of these characteristics was present in at least six titles with the number of references in a single title ranging from one to 12. Characteristics were identified in both the illustrations and storyline of the titles. During the semi-structured interviews, researchers interviewed the authors, illustrators, and publishers of the 14 selected books to learn more about their background knowledge about agriculture, their motivations to create publications about agriculture. The transcripts from these interviews were hand-coded using NVivo12 software to identify themes and similarities between interviews with the participants, with several themes emerging. Key themes included similar

backgrounds, motivations, and creative processes. Most participants started their careers in the education or creative writing space. The passions that motivated these creators to produce content for children about agriculture included their fulfillment from lifelong learning. In the creative process, many creators leaned on writing groups and mentors for support. Each aspect of the research objective was used to form open-ended questions for interview participants to describe the experiences of authors and illustrators as they research, write, publish, and illustrate children's books about agriculture.

## **Acknowledgments**

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I would like to dedicate my master's research to my favorite educators, Johnny and Valarie Harp. You saw something special in me many years ago and have cheered me on ever since. My passion for education, lifelong learning, and agriculture came from you both, leading to my research topic of agricultural literacy. Thank you for all you've done to help me be a better me.

## Table of Contents

### **Chapter 1: Introduction**

Need for the Study	1
Statement of the Problem	3
Purpose of the Study	3
Research Objectives	3
Content Analysis	3
Semi-structured Interviews	4
References	5

### **Chapter Two: Article 1**

Introduction	6
Statement of Problem	6
Purpose of the Study	6
Purpose and Objectives	6
Literature Review	7
Theoretical Framework	7
Concrete Operational Stages of Development	8
Conceptual Framework	9
Agricultural Literacy	9
Children's Literature	10
Context of Study	11
American Farm Bureau Foundation for Agriculture	11
Feeding Minds Press	13

Studied Features of Picture Books in Relation to Children	14
Pictorial Realism	15
Manipulative Features	15
Fantastical Contexts	16
Genre	16
Anthropomorphism	17
Methodology	19
Document Selection	19
Instrumentation	20
Pilot Study	21
Coder Training	21
Data Analysis	22
Findings	23
Pictorial Realism	25
Fantastical Realism	25
Critical Anthroporphism	25
Discussion of Findings	26
Use of Genres in Illustrations and Storylines	26
Use of Fantasy in Illustrations and Storylines	26
Avoidance of Anthropomorphism in Illustrations and Storylines	27
Apperance of Pictorial Realism in Illustrations	27
Inclusions of Manipulative Features in the Books' Physical Material	28
Conclusions and Recommendations	38

Overview	28
Recommendations and Implications for Industry	30
Limitations	30
References	31
<b>Chapter 3: Article 2</b>	
Introduction	32
Restatement of Problem	32
Research Objective	33
Literature Review	33
Theoretical Framework	33
Concrete Operational Stage of Development	35
Conceptual Framework	35
Agricultural Literacy	35
Children's Literature	37
Methodology	37
Design of the Study	37
Participant Selection	38
Instrumentation	38
Semi-Structured Questioning Route	38
Pilot Study	39
Qualitative Rigor	39
Reflexivity Statement	41
Findings	42



Sources and Editorial Processes Used to Ensure Technical accuracy	42
Processes Used to Develop Storylines and Illustrations for a Specific Audience	43
Background Knowledge about the Topic Represented in the Book	44
The Motive of Creators to Create Agricultural Publications	45
Conclusions and Recommendations	48
Overview	48
Further Research and Implications for Industry	49
Limitations	49
References	50
<b>Chapter 4: Conclusions</b>	
Conclusions	53

## **List of Tables**

Table 1: Jean Piaget's Theory of Cognitive Development	7
Table 2: Books Selected for Content Analysis	19
Table 3: Strouse et al.'s (2018) Picture Book Features Influencing Children's Learning	20
Table 4: Coding Definitions Used for Content Analysis	21
Table 5: Content Analysis Results of Literary Elements Found in Titles	24

## **List of Figures**

Figure 1: Pillars of Agricultural Literacy	13
Figure 2: Tales of the Dairy Godmother	29
Figure 3: Full of Beans: The Great Depression	30

## **Chapter One: Introduction**

### **Need for the Study**

Humans invest an extensive amount of time building competence and developing an understanding and appreciation of their surroundings, known as literacy. Literacy is defined as the “ability to use printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential,” (White and McCloskey, 2005). Literacy is often thought of as only being related to reading, but it also plays an important role in industries like agriculture. Agriculture is a large industry made up of many components, requiring more than knowing where food comes from; it needs knowledgeable consumers and advocates to continue feeding and clothing the world (Donehower, 2007).

The definition of agricultural literacy has changed over the years, being first defined by the National Research Council as “the understanding of food and fiber systems” (National Research Council, 1988, pp. 1-2). Agricultural literacy later became known as the knowledge, understanding, and appreciation of agriculture (Frick, 1991). More recently, agricultural literacy is defined as “the knowledge and awareness of familiarity with agriculture” (Specht et al., 2014 p. 3). Often, agricultural literacy is taught through small means such as agritourism or educational materials, but agricultural literacy requires more than agricultural cameos. Agricultural literacy is needed to build trust between both producers and consumers (Berndt, 2019).

Many events involving agriculture and agricultural literacy, such as local fairs and farmer’s markets, use marketing materials geared toward educating the public about agriculture; however, these educational materials are not the main focus of the events being hosted. For example, many fairs are held for livestock and home economics exhibitions, but the fairs also

hire carnival companies to provide rides and games to increase public attendance. The public's attraction tends to focus on this, leaving many not knowing the purpose of a fair or that animals or crops are housed on the same fairgrounds during a fair week. Children's literature is a good tool for educating children on a topic at a young age, as they associate images and concepts with their surroundings (Almerico, 2014).

Educating children through literacy is an effective method of education, however it often includes anthropomorphism. Anthropomorphism demonstrates animal characters in children's books having human characteristics, making the animal's agricultural aspect more difficult to take seriously (Ganea, 2014). While books that use photographs rather than illustrations may not have these issues, those styles of children's books are not found to be as popular as those with cartoon-like illustrations (Burke, 2004).

American Farm Bureau Federation, a national leader in agricultural advocacy, has taken note of the lack of understanding about agriculture and created space to improve agricultural literacy through children's books within their Federation's foundation, American Farm Bureau Foundation for Agriculture (The Ag Foundation, n.d.). The Ag Foundation's mission is to "build awareness, understanding, and a positive public perception of agriculture through education," (The Ag Foundation, n.d.). The Ag Foundation attempts to reach these goals on many in-house platforms and projects, including Feeding Minds Press.

Feeding Minds Press was created to "publish accurate and engaging books about agriculture that connect readers to where their food comes from and to who grows it" (Feeding Minds Press, n.d.). Through manuscript submissions, Feeding Minds Press has published 15 books dedicated to increasing agricultural literacy. This project has also created an award program to recognize authors and illustrators who accurately portray agriculture through

children's literature. Through the Ag Foundation, Feeding Minds Press is currently creating and publishing based on the assumption that their books are increasing children's agricultural literacy, however, this claim is anecdotal at best, and there is no empirical data to support this argument.

### **Statement of the Problem**

Few parameters exist for authors of children's books about agriculture (Biser, 2007). These parameters are necessary to ensure the quality and accuracy of these educational efforts (Serafini, 2012). Though Feeding Minds Press has an established set of guidelines for authors, this publisher and others like it need empirical evidence on which to base these parameters and set future expectations for authors, illustrators, and publishers of books promoting agricultural literacy (R. Henningfield, personal communication, October 2021).

### **Purpose of The Study**

The purpose of this study was to characterize children's literature about agriculture and to describe the perceptions of authors and illustrators who are responsible for writing and designing these successful publications. This will result in the ability of organizations like Feeding Minds Press to provide writers, illustrators, and publishers with effective strategies and techniques to improve the accuracy and overall quality of children's literature about agriculture.

### **Research Objectives**

To accomplish its purposes, this study was guided by the following research objectives:

#### ***Content Analysis***

Examine thematic characteristics of successful children's literature about agriculture concerning the following:

- Use of genres in illustrations and storylines

- Use of fantasy in illustrations and storylines
- Avoidance of anthropomorphism in illustrations and storylines
- Appearance of pictorial realism in illustrations
- Inclusion of manipulative features in the book's physical material

### *Semi-Structured Interviews*

Describe the experiences of authors and illustrators as they research, write, and illustrate the books, with special attention paid to the following:

- Sources and editorial processes used to ensure technical accuracy
- Processes used to develop storylines and illustrations for a specific audience
- Background knowledge about the topic represented in the book
- The motive of creators to create agricultural publications

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## **Chapter Two: A Content Analysis of Award-winning Children's Books about Agriculture**

### Introduction

The definition of agricultural literacy has evolved over time. Initially, it was defined as understanding food and fiber systems by the National Research Council (1988, pp. 1-2). Later, it expanded to include knowledge, understanding, and appreciation of agriculture (Frick, 1991). Recently, agricultural literacy is described as familiarity and awareness of agriculture (Specht et al., 2014, p. 3). It is vital for building trust between producers and consumers (Berndt, 2019).

Events like local fairs and farmer's markets often aim to educate the public about agriculture, but the educational aspect is not the main focus. For example, fairs primarily emphasize livestock exhibitions and entertainment, such as rides and games, to attract visitors. Consequently, many attendees are unaware of the purpose of the fair or the presence of animals and crops on the fairgrounds. Achieving agricultural literacy requires more than brief encounters with agriculture or educational materials. Children's literature can be an effective tool for early education, as it connects images and concepts with their surroundings (Almerico, 2014). However, anthropomorphism in animal characters can hinder the serious portrayal of agriculture (Ganea, 2014). Books featuring photographs instead of illustrations may mitigate this issue, but they are less popular (Burke, 2004).

Recognizing the lack of agricultural understanding, the American Farm Bureau Federation established the American Farm Bureau Foundation for Agriculture to enhance agricultural literacy through children's books (The Ag Foundation, n.d.). The foundation's mission is to raise awareness, understanding, and positive perceptions of agriculture through education. One of their initiatives, Feeding Minds Press, publishes accurate and engaging books that connect readers with the source of their food and the people behind it (Feeding Minds Press,

n.d.). While Feeding Minds Press assumes that their books enhance agricultural literacy, there is currently no empirical data to support this claim, relying mostly on anecdotal evidence.

### **Statement of the Problem**

Few parameters exist for authors of children's books about agriculture (Biser, 2007). These parameters are necessary to ensure the quality and accuracy of these educational efforts (Serafini, 2012). Though Feeding Minds Press has an established set of guidelines for authors, this publisher and others like it need empirical evidence on which to base these parameters and set future expectations for authors, illustrators, and publishers of books promoting agricultural literacy (R. Henningfield, personal communication, October 2021).

### **Purpose of the Study**

The purpose of this study was to characterize the content of successful children's literature about agriculture and to describe the perceptions of authors and illustrators who are responsible for writing and designing these successful publications. This will result in the ability of organizations like Feeding Minds Press to provide writers, illustrators, and publishers with effective strategies and techniques to improve the accuracy and overall quality of children's literature about agriculture.

### **Purpose and Objectives**

Identify thematic characteristics of successful children's literature about agriculture concerning

- Accurate portrayals of agriculture in the narrative and illustrations
- Use of genres and fantasy
- Avoidance of anthropomorphism in illustrations and storylines
- Appearance of pictorial realism in illustrations
- Inclusion of manipulative features in the book's physical material

## **Literature Review**

This section aims to introduce key topics and concepts that must be understood in the context of both studies. Through the research on the history of agricultural literacy and children's literary features, along with the established theoretical and conceptual frameworks, a deeper understanding of the background of children's literature will be accomplished.

## **Theoretical Framework**

As children learn, they develop thoughts and opinions that will remain with them as they develop cognitively (Piaget, 1971). Jean Piaget's Theory of Cognitive Development (1971) serves as a mental model, describing four stages of development within the lifespan of a person. This theory was developed after Piaget became curious about the logical thinking of children during the study of English intelligence exams (Miller, 2011). After Piaget observed the cognition of children, he developed stages divided by age, ranging from birth to the end of adolescence. Piaget proposed that the stages are sequences which consistently occur in the same order. He also determined that each stage serves as a building block for the next stage and no stage in the cognitive development theory is skipped and they happen in the same order. Each stage consists of a specific stage of cognitive development with a corresponding age range, shown in Table 1 (Piaget, 1971).

**Table 1**

*Jean Piaget's Theory of Cognitive Development*

<b>Stage of Development</b>	<b>Age Range</b>	<b>Description of Stage</b>
Sensorimotor	0-2 years	Object identification, comprehension of intentions regarding various objects
Preoperational	2-7 years	Comprehension further develops, and language is used
Concrete Operational	7-11 years	Logical thinking, ability to classify objects
Formal Operational	11 years and up	Critical thinking; thoughts about hypothetical scenarios and future outcomes related to the idea

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*Note.* Derived from Piaget, J. (1971). *The Theory of Stages in Cognitive Development*. In D. Green, M. P. Ford, & G. B. Flamer (Eds.), *Measurement and Piaget* (pp. 1-11). New York, NY: McGraw-Hill.

As Feeding Minds Press books are targeted toward the concrete operational stage of development and age range, authors and illustrators need to create accurate representations of the presented topics about agriculture so children can properly retain the information provided and have the knowledge to build on as they learn more about agriculture.

### ***Concrete Operational Stage of Development***

The concrete operational stage of the development in Piaget's theory focuses on the seven to 11 age range or academically, the second- to fifth-grade range. Following the initial development of object identification and comprehension, children are able to think about topics more extensively and begin developing their own opinion. Piaget named this stage of development the concrete operational stage because this was the age range where children begin to mentally "operate" on concrete events or objects (Thompson, 2019). There are distinct differences between the previous stage, preoperational development, and concrete operational development. In both stages, children can recall information, but only in the concrete operational stage can a child recall information in any order.

One other feature distinguishing the two is the use of decentration and reversibility. Decentration is the ability to identify multiple perspectives. Piaget defines reversibility as a mental operation that reverses a sequence of events or restores an altered object or idea to its original condition (Piaget, 1971). In the preoperational stage, these two features become more developed, allowing children to think about multiple aspects of an object, problem, or event, at one time and understand that some events are reversible and that ideas can vary, resulting in the beginning stages of critical development in the formal operational stage. (Piaget, 1971).

### **Conceptual Framework**

#### ***Agricultural Literacy***

Agricultural literacy is an evolving term as it has come to include a broader view of agriculture, being noted as an environmental and global social significance (Powell, 2008). The definition of agricultural literacy has changed over the years, being first defined by the National Research Council as "the understanding of food and fiber systems" (National Research Council,

1988, pp. 1-2). Agricultural literacy later became known as the knowledge, understanding, and appreciation of agriculture (Frick, 1991). More recently, agricultural literacy is defined as “the knowledge and awareness of familiarity with agriculture” (Specht et al., 2014, p .3). Agricultural literacy is approached in many ways, including agritourism programs and agricultural organizations. Agricultural literacy started gaining attention as an important topic following the publication of *Understanding Agriculture – New Directions for Education* (1988). The publication emphasized the importance of implementing agricultural education programs in both urban and suburban areas and expanding the areas within agricultural instruction. This literacy sponsor sparked interest in the need for agricultural literacy across the agriculture community with the desire of creating better consumers at the forefront of this effort (Kovar, 2013).

County fair exhibitions often provide agricultural exposure to consumers, even without them knowing it (Specht et al., 2014). Other seasonal programs like pumpkin patches or petting zoos also provide opportunities for agricultural literacy. With hands-on experience, consumers can complicate and deepen their perception of agriculture and carry their newfound knowledge with them as they make decisions as a consumer in their lifetime (Specht, 2014). The current lack of agricultural literacy among young people is concerning, as food, fiber, and shelter are necessities for life, all provided as a result of agricultural practices. According to Cosby et al. 2022, many agriculturalists show their concerns about populations being “agriculturally illiterate.” Cosby et al noted that “In both developed and developing countries, if young people are not agriculturally literate upon leaving formal education, then their capabilities for knowing and addressing global food supply chain insecurities now and in the future will be impaired” (Cosby et al. 2022, pp. 1-2).

## ***Children's Literature***

Children's literature is known as publications consisting of short stories and illustrations created for children. As technology has advanced, children's picture books have also advanced through methods of production and illustration. As children are easily impacted by words, phrases, and images, the content of children's books matters. Children's literature is more complex than often realized, as its style changes as time continues. As each generation learns differently, the approach used when writing and illustrating children's literature also changes to best accommodate the specified group of readers (Serafini, 2018). Agricultural literacy is especially important for children, as their impressionable age makes lifelong memories related to any topic (Piaget, 1971).

Often children's books are thought of as easy to create because they are simply for a young audience, but the features used to create the publications and the content within the book matters (Strouse et al., 2018). Children's literature is more complex than often assumed because its style changes as time continues. As each generation learns differently, the approach used when writing and illustrating children's literature also changes to best accommodate the specified group of readers (Serafini, 2018).

## **Context of the Study**

This topic was of interest to the American Farm Bureau, who shared that while their foundation creates publications about agriculture, they have no empirical evidence that their publications are successfully educating readers about accurate, modern agricultural practices. The American Farm Bureau's Foundation for Agriculture is a nonprofit entity focusing on educational resources and agricultural literacy. Feeding Minds Press is a product of these efforts, focusing on creating agriculturally accurate titles for children. Education consultants at the

foundation were particularly interested in the following: (1) the creative processes used to create children's books about agriculture, (2) motivations to create, (3) an analysis of current titles promoted as "Book of The Year".

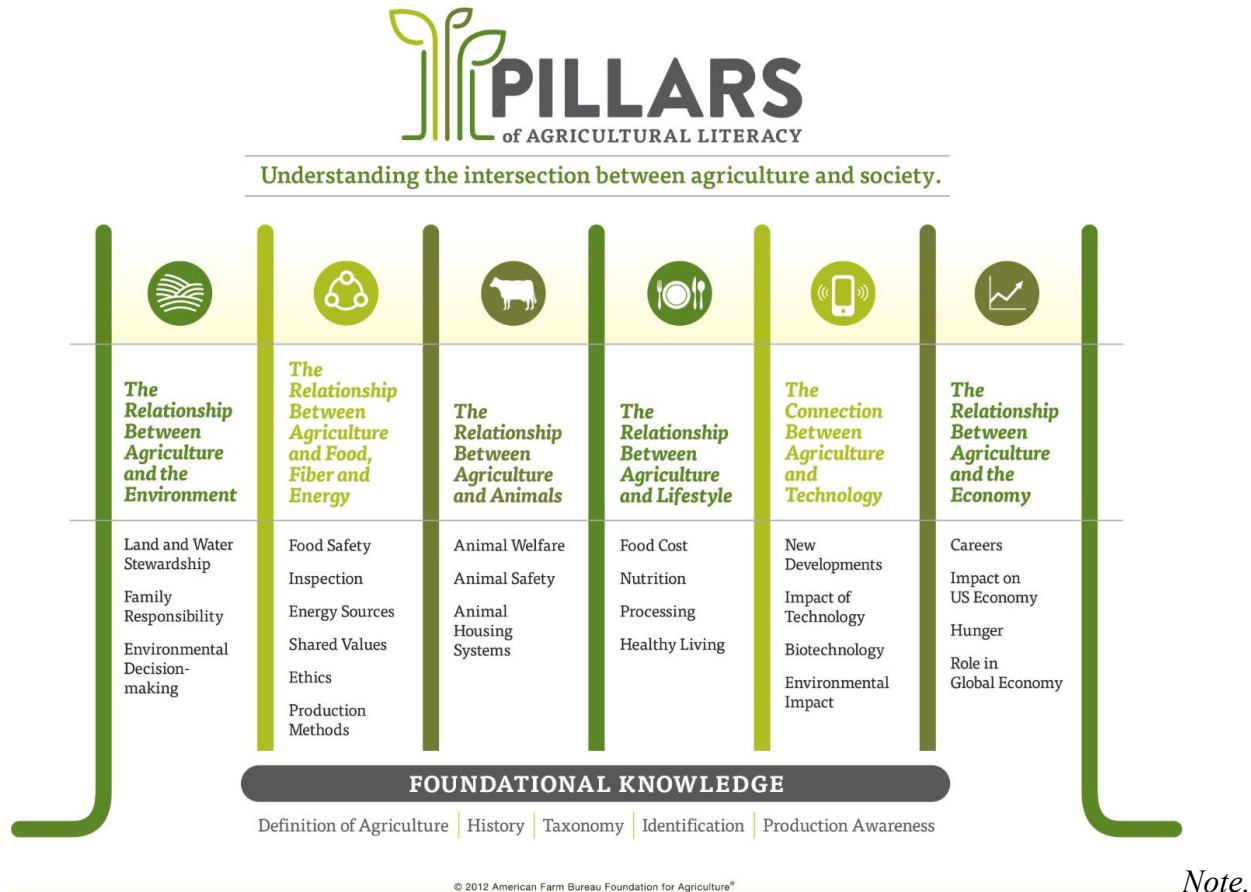
### ***American Farm Bureau Foundation for Agriculture***

The American Farm Bureau Foundation for Agriculture (AFBFA) was created by the American Farm Bureau Federation to "build awareness, understanding, and a positive public perception of agriculture through education" (AFBFA, 2018). AFBFA works closely with field experts and educators and curriculum experts to create effective, interactive, educational materials to increase agricultural literacy (AFBFA, 2018). Through donor funding, AFBFA also provides opportunities for educators to experience agriculture in other ways, such as conferences, training, and farm tours. Many of their efforts lean toward agriculture in the classroom projects and curriculum implementation, however, the foundation has created a research-based framework for agricultural literacy, shown in Figure 1.



**Figure 1**

*Pillars of Agricultural Literacy*



*Note.*

Graphic retrieved from American Bureau Foundation for Agriculture.

The AFBFA Pillars of Agricultural Literacy have many purposes: (1) a planning tool for educators to manage curriculum and identify gaps in their literacy and science programs; (2) a framework for lifelong learning; (3) a starting point for learners of all ages and a platform for discussion and discovery of agriculture; (4) a guide to measuring the success of agricultural literacy curriculum participants (AFBFA, 2012). The Pillars were created specifically for industry partners such as Agriculture in The Classroom and other outreach organizations, as well

as teachers and agricultural literacy coordinators. “The goal is to build a strong foundational understanding of the relationship between agriculture and the environment, food, fiber, energy, animals, lifestyle, the economy, and technology. We seek to cultivate this awareness in any person, no matter their age or experience” (AFBFA, 2018). The Pillars of Agricultural Literacy are versatile as they are organized by grade level, age, and agricultural sector, with a special curriculum for building foundational knowledge about agriculture. Using the carefully researched Pillars and resources, the American Farm Bureau Foundation for Agriculture implemented its publication press known as Feeding Minds Press, which is dedicated to telling agriculturally accurate stories.

### ***Feeding Minds Press***

Feeding Minds Press is a special project created by the American Farm Bureau Foundation for Agriculture based on their Pillars of Ag Literacy. Feeding Minds Press has a very specific goal: “The goal of Feeding Minds Press is to publish accurate and engaging books about agriculture that connect readers to where their food comes from and to who grows it” (Feeding Minds Press, 2018). Since its start, Feeding Minds Press has produced 15 titles, all to provide its audience with the answer to the question, “Where does my food come from?” (Feeding Minds Press, 2018):

1. Word count should be around 500 words.
2. Contemporary fiction and nonfiction manuscripts for picture books ages 1-8.
3. Fiction manuscripts should also have an interesting story that will engage students. Make sure the story has a plot, a problem that needs to be solved, or characters that are motivated. Make sure there is action in the story, not just information being passively given.

4. Manuscript should contain accurate information about agriculture with modern agricultural practices being a priority.
5. Manuscript should not convey any stereotypical depictions of rural life (ex: overalls and a pitchfork).
6. Stories should not contain depictions of anthropomorphic animals (animals that talk or act like humans).
7. Manuscript must not portray unsafe situations.
8. Manuscript should cover a topic which is of interest in agriculture and society, for example: crops, livestock, machines, careers, tree farms, farm to fork, how plants grow, school gardens, and more. All agricultural topics are open to review.
9. Rhyming manuscripts will need perfect rhyme and meter to be considered.
10. Books published by Feeding Minds Press will have educational materials developed with them. Please keep that in mind when writing.

### **Features of Picture Books in Relation to Children**

The literary elements in children's literature range from elements within the story to illustrations. Most research on the topic of children's literature stems from the specific interactions between adults and children rather than the specific literary elements included (Fletcher and Reese, 2005). Different literary features create special interactions between the reader and the text as each literary feature creates a specific focus for the reader (Strouse et al., 2018).

Developmental factors that influence the learning ability of children through picture books have been identified through previous research as symbolic development, analogical reasoning, and determining fantasy and reality (Strouse et al., 2018). These specific areas of

development can be enhanced by literary features focused on within this study, such as pictorial realism, manipulative features, fantastical contexts, genre, and anthropomorphism. Each of these aspects of presenting content helps children understand concepts in different ways.

### ***Pictorial Realism***

Pictorial realism refers to the production of images that resemble what the viewer depicts (Strouse et al., 2018). This method of symbolic development used in creating children's books helps young readers transfer knowledge from the pages to their reality (James, 2019). Pictorial realism is responsible for associating illustrations with real-life objects. For children, this process begins as early as nine months (Slater et al., 1984). Like Jean Piaget's Theory of Cognitive Development, pictorial realism builds on previous knowledge and becomes more in-depth with each year of life and development (Ganea & Canfield, 2015). Live images are not considered pictorial realism, only illustrations of live images (photographs, video, human eye).

### ***Manipulative Features***

Manipulative features are known as interactive characteristics of a book used to engage the reader (Wellsby and Pexman, 2014). Popular examples of manipulative features are scratch-and-sniff, pop-up books, and even textures or fabric to create a feeling like a real-life object. Manipulative features are often seen in children's books about animals. Lift-a-flap and texture interactions are often used to connect the reader to the feeling of the actual animal or reveal an animal as a part of the storyline (Strouse et al., 2018). These interactive titles are seen as good for developing sensory skills; however, research shows that the manipulative feature(s) may take away from the transfer of learning and serve as a distraction (Tare et al., 2010).

### ***Fantastical Contexts***

Fantastical context, or the distinction between fantasy and reality, is important for the engagement and learning process of children (Weisburg et al., 2015). Elements of fantasy engage the reader's imagination as they include ideas that are not present in their everyday life, meaning they are more likely to pay attention to the storyline compared to a realistic story (Weisburg et al., 2015). Even though children rely on their own background knowledge to make most inferences from fantasy stories they hear (Weisberg & Hopkins, (2020), it can be difficult for children to make the distinction, especially in books related to biology. Anthropomorphism, or personifying animals, is mostly to blame (Strouse et al., 2018). In books about problem-solving or those which are told from a point of view perspective, young readers are more easily able to distinguish fact from fiction because the storyline continues to lead to an application-based solution related to real-life situations (Strouse, et al., 2018).

### ***Genre***

Genre relates to fantastical contexts, as it is distinguishing fact from fiction; however, genre is also used by children to determine if information can be transferred to reality or should remain in the world of fantasy (Kotaman, 2016). Genre is the categorization of literature, characterized by similar themes (Nodelman, 2008). While children enjoy reading non-fiction books, the sales of their fiction book counterparts are nearly four times higher (Milliot, 2015). Based on the findings of Cimpian and Markman (2008), children are more likely to transfer physical information from non-fiction books because of the difference in language styles used between fiction and non-fiction books (Strouse et al., 2018).

### ***Anthropomorphism***

Anthropomorphism is simply defined as the “process of giving human qualities to non-humans” (Blanchard, 1982). This literary device is popular in children’s literature as it easily gains the attention of young readers. Many children’s publications portray animals that act like humans in daily activities. This includes talking, driving a vehicle, or even doing household chores; however, this adds an element of inaccuracy in books that are meant to teach children about agricultural production. Humans separate themselves from the production side of agriculture when an animal is illustrated as a human (Blanchard, 1982). For example, if a cow is portrayed as a farmer rather than a farmer’s asset, it becomes easy to see the cow more as a human, rather than a valuable part of an agricultural entity (e.g., used for meat, dairy, or capital).

**Competing Perspectives.** There is an enigma related to anthropomorphism. In the agriculture industry, anthropomorphism has a negative connotation, because giving human characteristics to an animal makes them more human, but the animal is often used for consumption, making it harder for the reader to disassociate from the human traits and to consume the animal itself (Ganea et al., 2014). Many farm animals discussed in children’s books about agriculture are harvested, resulting in death. Death is a heavy topic to process, especially for children, but storybooks have also been shown to assist with bereavement (Arruda-Colli et al., 2017). In agriculture, without the understanding of the need for harvesting and contributing to the world’s food supply, it is easy to be blind to the need for harvesting animals (Williams et al., 2020). Agriculturalists are concerned about the connection between a talking cow shown in a children’s book that the reader later connects to being a part of their meal. With the topic of death, agriculturalists worry that young readers will build resentment against farmers for harvesting animals and later not contribute as a consumer (R. Henningfield, personal

communication, 2021). Anthropomorphism can have a negative impact on perceptions related to animal welfare because it applies unrealistic characteristics to animals. Storybooks humanize animals and create storylines with human emotions and problems. Often, the same expectation goes beyond the pages of a storybook and are applied by placing the same human emotions and principles on live animals (Mota-Rojas et al., 2021). Naïve anthropomorphism is known as involuntarily humanizing animals. Williams et al., 2020 notes that while naïve anthropomorphism is concerning to animal welfare, it also has the ability to distort the human perspective on animal-human closeness in regard to animal treatment, harvesting, and conservation efforts.

However, in psychology research, most studies do not consider anthropomorphism to be a negative feature of a story. In some instances, it has been shown that having animals represented as the main character instead of humans makes it easier for children to apply the storyline to their own life or interpret the story. A 2020 research project examining the promotion of prosocial behavior through children's books with anthropomorphized characters determined that while naïve anthropomorphism can have a negative effect on animal agriculture, critical anthropomorphism can help children make connections with their own emotions and social behaviors (Williams et. al, 2020).

## **Methodology**

This study employed a qualitative approach consisting of content analysis methodology. Content analysis is an effective way to study a wide range of texts (Macnamara, 2005). Content analysis includes both human-coded and computer-aided text analyses. For this study, the analysis was human-coded. Content analysis was used to identify characteristics present in selected children's books about agriculture.

## Document Selection

The children's books selected for this study were a collection of publications that have received the Book of The Year Award from the American Farm Bureau Foundation for Agriculture. Eight of the books selected for the study were products of Feeding Minds Press.

**Table 2**

*Books Selected for Content Analysis*

<b>Title</b>	<b>Author</b>
The Tree Farmer	Chuck Lovell
Soybeans in the Story of Agriculture	Susan Anderson and JoAnne Buggy
Seed Soil Sun	Cris Peterson
How did that get in my lunchbox?	Chris Butterworth
The Guardian Team	Cat Urbigkit
The Beeman	Laurie Krebs
The Apple Orchard Riddle	Margaret McNamara
First Peas to The Table	Susan Grigsby
Sleep Tight Farm	Eugenie Doyle
John Deere That's Who	Tracy Maurer
Right This Very Minute	Lisl H. Detlefsen
Full of Beans	Peggy Thomas
The Dairy Godmother: Chuck's Ice Cream Wish	Viola Butler
How to Grow a Monster (Makers Make it Work)	Kiki Thorpe



The sample size for this study includes 14 of the 15 award-winning books presented by the American Farm Bureau Foundation for Agriculture. One of the award-winning titles was excluded from the study because it was a chapter book targeted at a higher reading level. These books were selected to provide empirical evidence to Feeding Minds Press regarding the effectiveness of the books deemed as accurately portraying agriculture by the Ag Foundation.

**Instrumentation**

For this study, the researcher developed and employed a codebook based on Strouse et al.’s (2018) features of picture books that influence children’s learning (see Table 2). In addition to Strouse's concepts, other characteristics identified from the literature review were included in the initial version of the codebook. Further, the codebook started as a prescribed list of constructs, but it became emergent as new themes became apparent throughout the data collection and analysis process (O’Connor, 2020).

**Table 3**

*Strouse et al. ’s (2018) Picture Book Features Influencing Children’s Learning*

<b>Characteristics</b>	<b>Characterization of Features</b>	<b># of Titles</b>	<b># of References</b>
Pictorial Realism			
Anthropomorphism			
Naïve Anthropomorphism			
Critical Anthropomorphism			
Manipulative Features			
Fantastical Contexts			
Genre			

Fiction

Non-fiction

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### **Pilot Study**

The codebook was tested on children’s books that were outside of the 15 selected books that are listed above, but that still had similarities to the books selected for the study. No changes were made to the analysis process and data collection proceeded.

### **Coder Training**

The researcher employed coder training to ensure intercoder reliability (O’Connor and Joffe, 2020). Coding definitions were created based on the literature review and documents used in the pilot study. Coding was conducted following the agreement of coding definitions. During the pilot study, the first round of independent coding was followed by a discussion of findings and potential differences. Following revisions, a second round of coding occurred (Campbell et al., 2013; Hruschka et al., 2004).

**Table 4**

*Coding Definitions Used for Content Analysis.*

<b>Literary Feature</b>	<b>Definition</b>
Pictorial Realism	Associating images with real life – this applies to illustrations only related to agricultural practices, byproducts, and animals that support agriculture
General Anthropomorphism	Humanization of animals or other aspects of farming

Naïve Anthropomorphism	Using animals to work through social contexts with human readers; not as obvious to coders in images and text
Critical Anthropomorphism	Actions in the book (image or text) that impact children’s learning about agriculture in a negative way (cow driving truck, etc.) Appears obvious to coders in image and text; limits a child’s realistic learning
Manipulative Features	Physical attributes to the title itself (pop-up features, textures)
Fantastical Context	Practices or behaviors of agriculture/animals that is not a direct representation of real-life agriculture; Unsafe/unrealistic ag practice
Genre	The distinction between fictional stories and non-fictional stories

## Data Analysis

Coding data is important for understanding the samples and their contents. A code is a label that assigns symbolic meaning to a description being examined during a study. Codes vary in size and can be a straightforward label or become more complex as a concept, metaphor, or value (Miles et al., 2020). For this study, each code represented a literary characteristic that has previously been identified as an important aspect of children’s books about agriculture. The characteristics in this study included pictorial realism, anthropomorphism (and its subthemes),

manipulative features, fantastical contexts, and genre. Codes are useful to researchers because they allow for quick retrieval and categorization of similar data, simplifying the process of clustering, or grouping findings that relate to a specific characteristic or research objective (Miles et al., 2020). Miles et al. (2020) note that “clustering and the display of condensed units then set the stage for further analysis and drawing conclusions (p. 63). Coding analysis was completed using NVivo 11, a qualitative visual analysis software. As the predetermined characteristics were identified in the story or illustrations within the selected titles, a count of reference was recorded. A second coder was used to achieve accuracy. Upon agreement of the codebook, the researcher and second coder analyzed both images and text within each of the 14 titles participating in the study. Codes were tagged when identified within a title and documented appropriately. Results were analyzed and an acceptable intercoder reliability was achieved as recommended by O’Connor and Joffe (2020).

## **Findings**

After completing the content analysis of the 14 award-winning children’s books about agriculture, six of seven literary characteristics were identified among the data. The findings presented will focus on the three most prominent characteristics found in analysis. The top three characteristics were *pictorial realism*, *fantastical context*, and *critical anthropomorphism*. Each of these characteristics was present in at least six titles with the number of references in a single title ranging from one to 12. Characteristics were identified in both the illustrations and storyline of the titles. A clear, singular *genre* was identified for each title. No titles included manipulative features as a literary element. Titles selected for the study contained reading levels within the concrete operational phase of Piaget’s Theory of Cognitive Development, where manipulative

the features are found in the sensorimotor and preoperational phases of Piaget's theory (Piaget, 1971).

**Table 5**

*Content Analysis Results of Literary Elements Found in Titles*

Title	Counts of literary element (number)						
	<i>PR</i>	<i>MF</i>	<i>FC</i>	<i>Genre</i>	<i>Critical</i>	<i>Naïve</i>	<i>Anthrop.</i>
First Peas to The Table	0	0	0	1	1	0	0
Full of Beans	3	0	11	1	1	0	0
How did that get in my lunchbox?	3	0	8	1	1	0	0
How to Grow a Monster (Makers Make it Work)	2	0	3	1	0	0	0
I Love Strawberries	0	0	0	1	0	0	0
John Deere That's Who	1	0	3	1	0	0	0
My Family's Corn Farm	0	0	0	1	0	0	0
Right This Very Minute	0	0	0	1	0	0	0
Seed Soil Sun	0	0	0	1	0	0	0
Sleep Tight Farm	0	0	0	1	0	0	0
Soybeans in the Story of Agriculture	0	0	0	1	6	0	0
The Apple Orchard Riddle	0	0	1	1	0	0	0
The Beeman	0	0	1	1	1	0	0

The Dairy Godmother:	1	0	12	1	1	0	0
Chuck’s Ice Cream Wish							
The Guardian Team	0	0	0	1	0	2	3
The Tree Farmer	2	0	4	1	0	0	0
<b>Total Occurrences</b>	12	0	43	16	11	2	3

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### ***Pictorial Realism***

The literary characteristic of pictorial realism was identified 12 times in 6 titles. Pictorial realism was defined in the codebook as “associating illustrations with real life” and applicable to “illustrations only related to agricultural practices, byproducts, and animals which support agriculture.” The two most common titles containing pictorial realism were *Full of Beans* and *How Did That Get in My Lunchbox*.

### ***Fantastical Contexts***

The characteristic of fantastical contexts was identified 43 times across eight titles. Coders used the codebook definition of “practices or behaviors of agriculture or animals that are not a direct representation of real-life agriculture.” This also included unsafe or unrealistic agricultural practices.

### ***Critical Anthropomorphism***

Critical anthropomorphism was identified 11 times across six titles. Critical anthropomorphism was measured by coders using the collective definition of “actions within the title, including images or storyline, that impact children’s learning about agriculture in a negative way, or more obvious inaccurate practices of agriculture that may remain with children and serve as an incorrect stepping stone in their agricultural knowledge.” An example of critical

anthropomorphism is a cow driving a truck or speaking within a story. These are unrealistic actions in agriculture and could steer readers in the wrong direction related to their perceptions and knowledge of agriculture.

### **Discussion of Findings**

This study included 15 titles, all having received the American Farm Bureau Foundation for Agriculture Book of the Year award. The top three characteristics, *pictorial realism*, *fantastical context*, and *critical anthropomorphism* were identified the most during content analysis. The selected literary characteristics (Strouse et. al, 2018) were in alignment with the research objective for this study. This section includes discussion of findings as it addresses each aspect of the research objective.

### ***Use of Genres in Illustrations and Storylines***

Genre was identified in each title participating in the content analysis. All books were pre-defined with a genre from the publishing team that produced the title. The coders found that all books aligned with their predetermined genre. Genre is important to consider when reviewing the contents of books about agriculture. While titles may have agriculturally accurate content, the storyline may be fictional to entice readers to engage with the characters telling a pro-agriculture story; while others may use fictional characters to tell a realistic story about an agricultural practice. For example, the title, *The Guardian Team*, uses nonfictional photographs to tell a fictional story about a burro and a dog living on a ranch. The story was deemed realistic fiction as animals do not have emotion and the storyline was created based on assumptions of actions in photographs taken on a ranch. Another example of genre at work is present in the title *The Dairy Godmother: Chuck's Ice Cream Wish*. In the story, the author introduces a fairy that guides the

main character through a detailed process of a dairy operation. This story used realistic fiction to entice readers to learn more about the facts related to agricultural practices.

### *Use of Fantasy in Illustrations and Storylines*

**Figure 2**

*Tales of the Dairy Godmother*



*Note.* Derived from Butler, V.; Jenkins, W. *Tales of the dairy godmother: Chuck's ice cream wish*; Feeding Minds Press, American Farm Bureau Foundation for Agriculture®: Washington, D.C., 2020.

Fantastical context is important for the imagination of children (Strouse et al., 2018). This literary element was prominent in the examined titles. Adding “magic” to a story engages children and helps them learn to determine fact from fiction and use their imagination (Strouse et



al., 2018). Fantastical context was identified 43 times within the storyline or illustrations of eight titles in the study. Many titles used fantasy throughout their storylines and illustrations to tell a story about agriculture. Fantasy was used in the title *How to Grow a Monster*. In the story, the author and illustrator invite the reader into the story with an engaging, suspenseful front cover artwork that leads the reader to learning residential gardening practices. *Tales of a Fairy Godmother: Chuck's Ice Cream Wish* also uses a whimsical, dairy farming fairy character to guide Chuck through the operations of a dairy farm, shown in Figure 2.

### ***Avoidance of Anthropomorphism in Illustrations and Storylines***

In this study, anthropomorphism was separated into two subcategories: (1) naïve anthropomorphism and (2) critical anthropomorphism. In agriculture, anthropomorphism, in general, is not a recommended literary practice as it can cause conflict between the reader's perception of the character being an animal and the animal's ability to be harvested (R. Henningfield, personal communication, October 2021). Critical anthropomorphism was minimal throughout the agricultural titles examined, but prominent in the results. Common practices of anthropomorphism in children's books include animals talking and practicing other humanistic behaviors. Some titles including agricultural content may have a focus on the characters in a social context and use the animals to tell a story and break away from industry recommendations for avoiding anthropomorphism, known as naïve anthropomorphism (Severson and Woodard, 2018).

## *Appearance of Pictorial Realism in Illustrations*

### **Figure 3**

#### *Full of Beans: The Great Depression*



*Note. Derived from Thomas, P., Fotheringham, E. (2019). Full of Beans: Henry Ford grows a car. Calkins Creek, an imprint of Highlights.*

Participating titles were examined for pictorial realism. Pictorial realism impacts children's learning by associating illustrations with real objects and exercising their imagination (Strouse). Pictorial realism was found in the title *Full of Beans: Henry Ford Grows a Car*. In the story, the author described the impact of the Great Depression on farmers and the stock market. In Figure 3, the illustration on the left page shows a male farmer driving a tractor on an uphill, sloped timeline of the 1920s; Below the timeline, corn crops are growing strongly, accompanied by a bright yellow background. The right side of the spread has a red background color and shows crops and money burning as the 1930s approach; the timeline is on a downhill slope,

showing both potential and real downfalls farmers faced during the Great Depression. This illustration demonstrated pictorial realism by blending accurately illustrated farming practices with an attention-grabbing timeline graph to incorporate the seriousness of the timeframe. While readers may understand the tractor couldn't drive safely on such a sharp slope, the illustration is only exaggerating the scenario Henry Ford faced.

### ***Inclusion of Manipulative Features in the Book's Physical Material***

Manipulative features were not found in the content analysis of this study. Manipulative features are geared toward a younger audience, including ages 0-7 (sensorimotor and preoperational stages), while the scope of the books selected was in the concrete operational range, ages 7-11, of Piaget's Theory of Cognitive Development.

## **Conclusion**

### ***Overview***

In conclusion, this study has aimed to examine thematic characteristics of successful children's literature about agriculture. Through content analysis, the findings showed that the majority of the books that participated in the study followed the recommendations of Strouse et al. Six of seven elements identified in the literature review and instrument development process were identified in the study. The unidentified literary element--manipulative features--was out of reading level range from the study's focus on the concrete operational stage (Piaget, 1971). Overall, creators used fantasy and pictorial realism to evoke imagination, while avoiding anthropomorphism and other inaccurate farming practices to tell an accurate story about agriculture to a young audience.

Genre was used and identified throughout all illustrations and storylines. While some titles were nonfiction and used live photographs of agricultural subjects, others were realistic

fiction and told true, accurate stories about agriculture while adding fictional “magic” to keep readers engaged and supporting the remembrance of the lesson learned throughout the title.

Fantastical contexts were common and used fictional characteristics to promote imagination and curiosity as seen in Strouse et al. (2018). From dairy fairies to soybeans saving the world, creators developed engaging storylines and utilized the world of fantasy.

Across the board, critical anthropomorphism was significantly avoided in the participating titles, with special attention paid to animal agriculture. Animals presented in the books did not practice human characteristics like speaking or farming. They were, instead, literary examples in the lesson about agriculture.

Pictorial realism was used in many of the researcher selected titles to spark the use of imagination and help readers associate illustrations with objects found in real life. This connection impacts children’s learning (Strouse et al., 2018) by encouraging a deeper understanding of the world surrounding readers and helping them imagine the storyline existing in their own lives and vice versa.

Manipulative features were not included in any of the 14 books that were analyzed. While manipulative features may have a positive impact on children’s learning, this characteristic was not popular in the reading level that the participating titles were a part of.

### ***Recommendations and Implications for Industry***

The researchers recommend that an evaluation tool focused on agriculturally accurate books be created and used to evaluate books that are deemed agriculturally accurate by their publishing house or a related award. While Strouse’s research shows that the literary elements discussed are important for children’s learning, it does not directly correlate with the importance

of children's learning about agriculture or its practices. A tool based on agricultural accuracy would provide a better measure of the effectiveness of a title to educate readers about agriculture.

### ***Limitations***

This study included selected children's books that received the Book of The Year award from the American Farm Bureau Foundation for Agriculture. These titles are not all-encompassing children's books about agriculture. While this study may not be generalizable, readers and researchers are welcome to utilize the findings however seen fit. For further research, the researcher recommends exploring the scoring tool used by AFBFA to award titles and potentially analyze the content as it relates to the award criteria. Additionally, research supporting an agricultural literacy tool would be beneficial to use across all educational resources about agriculture, encouraging improvements and clear requirements for creating titles, publications and educational materials about agriculture for children.

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## **Chapter Three: Semi-structured interviews with award-winning authors, illustrators, and publishers**

### **Introduction**

Authors, illustrators, and publishers create publications that inspire, educate, and start conversations about the included topic. Specifically, within children's books about agriculture, there is a need to inspire, educate, and start conversations about *accurate and realistic agricultural practices*. Previously, many children's books about agriculture related to animal agriculture have included the anthropomorphism of farm animals. In general, many titles, when not created with agriculture in mind, include unsafe agricultural practices or even stereotypical illustrations of agriculturalists and their respective fields. Professionals in agricultural communications and literacy took note of the need and prioritized changes that support agricultural accuracy in children's books about agriculture. Feeding Minds Press has become a leader in these changes, challenging other publishing houses to focus on accuracy and new agriculture. The leaders of Feeding Minds Press and American Farm Bureau Foundation for Agriculture (AFBFA) shared an interest in knowing more about the motivations and technical processes of their titles to continue their success. This article focuses on creators of children's books about agriculture and their approaches to creating books and educational materials.

### ***Restatement of Problem***

Few parameters exist for authors of children's books about agriculture (Biser, 2007). These are necessary to ensure the quality and accuracy of these educational efforts (Serafini, 2012). Though Feeding Minds Press has an established set of guidelines for authors, they need empirical evidence on which to base these guidelines and set future expectations for authors,



illustrators, and publishers of books promoting agricultural literacy (R. Henningfield, personal communication, October 2021).

### **Research Objective**

Describe the experiences of authors and illustrators as they research, write, and illustrate children's books, with special attention paid to

- Sources and editorial processes used to ensure technical accuracy
- Processes used to develop storylines and illustrations for a specific audience
- Approaches to conceptualizing and executing quality storylines and illustrations
- Background knowledge about the topic represented in the book
- The motive of creators to create agricultural publications

### **Literature Review**

Agricultural literacy has an evolving definition that gains substance as the review of literature is to determine the need for recognizing characteristics within children's literature about agriculture that create a successful publication. Through the research on the history of agricultural literacy and children's literary features, along with the established theoretical and conceptual frameworks, a deeper understanding of the background of children's literature will be accomplished.

### **Theoretical Framework**

As children learn about agriculture, they develop thoughts and opinions that will remain with them as they develop cognitively, (Piaget, 1971). Jean Piaget's Theory of Cognitive Development serves as a mental model, describing four stages of development within the lifespan of a person. This theory was developed after Piaget became curious about the logical

thinking of children during the study of English intelligence exams (Miller, 2011). After Piaget observed the cognition of children, he developed stages divided by age, ranging from birth to the end of adolescence. Piaget proposed that the stages are sequences that consistently occur in the same order. He also determined that each stage serves as a building block for the next stage and no stage in the cognitive development theory is skipped and they happen in the same order. Each stage consists of a specific stage of cognitive development with a corresponding age range, shown in Table 1 (Piaget, 1971).

**Table 1**

*Jean Piaget's Theory of Cognitive Development*

<b>Stage of Development</b>	<b>Age Range</b>	<b>Description of Stage</b>
Sensorimotor	0-2 years	Object identification, comprehension of intentions regarding various objects
Preoperational	2-7 years	Comprehension further develops, and language is used
Concrete Operational	7-11 years	Logical thinking, ability to classify objects
Formal Operational	11 years and up	Critical thinking; thoughts about hypothetical scenarios and future outcomes related to the idea

As Feeding Minds Press books are targeted toward the concrete operational stage of development and age range, authors and illustrators need to create accurate representations of the presented topics about agriculture so children can properly retain the information provided and have the knowledge to build on as they learn more about agriculture.

### ***Concrete Operational Stage of Development***

The concrete operational stage of the development in Piaget's theory focuses on the seven to eleven age range or academically, the second to fifth-grade range. Following the initial development of object identification and comprehension, children are able to think about topics more extensively and begin developing their own opinion. Piaget named this stage of development the concrete operational stage because this was the age range where children begin to mentally "operate" on concrete events or objects (Thompson, 2019). There are distinct differences between the previous stage, preoperational development, and concrete operational development. In both stages, children can recall information, but only in the concrete operational stage can a child recall information in any order.

One other feature distinguishing the two is the use of decentration and reversibility. Decentration is the ability to identify multiple perspectives. Piaget defines reversibility as a mental operation that reverses a sequence of events or restores an altered object or idea to its original condition (Piaget, 1971). In the preoperational stage, these two features become more developed, allowing children to think about multiple aspects of an object, problem, or event, at one time and understand that some events are reversible and that ideas can vary, resulting in the beginning stages of critical development in the formal operational stage. (Piaget, 1971).

## **Conceptual Framework**

### ***Agricultural Literacy***

Agricultural literacy is an evolving term as it has come to include a broader view of agriculture, including “environmental and global social significance” (Powell, 2008). The definition of agricultural literacy has changed over the years, being first defined by the National Research Council as “the understanding of food and fiber systems” (National Research Council, 1988, pp. 1-2). Agricultural literacy later became known as the knowledge, understanding, and appreciation of agriculture (Frick, 1991). More recently, agricultural literacy is defined as “the knowledge and awareness of familiarity with agriculture” (Specht et al., 2014). Agricultural literacy is approached in many ways, including agritourism programs and agricultural organizations. Agricultural literacy started gaining attention as an important topic following the publication of *Understanding Agriculture – New Directions for Education* (1988). The publication emphasized the importance of implementing agricultural education programs in both urban and suburban areas and expanding the areas within agricultural instruction. This publication sparked interest in the need for agricultural literacy across the agriculture community with the desire of creating better consumers at the forefront of this effort (Kovar, 2013).

County fair exhibitions often provide agricultural exposure to consumers, even without them knowing it (Specht, 2014). Other seasonal programs like pumpkin patches or petting zoos also provide opportunities for agricultural literacy. With hands-on experience, consumers can gain their perception of agriculture and carry their newfound knowledge with them as they make decisions as a consumer in their lifetime (Specht, 2014). The current lack of agricultural literacy among young people is concerning, as food, fiber, and shelter are necessities for life, all provided as a result of agricultural practices. According to Cosby et al. 2022, many agriculturalists show

their concerns about populations being “agriculturally illiterate.” “In both developed and developing countries, if young people are not agriculturally literate upon leaving formal education, then their capabilities for knowing and addressing global food supply chain insecurities now and in the future will be impaired” (Cosby et al. 2022).

### ***Children’s Literature***

Agricultural literacy is especially important for children, as their impressionable age makes lifelong memories related to any topic (Piaget, 1971). Children’s literature is known as publications consisting of short stories and illustrations created for children. As technology has advanced, children’s picture books have also advanced through methods of production and illustration. As children are easily impacted by words, phrases, and images, the content of children’s books matters. Children’s literature is more complex than often realized, as its style changes as time continues. As each generation learns differently, the approach used when writing and illustrating children’s literature also changes to best accommodate the specified group of readers (Serafini, 2018).

Often children’s books are thought of as easy to create because they are simply for a young audience, but the features used to create the publications and the content within the book matters (Strouse et al., 2018). Children’s literature is more complex than often realized because its style changes as time continues. As each generation learns differently, the approach used when writing and illustrating children’s literature also changes to best accommodate the specified group of readers (Serafini, 2018).

## **Methodology**

### ***Design of The Study***

The design selected for this study was a semi-structured interview method. This format allowed the interviewer to use a specific list of questions related to the research, while also making room for asking other questions that may be relevant to the research while participating in the interview process (Cohen and Crabtree, 2006). Following the delivery of the pre-constructed questions, the researcher asked the interview participants probing questions to allow for responses that were more in-depth than their initial responses. This provided deeper, more candid data for thematic conclusions (Turner, 2010). Following interviews, the researcher interpreted the data by recognizing recurring themes, processes, and motives and then categorizing the described data (Creswell, 2018).

### **Participant Selection**

Criterion-based selection is a method of sampling that includes selecting cases that meet the pre-determined criterion of importance (Patton, 2001). Participants selected for this study were authors of the corresponding literature selected for the content analysis in Beckham et al. (n.d.). Cohen and Crabtree noted that criterion sampling can be insightful for identifying and understanding cases that are rich in content and information. Criterion sampling is an important sampling method as it has the ability to highlight major flaws or weaknesses that develop into an opportunity for system improvement (Patton, 1990). The interview participants were all authors, illustrators, and publishers listed as creators in the 14 books selected as “Book of The Year” award winners. In the interviews, subjects described their experiences creating children’s books about agriculture.

## **Instrument Development**

### ***Semi-Structured Questioning Route***

A semi-structured questioning route was used for this study to organize and guide the interview process but also allow for tailored questions throughout the interview. Semi-structured interviews provide the researcher the opportunity to follow a conversational path following the pre-determined interview questions (Ravitch & Carl, 2016). The pre-constructed interview questions were developed based on the objectives of the research, as well as the conceptual and theoretical frameworks supporting the presented study. Creswell (2018) recommended that the sequence of questions presented in the interview is chosen with intention. Herbert and Irene (2011) suggested considering the following guidelines when creating pre-structured questions: (1) use accessible language, (2) choose questions that are open-ended, (3) focus on the knowledge and experience of the participants. !

The following overarching questions guided the creation of interview questions:

1. Where does the content knowledge of authors, illustrators, and publishers come from?
2. What is the motive of authors, illustrators, and educators to create ag publications?
3. What is the creator's process when creating for a specific audience?
4. What process is used to ensure the accuracy of the topic, storyline, and illustrations?

### **Pilot Study**

The questioning route was tested on two creators outside of the actual pool of award-winning authors, illustrators, and publishers used for this study, but still related to children's literature. The pilot study assisted the researcher in discovering any weaknesses within the interview's design and granted the researcher the opportunity to revise the instrument prior to the

interview process (Brinkmann & Kvale, 2015). No changes were made to the questioning route and data collection proceeded.

### **Qualitative Rigor: Credibility, Transferability, Dependability, and Confirmability**

Merriam (2009) lists four characteristics of qualitative research that contribute to the appearance of a study's rigor: credibility, transferability, dependability, and confirmability. Credibility is defined as an expectation that the results of a study should convince readers that the results of the study are credible (Williams & Kimmons, 2022). Credibility was achieved in this study through the practice of prolonged engagement, peer debriefing, and progressive subjectivity checking. Guba and Lincoln (1989) noted, “if the [researcher] 'finds' only what he or she expected to find, initially, or seems to become 'stuck' or 'frozen' on some intermediate construction [interpretation], credibility suffers” (p. 238).

In research, transferability is important because it provides others with the option to apply a specific qualitative methodology to their own context (Williams & Kimmons, 2022). The objectives of this study were specific to the authors, illustrators, and publishers that received the American Farm Bureau Foundation for Agriculture Book of the Year award. The researcher provided deep explanations of each aspect of the study so other readers will be able to apply or transfer the results to their own situation as able. Additionally, a reflexivity statement is provided to give readers a sense of the lens through which the data in the study were analyzed and interpreted. Dependability in research is known as an expectation that the researcher’s reasoning, methods, and logic are consistent throughout their study (Williams & Kimmons, 2022). A key technique in achieving rigor is maintaining an audit trail through notes, archives, and reports (Williams & Kimmons, 2022). Data analysis was completed using NVivo 11, creating an audit trail for the study. Raw data and the researcher’s notes were documented in NVivo 11 and



categorized using established audit trail categories (Lincoln & Guba, 1985). Williams and Kimmons (2022) explain that “if the researcher does not maintain any kind of audit trail, then the dependability cannot be assessed, thereby diminishing it along with overall trustworthiness” (p. 23). Confirmability is a standard of support for the researcher’s results through study participants, researchers, and existing literature (Williams & Kimmons, 2022). Confirmability was added to the study by recording all evidence that supported any emerging themes. A committee comprised of interested researchers from various disciplines reviewed and approved the methods of this study, including the instrument, methodology, and interpretations of the findings. It is important for the researcher to note biases and provide a detailed account of data (Lincoln & Guba, 1985). The researcher implemented an in-depth description of the research process to provide context and better understand the findings of this study (Lincoln & Guba, 1985).

### **Reflexivity Statement**

The researcher grew up surrounded by children’s books and was often read to as a child by parents or caregivers. Upon reaching reading age, the researcher became an avid reader. The researcher of this study grew up in a rural farm town in Arkansas and participated in Future Farmers of America during high school. At the undergraduate level, the researcher has a background in agricultural business, public relations, and leadership studies. The researcher was also involved in local and state county fair associations with goals of agricultural literacy through their outreach and fair exhibitions. Serving as a volunteer board member, the researcher had five years of experience developing social media content to provide the public with knowledge about agriculture and the historical background of fairs and their associations. The researcher’s

curiosity stemmed from the social media outreach experience and mentorship provided by previous agriculture educators.

Authors, illustrators, and publishers of titles that received the American Farm Bureau Foundation for Agriculture Book of The Year award were invited to participate in the study. Throughout the study, the group of participants was referred to as “creators.” Participants were asked a series of five predetermined questions, allowing probing questions to flow throughout the discussion.

## **Findings**

Interviews were conducted with eight creators of children’s titles about agriculture. Structural coding processes, detailed below, guided the emergence of themes and subthemes (DeCuir-Gunby et al., 2011). Authors, illustrators, and publishers of titles that received the American Farm Bureau Foundation for Agriculture Book of The Year award were invited to participate in the study. Throughout the study, the group of participants was referred to as “creators.” Participants were asked a series of five predetermined questions, allowing probing questions to flow throughout the discussion. Key themes included similar backgrounds, motivations, and creative processes. Most participants started their careers in the education or creative writing space. The passions that motivated these creators to produce content for children about agriculture included their fulfillment from lifelong learning. In the creative process, many creators leaned on writing groups and mentors for support. Each aspect of the research objective was used to form open-ended questions for interview participants to describe the experiences of authors and illustrators as they research, write, publish, and illustrate children’s books about agriculture.

### ***Sources and Editorial Processes Used to Ensure Technical Accuracy***

When asked about the processes used to ensure technical accuracy, 50% of participating creators shared that they utilize an expert to review their materials before publishing. Illustrators noted that they prefer to visit the content area or field to get a better understanding of what should be visually included; they take photographs or content at many angles to have for their sketching process. Publishers connect their authors and illustrators in many ways. A publisher said,

*We (publishers) talk to farmers. We send manuscripts to farmers. We send illustrators to farms. We talk to education specialists that have farming backgrounds.*

Other creators said they depend on other researchers and research to fact check and share more about the content area. Three participants shared that they use Cooperative Extension resources from across the nation to provide evidence and inspiration for accurate books. An author said, "Both a proofreader and a fact checker help me go back and dig into details sometimes to see what else we can find and ensure we get it right."

### ***Processes used to develop storylines and illustrations for a specific audience***

When asked about the creative process used to develop storylines and illustrations for their specific audience, creators shared multiple practices that they include in their work for publications. Half of the creators emphasized having a passion for the topic or at least developing a passion for the topic. Most authors noted the longevity of the writing process as a reason why they found it important to have a passion for the topic. The length of projects shared in the study included six months to two years. One creator noted their "why" behind starting the creative process with passion:

*First of all, [creators] ought to love what they're writing about, right? Loving what I am writing about makes me want to research it and makes sure I know what I am talking about. I worked in education with younger children so it was important to understand their perspective.*

Half of the participants said they focused more on beginning the process with research. As agriculture is an advancing science, research is required to ensure that the agricultural content reflects the time period within the storyline. One creator shared that their research process begins at the perspective of a reader in the target audience:

*For me, it's finding that fun fact. I think about what a student on a bus might know and say to others, "Ha! I bet you didn't know that ..." From there, I can start to dive into the topic, and then it's a trip to the library to check out as many books on the topic as I possibly can. Once I have the basic knowledge, I start doing interviews and talking to the people [content experts] with firsthand knowledge.*

One creator shared that they lean on their own peers in the industry for advice and review. The creator also has a unique advantage for a focus group. They said:

*Now I have a young daughter, she's six. She's just beginning to learn where everything comes from, and it is nice to be able to run those ideas by her and see what she thinks. I have my own focus group, except it's very focused; a one-person group if you will!*

When asked how creators decide on these processes, many shared that they used trial and error to land on the perfect process for themselves. One creator shared a professional development event that guides their process and best practices:

*The Society of Children's Books Writers and Illustrators host conferences all around the country throughout the year, and I would go to these conferences, and they would have*

*workshops specifically that guide you on best practices then through the years you just tweak and hone in as it works best for you.*

### ***Background knowledge about the topic represented in the book***

The background knowledge creators have is relative to their creative process and other motives to create children's books about agriculture. Five of eight participants came from an educational publishing or multimedia background, including not for profit publishing, library work, editorial writing, and multimedia content creation. There was some overlap in educational media background and coming from a farming background. Half of the participants shared that they grew up on a farm or had a farming background prior to creating children's books about agriculture. One creator shared that they were raised in the city, but married a farmer who introduced them to the world of agriculture and all things dairy farming:

*My dad worked for Honeywell, and I grew up in the city. I fell in love with this really cute farmer a long time ago, about 50 years ago. I've been on this dairy farm for 50 years and I've written 12 books on agriculture and other history. The knowledge comes from my 50 years of experience on a lot of national boards in different parts of agriculture. I've done enough, or I know enough to know, I don't know much.*

Six of eight participants shared they have at least one post-secondary degree in English, education, or a related field. While many of the participants have retired from their respective fields, they still use their knowledge to fuel their creation of children's books about agriculture:

*My knowledge comes from my background in education. I'm a teacher first, so even though I left the classroom several years ago, I bring that to the base. In my state's Ag in the Classroom program, we kind of made our mark with children's literature; our state stopped testing for science right as I was becoming the Ag in the Classroom Director,*

*and everything was focused on literature, math and English, and there is not a lot of room for agriculture left in those subjects.*

Four participants noted that the background knowledge comes from professional development opportunities while working in publications. These opportunities included farm tours, working closely with publishers, and state literacy programs.

### ***The motive of creators to create agricultural publications***

Upon coding of the interview study, it was clear the motive of creators to create agricultural publications fell into one of two categories: (1) Passion for lifelong learning, and (2) a desire to educate others. All participants mentioned at least one mentor during their response to questions related to motivations.

Lifelong learning is demonstrated in many different ways; for the interview participants it was important for them to continue challenging themselves and learning more about agricultural topics and better ways to share those with others. For one interview participant, their passion to create came from a shared priority of lifelong learning with their lifelong partner:

*My husband was a beekeeper for 30 some years and when he was learning about the honeybees, he shared that information with me. I began to know more about honeybees as well. I was a teacher and he came into my first-grade class to read and talk to my students, along with many other classrooms. I decided that maybe it would be fun to try to write a book; the book could go into all the classrooms that he couldn't visit.*

*When I was teaching, I had this remarkable husband who brought me a cup of coffee while I was still in bed. Every day. And in exchange for that, I got an hour-long lecture on honeybees, which is how I learned to know a little bit about honeybees. If he was learning about them, he shared it all with me and that is a part of the story of how it [the*

*book] got to be written. With his knowledge and experience, we worked together and had great sources, including an entomologist and the chair of the Education and Husbandry Subcommittee Association. I learned to love the bees. My husband has a big interest in agriculture, and we love to learn together about gardening and beekeeping.*

Other participants shared their passion for overcoming new challenges academically. An illustrator shared that they were discovered by a publisher and were sought because of their passion for lifelong learning:

*In my bio, it says that I enjoy projects that keep me learning and require research. The publisher said that's what we need for these books. My motivation is that I just want to keep learning.*

For participants motivated to educate others about agriculture through children's books, education and the opportunity or access to agricultural education was important. One participant shared their experience as someone who did not come from a farming background:

*I love children and I love surprising them with information that they might not have known. I live in a rural community, but I'm not part of the agricultural community. I am learning every day how important it is that people realize what agriculture is, what it encompasses and how difficult it is; it touches every single part of our lives. For me, climate change is a huge motivating factor, so being able to tell the story about how farmers are tackling that is important [to me]—I would like to do more of that – I'm just trying to pluck strings to see which idea resonates the most for whatever the next project's gonna be.*

Over time, agriculture has developed in many ways, leaving a need for education on how times in agriculture have changed. One participant said:

*There is a desperate need because children are so far removed from their food. What DaVinci knew about the movement of celestial bodies compared to what we did; we know so much more, yet our second, third graders and fifth graders know about the same amount.*

As mentioned, all participants shared one of their mentors as a contributor to their motivations to create children's books about agriculture. Mentors included critique groups, prior educators, other authors, peers, and publishers in the industry.

## **Conclusions and Recommendations**

### ***Overview***

This study utilized a qualitative approach, including semi-structured interviews with the creators of children's books about agriculture that received the AFBFA Book of The Year award. The interview process revealed valuable insight related to creators' technical processes, passions and motivations, educational background, and careers that have impacted the way they create children's publications about agriculture. Eight creators participated in the study, including one illustrator, two publishers, and five authors.

Content knowledge between creators varied from careers in education or publishing to those originating from a farming background. Creators that were not knowledgeable about a specific topic relied on research and expert knowledge to lead the accuracy of their titles. Authors and publishers shared that they often visit or send authors and illustrators to areas related to the topic to ensure their confidence and visibility of the topic.

When asked about motivations, creators shared their passions for lifelong learning and creating. When challenged with a new topic, many creators shared their enjoyment of the



challenge to educate themselves and picture the topic as a finished title. While many participants were educators, most shared that they gain passion and motivation from helping others learn.

Creative processes used to produce children's books about agriculture varied among interview participants. Many creators start with research and industry experts regarding the topic, while others use their passion for the topic or agriculture to propel their creation, research and execution of the title.

The discussion of ensuring accuracy within the topic, storyline, and illustrations revealed that many creators utilize an expert to review their materials before publishing. Creators also prefer to visit the content area to conceptualize the topic and connect with industry leaders to better understand the agricultural topic.

### ***Further Research and Implications for Industry***

Based on the findings, the researchers recommend using a larger sample to compare data. This information will create a stronger guide for authors, illustrators, and publishers wishing to create children's titles about agriculture. Following the development specifically for children's titles, further research for the general public would be beneficial for educators, agricultural communicators, and mass communication efforts to better educate about agriculture.

### ***Limitations***

The participants selected for this study were limited to authors, illustrators, and publishers of the titles used in content analysis (Beckham et al., n.d.). The books selected in Beckham et al.'s analysis were only titles that had received the American Farm Bureau Foundation for Agriculture's Book of The Year Award. This limitation did not allow for other creators of children's books to share their processes or motivations. While this study was specific

between the two articles, including perspectives of other creators may be beneficial for future creators producing agricultural publications.

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## **Chapter Four: Conclusion**

Educating the public about agriculture is a large effort that requires many stakeholders. For children, authors, illustrators, and publishers are creating titles that share real farm experiences that relate to an adolescent audience. Agricultural education begins at a young age and it is important that stories about agriculture are accurately portrayed by illustration and the story line. AFBFA's Feeding Minds Press has paid special attention to the need of agriculturally accurate books and works closely with authors and illustrators to publish quality titles about various facets of agriculture. The two articles in this thesis worked in harmony to analyze the content of children's books about agriculture and discover the motivations and approaches of creators regarding children's books about agriculture. AFBFA has rewarded creators that they feel accurately tell stories about agriculture through the AFBFA Book of The Year award.

Article one focused on the content of books that previously received the Book of The Year award and used Strouse et al.'s research on literary features that impact children's learning to examine thematic characteristics of successful children's literature about agriculture. Findings revealed that the titles analyzed mostly followed Strouse's recommendations of literary elements to include. Recommendations for further research included the development of an evaluation tool for titles that are considered agriculturally accurate.

Article two included semi-structured interviews with the creators of children's books about agriculture that received the AFBFA Book of The Year award. Participants were asked open-ended questions related to their educational background, motivations to create, and processes used to ensure technical accuracy. The findings showed that many of the creators had similar processes and motivations for creating titles about agriculture, including background

knowledge, passions, and career paths. The data collected may serve as a guide for other creators wishing to produce within agricultural publications for children.

Based on the findings of both articles, it is apparent that creators in the agriculture space are moving the dial in the right direction as participating titles and creators demonstrated similar focuses – both within content and creative processes of the same content analyzed. Agricultural literacy is an evolving topic that requires attention to ensure that both children and the general public understand agriculture.