VISUAL THINKING SKILLS AND

ELEMENTARY STUDENTS'

WRITING

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ABSTRACT

Visual Thinking Skills and
Elementary Students'
Writing

Doctor of Letters Dissertation by

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This study examines the impact of Visual Thinking Strategies (VTS) lessons on

elementary students and their writing competency. Over the course of one school year,

second grade students in a public school in New Jersey were exposed to the VTS protocol

as established by Abigail Housen in her Theory of Aesthetic Development. These

students' pre and post writing samples were compared to those of students who did not

participate in VTS lessons and analyzed for growth. Results indicate VTS lessons have a

significant impact on students in several areas. Students exposed to VTS lessons

strengthened their ability to listen and reflect, something difficult to develop and much

needed in elementary students. Students' writing displayed a stronger use of words that

helped readers picture their story, also known as craft. Achievement and growth in this

area was especially significant with students for whom English was not their first

language. Students exposed to VTS lessons demonstrated higher-level thinking when

discussing artwork. This is particularly significant, considering that students need to

become sophisticated viewers of images so they are best able to navigate the visual

worlds in which they live. The skill to discern between images that are valuable and those

that are not is necessary so students are able to make accurate judgements on what they

see all around them. Students in this study also developed their capacity to back up their

opinions with evidence, were able to influence others' opinions, and more significantly, developed the capacity to have their own opinions influenced by others. Perhaps most significant was the finding that abstract images, more than representational or realistic images, enabled students to make inferences and use higher level thinking skills. This finding should inform educators as to the types of images displayed in elementary school as well as the types of images used to facilitate instruction. All of these results further support the idea that students who have developed their skills in viewing, or seeing, will be better writers and thinkers, as they will have much more to say.

DEDICATION

I dedicate this dissertation to my husband, Ray,

who enthusiastically accompanied me on museum visits and patiently listened when I

shared numerous discussions on visual thinking and art,

and to my amazing daughters, Morgan and Deirdre,

whose own hard work and accomplishments have been an inspiration to me for a long

time.

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Chapter 1

INTRODUCTION

Elliot Eisner has said that "Children who do not learn to see will not be able to
write, not because they cannot spell, but because they have nothing to say."[1] Consider the
evolution in thinking of this second grade student who, when first viewing the image of *A
Child's Bath*, told a story about someone falling in the mud and needing a bath. After six
lessons in Visual Thinking Strategies (VTS), this same student reflected on Charles
Ephraim Burchfield's (1893–1967) *Autumnal Fantasy* and said he could "hear the birds
cheeping." This child has certainly learned to see, and it followed that he had something
to say in his writing.

Educators know that the stakes have never been higher in terms of what students
are expected to achieve. The Common Core Standards, along with the New Jersey
Student Learning Standards (NJSLS), have significantly raised the bar on what students
will be required to demonstrate. No longer is it acceptable to teach students just reading,
writing, and arithmetic. As an elementary school principal, I am very aware that students
in 2020 and beyond must be able to think critically, reason clearly, problem-solve
effectively, listen constructively, and speak and write persuasively. Lucy Calkins is the
Founding Director of the Reading and Writing Project at Teachers College at Columbia
University. The Project is simultaneously a think tank, which develops state-of-the-art
teaching methods, and a valued source of professional development for educators.
Calkins tells us that expectations for young writers have never been higher than they are

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[1] Elliot Eisner, "Mind as Cultural Achievement," *Educational Leadership* (March 1981): 470.

today.[2] No longer is it acceptable for students to hover on the lower levels of Benjamin Bloom's Taxonomy, a hierarchy of cognitive skills, by memorizing facts and recalling information.[3] Students in 2020 need to develop skills that enable them to solve complex problems both in and out of the classroom. Fulfilling these expectations is an enormous task for educators and students alike.

At the same time that these heightened expectations for schools and educators are in place, we live in an increasingly visual society. Daily, the twenty-first century citizen is bombarded with omnipresent images. From television, to cell phones, computers, Instagram, Twitter, video games, pod casts, advertising, YouTube, Tic Toc, and more, it is almost impossible for a citizen of today to spend one day without having to interact with and interpret numerous visual images. The life of twenty-first century citizens, students included, is dominated by still and moving images.

Additionally, much instruction in today's elementary classroom consists of the use of visual media to teach a concept, practice a skill, and assess students' mastery. Due to the constant need to interpret and make meaning out of the visual images that surround us, it becomes imperative to move beyond a simply linguistic understanding of the world. To make accurate meaning of our surroundings requires skill in "reading" visual images. We live in a time that Kristie Fleckenstein describes as "…an era in which we are awash by multimodal imagery, inside and out," and in what Maria Avgerinou calls an "era of

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[2] Lucy Calkins, Kelly Hohne, and Audra Robb, *Writing Pathways: Performance Assessments and Learning Progressions* (Portsmouth, NH: Heineman, 2015), v.

[3] Benjamin Bloom, *Taxonomy of Educational Objectives Handbook 1: Cognitive Domain* (New York, NY: Longman, 1956).

visual culture" and a "Bain d'Images," a bath of images.[4] Fleckenstein claims the abundance of imagery in our Internet-based era "highlights the need to attend to the influence of imagery in a networked world."[5]

Craig Stroupe, Associate Professor of Digital Writing, Literature and Design at the University of Minnesota, calls for educators to take a different focus in their teaching to address our contemporary image-laden world. He states, "the growing dominance of the multimedia Internet requires of us a multimedia literacy; the hybridization of the 'image-world' demands a reconfiguration of what we do as meaning makers and teachers."[6] Agreeing with that, Peter Smagorinsky, Professor of English Education at the University of Georgia, claims, "The most significant change literacy teachers will face in the new millennium is the shift dictated by changes in media."[7]

To address this need, standards related to visual literacy are included in the Common Core Standards and the NJSLS. This shift in our culture, from a textual one based mainly on words or language to make meaning to a culture more focused on image meaning-making, has also spurred the National Council of Teachers of English (NCTE) to create a committee on visual literacy and incorporate emphasis on visual literacy into their standards as well. To become visually literate, students are expected to be

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[4]Kristie Fleckenstein, Linda Calendrillo, and Demetrice Worley, *Language and Image in the Reading-Writing Classroom: Teaching Vision* (Mahwah, NJ: Lawrence Erlbaum Associates, 2002), xiv; Maria Avgerinou, "Re-viewing Visual Literacy in the 'Bain d' Images' Era," *TechTrends* 53, no. 2 (March/April 2009): 28.

[5] Fleckenstein, Calendrillo, and Worley, *Language and Image*, xiv.

[6] Fleckenstein, Calendrillo, and Worley, *Language and Image*, xiv.

[7] Fleckenstein, Calendrillo, and Worley, *Language and Image*, xiv.

competent in their ability to make meaning of images both inside and outside the classroom.

Twenty-first century life is dominated by visual images, including media and technological applications in elementary classrooms. Students need skills to facilitate better understanding of images; they need instruction in interpreting, or "reading," these visual images properly. Becoming visually literate is more important than ever.

However, becoming visually literate does not come naturally; it does not just happen. In the same way that students need specific instruction in how to make meaning of text, students need to be purposely taught how to make meaning of images. Dabney Hailey, Alex Miller, and Philip Yenawine assert that we would never expect students to be able to make sense of textual language without formal instruction in the process.[8] Without a doubt, all educators would agree. It seems that society does not recognize the complicated processes and skills involved when making meaning of images. It may appear to be effortless when a child recognizes, classifies, and categorize what she sees.[9] However, it is necessary to develop specific skills in students, visual thinking skills, in order for them to become visually literate. Indeed, such skills are required in order to develop a visually literate public.[10]

Fleckenstein claims the "scales of meaning and teaching need to be balanced so that word no longer eclipses image."[11] Language, she says, is no longer the only, or most

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[8] Dabney Hailey, Alexa Miller, and Philip Yenawine, "Understanding Visual Literacy: The Visual Thinking Approach," in *Essentials of Teaching and Integrating Visual and Media Literacy*, ed. Danilo Baylen and Adriana D'Alba (Heidelberg, Germany: Springer International Publishing, 2015), 49–50.

[9] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 52.

[10] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 50.

[11] Fleckenstein, Calendrillo, and Worley, *Language and Image*, 4.

important, means of making meaning in our lives, and we cannot separate ourselves from images. "Images," she claims, "arise within and around us, marking indelibly the linguistic fabric we weave."[12] It is time that instruction in school placed emphasis on teaching students how to read images, the way they are taught to read text. Fortunately, there are research-based practices that educators can employ to help students meet this task and become more visually literate. One such practice is called VTS, which can improve teacher capacity and effectiveness and support improved student performance.[13]

Most schoolchildren begin their careers as writers by drawing. Students who do not yet know the alphabet, nor have the skills to write it, can "write" by making drawings that tell a story. Young students "write" their first story by making a picture and "reading" it. These early drawings are a student's way of crafting a purposeful message and communicating it. Students' writing progresses from sketching, scribbling, and labeling to attempting to put words together to make sentences. It is through their drawings, however, that most students begin to write their stories.

Several years ago, I was training kindergarten teachers on how to implement Calkins' writing rubric to assess their students' compositions. One teacher claimed that it was impossible to score students' writing when there were no words. I quickly pointed out that the sun in the drawing indicated the setting, the stick figures were the characters, and the hearts emanating from each one indicated the feelings of the characters and the

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[12] Fleckenstein, Calendrillo, and Worley, *Language and Image*, 4.

[13] Philip Yenawine, *Visual Thinking Strategies* (Cambridge, MA: Harvard Education Press, 2017), vii.

mood of the story. This simple rendering was quite a successful piece of writing for a five-year-old, despite having no written words.

Writing is thinking. What we ask from students when learning to write is to put their thoughts down on paper to create a story. The thinking must come first, before the writing. As with the kindergarten writing mentioned above, thinking about the day spent outside in the sun, which recalled happy feelings, was the impetus behind the writing. The more experiences our students have, the more thinking they can do about their writing and the more they will have to tell. Calkins talks about students' writing as putting their "noticings" on paper.[14] It makes sense, then, that the more we teach students how to notice, they better they will be able to compose.

The aim of this research is to implement the VTS protocol in a second-grade classroom over the course of one school year and analyze its impact on the writing capacities of the students. It is theorized that the implementation of VTS will increase the students' ability to write in terms of the structure and development of their compositions and their ability to use written language. The VTS protocol will also support students in developing their visual thinking skills. It is vital that educators search for, and implement, instructional strategies that are effective in helping their students achieve at high levels in all forms of literacy, both textual and visual.

All educators I know express concern about how to help their students learn and achieve at the levels expected of them. Understandably, getting students there is an enormous task. It is a legitimate question to ask: How do we accomplish this with all the other issues we have to confront? Today's educator has to navigate through many

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[14] Lucy Calkins, *The Art of Teaching Writing (*Portsmouth, NH: Heinemann, 1994), 8.

important issues before they can even get to academic learning. Considering school safety drills, student behavior, the prevention of bullying, physical and emotional health requirements, character education, test preparation and test taking, data analysis, not to mention adherence to a plethora of state rules and regulations that require an enormous amount of paperwork, it is a wonder educators ever have time to focus on reading and writing. This is particularly challenging when considering that reading and writing, important means of communication, are as vital to students becoming successful, productive members of society as they have ever been.

This research contributes to the field of teaching elementary writing. It can provide a way to improve students' ability to compose and at the same time, facilitate the increasingly important skill of critical thinking. Higher-level thinking has been a goal of education since long before Benjamin Bloom created his much-hailed taxonomy.

It is important for educators to make use of the visual images that are available to students, to recognize this is the culture in which students live and to which they are exposed. Consideration of the highly visual culture that surrounds us must be incorporated into educational practices. We must find a way to transform this constant visual bombardment into success for our students.

It is understood that learning requires the use of our senses. Avgerinou and John Ericson remind us that a large amount of sensory learning is visual, which makes the visual sense the most dominant, and thus, the most important. It follows, then, that they

tell us that educators should "concentrate and exploit" the visual sense by supporting and promoting visual literacy.[15]

The prevalence of visuals in our culture is hard for anyone to miss. The visual environment in which our students all live requires children to make sense of visual communication on a daily and hourly basis. This research is significant in that it can offer students a way to become more sophisticated consumers of images, to ensure they are not passive receivers of visual images but active viewers who are able to interpret and make sense of what they see. It is desirable for students to become viewers who can effectively make judgments about the images that pervade their lives and be able to recognize the difference between images that are valuable and those that may be meaningless and misleading. Understanding how to help students develop the skills needed to become competent viewers is more important than ever. Avgerinou and Ericson tell us that "for a high proportion of children in schools, the influence of visual media in their adult life will be infinitely more dominant than print."[16] This significance of visual media in the lives of citizens gives importance to this research.

The current educational system, including the system in which I work, tends to emphasize print media over visual media. While the introduction of visual media has occurred and increased in recent years, overwhelmingly the content of school standards emphasize written text. Standards in reading, writing, and even mathematics focus on the use of written text and do not incorporate much needed visual learning. This research

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[15] Maria Avgerinou and John Ericson, "A Review of the Concept of Visual Literacy," *British Journal of Educational Technology* 28, no. 4 (1997): 287.

[16] Avgerinou and Ericson, "Concept of Visual Literacy," 288.

supports efforts to assist students in developing their skills in visual learning and to close this gap in instruction.

This research, with its emphasis on the use of VTS, is further significant in that VTS have been shown to have particular effectiveness in the American school system with students whose initial language is other than English. Students who are learning English will have significant difficulty accessing any text not written in their initial language. Viewing, on the other hand, is a great equalizer. Presupposing there is no visual impairment, all students are equally able to view images. Additionally, the discussions required as part of the VTS protocol, including numerous opportunities for the instructor to rephrase students' comments, offers more opportunities for students learning English to listen to and engage in conversations. Furthermore, the VTS protocol provides opportunities for students who may be reading or writing below grade level to shine in the classroom. The strongest reader in the class may not be the one who is the most skilled in interpreting images, as this practice speaks to the different learning styles of students, visual as opposed to linguistic.

This research is significant in that it will contribute to the body of knowledge on ways to improve students' writing. In addition, educators who become familiar with the VTS pedagogy have an opportunity to expand their repertoire of effective teaching strategies, which can be generalized to areas other than language arts. DeSantis found that the use of VTS offered potential for improving teacher practice.[17] Further, this research may provide recommendations for Language Arts curriculum in the specific

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[17] Karin DeSantis, "Report on Visual Thinking Strategies Implementation and Assessment Project at Ripton Elementary School," (November 2008), https://vtshome.org/wp-content/uploads/2016/08/14Ripton-Report-Final-.pdf.

school district in which the study took place. Additionally, improving students' ability to view critically has been shown to transfer, thus enabling students to improve their ability to think critically across disciplines.[18] With VTS there is potential for a significant impact on students with only a small commitment to change, which Hailey, Miller, and Yenawine call a "modest intervention in terms of time."[19]

This research took place over the course of one school year at a suburban elementary school in New Jersey where I am principal. In September 2019, students in the second grade were administered their standard, curriculum-driven writing assessment. This is an on-demand, performance-based assessment, which is administered at both the beginning and end of the school year. Students' writing is guided by the Lucy Calkins Writing Rubric. Writing was normed and scored by second grade teachers who have been trained in the use of the rubric. Norming is the practice of colleagues assessing student writing together so that writing which is given a score of three in one grade-level classroom will be assessed similarly by other grade-level teachers. Norming helps teachers to align the way they score students' work. It minimizes the differences teachers naturally have in assessing students' work and helps to avoid one teacher viewing a written piece as outstanding while another teacher views it as not meeting expectations. Norming provides inter-rater reliability.

The rubric is broken down into three main areas: Structure, Development, and Language Conventions, and each of these areas is further delineated by subcategories. Structure includes the lead, transitions, ending, and organization, while development

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[18] Abigail Housen, "Aesthetic Thought, Critical Thinking and Transfer," *Arts and Learning Research Journal* 18, no. 1 (2001–2002): 99–100.

[19] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 57.

consists of elaboration and craft. Spelling and punctuation come under the heading of language conventions. (See Appendix A.)

The writing rubric includes learning progressions for each grade, which includes one grade ahead and two grades behind. Therefore, the second-grade rubric also includes writing behaviors for a kindergarten, first-grade, and third-grade student. The rubric is articulated through elementary school in that the same rubric is used in each grade, although the expectations are raised each year a child progresses in school. For example, in order for a second grade student to achieve an effective score in the category of transitions, the writer would need to tell her "story in order by using such words as when, then and after."[20] By third grade, an effective score in transitions would necessitate that "the writer told his story in order by using phrases such as a little latter and after that."[21] Similarly, in third grade, the rubric would include writing behaviors for a first-grade, second-grade, and fourth-grade student. Expectations for a fourth-grade student in transitions would require that the writer "showed how much time went by with words and phrases that mark time such as just then and suddenly (to show when things happened quickly) or after a while and a little later (to show when a little time passed)."[22]

After norming, each writing sample was given points, between one and forty-four. This overall score was converted to a scaled score between one and four. The scaled scores were translated into progress indicators, with a four representing exceeding expectations, a three representing meeting expectations, a two representing close to

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[20] Calkins, Hohne, and Robb, *Writing Pathways*, 359.

[21] Calkins, Hohne, and Robb, *Writing Pathways*, 359.

[22] Calkins, Hohne, and Robb, *Writing Pathways,* 365.

expectations, and a one representing performance below expectations. Students' writing samples were identified by numbers, rather than students' names, to ensure confidentiality and objectivity.

During the next eight months of the school year, I delivered lessons on visual thinking to a selected second-grade class. Of the two second-grade classes in the school, one received visual thinking lessons, and the other did not. The lessons took place once a month for approximately forty-five minutes. Through the course of the school year, students spent about six hours viewing artwork, or as Abigail Housen would say, with their "eyes on canvas."[23]

The visual thinking lessons were based on the VTS protocol as designed by Yenawine of the Visual Thinking Institute. VTS engages students in purposeful looking at images with an emphasis on examining what he or she sees and making connections. At its core, VTS is a process for students to discover what they can about an image. The process includes a facilitator asking specifically designed questions and guiding a discussion whose aim is to force students to look carefully and reflect on what they have seen.[24]

As dictated by the VTS curriculum, the lessons each follow a specific, sequential format. The format includes the following basic steps:

1. Present a carefully selected image.

2. Allow a few moments for silent looking before beginning the discussion.

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[23] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 53.

[24] Yenawine, *Visual Thinking Strategies*, 15–21.

3. Pose three specific research-tested questions to motivate and maintain the inquiry:

    a. What is going on/happening in this picture?

    b. What do you see that makes you say that?

    c. What more can you/we find?

4. Facilitate the discussion.[25]

Images in the VTS curriculum are selected based on specific criteria as dictated by Housen's research. Subjects of the images should be of interest to the specific audience. The image should reflect something familiar to the audience and be able to provide a strong narrative for the viewers. The meaning of the image should also be accessible to the students. Each image should be ambiguous enough to be somewhat puzzling for the students, without being too complex.[26] In other words, the images selected should be within the students' zone of proximal development: that is, the area of learning between what a student can do independently and what a student would need guidance to understand. As the term "proximal" suggests, this is an area where the student is close to mastering a skill or concept. All instruction in school should be presented within students' proximal zone. Calkins cautions writing teachers not to work outside the students' proximal zone, as the writing "will not stick."[27] The images selected for this research are estimated to be within the second graders' proximal zone.

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[25] Yenawine, *Visual Thinking Strategies*, 167–168.

[26] Housen, "Chapter 21: Art Viewing and Aesthetic Development: Designing for the Viewer," 11–12, https://vtshome.org/wp-content/uploads/2016/08/2Housen-Art-Viewing-.pdf.

[27] Calkins, Hohne, and Robb, *Writing Pathways*, 14.

The images for the lessons have been selected from the VTS curriculum for grade two students as well as from a collection of watercolor paintings created by Charles Burchfield. The images from the second-grade VTS curriculum depict themes that are familiar themes to young children and offer them the opportunity to make meaning from the paintings. At the same time, each image presents something that may cause the student to wonder. Each lesson includes two images, both of which depict the same theme. The theme of the first lesson is family routines, and the images portray a mother giving a child a bath and a family portrait. Both images in the second lesson depict children playing games. The third lesson includes images of parent and child, or grandparent and grandchild, engaged in an activity. Lesson 4, the last lesson that includes images from the VTS curriculum, depicts children/people interacting with animals. Most of the VTS curriculum images are realistic or representational, while the images from Burchfield are more abstract.

Charles Burchfield was selected as the artist of focus for this study because aspects of his unique style of painting were expected to resonate with the second grade students. Burchfield's use of audio-cryptograms, markings and brush strokes that signify sound, motion, and feelings, are a notable aspect of his style and something to which second grade students can relate. Second-grade writing instruction includes developing students' own image-making skills to inspire them to add description and detail to their work and help animate their writing. In a similar way, it is expected the Burchfield paintings will appeal to the students in terms of their own use of image making to facilitate writing.

The selection of the Burchfield paintings was based on criteria similar to that of the VTS images. Images were chosen that reflected something that should be familiar to second graders and would pique their interest. The meaning of the paintings was something they could grasp, yet each image had elements that would cause students to puzzle, wonder, and question. The images offered students an experience with images that should have been comfortable but also provided the opportunity to explore something new, different, or ambiguous. As Housen states, it is important that images selected can "meet viewers where they are, as well as challenge them to explore new subjects and pursue incipient questions."[28] The images should be in the students' proximal zone. The themes of the Burchfield paintings were nature, houses, and insects. Much of Burchfield's work is centered on images of nature, so this theme was included in lessons more than once. As the Burchfield paintings were introduced, the ambiguousness of each increased. Burchfield's use of audio-cryptograms was evident in each image but increasingly more so. In addition, the images *New Moon in January* and *February Thaw* each include elements of personification in houses, something that Burchfield has been known to incorporate in his work.

The Burchfield paintings were selected as they incorporate aspects of the elementary writing curriculum that are relevant to students, such as the ability to show movement and sound without words. Lower elementary writers are often more adept at writing through sketches and drawings as opposed to the use of text and words. To support the development of their writing skills, students are taught to show movement, sounds, and action in their drawings. This will enable them to write using more detail.

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[28] Housen, "Art Viewing," 11.

Burchfield's use of movement, sounds, and action in his watercolors makes him an excellent choice for this project.

An effective instructional practice in the elementary writing program involves students creating images to assist them in adding more details to their writing. As part of the revision process, writers select a sentence, or paragraph, from their writing to which they want to add more detail and sketch or draw a picture that represents the writing. Writers share their drawing, discuss with peers, and then add details to their writing based on the sketch and conversations.

An example of this strategy in action is a first-grade lesson where students are asked to sketch or draw a part of their story that included action or dialogue. The teacher utilized illustrations from picture books to provide models. The teacher also demonstrated how to add motion, sounds, and dialogue to a picture by drawing graphic symbols such as speech or thought bubbles and lines to represent motion. Once writers created their sketches, they shared them with classmates, and both teacher and peers provided feedback. These conversations served to provide writers with ideas of how to add more details to their writing. An example of this is one student's sketch that included a mother waving goodbye to her children. The student had drawn motion marks around the mother's arm to show she was waving. This writer's original sentence, "The mother waved goodbye," was changed to say "The sad mother waved goodbye across the yard as the car pulled out of the driveway." The inclusion of the sketches and the follow-up discussions were instrumental in helping this student improve his writing. In the same way, the inclusion of Burchfield's work, with its unique ability to show movement and sound, will be relevant to the students and have a positive impact on their writing.

Burchfield was an American painter who was well known for his watercolor paintings. His exhibition at the Museum of Modern Art (MOMA) in 1930 was the first single-artist exhibition held at the museum. Burchfield's work is considered unique and innovative, and he moved beyond traditional methods in watercolor painting. While watercolor was his preferred medium, he sometimes combined it with gouache, graphite, charcoal chalk, or pastel. His unique application of watercolor included brushstrokes that were obvious and created a sense of movement in his work.

While Burchfield spent some time painting in a realistic style, much of his landscape work was fantastical in nature. Much of his work centered on abstract images of nature, mostly in landscapes that were inspired by his neighborhoods in Ohio and later, Buffalo, New York. A consistent theme in many of his works is change in nature, especially change in weather and the change of seasons. Burchfield attempted to show the passage of time by depicting the sun rising, the leaves rustling through a rainstorm, or the sounds of birds or insects. He was particularly fascinated with the change in seasons, especially the time when one season is arriving and another is leaving. Overall, his landscape painting depicted his appreciation of and respect for nature.

Most notably, Burchfield developed a unique system of notation where he created graphic symbols to represent sound, movement, and emotions. These notations allow the viewer to hear the sounds of the forest and see the constant shifting of nature through his brush strokes. He was known for his use of audio-cryptograms, which were patterns that indicated specific sounds in his paintings. His use of audio-cryptograms is considered the hallmark of his personal style. Burchfield was quoted as saying, "An artist must paint not what he sees in nature but what is there. To do so he must invent symbols, which, if

properly used, make his work seem even more real than what is in front of him."[29]

Burchfield did exactly this through his unique system of symbols used to represent

motion and sound in his work.

Music was an important influence on Burchfield's work from his early days in art

school, when he first began drawing abstract symbols representing musical patterns.[30]

Burchfield was drawn to the work of several composers, including Richard Wagner, Jean

Sibelius, and Ludwig van Beethoven. Scholars have suggested that Burchfield had

synesthesia, as elements in his "art and journal are distinctly synesthetic in nature."[31] His

audio-cryptograms, however, did not necessarily represent music but rather sounds in

nature. His painting *Telegraph Music*, created in 1949 and on display at the Burchfield

Penney Art Center in August 2019, is a good example of his use of audio-cryptograms. In

this painting, Burchfield used patterns to represent telegraph wires vibrating on telegraph

poles, crows cawing, and wind blowing. In 1963 Burchfield wrote, "There are few

sounds that are as wild and elemental as the 'music' of the telegraph wires that stir the

blood as much, and fill the listener, boy or man, with such vague but intense yearning for

he knows not what."[32]

Burchfield also made use made use of graphic symbols to represent specific

emotions such as melancholy, surprise, and fear. Additionally, inanimate objects in

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[29] "Biography, Artist to America," Burchfield Penney Art Center, accessed August 17, 2019, https://www.burchfieldpenney.org/collection/charles-e-burchfield/biography/.

[30] Nell Shaw Cohen, "An Introduction to Charles Burchfield, "*Beyond the Notes* (blog), February 9, 2012, http://www.beyondthenotes.org/blog/an-introduction-to-charles-burchfield/.

[31] Cohen, "Introduction to Charles Burchfield."

[32] "Works of Charles E. Burchfield: Transitions, *Telegraph Music*," Burchfield Penney Art Center, accessed September 22, 2019, https://www.burchfieldpenney.org/collection/object:1994-001-070-telegraph-music/.

Burchfield's work often included these human emotions. His frequent use of

personification included trees and flowers that could appear to dance or scowl and houses

that had facial expressions, ostensibly to represent the personalities of their inhabitants.[33]

This is evident in his painting *New Moon in January*, created in 1918 and on display at

the Burchfield Penney Art Center in August 2019.

In August 2019, The Burchfield Penney Art Center debuted an exhibit of his work

titled "Transition." As the title implies, this collection of paintings and drawings is

centered on this idea of change, and the motion and sound that accompany change. An

exhibit of Burchfield's work at the Montclair Art Museum in October 2017, titled

"Charles E. Burchfield: Weather Event," also paid tribute to Burchfield's inclination to

show change in weather and nature through his landscape paintings. Each of these

exhibits highlighted the artist's propensity for using brush strokes and his unique graphic

symbols for feelings and action. During the classroom lessons in this study, the

Burchfield paintings were included along with images *from* the VTS Curriculum for

second grade.

Images from the VTS Curriculum were purposely "selected and sequenced to

build experience as viewers that corresponds to [students'] growth as viewers, as

thinkers, and as peers interacting."[34] As the lessons progress, the "images increase in

complexity, ambiguity, subtlety, use of symbols and layers of meaning."[35] The VTS

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[33] "Works of Charles E. Burchfield: Transitions, *New Moon in January*," Burchfield Penney Art Center, accessed September 21, 2019, https://www.burchfieldpenney.org/collection/object:1994-001-013-new-moon-in-january/.

[34] "Individual Subscriptions, Take a Sneak Peek," Visual Thinking Strategies, accessed August 10, 2019, https://vtshome.org/product/individual-subscription/.

[35] "Individual Subscriptions."

protocol calls for the images to be presented in the order in which they are supplied. Images chosen also represent a variety of media and styles and are from many cultures around the world, as well as from different eras. This diversity of artwork is purposefully selected to help students become flexible thinkers; the purpose is to assist them in finding meaning in a variety of visual languages or styles. As the Visual Thinking Curriculum proposes, "When we talk about art, our eyes and minds work together to combine perception, logic, memory, reason, imagination, information and common sense. [Students] draw on [their] experience as well as [their] creativity and [they] find language to express ideas."[36]

After a purposefully selected image is displayed, a silent moment is allowed in which the students are to do nothing but look at the image. This allows students an opportunity to "begin the process of observing, inferring and meaning-making."[37] Yenawine adds that opening with silence allows students the opportunity to think on their own.[38] After a short time, perhaps twenth seconds in which each student has time to read the entire image, the first of three questions is posed.

The instructor is to ask, "What do you see in this picture?" In the first few VTS lessons, this question is posed rather than "What is going on this picture?" The first question is more supportive of inexperienced viewers, as it asks for nothing more than what is seen.[39] Once the students begin to make inferences about the picture in

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[36] "Facilitating a VTS Session," Visual Thinking Strategies, accessed September 7, 2019, https://vtshome.org/doing-vts/.

[37] "Facilitating a VTS Session."

[38] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 57.

[39] "Individual Subscriptions."

subsequent lessons, such as moving from "I see a boy" to "I see a boy who is angry," the instructor can follow up with the second question, "what is going on in this picture?" While these sentences may seem the same, the second question is designed to support a slightly "more sophisticated way of making meaning."[40]

The next question asked is "'What do you see that makes you say that?" This question should be asked whenever a student makes a comment. It requires students to do more looking and gather evidence to support their ideas. Having students look for evidence to back up their ideas parallels instructional strategies in language arts where students go back to a text to find supporting evidence for an opinion. Students also reread and restate to clarify and support what they have understood in text, which helps further comprehension skills. Likewise, it supports students' development of the "skill of fact-based reasoning and debate in any context."[41] To ensure neutrality in instructor responses, this question should be asked once per student and should be asked whether or not the instructor agrees with the student's opinion.

The next step is for the instructor to paraphrase student responses in developmentally appropriate language. Paraphrasing is a common instructional strategy and is beneficial for several reasons. First, "it ensures that everyone in the group hears each idea" and "underscores the fact that listening to and trying to understand others is important." Additionally, paraphrasing indicates that the instructor "has not just heard the students but has understood them," thereby encouraging students to continue to

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[40] "Individual Subscriptions."

[41] "Facilitating a VTS Session."

participate in the lesson. This also builds students' "sense of being valued and capable."[42]

Paraphrasing is also valuable in that it develops "clearer, crisper language, grammar, and

vocabulary," an invaluable tool for all students.[43] This is especially beneficial to those

who are first learning English. This practice also creates a discussion that is student

centered, in that students' comments are the thoughts being discussed, rather than the

thoughts of the instructor. Another important aspect of skilled paraphrasing is that it

exposes students to a wide range of new words and vocabulary. Students' comments

should also be connected to others' comments to build on each other's ideas, whether the

students agree or disagree. It is expected that the instructor's skill in paraphrasing will

improve throughout the course of the lessons in the same way that most instructional

practices improve over time.

After paraphrasing, the question "What more can you find?" should be asked.

This requires more examination of the image; it helps students to think beyond their first

impressions and can enrich the conversation. The use of "What more can you find?"

throughout lessons requires students to persevere and think more deeply. This question

should be asked throughout the lesson to further the discussion and support students in

finding deeper meaning in their responses.[44]

The instructor facilitates the discussion by listening carefully to hear what all

students have to say. It is important for the instructor to point to aspects of the image that

students mention and allow students to do the same. This ensures the instructor has

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[42] "Facilitating a VTS Session."

[43] "Facilitating a VTS Session."

[44] "Facilitating a VTS Session."

accurately heard what the student had to say and helps all students to see exactly what the student has referenced in the image. This practice encourages students to continue to actively participate and acts as a sort of "visual paraphrase."[45]

When teaching visual thinking, it is vital to emphasize the importance of considering all perspectives. Students' thinking is the element of value here, as opposed to the content of the students' thoughts. The instructor should treat all comments in the same way, with neutrality. As such, all comments are valued, and there are no right or wrong answers. Such a practice is very constructivist in nature and allows students to express and grab onto the interpretation that means the most to them. This, in turn, encourages further interest and learning.

After the implementation of eight VTS lessons, students were administered the standard end-of-the-year, on-demand, performance-based writing assessment utilizing the Lucy Calkins Writing Rubric. Students' writing was assessed and scored as was the beginning-of-the-year writing sample. In this dissertation, all writing scores are examined in terms of achievement and growth. Writing scores from the class that received the VTS lessons are compared to those of the class that did not participate in VTS. It is theorized that the students who were exposed to lessons on visual thinking will demonstrate more growth in their writing than will those who were not exposed. It is expected that skills gained in viewing, listening, and discussion will enhance students' language skills and will be transferred to the students' ability to compose language.

I received approval for this study from the Drew University Institutional Review Board (IRB). Permission and disclosure requirements, as set forth in the IRB process,

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[45] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 56.

were followed. This includes the use of a Drew University consent form as well as a permission form required by the school district in which the research took place. All participants also received a debriefing statement once the research was completed.

The elementary school where the research took place was closed to students effective March 16, 2020, due to the coronavirus pandemic. From that point on, all lessons were presented to students virtually through Google Classroom. As such, the VTS lessons scheduled for March, April, and May were all held virtually. No lessons were presented in March, and two lessons were presented in April, with the last lesson presented in May as originally scheduled.

I applied for, and was granted, a revision in the methodology to address the issue of lessons presented virtually. Prior to beginning remote lessons, revisions and changes to the IRB process were made and I received final approval for such from the Institutional Review Board. While this was an unusual circumstance and could not be avoided, there were some disadvantages to holding VTS sessions through an online format as opposed to in person. First, it was possible students would not attend the lessons, and fewer students would be participating. Second grade students often needed to rely on parental support to be able to log onto their devices and participate in their classroom lessons. As some parents were not available to assist with this during the school day, it was expected that fewer students would participate through this format. Additionally, some families have multiple children who have to share devices at home. As a result, not all students were available at the time of a live, synchronous lesson. Another disadvantage of virtual lessons was the quality of the image projections that students were to view. During in-person lessons, a large projection of the image from the VTShome.org curriculum was

presented. These projections were clear, detailed, and accessible to all students in class. One in-person lesson utilized poster-size replications of the images. Conversely, the image projected through the virtual classroom was only as large as the screen that a particular student's device could accommodate. Thus, it was expected that students may not be able to view and notice the artwork to the same degree they could in person. The third disadvantage was the change in discussion format while online. It can be difficult to facilitate a class discussion remotely, as students can be distracted by what is happening at home, or not have an adult present with them to refocus them and reinforce proper online etiquette, as eight-year-olds often need. In person, the instructor has the advantage of being able to "read" the students' faces, keep students engaged, and see who may have more to say or who might need some encouragement to speak up. Holding virtual class discussions with the same quality as in-classroom discussions is a challenging task.

Another aspect to consider is that the writing sample produced by students at the end of the year was completed online and at home, not in school. It is possible that this could affect the results, as some students may have had access to more adult support at home than there was at school in the fall. It is not known how much of the students' final writing assessment was truly their own work. I will not know the extent to which other people's hands were on the students' work. The reality is that I do not know if these influences had more of an impact on some students and less on others. Therefore, it will be assumed that the impact of these influences applied across the board to all students in each class. In addition, the final writing sample was word processed and not completed with pencil in hand. This could be an advantage to some students and a disadvantage to others depending on their keyboarding and handwriting skills.

This substance of this research is outlined in the following four chapters. Chapter 2 includes a summary of various definitions of visual thinking, an accounting of pertinent research on visual thinking in general, and research carried out specifically with the VTS protocol. The research discussed also addresses the impact of visual thinking on students and their learning. Chapter 3 includes replications of images utilized for each of the eight VTS lessons. This chapter also summarizes the VTS lessons in chronological order. This includes students' comments regarding each image presented as well as my reflections. Chapter 4 outlines the results of this research, which utilizes qualitative and quantitative data. The analysis includes the results of students' writing assessments as well as a discussion of students' reactions to the artwork and how these reactions reflect the development of their visual thinking. Chapter 5 summarizes the broad conclusions of the study as well as specific recommendations for school districts and educators in terms of ways to improve students' visual thinking and, as a result, their performance in school.

Chapter 2

WHAT IS VISUAL THINKING AND WHY DOES IT MATTER?

The concept of visual literacy is not a new one. The interpretation of visual

symbols and signs has been practiced throughout history. Pre-historic cave paintings in

Lascaux, France, are examples of visual images created to communicate with others long

before the concept of visual literacy was uttered by anyone. Rune Pettersson, a Swedish

researcher and Professor of Information Design, points to Aristotle's use of illustrations

to teach medicine and Pythagoras' use of images in geometry lessons to show that

discussions about the use of images have been occurring throughout history.[46] Through

the centuries, technological innovations have offered more opportunity for individuals to

access and interpret images. From the invention of photography in the early twentieth

century, to the exponential growth of digital images today, the images that surround

society cannot be ignored. Because of the increasing prominence of images in our daily

lives, the question of how humans interact with and interpret these images has become

worthy of consideration and research.

Despite the long history of discussions surrounding visual literacy, there is yet to

be a commonly agreed upon definition of visual literacy. Most researchers agree that

visual literacy is a broad concept that encompasses many different capacities and skills.

As visual literacy is relevant to many disciplines including science, education, art history,

design, film, and cinema, researchers and professionals in these fields have formulated

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[46] Rune Pettersson, "Views on Visual Literacy," *Journal on Images and Culture*, no. 1 (February 2013): 1, http://vjic.org/vjic2/?page_id=214.

definitions most relevant to them. Despite these discipline-specific definitions, at present, there is no agreement on a universal definition of the term.

John Debes, the co-founder of the International Visual Literacy Association (IVLA), has been credited with creating a definition of the term in 1969. According to Avgerinou, Debes defined the term as:

> … a group of vision competencies a human being can develop by seeing and at the same time having and integrating other sensory experiences. The development of these competencies is fundamental to normal human learning. When developed, they enable a visually literate person to discriminate and interpret the visual actions, objects, and/or symbols, natural or man-made, that he encounters in his environment. Through the creative use of these competencies, he is able to communicate with others. Through the appreciative use of these competencies, he is able to comprehend and enjoy the masterworks of visual communications.[47]

Despite knowing it was a bit premature to offer a definition, Debes presented this rather broad interpretation. He compared visual literacy to an amoeba, an animal which moves about by extending fingerlike extensions in many directions.[48] In other words, Debes seemed to be aware that a definition of visual literacy would be moving in different directions, changing and evolving. Avgerinou and Ericson, who have written on developing a concept of visual literacy, challenged this definition as "too expansive and somehow misleading."[49] They also believed a more accurate description would

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[47] Avgerinou and Ericson, "Concept of Visual Literacy," 281.

[48] Avgerinou and Ericson, "Concept of Visual Literacy," 281.

[49] Avgerinou and Ericson, "Concept of Visual Literacy," 281.

distinguish between visual and verbal literacy.[50] In 1984, David Bieman challenged Debe's definition and claimed that its flaw was that it "does tell us what a visually literate person can do, but not what visual literacy is."[51]

Hailey, Miller, and Yenawine have noted that the strength of Debe's definition is that it refers to visual literacy as something that develops.[52] Visual literacy, they claim, is "acquired and enhanced by dint of effort, exposure, and, ideally, guided experience."[53] If this is so, it seems that visual literacy is not elusive but rather something that can be taught. This is good news indeed, especially as one considers the development of visual literacy in the classroom.

Numerous definitions have followed since Debe's without consensus. Avgerinou put forth a definition that says "visual literacy refers to a group of largely acquired abilities, i.e. the abilities to understand (read) and use (write) images, as well as to think and learn in terms of images."[54]

Lynn J. Ausburn and Floyd B. Ausburn provided a definition that included intention as a requirement. They define visual literacy as "a group of skills which enable an individual to understand and use visuals for intentionally communicating with others."[55] They went further to claim that formulating a definition of visual literacy has

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[50] Avgerinou and Ericson, "Concept of Visual Literacy," 281.

[51] Avgerinou and Ericson, "Concept of Visual Literacy*,"* 281.

[52] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 51.

[53] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 51.

[54] Maria D. Avgerinou, "Toward a Cohesive Theory of Visual Literacy," *Journal of Visual Literacy* 30, no. 2 (January 2011): 7.

[55] Lynn J. Ausburn and Floyd B. Ausburn, "Visual Literacy: Background, Theory and Practice," *Programmed Learning and Educational Technology* 15, no. 4 (June 1978): 291–297, https://www.tandfonline.com/doi/abs/10.1080/0033039780150405.

become more complicated as researchers from more disciplines and subject areas have

become interested in and are expanding the definition to meet their particular needs.[56]

Avgerinou and Ericson call this the "pluralistic theoretical basis" of the idea and offer the

following as an example of why it is so difficult to come up with one universal definition:

> Defining visual literacy is comparable to the problem the six blind men faced
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> when describing an elephant. The man who felt just the side of the elephant
>
> described the animal as being like a wall, while the man who felt the tusk said the
>
> elephant was like a spear. The men who felt just the trunk or tail or ear or leg
>
> were certain the elephant was like a snake, a rope, a fan, or a tree. Their
>
> description depended on the part they were examining. Visual literacy is also
>
> different things depending on one's viewpoint.[57]

Avgerinou and Ericson go further and list some of the many disciplines that have

contemplated a definition including art, philosophy, linguistics, psychology, sociology,

anthropology, educational technology, and more.[58] It is understandable that there is

difficulty in developing one widely accepted definition with so many divergent points of

view.

John Warren Stewig claims that being literate must include an ability to "decode

messages in pictures, and to encode our finding in verbal language."[59] He claims

educators must teach children how to "read" visual input; students must be able to extract

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[56] Ausburn and Ausburn, "Visual Literacy," 291.

[57] Avgerinou and Ericson, "Concept of Visual Literacy," 283.

[58] Avgerinou and Ericson, "Concept of Visual Literacy," 283.

[59] John Warren Stewig, "Book Illustration: Key to Visual and Verbal Literacy" (paper presented at the 20th annual meeting of the International Reading Association, New York, NY May 13–16, 1975): 2.

"meaning and interact with what is extracted."[60] Laura Fattal, in her research on

illustrator studies with undergraduate teacher training programs, defines visual literacy as

"the ability to interpret, negotiate, and make meaning from information presented in the

form of an image."[61] Visual literacy, as she judges, is a "more and more highly prized

skill in our educational landscape."[62] Similarly, a definition offered today by the IVLA is

"the ability to read, write and create images."[63] The Association of College and Research

Libraries offers a definition of visual literacy as "a set of abilities that enables an

individual to effectively find, interpret, evaluate, use, and create images and visual

media."[64] These definitions all focus on skills that are developed and taught in elementary

school.

The purpose of this dissertation is to explore and support the development of

visual literacy in second grade students. For the purposes of this study, I embrace the

definition of visual literacy as stated by Yenawine, the co-author of the VTS curriculum.

According to Yenawine, "Visual literacy is the ability to find meaning in imagery."[65]

Yenawine elaborates further, stating that visual literacy "involves a set of skills ranging

from simple identification (naming what one sees) to complex interpretation on

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[60] Stewig, "Book Illustration*,"* 2.

[61] Laura Fattal, "What Does Amazing Look Like? Illustrator Studies in Pre-Service Teacher Education," *Journal of Visual Literacy* 31, no. 2 (2012): 18.

[62] Fattal, "What Does Amazing Look Like," 18.

[63] "What is Visual Literacy," Visual Literacy Today, accessed March 23, 2019, https://visualliteracytoday.org/what-is-visual-literacy/.

[64] "ACRL Visual Literacy Competency Standards," Association of College and Research Libraries, accessed March 5, 2019, http://www.ala.org/acrl/standards/visualliteracy.

[65] Philip Yenawine, "Thoughts on Visual Literacy", Visual Thinking Strategies, accessed February 5, 2019, https://vtshome.org/aesthetic-development/.

contextual, metaphoric and philosophical levels. Many aspects of cognition are called

upon, such as personal association, questioning, speculating, analyzing, fact-finding, and

categorizing. Objective understanding is the premise of much of this literacy, but

subjective and affective aspects of knowing are equally important."[66] This definition is

most relevant to the research discussed in this study. The range of these abilities, from the

simple to the complex, is further detailed in Abigail Housen's Stages of Aesthetic

Development.[67]

      This set of skills to which Yenawine refers, specifically complex interpretation,

points to the ability to think critically about images, or visual thinking. Visual thinking is

a skill that is required in order to develop and enhance visual literacy. In much the same

way that reading and writing are required skills if one is to be considered linguistically

literate, the ability to think critically about images is necessary for a person to become

visually literate.

      How, then, does visual thinking come into play in the development of visual

literacy? This is something Housen explored in her research. Housen investigated the

skills involved in becoming visually literate, and her interests lay mainly in how viewers

process and interpret what they see in art. She was aware that visual literacy involved

interaction in both the natural world and the man-made world, such as art. Her premise,

however, was that viewing art was a "particularly complex form of visual stimulus" and

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[66] Yenawine, "Thoughts on Visual Literacy," 1.

[67] Abigail Housen, "Eye of the Beholder: Research, Theory and Practice" (paper presented at the conference of Aesthetic and Art Education, A Transdisciplinary Approach, Lisbon, Portugal, September 1999): 9–12.

as such was an excellent place to study thinking skills involved with visual literacy.[68]

Hailey, Miller, and Yenawine agree, stating, "Art usually includes a certain amount of recognizable information, but it is intentionally ambiguous and layered with meaning, creating the impetus for searching beyond the obvious over the course of extended, thoughtful examination."[69] It would appear that viewing art would be an excellent opportunity to study visual thinking skills.

Housen's work was influenced initially by that of developmental psychologist Jean Piaget, and later by the work of other Harvard researchers of the time including Lawrence Kohlberg. Both Kohlberg and Piaget posited theories of development based on stages. Piaget developed Stages of Moral Development on which Kohlberg expanded. Housen, too, created a theory of development based on stages. In her research, Housen spent considerable time focused on the novice viewer, assuming that is where most of the teaching and learning would occur.[70] Housen attempted to understand how viewers create meaning from works of art. Her goal was to make clear the process by which viewers come to interact with art and create their own meaning. An important aspect of her research was her underlying assumption that an inexperienced viewer approached and interpreted an image in a much different manner than a more experienced, or expert, viewer.

In 1970, Housen began researching how viewers interact with objects in the visual arts. The process she employed included interviewing hundreds of subjects while they

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[68] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 52.

[69] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 52.

[70] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 52.

looked at art. She developed the Aesthetic Development Interview, a procedure whereby a viewer would speak freely about what she sees while viewing art. After numerous interviews over years, the notes from interviews were transcribed and studied. From this, Housen categorized each into separate "units of thought" which she eventually categorized into her developmental stages.[71]

Housen created thirteen domains that included "observations, preferences, associations, evaluations, negative or positive comprehension and questioning."[72] Upon further analysis, Housen developed thirteen subcategories from each domain. All interviews were then assigned to specific categories. From this research, Housen noted that people with different experiences in viewing art presented different patterns in how they thought about art.[73] Housen determined that these patterns represented different sequential stages in thinking about art. Her theory of Aesthetic Development thus contained five sequential stages.

There is one significant difference between Housen's Stages of Aesthetic Development and Piaget's Stages of Moral Development. Piaget's theory is that moral development happens naturally over time through growth and maturation. Housen claims that movement from one stage of aesthetic development to another requires time spent viewing art, what she calls "eyes on canvas."[74] As Housen spent time with viewers of various levels of experience with art, she noted that those at the higher stages of aesthetic

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[71] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 53.

[72] Hailye, Miller, and Yenawins, "Understanding Visual Literacy," 53.

[73] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 53.

[74] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 53.

development were those with more experience with looking at art; they had spent more time with their eyes on the canvas. Movement from stage to stage, as Housen tells it, requires purposeful practice and support. This development will not naturally occur through growth and development.

Housen did not desire to understand how to pass on "expert" knowledge on how an image should be viewed but rather to understand how a viewer came to create their own meaning from works of art.[75] As such, Housen takes a constructivist approach to understanding aesthetic development.[76] The constructivist approach in education holds that effective instruction is not the passing on of knowledge from one who knows to one who does not; it is much more than that. Effective teaching and learning happens when a learner is able to make their own connections to new material, connections that are relevant to the learner. Thus, the learner comes to an understanding that is new and specific. This is true across subjects areas, whether the learner is viewing artwork, reading a novel, or understanding an event in history. The intent in aesthetic development is to expose the learner to an image and allow this constructivist process to take place.

Housen's research method included the use of data collected by means of " a non-directive stream-of-consciousness interview."[77] After collecting examples of viewers' responses to images, she looked for patterns in the responses. Her protocol for examining viewers' responses included the following:

Focus on the novice viewer;

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[75] Housen, "Eye of the Beholder," 5.

[76] Housen, "Eye of the Beholder," 5.

[77] Housen, "Eye of the Beholder," 6.

Look at concrete, moment-to-moment thoughts;

Search for frames of understanding that may unfold in a sequence;

Expect learners to learn through active experience;

Tread lightly in research, trying to disrupt as little as possible, directly capturing

the aesthetic response, keeping an open mind about patterns found, but being

tough minded in reaching conclusions and attempting to apply data. [78]

Housen coded responses into "thought Domains" and "categories," examples of

which are observations, associations, preferences, and comparisons.[79] Consider the

following comments regarding an image: "the dress is blue," "the blue dress reminds me

of a dress I had," "I like blue," or "this blue is lighter than that blue." Housen would

claim that while each of these statements is about color, each is quite different from the

others.[80] The statement "The dress is blue" is clearly an observation, while the comment

about the dress reminding the viewer of another dress is an association. Expressing like

for the color blue is a preference, and comparing the color blue to another color blue is a

comparison.

Within this domain, Housen would categorize responses further. As she explains,

"A viewer who says, 'I like the painting because purple is my favorite color' is offering a

different kind of justification for his/her preference than the viewer who says, 'I like the

painting because purple is an interesting unifying color.'"[81] Those distinctions seem clear

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[78] Housen, "Eye of the Beholder," 6.

[79] Housen, "Eye of the Beholder," 7.

[80] Housen, "Eye of the Beholder," 7.

[81] Housen, "Eye of the Beholder," 7–8.

as the former is simpler than the latter, which requires a more sophisticated understanding of images.

As viewer responses were coded and categorized, Housen was able to assign a developmental stage to each viewer's pattern of thoughts and responses. Theses stages progress from new and inexperienced viewers to experienced and expert viewers. The five stages of aesthetic development created by Housen are Accountive, Constructive, Classifying, Interpretive, and Re-Creative.[82]

In Stage I, Accountive viewers create a narrative and tell a story. Housen explains that this is a stage of storytelling. The viewer creates a somewhat "quick interpretation" of the image and creates a story based on what has been viewed. This story is specific to the viewer and is based on the particular experiences and knowledge of the viewer. Viewers at this stage rather easily create a narrative of what is going on in the image.[83]

The viewer at Stage II, Constructive, may appear to have a similar response to the viewer at Stage I, but a further look indicates that this viewer makes several observations that may not be as simple. Comments from a Stage II viewer indicate an interest in how the image was created and address whether the image aligns with the "viewer's familiar culture" including "their language, art, history, religion or customs."[84] At this stage, the viewer begins to demonstrate an understanding of the artist's purpose and attempts to

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[82] Housen, "Eye of the Beholder," 9–11.

[83] Housen, "Eye of the Beholder," 9.

[84] Housen, "Eye of the Beholder," 14.

explain why the image was created in particular way. This viewer has moved from storytelling to a more detailed description of the image.[85]

In Stage III, Classifying, a viewer "adopts the analytical and critical stance of the art historian."[86] Viewers at this stage attempt to place the image in terms of its place, school, style, and time. Using their understanding of art, they attempt to correctly classify the meaning and message of the art.

Interpretive viewers, those at Stage IV, "seek personal encounter with the work of art."[87] Many of these viewers attempt to uncover the meaning of the image utilizing their feelings or intuitions. Viewers at Stage IV are aware that pieces of art can be re-interpreted and open themselves up to revising and changing their own perspectives as they go about attempting to connect to the artwork.[88] Stage IV viewers may comment on a work as in the style of a particular artist or school. For example, a viewer may say a painting is impressionistic and suggest it was created by Monet.

Re-Creative viewers, those in Stage V, have much experience viewing and analyzing works of art.[89] These viewers are more sophisticated based on their history of interacting with artwork. They may have had previous encounters with a work of art and approach it differently each time. Each encounter with a particular image may create a new interpretation. Stage V viewers look at a particular artwork as an "old friend who is

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[85] Housen, "Eye of the Beholder," 9–10.

[86] Housen, "Eye of the Beholder," 10.

[87] Housen, "Eye of the Beholder," 10–11.

[88] Housen, "Eye of the Beholder," 11.

[89] Housen, "Eye of the Beholder," 11.

known intimately, yet full of surprises."[90] Most viewers at Stage V are art historians or art critics.

Viewers cannot arrive at Stage V without passing through the previous four stages, much in the same way that one must crawl before they walk, and walk before they run.[91] However, most people learn to run without instruction. The same cannot be said for developing the skills of aesthetic response. Surprisingly to me, Housen tells us most adult viewers are in or near Stage II. Viewers do not automatically move from one stage to another; they must be helped along. Without intentional instruction in viewing images, most viewers remain at beginning stages for their adult life. It is interesting to consider that "despite the plethora of images people encounter daily, they show little advancement in range or scope of observations habitually made, and little development in terms of thinking."[92] Furthermore, Housen found that most adults within Stage III to Stage V have spent much time actively involved in making, collecting, or studying art.[93]

As a result of these findings, Housen decided to develop a way to scaffold viewers from one stage to the next.[94] It became apparent that viewers must be supported to move from receiving information about art to actively discovering and constructing meaning.[95] Thus, the VTS protocol was born.

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[90] Housen, "Eye of the Beholder," 11.

[91] Housen, "Eye of the Beholder," 15.

[92] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 54.

[93] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 54.

[94] Housen, "Eye of the Beholder," 16.

[95] Housen, "Eye of the Beholder," 16.

The purpose of the VTS curriculum was to move viewers from Stage I further up the developmental ladder to facilitate viewers' ability to interpret and communicate through images. This is particularly important in our image-laden society. However, it was discovered that many additional benefits were derived from improvement in visual literacy. The skills learned through exposure to the VTS protocol have been transferred to several other areas including reading, writing, science, math, and overall school achievement. This protocol has also shown to be helpful to students who are not strong readers or writers; students for whom English is a second language; and students who otherwise may not be able to access, or decode, grade-level text. Benefits have also been shown in students' ability to participate in discussions and their understanding of different points of view.

Housen informs us that viewers' thinking is "characterized by a spectrum of thoughts, with those of one stage intermingled with adjacent stages."[96] That is, each student in a group cannot be placed on a particular point on the developmental scale but rather represents a range within the scale. Housen also tells us that while it may be difficult to pinpoint the exact developmental level of a group, it is more important to accurately determine the overall level of the group.[97] It is assumed that the second grade students in this research are beginning their journey as viewers at Stage I. They will be supported in their journey to become more skilled aesthetic viewers, and move through the hierarchal Stages of Aesthetic Development through the use of VTS.

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[96] Housen, "Art Viewing," 14.

[97] Housen, "Art Viewing," 14.

Much research has been carried out to indicate that improving the visual literacy of students can be significant in increasing learning in school. Eisner stipulated that "We write as much with our eyes and ears as we do by following the rules of grammar and logic. Children who have not learned how to see will not be able to write, not because they cannot spell, but because they have nothing to say."[98] Teaching students to see will increase their capacities to think. As language arts educators know, writing is thinking. Therefore, it follows that the more we can teach students to think, the better they will be able to write.

Emilie Sears discusses the parallels and interrelatedness of the visual and language arts in her research on the role of art in writing development in children. Looking to support students who were struggling writers, she implemented the use of images as inspiration for students' written expression.[99] Focusing on the step of prewriting in the writing process, Sears worked with students who were referred to the school's reading specialist for writing assistance. During art class, students created abstract paintings inspired by Wassily Kandinsky. These paintings were the stimulus for students to compose free-form poetry. Students' poetry at the end of the twelve-week program indicated a high level of achievement in terms of ideas, organization, fluency, voice, word choice, and conventions of writing.[100] While these results seem to indicate the use of art as a pre-writing tool can be beneficial, it must be noted that other factors

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[98] Elliot Eisner, "Mind as Cultural Achievement," 471.

[99] Emilie Sears, "Painting and Poetry: Third Graders' Free-Form Poems Inspired by their Paintings," *Journal of Inquiry and Action in Education* 5, no. 1 (2012): 17.

[100] Sears, "Painting and Poetry," 38.

could have influenced the results. These include the small group setting, teacher rapport with students, and the poetry lessons themselves.[101]

Kristy Brugar and Katheryn Roberts studied ways for elementary teachers to best present visual materials in social studies to enhance teacher practice and student learning. This research looked at what pedagogical approaches were effective in teaching social studies through non-fiction text. Social studies texts are, as are most non-fiction texts, filled with various graphic devices and images, including images with captions, maps, tables, and timelines, to name just a few. The question they asked was: What is the most effective way to present these visuals to facilitate student comprehension? The researchers point out that most textbooks students read are "replete with graphical devices, and that simply being able to *see* these graphical devices does not ensure comprehension."[102] Here, the researchers agree with Housen that students will not naturally know how to interpret these visuals but must be explicitly taught.

Research by Stewig to explore the development of visual literacy among first-grade children in urban and suburban settings utilized artwork of two stylistically different artists, Winslow Homer and Paul Klee. The researcher intentionally selected artwork with two different artistic styles: a more realistic painting by Homer and an abstract work by Klee. However, the artwork selected was purposely similar in medium: both paintings selected were watercolors. Before and after receiving visual literacy instruction weekly throughout one school year, students were asked to respond to one of the two paintings. Students were tape recorded as they orally described what they saw

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[101] Sears, "Painting and Poetry," 38.

[102] Kristy Brugar and Kathryn Roberts, "Seeing is Believing: Promoting Visual Literacy in Elementary Social Studies," *Journal of Teacher Education* 68, no. 3 (2017): 272.

and then created a narrative, or story, about what was going on in the painting. The data collected quantified the number of sentences and total number of words. In addition, a quality measurement of the number of different words used, out of a total number of words, was calculated.[103]

Results indicated that urban children were able to express ideas in more language when first exposed to artwork discussion than were suburban children. Conversely, suburban children produced a greater number of sentences and words than urban students over time.[104] This is relevant for educators in that it indicates improvement in the use of language could result from engaging elementary students in discussions about art. This should also encourage educators in urban schools to continue, or start, to engage students in discussions about art as a way to enhance language.[105]

Interestingly, students more often selected to comment on the abstract Klee painting than the realistic Homer painting after they had been exposed to visual literacy instruction. However, it is possible that this increased comfort with abstract images does not come from a preference for abstractness of the art but rather comes from students' increased skill in thinking about and discussing art. Leni and Neil J. Salkind found a similar preference for abstract art in their study on gender and age differences in art preferences. Elementary age students were asked to select a favorite image from a set of six images, of similar content, which were randomly displayed. Each set of images ranged along a continuum from realistic to abstract. Overall, students demonstrated a

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[103] John Warren Stewig, "First Graders Talk About Paintings," *Journal of Educational Research* 68, no. 5 (May/June 1994): 311.

[104] Stewig, "First Graders Talk About Paintings," 312.

[105] Stewig, "First Graders Talk About Paintings," 315.

preference for abstract images.[106] These results are important for educators to consider, as Stewig notes the visual stimuli present in elementary schools tends to be realistic. The reason for this, he suggests, is that the choice of what type of artwork to display in an elementary school "is based on adults' perceptions of what children like and understand, rather than on an extensive body of research to support such a choice."[107] Educators should take note of this.

In an effort to further establish how children respond to artwork, Stewig explored how young students view and respond to pictures. He worked with first- and fourth-grade students in a suburban private school which provided weekly art classes that focused almost exclusively on creating art, rather than viewing or responding to art.[108] Students were exposed to four different versions of the Noah's Ark story over a period of two weeks. They were asked to make predictions about the story and the art based on viewing the books' covers, participate in discussion about the stories, select a favorite of the four books, and write about the reasons why.[109]

Most of the comments students made centered on literary elements in the story: plot, characters, setting, conflict, and conclusion. It seemed they were utilizing the images to help them understand the story and text. This is a commonly taught strategy of elementary educators. While students did comment on visual elements in the book

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[106] Leni Salkind and Neil J. Salkind, "Gender and Age Differences in Preferences in Works of Art," *Studies in Art Education*, 38, no. 4, (1997): 253.

[107] Stewig, "First Graders Talk About Paintings," 312.

[108] John Warren Stewig, "Children's Observations about the Art in Picture Books," in *Imagery and Visual Literacy: Selected Readings from the 26th Annual Conference of the International Visual Literacy Association*, ed. Darrell G. Beauchamp, Roberts A. Braden, and Robert E. Griffin (Internationsl Visual Literacy Association, 1994), 2.

[109] Stewig, "Children's Observations," 2.

illustrations, these comments were mostly tied to further understanding of the text. Stewig concluded that the students did not have many experiences in talking about visual elements in and of themselves. Indeed, these responses align with viewers at Stage I in Housen's Theory of Aesthetic Development in that they are engaging in storytelling. Stewig recommends purposeful instruction in visual literacy to support students' ability to talk about artwork with a variety of comments.[110]

To investigate ways to enhance visual literacy instruction in schools, Fattal conducted a one-semester pilot study with undergraduates in a teacher training program in New Jersey. The purpose was to develop pedagogical strategies designed to enable elementary students to become more visually literate. The images used in the study were from Caldecott-winning illustrated children's books.[111] Such illustrator studies addressed the requirement to provide instruction in both visual and performing arts and elementary level language arts, as dictated by New Jersey standards.[112] Fattal makes note of the practice of elementary educators routinely utilizing well-illustrated children's books to enhance students' attention to literary elements.

Through guided discussion and analysis of illustrations, undergraduate teacher candidates were able to "enhance their own visual literacy skills."[113] They were assessed on comparing and contrasting illustrator styles, researching illustrators for their choice of artistic style and story selection, analyzing how the illustrator style supports the text, and

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[110] Stewig, "Children's Observations," 9.

[111] The Caldecott Medal recognizes the best children's picture book of the year.

[112] Fattal, "What Does Amazing Look Like," 18.

[113] Fattal, "What Does Amazing Look Like," 31.

determining how a reordering of the words and illustrations could alter the story

meaning.[114] Fattal claims the introduction of visual literacy skills to the teachers of

tomorrow can provide a broad range of improved thinking and viewing skills for their

students. That seems to be common sense.

There is a large amount of research on visual literacy that specifically includes the

use of the VTS protocol. VTS were initially implemented at MOMA in 1991.[115] At the

request of Yenawine, the director of educational programs at MOMA, Housen set out to

determine if visitors were gaining real learning from the educational programs at the

Museum.[116] Housen employed the VTS based on her Theory of Aesthetic

Development.[117]

Yenawine reasserts Housen's view that people with "different experiences think

differently" about art and "apply what they know from their own lives to make sense of

what they see."[118] Yenawine embraces the constructivist approach that learners use their

own schema to understand things they do not know. This approach, to which I subscribe,

in effect believes that students come to school dragging a laundry bag of their own life's

experiences. It is through sorting through this laundry, or experiences, that each student

creates or constructs their own learning. This, in turn, allows students to create meaning

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[114] Fattal, "What Does Amazing Look Like," 31.

[115] Yenawine, *Visual Thinking Strategies*, viii.

[116] Yenawine, *Visual Thinking Strategies*, 3–4.

[117] Housen, "Eye of the Beholder," 9–12.

[118] Yenawine, *Visual Thinking Strategies*, 5.

that is relevant to them. Fattal supports this as well when she suggests visual literacy connects students' life experiences with the images they "read."[119]

VTS is a question-based method, or teaching strategy, facilitated through discussions, that focuses on students' growth in their ability to think critically. It is expected that as students participate in VTS discussions they will be digging through their own laundry bags and creating new thoughts. VTS does not tell students what to "see" in images. The purpose is not to teach particular concepts about the images presented but rather to support students in seeing more. Similar to a math teacher understanding that the process through which a student comes to an answer is more important that the answer itself, Yenawine understands that giving learners the answer to a problem does not provide real learning.[120] The goal is not to pass on expert knowledge about images to unlearned subjects. When speaking about viewers, Yenawine states it is "not what they know, but how they use what they know" that is important.[121] Providing learners with the skills to acquire knowledge through their own efforts, and by use of their own thinking, is the basis of VTS. In the same way that Calkins says we "teach the writer, not the writing," with VTS, we teach the viewer, not the image.[122]

Housen tested the impact of VTS in several disciplines with students from elementary school through the university level and from a variety of backgrounds. She completed several studies on the VTS curriculum, including those at MOMA in New

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[119] Fattal, "What Does Amazing Look Like," 18.

[120] Yenawine, *Visual Thinking Strategies*, 5.

[121] Yenawine, *Visual Thinking Strategies*, 5.

[122] Calkins, Hohne, and Robb, *Writing Pathways*, 14–15.

York City; St. Petersburg, Russia; Vilnius, Lithuania; Byron, Minnesota; and San Antonio, Texas.[123]

In Byron, Minnesota, a formal academic longitudinal study was completed in a semirural school. Students in two cohorts were studied over a period of four years; students in grades two through six and students in grades four through eight. During this time students were able to spend thirty hours with their "eyes on canvas" as they participated in the VTS lessons. Before and after students' exposure to the VTS protocol they were administered an assessment to determine their stage in Housen's Stages of Aesthetic Development. All students in the study grew by one stage in the course of three years. The same results held true for students in an urban school in San Antonio, Texas. This particular group of students were in grades three through five and were initial learners of English.[124]

Significantly, these students demonstrated growth in a wide range of visual thinking skills. Some of the behaviors associated with visual thinking that also showed growth were the ability to back up inferences with evidence and to speculate between different interpretations of art. These are skills that are normally associated with Stage II of Aesthetic Development. Additionally, students were able to transfer these skills from images to objects that were not considered art, such as objects from science and unfamiliar tools. Housen developed a "Material Objects Interview" in which students

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[123] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 58.

[124] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 59.

who had received instruction in VTS were able to view unfamiliar objects and speak about them at length.[125]

The students in the Byron study also showed strong improvement on standardized tests. The groups subjected to the VTS protocol demonstrated scores on the Minnesota Achievement tests that increased 2.5 times the state average compared to students who did not participate. Housen attributed this to the ability of the students to transfer their thinking skills to other aspects of school.[126]

Housen also carried out two federally funded studies with schools utilizing the VTS protocol. One elementary school in Massachusetts participated in conjunction with the Isabella Stewart Gardner Museum in Boston and another school through the Wolfsonian FIU Museum in Miami, Florida. In each study, students in kindergarten through grade six spent thirty hours with their "eyes on canvas" over three years. The results of these studies indicated a similar impact as the study in Byron. Students demonstrated an increase in their ability to think critically. They showed an increased ability to observe, infer, and provide evidence to support their inferences. In addition, they were able to talk or write about artwork much longer in their post interviews and post writing samples.[127] This is significant in that a writing goal for second grade students is to increase stamina for time spent writing.

Housen also found that the students in Minnesota, Massachusetts, and Florida viewed the images longer, had more to say about what they viewed, and displayed a

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[125] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 59.

[126] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 59.

[127] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 59.

wider range of thought than those not subject to the VTS protocol. Thus, Housen claimed that thirty hours of viewing over three years can consistently help students to grow from Stage I to Stage II.[128]

The results from two studies of students involved in healthcare training programs paralleled what was found in the elementary school studies. Students at Harvard Medical School were involved with a ten-week program that included VTS instruction intertwined with clinical instruction. Results showed an increase in the frequency of observations as well as the use of evidence to back up interpretations. A pilot study at Robert Wood Johnson Medical School in New Jersey offered students an opportunity to participate in one three-hour VTS session. Participating students did not demonstrate any increase in the frequency of their observations as compared to non-participants. Hailey, Miller, and Yenawine claimed that this highlights the developmental nature of attaining visual literacy skills. The three hours of instruction were not enough to facilitate visual thinking growth. More time with "eyes on canvas" was needed to support growth.[129] These two studies also demonstrated a link between VTS and its effect on language development. Participants in these studies used more comprehensive descriptions of images, both artwork and clinical images. Their post study writings also included an increase in the use of "speculative language, visual analogies and in the scope of interpretations" when writing about images.[130]

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[128] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 59.

[129] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 59–60.

[130] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 59–60.

A study at the University of Texas Health Science Center in San Antonio utilized three ninety-minute sessions with medical and nursing students. Examination of participants' responses to artwork and clinical images indicated an increased ability for students to "describe what is perceived and to separate fact from inference and the understanding that observation takes time."[131] These skills are required and of much importance in successful clinical observation.

In a study with nursing students in Indiana, two main outcomes became apparent. The nursing students reported "feeling safe in their learning" as well as "thinking and seeing differently" after exposure to the VTS protocol.[132] Post VTS, participants indicated they were able to express differences of opinions without judgment or criticism and had the additional positive experience of being able to change their opinions based on observations by other members of the group.[133] Similar findings were indicated in a study with social workers at the University of North Carolina at Chapel Hill. The VTS protocol was implemented during diversity training for the subjects. Participants reported shifts in awareness and perspective-taking as well as "more complex thinking about Latina/Latino immigrants."[134] These results are significant in that an anticipated benefit of implementing VTS in my school district will be an opportunity for students to express opinions without judgments and be subjected to an environment where they can express and hear differing opinions that are neither right nor wrong.

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[131] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 60.

[132] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 60–61.

[133] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 60–61.

[134] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 61.

Yenawine claims that the addition of VTS into classroom practice can "increase class participation and student engagement while deepening the thinking, language ability, writing skills, and visual literacy" of students.[135] Housen's study with elementary students in rural Minnesota showed similar results. It indicated improvement in critical thinking ability and "enabled its transfer to other context and content."[136] Data from this study indicate that the "mean critical thinking score of the experimental group at the end of Study Year V was more than twice that of the control group."[137] This indicates a significant improvement in critical thinking.

Yenawine presents further research that indicates the implementation of VTS with students in Florida was correlated with signigicantly higher test scores. He clarifies this to say that, due to the growth of higher-level thinking skills gained from the VTS lessons, students' test scores increased on those tests that were based on the Common Core and those that required higher-level thinking skills.[138] This increase in test scores was not seen in assessments that included only right or wrong or multiple-choice questions.

Housen's research also highlights a fascinating finding: students who participated in VTS lessons, and demonstrated growth in their thinking skills in the spring, appeared to have retained those skills at the start of the next school year in the fall. Housen found that, through VTS, the "arc of growth is continuous over a multiyear period."[139] This is encouraging news for teachers everywhere to know that students have not forgotten what

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[135] Yenawine, *Visual Thinking Strategies*, vii.

[136] Housen, "Aesthetic Thought," 99–100.

[137] Housen, "Aesthetic Thought," 109.

[138] Yenawine, *Visual Thinking Strategies*, 78.

[139] Yenawine, *Visual Thinking Strategies*, 79.

they learned the previous year. Perhaps VTS can be a cure for the "Summer Slide," the term educators give to the loss of learned material over the school break in the summer.

Yenawine also points out the advantages that VTS offers for students who are learning English. There are several reasons for this, and the first he cites is the visual nature of the lessons. The children are able to see what they are discussing as the instructor "anchors the spoken comments in imagery."[140] That is, the teacher of VTS points to the image as comments are made, and students can keep their eyes on what the class is discussing. VTS lessons also provide opportunities for students to listen to their peers. When elementary students discuss what they are seeing and what they are trying to figure out, they do so in developmentally appropriate ways. These comments are accessible to their peers and serve to draw them into the exercise of puzzling about the image. The instructor's paraphrasing of each comment provides new vocabalury and language experience, an excellent way to model proper use of language.[141] All of these advanatges suggest that VTS lessons would be very supportive of all students and especially those acquiring language.

Eun Yeom's research in Korea focused on the use of VTS to improve secondary students' ability to write in English, which was a second language for the students. The researcher implemented the VTS protocol paired with images from children's picture books. The researcher/teacher applied this guided discussion protocol with students in a voluntary after school book club. Results indicated that students were able to make

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[140] Yenawine, *Visual Thinking Strategies*, 119.

[141] Yenawine, *Visual Thinking Strategies*, 119.

improvements in their ability to think critically, which was subsequently transferred to their writing.[142]

Karin DeSantis reported on the implementation of VTS at Ripton Elementary School in conjunction with the Middlebury College Museum of Art. Ripton Elementary School teachers were trained in VTS protocols by the curator of education at the Middlebury Museum of Art in Middlebury, Vermont. A primary goal of the project was to enable teachers to observe and collect data to document their students' growing abilities to think and communicate. Additionally, the project sought to improve teachers' abilities to reflect on their practice.

After the first year of VTS implementation, there was evidence that students had improved their skills in art viewing, thinking, and communication.[143] In addition, teachers reported that they applied the questioning protocol in subjects other than art and noticed students' use of the VTS skills in other subjects beyond the specific VTS lessons.[144] The results of this three-year collaboration demonstrated growth of viewing, thinking, and communication skills in students. Teachers who participated in the study also reported that critical thinking skills seemed to have transferred to students' writing. DeSantis also reported that the use of VTS resulted in improved teacher practices overall.[145]

The results of these studies indicate that the use of VTS will bring numerous benefits to students, which I anticipate will include, in this study, the benefit of more

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[142] Eun Young Yeom, "How Visual Thinking Strategies Using Picture Book Images Can Improve Korean Secondary EFL Students' l2 Writing," *English Teaching* 73, no. 1 (Spring 2018): 43.

[143] DeSantis, "Report on Visual Thinking Strategies."

[144] DeSantis, "Report on Visual Thinking Strategies," 4.

[145] DeSantis, "Report on Visual Thinking Strategies," 4.

skilled writing composition and the development of higher-level thinking skills among

second graders.

Chapter 3

WHAT DO YOU SEE?

This chapter summarizes what took place during specific VTS lessons with the second grade students throughout the course of the 2019–2020 school year. Each entry includes the date of the lesson, the images presented, and students' responses to the images. My reflections on each lesson follows. Reflections were composed as close to the time of the lesson as possible, with the majority being written on the afternoon of the lesson. Each lesson began with an image displayed on the whiteboard or easel. While the image was displayed, there was period of silence during which students viewed the image. I first asked students "What is going on in this picture?" After this, I asked: "What do you see that makes you say that?" Finally, I asked all students, "What more can you say about this picture?" in order to draw out further responses. I took notes during the lessons to keep track of students' reactions to the images.

Lesson 1: October 11, 2019

Figure 1. *The Child's Bath* by Mary Cassatt, 1893.[146]

Students took a few seconds to view the image and immediately a couple of students raised their hands. When instructed to look longer, they did. Several students only kept their attention on the image for the first few seconds. When discussion began, three students raised their hands. One described the image as a "mother long ago when she was washing her kid." Another said "she is washing her feet" and the third said the "mother is washing her." The remaining students were reluctant to participate at first.

When asked for what they saw that made them respond as they did, one student replied he knew it was long ago because "long ago mothers put a little white thing around you" and another noticed the carpet and stated "people don't have that kind of carpet now." Another student said her dad washes his feet too.

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[146] Figures 1 through 8 were found on the Visual Thinking Strategies website (VTShome.com).

After some time, and after being asked if there was anything more that they could add, one student surmised the child had been playing in the mud, or stepped in a hole, and mud splashed on his feet so the mother had to wash him. Another student interjected that someone made the pajamas so he could tell it was long ago. When asked what he saw that made him say this, the student did not know. Another student stated the bath was taking place at night because "normally kids take baths at night" and the picture seemed dark like nighttime. Another student claimed baths were not invented yet so they were using a bowl and putting water in a bottle to pour in the bowl. A student who spoke previously said the water came from the river. Another student disagreed because "river water is dirty, disgusting and full of germs" and the water in the image was clean. The student who made the initial claim about river water disagreed because "some rivers are clean." Students began to discuss various environmental issues, such as littering and the need to keep water clean. After being given direction to turn their attention back to the image, students did not have anything more to say about the image.

Figure 2. *Mis Sobrinas (My Nieces)* by Maria Izquierdo, 1940.

While viewing the second image, several more students participated. Students viewed the image longer without being prompted to wait to raise their hands, having become acclimated to the procedure of first viewing and then discussing the art. A student who had not participated in the first discussion was the first to raise his hand and said the figures were in a forest. When asked what he saw that made him say this, he said that he saw a lot of things like trees and flowers. Another student said it looked like a family in India because her friend is from India and she has darker skin. A third student claimed it was girls and their mom, a big sister and a little sister. A student who had not previously participated saw a "tropical forest with lots of palm trees and on a tropical island because those are not the kind of trees we have here, so it must be on an island somewhere." Another student said the mother brought her children to the forest

somewhere because she thought it was peaceful. When asked for what she saw that made her say that, the student stated, "because no one was bothering them so it was peaceful" and "there were beautiful trees and flowers and rare flowers like the pink ones." When asked why she thought the flowers were rare, the student said "we don't have them here, but I have seen the white ones."

Another student stated he had never seen those kinds of clothes before so they must live far away and buy them from a store "we don't have around here." Another student said it must be summer because they are wearing bright clothes and the trees are green. The first participant claimed it was long ago as the dress was long and "we don't wear long dresses." Another student disagreed with that and said, "You wear long dresses at weddings." After a short pause, the first student changed her mind and signaled her agreement by nodding. Another student, who had been listening the entire time, said the people were floating and not standing on the ground. When asked what he saw to make him say that, he pointed out the dark area under their feet and the yellow ground at the bottom of the frame. Another student noticed this and said it must be daytime because the "ground was yellow, like the sun was shining on it, but they were in the shade of a tree because it was dark under their feet."

<div align="center">Reflection on Lesson 1</div>

It was immediately clear that while viewing the first image, students were not ready to take time to look at the image before speaking. Several students wanted to speak right away, and others did not engage in the viewing for much time, with their attention on things other than the image, such as items in their desk. Students were reluctant to

discuss the image, except for the three students who were eager to participate at the outset. This is typical for these three students.

Students were obviously in Stage I during the discussion. Housen describes Stage I Accountive viewers as "storytellers" who use "[t]heir senses and personal associations. They make concrete observations about the work of art that are woven into a narrative."[147] The students mostly spoke about what they saw in *The Child's Bath*: the mother, the child, their clothes, and the bath. One student made a personal connection by saying her father washes his feet. Others began to craft elaborate stories about mud, falling in a hole, and water from the river.

While discussing *Mis Sobrinas*, students were immediately more comfortable with the exercise; several more participated, and their responses were lengthier and included more detail. Many continued to engage in storytelling, such as there was a mother and her two children in the forest, and some made "judgments based on what they know and like," yet another characteristic of Stage I viewers.[148] For example, these judgments included the student's decision that the painting's subjects were in India based on the darker hue of their skin, and the assertion that the setting was a peaceful place. Judgments were also indicated in the comments that the image was of a place far from their home and from a time long ago.

There were some responses to the second image, *Mis Sobrinas*, which indicated students were taking a more thoughtful approach to the image. For example, students began attempting to identify the timeframe in terms of day or night by looking at the

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[147] Abigail Housen, "Eye of the Beholder," 9.

[148] Housen, "Eye of the Beholder," 9.

colors and shadows. The remark that there were animals in the forest because some of the trees looked like something had "eaten or nibbled on them" is also evidence of a more thoughtful and detailed viewing. The student who described the characters as floating was attuned to placement in the image. This reflects the student beginning to notice the artist's intention, which is a characteristic of a Stage II viewer. After viewing only two images the students appeared to engage more thoughtfully, finding new ways to look at art.

Lesson 2: November 13, 2019

Figure 3. *Snap the Whip* by Winslow Homer, 1872.

When students were instructed to take a silent moment to view the images in this second lesson, they did so for almost a minute without a single student raising his/her hand. This was a significant difference from the first lesson when students raised their hands immediately and did not want to take time to view the painting. Several students

initially said the students were outside playing a game. One student said they were at a summer camp and another said it was a farm; both thought the red building looked like a barn. One student thought the red building was a school but a few students disagreed saying it could not be a school, as the children were barefoot and students are not permitted to go to school with bare feet. A student disagreed and said, "In other countries, students don't wear shoes to school." Another thought the image took place on a farm and said "farm people did not know how to make shoes." One student claimed two children were holding the other children back to protect them from something. A student thought they were holding students back from an allergen on the grass and another thought they were preventing the students from tripping and falling on each other. Students did notice some small items in the background and mid-ground and listed what they observed, such as the hills of green, bushes, parents waving, a rope, trees and some wood. The setting was noted and described as "Mother Nature" because of the forest and the woods.

Figure 4. *Sunny Side of the Street* by Philip Evergood, 1950.

Upon viewing the second image, students immediately claimed the "kids were playing a game with sticks." Some thought they were hockey sticks, others thought they were golf clubs or large sticks of chalk. There is a lot of detail in this image and after some time, students began to notice items in the background and list them, such as the people in windows, "antenna sticks," trashcans, a mother holding a baby, and an ambulance with "someone being carried on a bed." Most students noticed that the location was the city. One student said the building in the background was a castle and after that was mentioned, some students declared the setting was Disney world. At one point, a student said the "kids" in the image were having a bike race and "the end of the race was at the castle." Most students agreed. Another student said the "kids" wanted to play hockey on ice so they were practicing on roller skates.

Reflection on Lesson 2

Not only were students able to view the second set of images for a longer period of time, but they did so without raising their hands until being prompted by the instructor's questions. It was also notable that all students in the class participated at least once in the second lesson, many more than had participated in the first lesson. Some of the students who participated for the first time made numerous comments as well. Several students did not want to end the discussion at the end of the lesson and attempted to continue talking. Students became comfortable coming up to the board and pointing to the image as they commented. Students were becoming more comfortable with viewing. which I welcomed.

Students made concrete observations, created narratives about the image, and made lists of items observed, all characteristics of viewers in Stage I. This included stories about why the children were holding hands, the reasons students were playing street hockey, and the list of items students recited from *Snap the Whip* and *Sunny Side of the Street*.

Students made a couple of personal connections to the images. For instance, the comments about wearing shoes to school as well as the discussion of the location of Disney World were both based on students' personal experiences. It was surprising that more personal connections were not made, as both images depict children playing games. The absence of more personal connections could be due to the unfamiliar setting of each image, one rural and one urban, which are different from the students' personal experience in the suburbs. Additionally, students surmissed that *Snap the Whip* took place a "long time ago" rather than in students' current era. With reference to the second

image, there are similar hopscotch games painted in white on the students' own playground, yet none of the students mentioned the hopscotch boards. This missed connection can be attributed to the fact that students are still developing their observation skills and have not yet progressed to what Housen refers to as more detailed storytelling.[149] Students disagreed with each other when some thought the red building was a school and others did not because the students were barefoot. Students backed up their opinions by stating that students could not go to school without shoes, while others claimed that students could go to school barefoot in "some places far away" or on a farm. However, once a student announced that the steeples in the background of *Sunny Side of the Street* were a castle, most children agreed and settled on the idea that the setting was Disney World.

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[149] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 69.

Lesson 3: December 13, 2019

Figure 5. *The Stay at Homes* by Norman Rockwell, 1927.

In this lesson, students continued to be able to view for longer than previous lessons. All students in the group participated, with the exception of one who had previously participated. Most students immediately decided the older man in the painting was a grandfather, with most referring to him as Grandpa. Some claimed the two were waiting for a boat to come while others thought they were just watching the boats. Several students referred to the place upon which they were standing as a "mountain" while others said it was a hill. One student claimed they were just looking at the view, because that is what people do when they climb up on a hill or a mountain. Two students decided the older man was a sailor because "he had a sailor hat." Eventually students noticed the boy was also wearing a hat and they had the same color blue shirts. Some thought he had a fishing pole, as one student said, "That is what grandpas do, take you

fishing and talk about what they did when they were a little boy." One student went

further and decided the two were "spending some time together, going somewhere

special on this special day, so they went to the harbor to be together because that is what

grandparents do." After some discussion students noticed the "napkin or tissue" in the

grandfather's back pocket. One student decided it was a bandana because "people put

them in their back pockets, it is pointy and had circles on it" like a bandana the child had

seen. At the end, one student said the fishing pole was a cane, as older people need canes

to walk. Another student added it could have been a walking stick, as they were on a hike

or taking a walk. The student added, "people who like to hike usually have a walking

stick, even if they are not old."

Figure 6. *Waiting for the Train* by Garin Baker, 1986.

Upon viewing this painting students immediately noticed the setting was a big

city and several pointed to the building in the background and the tall golden top on one

of them. Almost every child described this image as "waiting for the train." There was

some discussion as to whether they were going into the city, or leaving the city and going home. Most students noticed the shopping bag that said "I Love New York". One student decided the shopping bag was full so they had finished shopping and were going home. Most students agreed with that assessment. One student specifically stated, "They just came from New York, they are looking at the view, and taking the train to go back home to New Jersey." Another decided they had spent a couple of days in the city. The evidence for this was the small suitcase the man was holding as it "would not hold a lot of clothes so they could only stay for a couple of days." Most students seemed to indicate they agreed with this statement by their silence. One student thought the suitcase was large enough to hold clothes for five days and another decided they were shopping to buy clothes for the child's mother, as she was not in the picture.

<div align="center">Reflection on Lesson 3</div>

Students continued to be able to view for longer periods of time without wanting to speak. All students in the group participated, with the exception of one who had participated in previous lessons. Students continued to demonstrate that they were in Stage I as they created narratives based on their concrete observations. Students made personal connections to both images, more so than had been done in the past two lessons. This may have been due to the familiar context of the images: children with parents or grandparents. Many students connected to the man they assumed was a grandfather and discussed what he was doing based on their own experiences. Based on the number of detailed stories about the grandfather, it was obvious students had a fair amount of experience spending time with grandparents. What a wonderful thing! Students' comments about *Waiting for the Train* were also based on personal connections and/or

experiences. The school where the research is taking place is located in a suburban town located on the New York City train line. Thus, students assumed the two people were going into New York, and then coming home to New Jersey where the students reside. Evidence of higher-level thinking was apparent in the inference the student made about the length of the trip to, or from the city. Based on the size of the suitcase in the image, and the amount of clothing that would fit inside, a student surmised the father and son could be away for no longer than a two-day weekend. This indicates students are beginning to think more deeply about the images they are viewing.

Lesson 4: January 17, 2020

Figure 7. *Prince Balthasar Carlos on Horseback* by Diego Rodriguez Velazquez, 1635.

Students took time to view the image with more patience, and attention, as they sat and looked until they were informed viewing time was over. Immediately students declared the image was a kid or a child riding a horse. When asked what they saw that

made them say this, several students said the person was small. A few students claimed

the image was of a long time ago but when asked to support that claim, the only comment

made was with regard to the clothes, which looked old because they looked dirty.

Students noticed the pink scarf on the child and then others decided the child was a

cowboy. Many agreed because he was wearing a cowboy hat and "cowboys ride horses."

Several students said the horse was on a hill because one could see small mountains in

the background. One student thought the snowcapped mountain in the background was

Antarctica. Students noticed the number in the lower left hand corner of the painting and

came up with a few different explanations, such as that the number represented the time it

took to make the painting or the number of the painting.

Some students thought the horse was racing, running, or galloping, because his

legs were in the air. Several students agreed with this suggestion, coming up with stories

as to why the boy was racing, including that he was getting away from a fire, traveling

somewhere, or running away from home. At the end of the lesson, one student claimed

the child was a prince and his evidence was the prince was wearing gold as was his horse,

and he had a whip. Others agreed and one student pointed to what she thought was a gold

crown on the horse's head. Another student said the prince was not smiling and was

acting on a school stage, "like in a play."

Figure 8. *Prairie Fire* by Frances Blackbear Bosin, 1953.

When students were given permission to share their thoughts, immediately several students, mostly boys, decided this was a painting of a war. There were fireballs, or red bombs, in the sky and everyone was running away and pointing at the sky. One student called it a stick or sword that the person was holding and pointing at the sky. A student immediately identified the animals as deer and wolves but another disagreed and said they were hyenas, gazelles, and horses. This student thought they were running to shelter as the sky was dark and it was about to storm. Another student disagreed and claimed the hyenas were about to eat the gazelles and that is why the gazelles and the horses were running away. Another student pointed out the purple plants on the ground, which looked like sand, and said the painting took place in Africa or Asia on a savannah. At this point one student said the painting was of a fire because fire is red and the sky was full of smoke, because smoke is white and gray. This student also said the handprint on the

horse was probably painted on purpose. Another agreed and said they would paint their horse so everyone knows which horse belongs to them. Another student mentioned that the red paint was a volcano and they were running from the lava, which was the red paint on the ground. Many others agreed that it was a fire and several thought the people were trying to save the animals from the fire. One student noticed the artist's signature on the image. It was mentioned this image was from a long time ago, as the reason given was the shirts on the people looked old.

<div align="center">Reflection on Lesson 4</div>

Students demonstrated improvement in their viewing skills in several areas. Firstly, they continued to be able to view the images for longer periods of time without wanting to speak. The benefit of developing more stamina for viewing, and becoming a more patient viewer, became evident here. Students did not notice the crown on the head of the horse until nearly the end of the lesson. Had they not continued to maintain attention and view as long as they did, it might have gone overlooked. The fact that they noticed this detail also demonstrates that students were not just looking at the image but were contemplating it. The ability to observe carefully is an important skill that can be transferred to many other contexts in the school setting. This is most apparent in science, where students are required to make detailed observations, followed by hypotheses, during their lessons.

At this time, students appear to be mostly Stage I viewers, as many of their comments could be considered storytelling. Students used what they know about the natural world, including fire, smoke, and volcanoes, to help create their narratives as Housen says is characteristic of Stage I. However, growth in viewing skills appeared

when some students made more detailed observations than they had previously, a characteristic of Stage II viewers. Students also noticed the artist as well as the artist's intention, another characteristic of Stage II viewers. This occurred when they pointed out the artist's name and number in the corner of the painting and speculated as to why the artist would do that.

Students also seemed to reference lessons on perspective, which took place during their art classes. Several students were able to describe how they could tell the boy on the horse was far away from the mountains in the background as the mountains were smaller. Additionally, students took many more opportunities to respond to other students' comments by agreeing or disagreeing. It was most noticeable that they disagreed more than they had before and did not seem as afraid to be wrong. This may come from the cumulative experience of viewing with non-judgmental comments as well as the experience of viewing, which gave them more confidence to make decisions about what they had seen. The increased comfort with disagreeing with peers is also a skill that will benefit students in other areas, both socially and academically, and is a welcomed observation.

Lesson 5: February 20, 2020

Figure 9. *Mid-June* by Charles Burchfield, 1946.[150]

The lessons presented in the second half of the school year were solely images by

Charles Burchfield. His work was specifically selected as his style includes the use of

audiocryptograms, or markings that represent sound and movement. This work supports

students' writing curriculum in that students are taught to use images, and show sound

and movement, when they brainstorm and prewrite. The Burchfield images were

expected to support students' writing in this way. This was the first lesson that included

Burchfield images. The first student to respond immediately said he saw a pattern that

looked like triangles. He pointed to several spots in the trees. He also noticed a tree was

"broken" and said it looked like someone cut it down because "when you cut a tree it

does not go straight, if you cut it with an ax it would be pointy" like the tree in the image.

The next student thought it was spring because she noticed butterflies flying around and

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[150] Figures 9 through 16 were found through Google Images.

said they were collecting nectar from the flowers. The student knew the butterflies were flying because she could see they were flapping their wings and pointed at the pattern marks around the butterflies. A student disagreed about the tree and said if you chop a tree, it is straight across the top so he thought this tree was broken off from a storm. Another student agreed with the idea that the tree was broken and also thought it was springtime. Another student claimed the butterflies were coming back after hibernation and pointed to the marks around them, which he thought was a line of butterflies flying through the forest. One student noticed the trees had an unusual color of blue in them and thought that might be because there was a river behind the forest. A few other students noticed the color as well but were not sure why it was blue. Several more students mentioned the patterns in the image and one noticed the birds in the background, which were shaped like the letter V. Several students made specific claims about the wildlife present, including hummingbirds with long beaks, bald eagles, and a bat in the distance. At the end of the discussion, one student who does not speak frequently expressed thinking that the painting represented April because that is when hibernation ends.

Figure 10. *The Four Seasons* by Charles Burchfield, 1949-1960.

When *The Four Seasons* was displayed, the first thing students noticed were the colors red and yellow in the tree, and a student said it was spiked and looked like fire. Another student added that the sun was brightly shining on the tree. Two students mentioned the snow on the sides and the bottom of the picture. Another student followed up on that and said she saw a castle in the center with a door. A classmate agreed and said the castle was being built as it was not finished and the floor looked like it was made of sand with colored footprints. Another student agreed, but thought there were windows on the castle and not doors. He pointed to the shape of the windows that looked like castle windows. Following up on the castle comment, a student said he saw a throne in the summer and there was a king or queen there. One student decided the sun was so hot it caused the tree to catch on fire. Another student saw animals in the shape of monkeys on the bottom of the frame. The student who spoke first now decided it might be the end of

winter because the sun was pushing away clouds and birds were coming back. Another

student disagreed, and said the winter was outside and summer was inside the painting.

Reflection on Lesson 5

Students are beginning to reference color and shape in the images, which is

indicative of a shift from Stage I to Stage II. While students were still storytelling, it was

apparent that there was more critical thinking taking place. Students noticed patterns and

markings they had not noticed previously, including triangles in the trees and marks that

indicated the butterflies were flying. Students mentioned the shape of the birds, compared

to the shape of the group of birds. They also questioned the use of some colors, including

considering why there was blue behind the trees, and if the color red meant the tree was

on fire or if it was just hot from the sun. This shows an interest in the artist's intention

and a slight movement toward thinking about the artist and not just the image. Students'

storytelling was becoming more creative and nuanced, such as noticing the shape of the

castle windows and discussing at length what a tree stump looks like after it has been

chopped versus what a tree stump looks like after the tree has simply fallen down due to a

storm.

Lesson 6: April 7, 2020

Figure 11. *New Moon in January* by Charles Burchfield, 1918.

This was the first virtual lesson, held through the online classroom, and eleven students were present for the start of the lesson. The first student to respond to the painting called it "nighttime with a moon in winter and the lights are on." The student referenced the icicles hanging on the house to indicate it was winter. The next student described the snow outside and animals sitting by the window. Another student disagreed that they were outside, instead asserting that the animals were in the house drinking hot tea. He knew this because of the big pot and little pot on the table, one for pouring and one for drinking. He claimed it was tea because on a cold day you drink something hot.

Another student added that it looked like nighttime in December because of all the snow. The previous student said he thought it was sunrise and pointed out the light in the sky above the house, as if the sun was rising. Then a discussion took place about the time of day of the painting. One student decided it was the afternoon and claimed he saw the sun and moon together, as the yellow "ball of light" in the house was the sun and the sky above the house was lighter and yellow. This student agreed that the sun was in the house. A different student noticed the moon had a dark circle around it and when probed expressed the thought that it was "that time when the moon covers the sun," to which another student interjected, it was an eclipse. There was more discussion about the animals in the house, as one student claimed they were dogs and another said it was a dog and a cat eating out of bowls, rather than pots of tea. A third disagreed and said one was an old man and the other a dog. Another student concluded by saying there was an old man drinking tea with his dog and they were in a lighthouse, which was why "it looked like the sun was in the house." Silence followed and no one outwardly disagreed with the idea of the sun in the house.

Figure 12. *February Thaw* by Charles Burchfield, 1920.

When this image was displayed, several students made immediate reference to three people walking down the street and three houses. One student said people were going to the store in winter and she knew that because the trees had no leaves. She also described a river running in front of the houses and knew it was water "because it was blurry." Another student thought it was an old town because there were only three houses. He surmised there had been more but they fell down because they were old. A third student thought the three people were going up to the mountain in the background to go sledding because there was so much snow. Another student decided it was not a river in the image but instead melted snow "because the sun was shining" which melted the snow and it was December. Another student thought the water was from the rain that had fallen after the snow. A classmate agreed the snow had melted because the reflection of the houses looked bumpy and the houses were not—they were smooth. One student said

she agreed that it was blurry so she knew it was water. A student then decided the time was spring because the snow was melting. One student claimed it might be a story of the three little pigs because there were three people and three houses and he could see the electric wires so one of the houses had electricity. Another student said this image and the previous image looked similar and mentioned they both had the same colors in the sky: gray with some lighter colors. Students then began to notice other similarities between the two images, including the appearance of people and snow on the ground. When a student suggested that both images were painted by the same artist, one student immediately disagreed. She did not think that could happen because it was a lot of work and "your hand would get too tired." Silence ensued.

<div align="center">Reflection on Lesson 6</div>

Students continued to tell stories and rely on their own experiences to color their storytelling. The comment relating the image to a familiar text, *The Three Little Pigs*, is a good example of this. Relating the image to familiar text is also an example of a higher-level thinking skill. Thinking about the artist's intention was much more developed during this lesson, as exemplified by one student noticing similar colors in two paintings and thinking they might have been painted by the same artist. When a second student said she could not imagine the artist could paint both paintings, as it would be too much work, she was not only referencing the artist, but taking into account the feelings and labor of the artist as well. That is certainly a growth in visual thinking development. Students continued to notice elements of line and shape in this lesson, which was not evident prior to Lesson 5. The idea that the water was a reflection of the houses because it was blurry or bumpy indicates more developed thinking as well and also points to a connection to

the artist's intention. Without directly saying so, or even realizing they are doing so, students were noticing elements of the artist's intention and making inferences. Students again decided something was old when they could not come up with an explanation for it. This is a reflection of what Housen describes as students' thinking when faced with something outside of their familiar culture. Students recognized that the houses did not look exactly like houses they normally experience, yet they were puzzled as to exactly what was different about them. "Old" seemed the best explanation they could generate when they were confused about the image. Seeing this puzzlement provides evidence that the images were indeed in the students' proximal zone and forced them to think further.

Lesson 7: April 28, 2020

Figure 13. *The Insect Chorus* by Charles Burchfield, 1917.

This was the second virtual lesson, and nine participants joined at the beginning of the lesson. After viewing for a couple of minutes, the first comment came from a student who said she saw a tree, bush, and a secret tunnel—the triangular shape in the bush—that people could use to get into the house. Another student agreed and claimed the house was a barn with lots of bushes. Another student noticed the many patterns on the bushes and said "bushes are not usually like that." One student who does not speak much thought it was an old house where orphans stay and she thought this because the house was "very small and they didn't build big houses back then." Another student said it was a hot day because it looked "blurry and the lines made it look hot, like heat was coming out." Other students agreed that the lines represented heat coming out of the bushes. Another student then said she thought the lines represented the wind blowing and moving the bushes. A student added that the lines could be showing the tree was moving too because there are birds and chipmunks in the tree. A previously silent student agreed and thought there were animals moving inside the bushes, which made the bushes move. A student then commented that the lines looked like music notes and represented the noises outside. No one commented upon this assertion, and students were silent after that, obviously wondering about the statement.

Figure 14. *Autumnal Fantasy* by Charles Burchfield, 1916.

This lesson began with ten participants. Shortly after, two more students, who were late, logged onto the lesson, so there were twelve students present in total. The first student to respond noticed the bird hanging "upside down" and thought the circular notations next to it looked like the planets. No one responded to that, and there was silence for a moment. It seems students were trying to make sense of the planets lined up in a row, perpendicular to a tree in the forest. Another student said the image was of a mythical forest with a lot of different animals and "magical stuff." When asked about the magical stuff he responded, "There are white lights around the leaves, there is a swan, and the sun was setting in the forest." A different student then mentioned she saw lines again, which meant movement, and said it was the water moving, as there were lines in the water. A student thought there was a wildfire, and ducks were flying away from the fire. Another student noticed four arrows and pointed to the annotated marks. A student

saw people in the background who were making the fire while the student who initially described the image as a mythical forest said the painting had a dark and light side, and the light side was trying to destroy the dark side. This was more evidence of a mythical forest, with the dark and light sides, he commented. A student saw animals near the pond and said one was an elephant. Then another student decided the light was a star behind the moon, and another corrected him and said the moon was near the sun, not a star. A student added the marks on the trees were "sound effects by the birds, you can hear stuff like the birds cheeping." Most students agreed with him, and another student added that the leaves on the ground were in a flood.

Reflection on Lesson 7

This session seemed to be a breakthrough in that several students noticed the lines, or audio-cryptograms, as Burchfield calls them, in this image. When the patterns on the bushes were first noticed, the student said, "bushes are not usually like that." This comment indicates that what the child saw did not fit in with what is found in the students' familiar culture, which caused her to wonder. While the student was not able to explain the odd appearance of the bushes, her viewing skills had developed so that she was able to verbalize her puzzlement. Students eventually attributed these lines, or musical notes, to heat, movement, and eventually sound. This was a significant development, as students demonstrated a move from a literal interpretation to an inferential interpretation. The students were making inferences and could hear what Burchfield wanted them to hear. Indeed, the title of *The Insect Chorus* implies Burchfield is attempting to show the sound of the insects with his audio-cryptograms. This represents a definite shift from Stage I to Stage II. As Housen describes it, a quality of

Stage II is when "the viewer begins to demonstrate an understanding of the artist's purpose and attempts to explain why the image was created in particular way. This viewer has moved from storytelling to a more detailed description of the image."[151] Also significant is the student describing *Autumnal Forest* as a "mythical forest." Burchfield's work has often been described as having a fantastical and mythical quality, and the student began to recognize such.[152]

An interesting aspect of this movement to Stage II is that it seems to be supported by viewing of more abstract images. An abstract image may offer more opportunities for students to make inferences than a more realistic image might. The lack of direct telling that appears in an abstract image may require students to do more thinking to create meaning. This additional thinking could also support students' inference making skills. A representational image may provide students with a more literal meaning and not require them to puzzle or wonder to the same degree they would about an abstract image. Students took the realistic paintings at face value. This finding is supported by the research by Stewig and by Salkind and Salkind.[153] However, the increase in higher-level thinking, and ability to make inferences, could be a function of students' newly developed skills in viewing images. Students were less experienced viewers at the time they viewed the more realistic images than they were when viewing the Burchfield images.

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[151] Housen, "Eye of the Beholder," 9–10.

[152] "Charles Burchfield," DC Moore Gallery, accessed July 10, 2020, https://www.dcmooregallery.com/artists/charles-burchfield.

[153] Stewig, "First Graders Talk About Paintings," 312; Salkind and Salkind, "Gender and Age Differences," 253.

Students continued to rely on their own experiences to color their storytelling. Relating *February Thaw* to a familiar text, *The Three Little Pigs*, is a good example of this. The comment that the house in *The Insect Chorus* was small, "like for orphans because they did not build big houses back then," is evidence of nuanced thinking. This student was apparently of the belief that orphans do not exist now but when they did, they only lived in small houses. Additionally, this student had not yet developed an understanding of background, foreground, or perspective. She did not realize only a small portion of the house appeared because it was covered by vegetation. As had occurred previously, students relied on the explanation that something was old, or from long ago, when presented with something that was differed from their own limited experience of the world. Deciding the house was old was the only way for the student to explain why this house was small.

It was surprising that there was not more discussion about the insightful comment that the annotated marks represented the sound of birds cheeping. The quiet agreement that followed could have represented a need to think further about this innovative interpretation, or due to student fatigue as the comment was made towards the end of a long lesson.

Lesson 8: May 12, 2020

Figure 15. *Fireflies and Lightning* by Charles Burchfield, 1964–1965.

Eleven students signed on to participate in this virtual lesson and remained throughout. One student immediately commented on the pattern on the trees and the color of the pattern going from light to dark. She said the light areas of the painting were hot and the dark areas were cold. Another student thought the image was about spring as there were white flowers and green leaves. She also mentioned the trees had "designs." A third student disagreed and said the light or white color was snow and there were snowflakes on the trees. A fourth student disagreed with this response and said the white was winter becoming spring because of the flowers in the painting. She went further to say yellow colors looked like fireflies because fireflies were small and glow and these were glowing. The student who had responded first revised her comment and added she

agreed it was spring coming because there were both snow and flowers on the ground. Another student mentioned the yellow dots in the sky, said the stars were out, and thought the plants were beautiful. This student also mentioned the "zigzag" patterns and lines and said it looked like an "artistic tree" and not a real tree. One student said the painting was hazy and decided the haziness was clouds and it was cold outside because there was snow. He thought there had been a snowstorm and said he saw snow that was "picked up by the wind." He also noticed the "zigzag"' pattern and saw footprints in the snow. The student clarified that there was a lot of wind because the air was moving and he could tell this by the "lines" in the sky.

Figure 16. *Telegraph Music* by Charles Burchfield, 1949.

When the second image was presented, the first student to respond said he saw birds and snow and noticed there were houses far away. When asked how he knew this he said the houses were far away because they were small. Another student said she thought the image was of the ocean and the wind was blowing because she saw a "gray thing" on top and it looked like wind. A third student noticed birds in the sky, and agreed with the

previous student that the gray was the wind. She also saw many shadows in the sky and shadows of birds that were zigzags on the electric wires. This student said the artist wanted to add "volume" to make the image interesting. When asked what she meant by volume, the student said noise. What a great descriptor! Another student mentioned a little cottage in the back and said it was smaller because it was in the background and far away. She said there were holes in the posts for "critters" to hibernate such as "rabbits, birds, mouse, and fox." A different student said the image was foggy and thought that because the background was gray and there were many shadows of birds flying. Another student noticed hills in the background and a house. She saw a line in the sky by the tree trunk and said it was an internet line but moving in a zigzag. After a pause, she said it was moving in a zigzag because it was windy. The first student to reply agreed and said the lines were wiggly because of the wind. A different student thought the image was of a farm and a dog.

<div align="center">Reflection on Lesson 8</div>

Students continued to display thinking that is characteristic of Stage II. This was particularly evident when they noticed Burchfield's audio-cryptograms and commented on the artist's intention several times. These responses included the lines that added volume (or noise), zigzag lines representing movement and wind, the hot and cold areas representing winter becoming spring, and an "artistic tree." This lesson provided further evidence that the selection of Burchfield's artwork, towards the end of the research project, was appropriate as students were able to "read" his paintings and receive from them the intended message. This is apparent by the comments regarding the "noise" of the wires in *Telegraph Music* and the glowing of the fireflies in *Fireflies and Lightning*

without students having knowledge of the title of either painting. The Burchfield images are certainly in students' proximal zone and have supported students' visual thinking development.

It is apparent that as the VTS lessons progressed, students were discovering new ways to look at art and enhancing their ability to view and develop their visual thinking skills. The following chapter summarizes the results of these lessons in greater detail. Students' comments are categorized by domains in Housen's Stages of Aesthetic Development. The development in students' thinking is also analyzed by identifying the patterns of thought present and correlating them to the attributes of specific stages in Housen's theory. Students' writing scores are also scrutinized to determine if differences occurred between students who participated in VTS lessons and those who did not.

Chapter 4

WHAT DO YOU HAVE TO SAY NOW?

When discussing the results of data accumulated in this study, students who

participated in the VTS lessons will be referred to as the VTS class and students who did

not participate in the VTS lessons will be referred to as the non-VTS class. During the

2019–2020 school year, the total enrollment of second grade students was seventeen in

the VTS class and sixteen in the non-VTS class. Thirty-three students is a smaller number

of students than expected. It is also smaller than usual when compared to the average

grade-level enrollment in prior school years. Not including the second grade, the average

enrollment for grades kindergarten through five in the 2019–2020 school year was forty-

four.

In the VTS class, fourteen students agreed to participate in the study, while eleven

students in the non-VTS class participated. During the course of the school year, one

student in the non-VTS class moved out of town. Four students did not produce a writing

sample at either the beginning or the end of the school year: three of these students were

in the VTS class, and one was in the non-VTS class. At the time the spring writing

assessment was administered, there were nine students participating in the non-VTS class

and twelve students in the VTS class. For the purposes of consistency in the data, only

the scores of students who produced writing samples in both the fall and spring will be

considered. This is eleven students in the VTS class and nine students in the non-VTS

class.

Students in each class were as evenly divided between male and female as

possible. In terms of participants in this study, the VTS class had nine males and five

females, while the non-VTS class was comprised of six males and five females. Second graders who were students of English as a Second Language (ESL) were evenly divided between the two classes. The VTS and non-VTS class each had a total of seven ESL students enrolled, but not all of those students participated in the study. The VTS class had six ESL students who participated in the lessons and the non-VTS class had four ESL students who participated in the lessons. Of those, only three students in the non-VTS class completed both pre and post writing sample and thus had their scores included the results. Five of the six ESL students in the VTS class completed both writing samples.

Data were collected both qualitatively and quantitatively. Qualitative data were collected through the use of anecdotal notes taken during VTS lessons, and quantitative data were collected through the administration of the Lucy Calkins Narrative writing rubric. The writing rubric was administered to both the VTS class and the non-VTS class both in the beginning of the school year (September 2019) and at the conclusion of the school year (June 2020). Anecdotal notes were taken from the VTS class only.

Analysis of available data from the narrative writing rubric provides a wealth of information. These data can be viewed holistically by analyzing total writing scores. Data can also be analyzed by the three main categories of the rubric—structure, development, and language conventions—and by breaking down the data further into specific elements of each of those main categories. This analysis will take all three approaches and will begin with the holistic view.

When training instructors to assess students' writing with the rubric, grade-level instructors work together to assess the same piece of writing while discussing the most accurate, or valid, score for each element. Together they come up with an agreed upon

score. This practice is referred to as anchoring. The "anchor piece" is a writing sample

that is not produced by a student in either class. The instructors in this study have

received training in anchoring students' writing numerous times over their tenure. For the

data generated in this study, instructors assessed the writing of their own students as

normally would occur.

The rubric consists of three main categories, each with elements of its own. In

turn, there are nine elements in total, each of which can receive a score from zero to four,

with scores half way between each whole number as well. For example, a student could

receive a 3.5 in any given element.

Each writing sample received a total score. The total score was calculated by

combining the scores for each of the three main categories to garner a score between one

and forty-four. Two of the nine categories are so significant to student writing that they

are counted twice, resulting in a total possible score of forty-four. If the student receives a

score of zero in each category, the writing is considered unscorable. In turn, the total

scores were converted to a scaled score between one and four. (See Table 1.) The purpose

of the scaled score is to generate a grade-level equivalent and eventually a progress

indicator used for reporting student writing achievement. A score of three meets grade-

level expectations, while a score higher than three exceeds grade-level expectations. A

score lower than three does not meet grade-level expectations. A score of zero can be

given in any section if the writing does not demonstrate any of the required elements.

TABLE 1. Conversion of total score to scaled score

Total	Scaled
1–11	1.0
11.5–	1.5
17–	2.0
22.5–	2.5
28–	3.0
33.5–	3.5
39–	4.0

With the exception of one student in the VTS class whose scaled score decreased, all students demonstrated growth in their total score from the beginning of the school year to the end. This growth is to be expected, considering that the students received daily writing instruction for the majority of the school year. It is necessary, however, to compare the growth patterns of the two groups to identify if the VTS lessons had an impact on students' writing.

Students in both the VTS class and the non-VTS class started and ended the year with similar average scaled scores; the VTS class had an average of 1.81 while the non-VTS has an average of 1.83. In the spring, the VTS class average scaled score was 2.91, slightly below grade-level expectations. The non-VTS class average scaled score in the spring was 3.44, somewhat above grade-level expectations. Looking at the growth of the two groups, the non-VTS class demonstrated more growth in their scaled score as their percentage increase in average scaled scores was 88%. The VTS class increased 61%. (See Table 2.)

TABLE 2. Change in scaled scores for VTS students and non-VTS students

VTS students scaled scores			Non-VTS students scaled scores		
Student	Fall	Spring	Student	Fall	Spring
1*			1	2	4
2	1.5	3	2	2	3.5
3	1.5	3.5	3	2	3.5
4*			4	1.5	3.5
5	1.5	2.5	5	1.5	3.5
6	1	**	6	2.5	***
7*			7	1.5	4
8	2	3	8	2.5	**
9	2.5	3	9	2.5	3.5
10	2	3.5	10	1.5	2.5
11	1	**	11	2	4
12	1	3	12*		
13	2	3	13*		
14	**	3	14*		
15	1.5	2.5	15*		
16	2	3	16*		
17	2.5	2			
average#	*1.81*	*2.91*	*average*	*1.83*	*3.44*
change		*+61%*	*change*		*+88%*

*Student opted out of research
**Student did not produce writing sample
***Student moved
#Students with both fall and spring scores

The pattern of the non-VTS class demonstrating more growth in the scaled scores did not hold true when looking only at the ESL students. Improvement in ESL students' average scaled scores in the VTS class was almost identical to the improvement in ESL students' average scaled scores in the non-VTS class. The improvement in the VTS class was 70% while the non-VTS class had growth of 72%. (See Table 3.)

TABLE 3. Change in ESL students' average scaled score

	Fall average scaled score	Spring average scaled score	Change (%)
ESL students VTS class	1.7	2.9	70
ESL students non-VTS class	1.83	3.16	72

Breaking the narrative rubric down further, it is possible to analyze separately the three main categories of structure, development, and language conventions. Each category comprises particular elements on which students are individually assessed.

Structure refers to those parts of writing which, when organized and put together, builds a foundation for a written piece. Structure includes elements that must be present in an effective piece of writing that holds meaning over time. It can be compared to the foundation or frame of a building. Creating a structure is an important aspect to include in a piece of writing. Students can add to the structure by developing it with elaboration and craft, and improving their use of language conventions, but the structure is the basic building block. The five elements of structure on which students are assessed are the overall structure, lead, transitions, ending, and organization. Expectations for each of these elements are specifically denoted on the rubric.

The overall structure for a piece of second-grade narrative writing is evident if the writer demonstrates that she "wrote about *one time* when she did something."[154] An example of writing that has strong overall structure is a piece written by an advanced second-grade writer that included details of the student's fifth birthday. The lead, as it sounds, is the way in which the student opens the piece of writing. In order to

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[154] Calkins, Hohne, and Robb, *Writing Pathways*, 359.

demonstrate effective use of lead, a second grade student would need to demonstrate that he "thought about a way to write a good beginning and chose a way to start his story. He chose the action, talk or setting that would make a good beginning."[155] An example of a strong lead comes from the narrative about the student's fifth birthday that begins, "We all have birthdays and we all want to feel special on that day. But not me I woke up and no one remembered my 5th birthday." This lead earned the student a score of four on the rubric and is clearly above second-grade expectations. The next category, transitions, refers to the words or phrases that connect one idea to another. For a second grade student, effective use of transitions means the student "told the story in order by using words such as when, then and after."[156] The writer of the forgotten birthday narrative began subsequent pages with "first," "next," "then," and "finally," which demonstrated strong command of transitions and earned the student a score of 4.

Expectations for a story ending require the writer to have chosen "the action, talk or feeling that would make a good ending."[157] The ending of the forgotten birthday story stated, "Maybe my birthday was not so bad after all." A piece of writing that concludes with the words "the end" or demonstrates no attempt by the writer to indicate the story had ended would be considered below expectations of a second grade student. The expectation for organization requires the student to "write a lot of lines on a page and write across a lot of pages."[158] A written piece of less than three pages would not meet

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[155] Calkins, Hohne, and Robb, *Writing Pathways*, 359.

[156] Calkins, Hohne, and Robb, *Writing Pathways*, 359.

[157] Calkins, Hohne, and Robb, *Writing Pathways*, 359.

[158] Calkins, Hohne, and Robb, *Writing Pathways*, 359.

this expectation. Further, it is not until third grade that the expectation is for students use

paragraphs and skip lines to distinguish between what happened first and later in their

writing.

There are five elements that can each garner a score of up to four points, so the

maximum score possible for a student to achieve in structure is twenty. A student

working on grade level in this area would receive a score of fifteen, which would equal

an average score of three in each of the five elements. The non-VTS class had an average

structure score of 6.67 in the fall and 17.16 in the spring. This represents a growth of

157%. The VTS class had an average score of 7.72 in the fall and a spring average of

14.27. This represents a growth of 84%, less than the non-VTS class. Both classes began

the school year with almost identical performance levels in structure, in the kindergarten

to grade one range, while the non-VTS class ended the year closer to grade-level

expectations than did the VTS class. (See Table 4.)

TABLE 4. Change in average total structure

	Average total structure fall	Average total structure spring	Change (%)
VTS class	7.72	14.27	+84
Non VTS Class	6.67	17.16	+157

Students in the VTS class, both participants and non-participants, presented with a

larger range in structure scores than students in the non-VTS class, both in the fall and in

the spring. The range of scores for the VTS class was twelve in the fall and 5.5 in the

spring. The non-VTS class had a range of three in the fall and 4.5 in the spring. (See

Table 5.) This is relevant as it indicates the students in the non-VTS class were clustered

at similar levels of writing ability while students in the VTS class had greater individual

differences in their writing achievement. This was particularly the case in the fall when the difference between the range in the VTS class and the non-VTS class was the greatest. The range of twelve in the VTS class indicates there were signification differences in students' writing readiness. In other words, some students were struggling in writing while others were achieving above grade level, and still others were performing at the expected level for a beginning-of-the-year second grader. It is common knowledge among educators that it can be more challenging for a teacher to provide instruction across a wide span of abilities. Such a difference in student readiness will require the educator to abandon whole class lessons more frequently, where one lesson is taught to the entire group, and offer individualized instruction as much as possible. While this is not impossible, and the instructors in this study were trained in this strategy, it does make the task of raising students' achievement more challenging.

TABLE 5. Range of average structure scores

	Fall scores	Range	Spring scores	Range
VTS class	2–13	11	11–16.5	5.5
Non-VTS class	5–9	4	14.5–19	4.5

While both classes showed growth in each individual element of structure, the non-VTS class demonstrated more growth than the VTS class. (See Table 6.) When the individual elements of structure are broken down, a similar pattern emerges. Students in the VTS class showed more growth in four of the five elements including overall, lead, transitions, and organization. Students in the non-VTS class improved their average score in organization by 294%, more than any of the other elements. The growth difference in overall structure was quite small, with the VTS class improving 53% while the non-VTS

class improved 66%. Similarly, the difference in ending was slight, as the VTS class

grew 214% and the non-VTS class grew 211%. The growth of lead in the non-VTS class

was almost three times that of the VTS class. In looking at the individual scores for lead,

four out of the nine students in the non-VTS class received a score of four on their lead,

the highest possible score and above second-grade level.

TABLE 6. Student growth in elements of structure, spring to fall

	Overall	Lead	Transitions	Ending	Organization
VTS class	53%	60%	86%	214%	142%
Non-VTS class	65%	196%	127%	211%	294%

The only element of structure where the VTS class demonstrated higher growth

than the non-VTS class was in ending, although the difference was slight. Organization

displayed significant growth in each class. It should be noted that organization requires

students to "write many lines across several pages." This indicates that students wrote

much more in June than they did in September—a good thing, to be sure. However, some

of this growth, but not all, may be attributed to the use of word processors for the end-of-

year assessment as opposed to the handwritten work that was completed in the fall.

The category of development consists of the elements of elaboration and craft.

Calkins, as well as educators in our school district trained in the writing workshop model,

consider elaboration and craft to be the heart of the writing piece. They are the elements

that are essential to convey the message of the writing. All other aspects of students'

writing, while important, support the development of the written piece. Elaboration and

craft are not just essential in good writing but their effective use gives writing its feel. A

writer's voice comes through most clearly when the writer is skilled in elaboration and

craft. Strong command of these two elements are what make a piece of writing stand out from others. Educators strive to support students to be able to elaborate in their writing and craft stories that readers really enjoy, and they celebrate when students do so as this is the result of very hard work. For these reasons, both of these elements are given more weight than any other element in the rubric; the scores for these elements are doubled on the rubric. For example, a score of a four in either elaboration or craft would earn the student an eight on the rubric. The weighing of these scores is research-based guidance, which the school district follows. It follows, then, that the scores in development, elaboration, and craft will be higher than other categories and elements. That is why they are the highest scores in the data.

While the growth for total development was similar between the classes, the non-VTS class displayed more growth in total development than the VTS class, with an increase of 57%. The VTS class increased their total development score 47%. (See Table 7.)

TABLE 7. Change in average development scores

	Average development fall	Average development spring	Change (%)
VTS class	7.45	11	+47
Non-VTS class	7.88	12.44	+57

The range of scores in development was similar between the two classes as well. The VTS class had a range of six, both in September and in June, while the non-VTS class had a range of eight in September and five in June. (See Table 8.) While the non-VTS class has a slightly higher range in September, it is not very significant.

TABLE 8. Range of development scores

	Fall scores	Range	Spring scores	Range
VTS class	4–10	6	8–14	6
Non-VTS class	4–12	8	10–15	5

According to the rubric, effective elaboration in second grade would require the writer to "bring his characters to life with details, talk and actions."[159] Elaboration that would be above second-grade level would have to demonstrate that "The writer worked to show what was happening to (and in) her characters."[160] A strong example of elaboration is the following excerpt written by a student in the VTS class during the June assessment. The student wrote a narrative about learning to ride his bike with the assistance of his father:

> First day failure. The next day, we did the same, after breakfast we went outside and repeat everything that we did the first day, but this time I told my dad to help me just holding my bike from the seat, then he would took his hand out the handlebar, but he would hold the handlebar back immediately because he continued to be scared of me falling and getting hurt. Every time that I told him to let me go he told me I don't want you to get hurt and also was still kind of scare to fall and get hurt. I saw that maybe a second day of failure could happened. At that moment, I told my dad to let me go, I could do it, believe me, believe me, please.

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[159] Calkins, Hohne, and Robb, *Writing Pathways*, 360.

[160] Calkins, Hohne, and Robb, *Writing Pathways*, 360.

The element of craft is slightly different than elaboration. Second-grade writing would be considered at grade level in craft if "The writer chose strong words that would help readers picture her story."[161] A second grader would be considered preforming above grade level in craft if "The writer not only told his story, but also wrote it in ways that got readers to picture what was happening and that brought his story to life."[162] An example of writing that received a four on the June assessment is the following, written by a student in the non-VTS class about a trip to the Dominican Republic to visit the student's father:

> Then after, we magically arrived to the beach of Samana. It was the most stunning beach I had ever seen. The water was crystal clear. While in the ocean I could literally see the white silky sand in between my toes. That evening the sun and the sky became best friends as they made the sky so colorful like a rainbow.

It was anticipated that the VTS lessons would support students' skills in elaboration and craft more than it would support their skills in other elements on the rubric. The very nature of the VTS discussions included many opportunities for students to talk about characters in images and bring the images to life with their storytelling, narratives that would naturally include details, talk, and actions. In addition, the whole-class discussions, with paraphrasing from the instructor, provided opportunities for students to use and hear strong words and new vocabulary. The lessons provided much practice in the use of expressive and receptive language. The images themselves were

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[161] Calkins, Hohne, and Robb, *Writing Pathways*, 360.

[162] Calkins, Hohne, and Robb, *Writing Pathways*, *360.*

expected to serve as examples to enable students to "picture" what was happening in the image and bring it to life.

When breaking down the two elements of development, elaboration and craft, it is noted that students in the VTS class had an average score of 5.18 in elaboration and an average score of 5.81 in craft. As a score of six would meet grade-level expectations, (these scores are doubled), this indicates students were able to use elaboration and craft almost as well as expected by the end of the school year. On the other hand, the non-VTS class had an average score of 6.11 in elaboration and 6.33 in craft, indicating the students employed elaboration and craft slightly above end-of-year expectations.

In terms of growth, students in the non-VTS class displayed more growth in elaboration than students in the VTS class displayed. Students in the non-VTS class improved their scores by 48% in elaboration, while the VTS class grew 21%. (See Table 9.)

TABLE 9. Change in average elaboration scores

	Elaboration average fall	Elaboration average spring	Change (%)
VTS class	4.27	5.18	+21
Non-VTS class	4.11	6.11	+48

However, students in the VTS class improved their use of craft more than the non-VTS class improved. Additionally, craft was the only element on the rubric where the VTS class outperformed the non-VTS class in growth, except for ending. This is significant considering the importance given to craft in the writing process. The VTS class improved their craft scores by 83% from the fall to the spring, while the non-VTS class grew 67%. (See Table 10.)

TABLE 10. Change in average craft score

	VTS class			Non-VTS class	
Student	Craft Score Fall	Craft Score Spring	Student	Craft Score Fall	Craft Score Spring
1*			1	2	8
2	4	5	2	4	6
3	2	7	3	4	4
4*			4	4	6
5	4	4	5	2	7
6**			6*	4	
7*			7	4	8
8	3	6	8*	6	
9	3	6	9	6	6
10	4	7	10	4	4
11**	2		11	4	8
12	2	6	12*		
13	4	7	13*		
14**		7	14*		
15	2	5	15*		
16	2	7	16*		
17	5	4			
Average	3.18	5.81	average	3.77	6.33
Change		+83%	change		+67%

*Did not participate.
**Did not produce scorable writing.

Perhaps more significantly, ESL students in the VTS class outperformed the ESL

students in the non-VTS class by an even larger percentage. ESL students in the VTS

class improved their scores for craft by 64%, while ESL students in the non-VTS class

improved their craft scores by 14%. (See Table 11). Not only did the ESL students show more growth, they demonstrated higher achievement as well with higher average scores.

TABLE 11. Change in ESL students' average craft scores

	Fall craft score average	Spring craft score average	Change (%)
ESL students VTS class	3.4	5.6	64
ESL Students non-VTS class	4.6	5.3	14

The VTS lessons were expected to have the least impact on the category of language conventions, which comprises spelling and punctuation. Advances in spelling and punctuation most often result from direct instruction and focused practice. An effective strategy to improve an elementary students' ability to spell correctly is the use of a word wall. A word wall is a large chart on the wall of the classroom, which lists words in categories, to which a student can refer while writing. The categories may be alphabetical, parts of speech, subject related, or any other categories relevant to the classroom environment. Additionally, experience in the writing process, including drafting, revising, and editing, as well as time spent reading texts, also has a significant impact on these skills. The act of viewing during visual thinking skills lessons, however, does not provide direct practice in spelling or punctuation usage, nor do the discussions that accompany the lessons offer support to either element. However, VTS lessons can be considered to have some impact on the ability of students to use correct spelling and punctuation, in that VTS lessons promote speaking and listening, both of which can help to improve these language conventions indirectly.

According to the rubric, a student would be considered on grade level in spelling

if "to spell a word, the writer used what he knew about spelling patterns (tion, er, ly, etc.).

The writer spelled all of the word wall words correctly and used the word wall to help

him figure out how to spell other words."[163] A writer who "used what she knew about

spelling patterns to help her spell and edit before she wrote her final draft" would be

above grade level as would the writer who "got help from others to check her spelling

and punctuation before she wrote her final draft."[164] For the end-of-year writing

assessment, it was difficult to ascertain if a student used what she knew to edit her

spelling or got help from others to check her spelling, as the writing was completed

virtually.

In terms of punctuation, expectations for grade-level work include a writer who

"used quotation marks to show what characters said" and "when the writer used words

such as can't and don't, she used the apostrophe."[165] The expectations for punctuation for

a second grader assume the use of periods at the end of sentences, capital letters for

names, and commas in dates and lists. These are grade-level expectations for a first-grade

student, and a second grade student who does not use these elements of punctuation will

be given a score of one, which is on kindergarten level. Conversely, to be above second-

grade expectations in punctuation, a writer would need to punctuate "dialogue correctly

with commas and quotation marks."[166] In addition, the student would need to "put

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[163] Calkins, Hohne, and Robb, *Writing Pathways*, 360.

[164] Calkins, Hohne, and Robb, *Writing Pathways*, 360.

[165] Calkins, Hohne, and Robb, *Writing Pathways*, 361.

[166] Calkins, Hohne, and Robb, *Writing Pathways*, 361.

punctuation at the end of every sentence" while writing, as opposed to during editing, and write "in ways that helped readers read with expression, reading some parts quickly, some slowly, some parts in one sort of voice and others in another."[167] As the end-of-year writing sample was completed virtually, instructors were not able to assess whether students used punctuation while writing or added it in later. However, if these elements were present in the writing, credit was given for them.

The following is an example of writing that received a score of four in both spelling and punctuation on the end-of-year assessment. This student wrote about receiving a Nintendo Switch for the holidays:

> It was a cold evening when my mom went to target and it is still very fresh in my mind. I remember my mom drove and my step dad stayed in the car with me while she went into the store. I remember it being dark and we had stopped at a Target on our way home from Pennsylvania. My mom had said, "I'm just running in quick so we can get home." She was very quick and we were back on the road and home pretty quickly.

The VTS class improved their average language score 53% from September to June, while the non-VTS class improved their average language score 120%. Students in the VTS class had an average spelling score of 1.36 in September and improved to an average 2.45 in June. This represents growth of 80%. The non-VTS class had an average spelling score of 1.16 in September and had improved to an average spelling score of 3.5 in June, which represents growth of 201%. In the fall, students in the VTS class had an average score of 1.69 in punctuation and improved to an average score of 2.22 in June.

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[167] Calkins, Hohne, and Robb, *Writing Pathways*, 361.

This represents a growth of 32%. The non-VTS class showed more growth in punctuation than the VTS class. Their average score was 1.33 in September, which grew to an average score of 3.16 in June. This indicates a growth of 137%. (See Table 12.)

TABLE 12. Change in language, spelling, and punctuation average, percentage

	Language change	Spelling change	Punctuation change
VTS class	+53	+80	+32
Non-VTS class	+120	+201	+137

Overall, the non-VTS class demonstrated more growth than the VTS class in each element of the rubric, with the exception of ending and craft. (See Table 13.) It is significant that the VTS class, while performing at lower growth levels than the non-VTS class in most areas, was able to demonstrate more growth in craft, one of the two most essential elements of writing, the heart of the written piece.

TABLE 13. Percentage growth in all elements, fall to spring

	VTS class	Non-VTS class
Overall Structure	53	65
Lead	60	196
Transitions	86	127
Ending	214	211
Organization	142	294
Elaboration	21	48
Craft	83	67
Spelling	80	201
Punctuation	32	137

The qualitative data indicate the VTS lessons had an impact on the students thinking more than the quantitative data indicate an impact on students' writing. The

qualitative data include the anecdotal notes taken during VTS lessons, which chronicled

students' responses to the sixteen images that were viewed and discussed over the course

of the school year. They provide much evidence to indicate there was significant change

in students' thinking about the images from the first VTS lesson on October 11, 2019, to

the last VTS lesson on May 12, 2020.

After the first few lessons, it became apparent that students had become more

patient viewers and were able to spend more time with their "eyes on canvas." Over time,

students also demonstrated evidence of moving from Stage I of Housen's Aesthetic

Development model to Stage II. There were changes in the way they responded to art and

development of their aesthetic thinking. This includes their observation skills and the

types of associations and judgments they made. Students also began to notice artists'

intentionality, that is, to notice the artist was present in the image. Their thoughts about

the image included more than just the viewer and reflected the artist's purpose or

message in the artwork. Students also honed their skills in making inferences, listened

more often to others' opinion, influenced each other's thinking, and had their own

thinking influenced. Additionally, they increased their ability to understand the craft of

image making. Throughout this time, students also took advantage of the many

opportunities to use oral language to communicate their thinking.

In the first VTS lesson students did not want to view; they wanted to speak. It was

difficult for them to develop the patience to view for an extended period before deciding

they had something to say. This impulsivity is consistent with what educators know about

the development of seven- and eight-year-olds. Indeed, Yenawine describes the listening

skills of second graders as a nascent behavior and something with which they struggle.[168] I agree with this and with his assessment that "The importance of listening is hard to overestimate."[169] Difficulty with listening is also reflective of the environment in which students live, one in which there is constant stimulation through media such as television, internet, and the like. I have observed numerous occasions where young children do not have enough experience occupying themselves, or self-soothing, without the use of a device. It has become the norm, when participating in meetings with parents and young children, that the children require a cell phone or other device to occupy themselves. During the first few lessons, students in the VTS class demonstrated this same tendency and resisted looking at the images in silence for a few minutes.

After a few VTS lessons, students began to adjust. They were able to sit and view for increasingly longer periods before speaking or requesting to speak. By the third VTS lesson, no student raised a hand to speak for almost the first two minutes, which is a very long time for a second grader. This increased ability to keep attention on the image is supported by Housen's research, particularly through the purposefully designed VTS protocol. According to Housen, the question "what is happening in this image?" "actively support(s) the viewer by keeping attention on the picture—'Eyes on the canvas!'—a pivotal step in art viewing."[170] Housen claims that when a group of beginner viewers respond to this question they begin to look "longer and more intently."[171] Housen further

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[168] Yenawine, *Visual Thinking Strategies*, 46.

[169] Yenawine, *Visual Thinking Strategies*, 46.

[170] Housen, "Art Viewing," 10.

[171] Housen, "Art Viewing," 10–11.

states that asking "what do you see that makes you say that?" will prompt "everyone to look longer and harder."[172] Additionally, Housen asserts that the third question "what more can you find?" "recharges the process of looking and ensures that the group continues to look intensely."[173] It was clear this had occurred. Students' viewing behaviors were changing during the first few lessons. They increasingly became more comfortable viewing for longer periods in each subsequent lesson. At the beginning of Lesson 4, students had to be told the viewing time was over. An additional reason this extended viewing was occurring could be that it became clear to students that I would not call on anyone to speak until viewing time was over. It was a purposeful pause for viewing, and likely, longer than one they had experienced previously. Another positive change was the fact that only a few students participated in the first lesson but by the fourth lesson, almost all students were participating regularly, although some more than others. In total, students had spent five hours with their "eyes on canvas" throughout the course of the school year. By the end of the school year, they had developed the important skill of listening.

Over time, the effect of this additional time with "eyes on canvas" was apparent in the comments the students were making, as Housen claimed it would be. Consider the following comment made by a student during the first lesson in October regarding the image *Mis Sobrinas*. The student described the image as "people are in a forest…because there are things like trees and flowers." In April, this same student commented on *Autumnal Fantasy* by describing the image as "a mythical forest, with magical stuff" such

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[172] Housen, "Art Viewing," 11.

[173] Housen, "Art Viewing," 11.

as "white lights around trees, there is a swan and the sun is setting." The student added,

"There is a light side and a dark side and the light side is trying to destroy the dark side."

It is interesting to note that while the student referenced mythical and magical themes, the

student was not aware of the title of the painting. It is also important that Burchfield's

work has often been referred to as having a mystical quality which this student began to

recognize.[174] Certainly, VTS had assisted this student with the development of aesthetic

thinking.

All students' comments were categorized by the type of thinking involved,

including the categories reflected in Housen's research. Housen's Theory of Aesthetic

Development states that all viewers' comments can be categorized as observations,

associations, preferences, and comparisons. Comments of these types occurred

throughout the lessons, and the quality of these comments changed as the students

became more experienced viewers. Students' comments were organized by additional

categories that emerged through the analysis of the responses. This includes responses

that were inferences and those that enabled one student to influence another student's

thinking. Many comments fit into more than one category, as they contained more than

one type of thinking. An example is from the painting *Mis Sobrinas* where the student

noted that there were animals in the forest because some of the "leaves have been nibbled

on." This comment is both a detailed observation and an inference.

During the first several lessons, students' comments were mostly of the type that

Housen expects of Stage I viewers, simple concrete observations that color their

storytelling. Viewers in this stage weave their observations into narratives, tell stories,

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[174] "Charles Burchfield."

and make lists. Their stories can be very imaginative and resourceful. Students in this study did just that: they made simple, concrete observations throughout the lessons. They observed the images and created a scenario based on what they saw. Students did display other viewing behaviors of Stage I and, eventually, displayed behaviors of Stage II viewers, but simple, concrete observations came first and followed thereafter. Storytelling continued throughout the school year, as the following examples demonstrate.

The first image students viewed was *The Child's Bath*, and immediately students created a narrative to go with the image. Comments included "That is a mother giving her child a bath," "A mother long ago when she was washing her kid," and "The mother is washing her baby." One student elaborated and created an imaginative narrative that stated, "The child was playing in the mud and stepped in a hole so the mother had to wash his feet."

The same type of storytelling, based on concrete observations, dominated the conversation with the second image, *Mis Sobrinas*. Several students declared it was a big sister and a little sister and their mother, or a family in the forest. Another student claimed the mother brought the child to the forest for the afternoon because it was peaceful. Another student decided the family was far away because the flowers were pink and "we don't have them here." These responses reflect Stage I viewers who do not look closely but rather make a "first quick interpretation" as Housen said they would.[175] One student made a more detailed comment when he noticed some of the leaves in the forest looked as though they had been "nibbled on." As storytelling continued throughout the

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[175] Housen, "Eye of the Beholder," 13.

lessons, examples of quick first interpretations abounded, while more detailed

observations and stories emerged over time.

Simple observations were evident in Lesson 2, where most students decided the

image *Snap the Whip* was about children playing a game. Some students considered the

red building in the image to be a barn, while others thought it was a school. Students

continued to create imaginative narratives based on a first look. One student claimed the

children were holding hands because "two children were holding the other children back

to protect them from something," and another thought they were "protecting the children

from tripping and falling on each other." Students described the setting as being in the

woods, due to the forest and trees, which one student described as "Mother Nature."

The observations made of *Sunny Side of the Street* continued to be simple and

concrete. Students described the image as "kids playing a game with sticks" which some

thought were golf clubs and others described as large sticks of chalk. This image has a lot

of detail, and students began to list the items they observed, people in windows, antennae

sticks, trashcans, an ambulance carrying someone on a bed, and a mother with a baby.

This aligns with Housen's description of Stage I viewers as "listmakers."[176] One student

created an imaginative narrative that claimed, "Kids were having a bike race and the end

of the race was the castle in the background" and another decided the students wanted to

play ice hockey so they decided to practice on their roller skates.

In the next lesson, students decided the older man in the painting *The Stay at*

Homes was a grandfather, who was with his grandson. There was some disagreement, as

several students decided the grandfather and his grandson were waiting for a boat while

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[176] Housen, "Art Viewing," 3.

others thought they were just watching the boats together. A couple of students noticed the grandfather's hat and decided he was a sailor. Another then noticed the boy was wearing a similar hat but did not identify why. A tissue or napkin was then described as being in the back pocket of the grandfather and another student explained it was a bandana because "people put them in their back pockets, it is pointy and it has circles on it like a bandana" the child had previously seen. One student noticed a fishing pole in the painting, while another said it was walking stick they were using, because they were taking a walk. These comments, again, reflect the tendency for Stage I viewers to make immediate interpretations without much deliberation or reflection.[177]

Students' observations and storytelling became a bit more nuanced while viewing *Waiting for the Train*. This is likely due, in part, to the location of the students' school just a couple of blocks from the train station to New York City. Even though the students had not been given the title of this work, it was self-explanatory to them. Almost every child described this image as a father and son waiting for the train. Most agreed the father and son had been shopping, as the father was holding a shopping bag. Students immediately noticed the setting was a big city, and several pointed to the tall buildings in the back as proof. There was some disagreement as to whether they were going into the city, or leaving the city and going home, but all agreed the city was New York City. The evidence to support this contention was the label on the shopping bag that said "I Love New York," which almost every student noted. This is evidence that as lessons progressed, students were shifting from "storytelling to describing more of the pictures'

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[177] Housen, "Eye of the Beholder," 13.

details" which Housen describes as a characteristic of movement from Stage I to Stage II.[178]

The first image in the fourth lesson, *Prince Balthasar Carlos on Horseback*, seemed to offer more puzzlement for students. This is desirable, as puzzling over an image, or experiencing cognitive dissonance, helps to propel students' progression in aesthetic thinking.[179] After taking more time to comment, students engaged in simple storytelling based on concrete observations, as before. Students decided the image was a kid, or child, on a horse, and they knew this because he was small. Several students decided the child was a cowboy because he was wearing a cowboy hat and wearing a pink scarf. There was some discussion as to whether the horse was racing, running, or galloping, because the horse's legs were in the air. Once several students decided the horse was running, students came up with stories as to why, including running away from a fire, traveling somewhere, and running away from home. At the end of the lesson, one student declared the boy was a prince because he was wearing gold as was his horse, and he had a whip. Others agreed and one student pointed to what she thought was a crown on the horse's head, and said, "it must be the horse of a prince." The decision that the Prince was a cowboy is an example of Stage I viewers making a quick first impression. Students automatically came to that conclusion when they saw someone on a horse wearing a hat. This comment also exemplifies the tendency of viewers at this early level of development to make "fanciful, personal" observations.[180] However, taking the time to

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[178] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 61.

[179] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 67.

[180] Housen, "Eye of the Beholder," 14.

view longer, and make a more detailed observation is indication of a shift to Stage II. Students did this once they noticed the crown on the "cowboy's" horse's head.

Students, mostly boys, immediately decided the image *Prairie Fire* was a painting of war. The students mentioned the color red right away and used it as evidence to support the idea there were "fireballs" and red "bombs" in the sky. This supports what Molly Bang states about the use of color. Red, she says, is considered a warm color but can also reflect "danger, vitality, [and] passion." While red represents blood and fire, the use of red also reflects images that are "bold, active, and more interesting."[181] Students seemed to make similar connections to the use of red by focusing their discussion on the color. Another student crafted a narrative that someone was pointing at the sky, with a stick or sword, and everyone was running away. Some decided it was about to storm, because the sky was dark, and they were running away to shelter. Students listed the animals they observed including deer, wolves, hyenas, gazelles, and horses. One student decided the hyenas were about to eat the gazelles and that is why they, and the horses, were running away. Another student declared there was a volcano and everyone was running from the lava, which was the red parts on the ground. Students continued to be list makers and storytellers, both behaviors consistent with Stage I viewers.

In the following lesson, *Mid-June*, the first of the Burchfield paintings, seemed to generate more complex thinking. This may be due in part to the relative abstractness of the Burchfield paintings compared to the more realistic images the students had previously viewed. Students made several inferences during the lesson. A student

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[181] Molly Bang, *Picture This: How Pictures Work* (San Francisco, CA: Chronicle Books, 2016), 3, 9.

declared marks on trees meant the movement of butterflies. Another thought the painting depicted spring because there were butterflies flying around and they were collecting nectar from the flowers. Another student claimed the butterflies were coming back after hibernation. Another student agreed, proclaiming the image took place in the month of April, because that is when hibernating is over. However, storytelling and list making continued as students told idiosyncratic stories about tree chopping and listed the wildlife they observed including birds with long beaks, bald eagles, and bats. As Housen explains, Stage I viewers form personal or idiosyncratic associations.[182]

While viewing the next image of that lesson, *The Four Seasons*, and those after, the storytelling became more imaginative. When observing *The Four Seasons*, several students created a narrative that this image was a castle in the woods with a door. One claimed the castle was still being built, as it was not finished and the floor looked like it was made of sand with colored footprints. Another student agreed it was a castle but said there were no doors, just windows. As evidence, the student pointed to the shape of the windows, which were the same shape as castle windows. Some students agreed the sun was shining bright on the trees and others added there was snow on the sides and bottom of the picture but they could not come up with an explanation for that. Housen tells us that as students progress in their aesthetic development, their responses to art shift from being "random observations to more and more linked observations."[183] Students displayed that here in the conversation about the windows and doors in the "castle." This

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[182] Housen, "Eye of the Beholder," 14.

[183] Housen, "Eye of the Beholder," 14.

image provided students with something to wonder or puzzle about with the description of snow only on the sides and bottom of the picture.

The next image, in the following lesson, was *New Moon in January*. Students told several different stories about this image, often disagreeing, as they found some ambiguity in the image. Burchfield's images are full of such ambiguity. The first response was "this is nighttime with a moon in winter and the lights are on" and the student referenced the icicles hanging on the house to indicate it was winter. Another student agreed and mentioned the snow outside and the animals sitting but the window. A third student disagreed and created an imaginative narrative that stated, "the animals were in the house and they were drinking hot tea. I know this because of the big pot and the little pot on the table, one for pouring and one for drinking." This student knew they were drinking tea "because on a cold day you drink something hot." One student claimed it was nighttime in December and another thought it was sunrise because there was light in the sky above the house "as if it was rising." Another viewer decided it was the afternoon because the sun and the moon were together as a '"ball of light" that was in the house. Other students agreed the sun was in the house. There was some disagreement about the type of animals present, as some thought they were dogs drinking tea and others thought they were dogs and cats eating out of bowls, not drinking tea. Another student ended the lesson by declaring there was an old man, drinking tea with his dog in a lighthouse and that is why "it looked like the sun was in the house." As Housen details, behaviors that are indicative of a shift in viewing stages include students making more observations, including more detail, and attempting to place them in a context.[184] This is what was

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[184] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 61.

happening in this discussion. While it seemed that students created a narrative after making a quick interpretation, they also included several details. Some of the details seemed out of place, weird, or not in the students' familiar culture, and thus there was an attempt to explain them or put them in context. Had the viewer been able to be more deliberate or reflective while observing, she may have realized the light in the house was a lamp, and not the sun. The student struggled to find a context for the sun inside a house, thus she created a story about a lighthouse.

Viewing of *Febrary Thaw* again elicited several different narratives. One student saw people going to the store in winter and knew it was winter as there were no leaves on the trees. Several students constructed a narrative about people going sledding because they saw snow and a hill. One claimed the season was spring as the snow looked to be melting, but another disagreed and said it was December. One student pointed out the sun was shining which melted the snow, but said that it was still winter. Here are good examples of students relying on their own experience to tell stories. Even though there were no images of people sledding, students know from experience that is what people do when there are hills covered in snow.

In the next lesson, during the viewing of *The Insect Chorus*, students made the move to more inferential thinking and detailed viewing, but they continued to create stories based on what they saw and what they knew. Immediately a student said there was a tree, a bush, and a secret tunnel that people could use to get in the house. Another student agreed and said the house was a barn because there were many trees and bushes around. A third student thought the house was old and a place "where orphans stay." She thought this because the house was "very small and they didn't build big houses back

then." This student made the judgment that there were orphans in times past but is of the belief that there are no orphans now.

When addressing *Autumnal Fantasy*, students continued to engage in storytelling but it took up much less of the discussion. One student noticed a bird hanging upside down, but no one offered an explanation. Students looked as it was pointed out and seemed confused. One student claimed the image was a "mythical forest with lots of different animals and magical stuff." Another student stated there was a wildfire and ducks were flying away from the fire. One student agreed and claimed there were people in the background who were making the fire. Students listed the animals they saw including birds, squirrels, and an elephant. One student said there was light from a star behind the moon, and another corrected the student to say it was not a star, but rather the sun. Students were consistently engaging in the behaviors of Stage I viewers by telling stories and making lists of what they observed.

In the final lesson, there was still some storytelling about *Fireflies and Lightning*, but this type of reaction to artwork continued to decline, as students began to take more notice of the artist and the intention in the work. One student decided the painting depicted spring, as there were white flowers and green leaves. Another disagreed and said there was snow on the ground and snowflakes on the trees. A third student disagreed with both of them and said the white snow was winter becoming spring because of the flowers in the painting.

In the last image, *Telegraph Music*, students constructed divergent stories. One claimed the image was of the ocean and the wind was blowing. Another saw birds, snow, and houses. Another student stated there were holes in the posts for "critters to hibernate

such as rabbits, birds, mouse, and fox." Still another student claimed the image was of a farm and a dog in the winter. Students seemed to have developed more confidence in what they said and more often backed up their opinions with evidence from the image. This indicates a shift to Stage II.[185] However, students were still making lists and telling stories.

While making concrete and simple observations is a dominant characteristic of Stage I viewers, they display other characteristics as well, including the tendency to make personal associations, or connections, with the image. These associations can be idiosyncratic and quite imaginative. There is much evidence of this throughout the VTS sessions. Additionally, as students became more comfortable with viewing, they made associations more frequently and with greater detail. Certain images elicited more personal associations than others, and the topic or content of the image was often the factor in this.

While viewing *The Child's Bath*, students made personal associations such as "my father washes his feet" and "the bath was taking place at night because normally kids take baths at night." During the discussion of *Mis Sobrinas*, a student made a personal connection to her friend when she said "it looks like a family from India because my friend is from India and she has darker skin, like the girl in the picture." Another student claimed the family must live far away because "I have not seen those kind of clothes before so they must buy them from a store we don't have around here." Another stated the image was from long ago because the dresses were long and "we don't wear long dresses around here." There was disagreement from a student who said she wears

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[185] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 61.

long dresses at weddings so they might be at a wedding. These images of common childhood rituals, a mother giving her child a bath and a family portrait, are purposely the first ones in the VTS curriculum, as students have a level of comfort with the context and thus, the images easily facilitate a personal connection.

It was surprising that students did not make more personal connections, or associations, than they did to *Snap the Whip* and *Sunny Side of the Street*, as these were images of children playing games. One student thought the children in *Snap the Whip* were at a summer camp as it was in the woods like her camp. Another claimed it was a red schoolhouse long ago but another disagreed because the children were not wearing shoes, saying "it could not be a school because we cannot go barefoot to school." There was a personal connection made by a student who suffers from allergies as he thought the children could not fall on the grass because the students were allergic to something there. A couple of students thought the city in *Sunny Side of the Street* looked like Disney World because one of the buildings in the background seemed to be a castle. Several agreed and thought the locale might be Disney World. Students' comments about playing hockey and racing their bikes were personal connections as well. It was interesting that some students thought the children were roller skating to become better at ice hockey. Perhaps no one in the group had prior experience with roller hockey.

Both *The Stay at Homes* and *Waiting for the Train* depicted grandparent and grandchild or parent and child together, and students made several detailed personal connections to them. One student decided the grandfather in *The Stay at Homes* had a fishing pole and said, "That is what grandpas do, take you fishing and talk about what they did when they were a little boy." Another said the two were "spending some time

together, going somewhere special, on this special day, so they went to the harbor to be together because that is what grandparents do." Another student mentioned the stick in the image and claimed, "People who like to hike usually have a walking stick, even if they are not old." Another student decided the grandfather and grandson had climbed the hill in the image and were "just looking at the view because that is what people do when they climb up on a hill or mountain." There were fewer personal connections to *Waiting for the Train*, except for the belief by most students that the father and son had been in New York City and were on their way to New Jersey, or vice versa. As one student said, "They just came from New York and they are looking at the view, and taking the train to go back to New Jersey." This was an obvious connection to where the students reside.

The next two images were centered on people with animals, *Prince Balthasar Carlos on Horseback* and *Prairie Fire*. Many students agreed the child was a cowboy because "everyone knows cowboy ride horses." One student said the prince was not smiling because he was acting on a school stage, as in a play. This seemed to be a personal connection to the rather rigid pose of the child and an interesting detail to notice. In reference to the handprint on the side of a horse in Prairie Fire, a student claimed the handprint was probably painted on purpose. Another student agreed and said they would paint their horse so everyone know which horse belongs to them, as students do when identifying their own belongings in school. Housen states that as students make a shift from Stage I to Stage II, their associations tend to become more tied into "one's own conventional or cultural associations."[186] This appears to be happening in these last two comments about the conventions of school supplies and acting in a school play. The use

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[186] Housen, "Eye of the Beholder," 14.

of the word "probably," regarding the handprint on the horse, is interesting, as it is conditional language. Housen tells us that as students move into Stage II they "increase their use of conditional language to indicate awareness that what they suggest may be open to other interpretations."[187] This is happening here as well.

During the discussion of *Mid-June*, there were several disagreements over the appearance of a tree after it has been chopped down. One student claimed the tree looked "broken" as if someone cut it down because "when you cut a tree it does not go straight, if you cut it with an ax it would be pointy" like the tree in the painting. Another student disagreed and said, "When you chop a tree, it is straight across" so this tree must have been broken in a storm and not cut down. Another student agreed that the tree would not be straight on top if it had been chopped down, so it was must have broken. These are idiosyncratic associations, as Housen states Stage I viewers will make: these students have a particular opinion on how a chopped tree must look based on their own experience or understanding.

While viewing *The Four Seasons*, students made personal associations when describing the center of the image as a castle and referencing the shape of the windows as castle windows. The topic of Disney World came up again in this discussion, a place where many students have spent time. Another personal connection came up when a student claimed the animals in *New Moon in January* were drinking tea. He knew it was tea because "on a cold day you drink tea" and he had experience with a "big pot and a little pot, one for drinking and one for pouring."

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[187] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 61.

One student made a personal connection to literature when viewing *February Thaw*, as the student noticed three people and three houses and decided it was a story of the *Three Little Pigs*. This student even referenced the electric wires in the painting, which he thought the third pig was using to light his house. This was the first, and only, time a student made a connection to a familiar text.

There were fewer personal connections as the sessions continued, but they were there nonetheless. In Lesson 7, one student saw a house with a secret tunnel in *The Insect Chorus*. In the last session, a student saw glowing yellow fireflies while viewing *Fireflies and Lightning*, and another student claimed there where holes in the post "for critters to hibernate, such a rabbits, birds, mouse and fox" in the painting *Telegraph Music*.

Students made comparisons throughout the lessons, as Housen said all viewers do. In the beginning, students' comparisons were based on something in the image that they compared to themselves or what they knew. Housen tells us to expect these "egocentric ideas" from a Stage I viewer.[188] This occurred during viewing of *The Child's Bath* when a student said the image took place a long time ago because "we do not have that type of carpet now," when another said her father also washes his feet and when a student described the pajamas as old because they were different from his pajamas. Students compared the flowers in *Mis Sobrinas* to the flowers with which they were familiar. They compared the students without shoes in *Snap the Whip* to themselves when they wear shoes to school and the bandana in *Prince Balthasar Carlos on Horseback* to a bandana they had seen. Almost every time students described clothing in an image as old, it was because they compared the clothing in the image to the clothing they wear.

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[188] Housen, "Eye of the Beholder," 14.

Eventually, with more time with "eyes on canvas," students were able to think at a higher level about the images and make more sophisticated comparisons. They became able to make comparisons that had a "concrete point of reference" which others could see and reference.[189] In other words, students made comparisons that were not egocentric, and specific only to them, but rather comparisons that could apply to others as well. This began when a student noticed the handprint on the horse in *Praire Fire* and said it was a mark to identify that horse belonged to someone, in a way similar to the student writing his name on his school belongings. One of the most significant examples of a higher-level comparison was when a student in Lesson 6 began to compare the two Burchfield images and noticed the similarities such as that they had similar colors: each had a sky that was gray with some lighter colors present. As other students began to compare the two paintings, they added other similarities, such as that they both included snow and people. Eventually, this student declared that both images were created by the same artist. What an insight! Another higher-level comparison came in the last lesson of the year while viewing *Telegraph Music*. Students began to compare the marks on the image that some thought represented birds, shadows of birds, and eventually the noise of birds. No longer were students simply comparing what they viewed in an image to themselves, but rather they were comparing the image, or parts of the image, to other images. This was a leap in critical thinking. This was clearly a comparison with a "concrete point of reference" which others could see.[190]

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[189] Housen, "Eye of the Beholder," 14.

[190] Housen, "Eye of the Beholder," 14.

Students' comparisons were often tied into the judgments they made. Housen tells us that viewers in Stage I also make judgments based on what they know and like. Students made judgments during the VTS sessions, but these occurred mostly in the first session and not nearly as frequently as they told stories and made personal connections. In discussing *The Child's Bath*, a student claimed the water in the bowl came from a river. Another student quickly disagreed, and made a judgment when she claimed that "river water is dirty, disgusting, and full of germs" and the water in the image was clean. Another student disagreed with this statement because "some rivers are clean." This brought up a discussion on the environment, which was productive, but students needed to be redirected back to the image. A student claimed the forest in *Mis Sobrinas* was peaceful and beautiful as "there were beautiful flowers and rare pink ones and no one was bothering them," and another student said the flowers were beautiful in Burchfield's *Fireflies and Lightning*. As students moved into Stage II, making judgments seemed to take a back seat to other types of thinking.

Housen asserts that viewers in Stage II, what she calls the Constructive Stage, exhibit behaviors similar to Stage I viewers but use much more detail in their storytelling. They also make decisions that something lacks value when it does not align with how it is supposed to look, and they develop an interest in the intentions of the artist. There is much evidence to indicate that, during the progression of the VTS lessons, these types of thinking were occurring as students began to shift from Stage I into Stage II.

Viewers in Stage II begin to notice when an image does not look the way it is supposed to look or does not align with the cultural values or norms of the viewer and decide the image lacks value. As the VTS students moved into Stage II, they seemed to

express this lack of value with a negative judgment by describing something as old, dirty, or small. Although there were times when students correctly surmised an image was from long ago, they often could not pinpoint exactly what led them to this conclusion. The judgment that students applied to something unfamiliar or confusing—that it was old, dirty, or small—was one on which they fell back frequently.

The image *Prairie Fire* was described as being from long ago "because the shirts on the people looked old because they were dirty." One student described the setting in *February Thaw* as an old town because there were only three houses. This student surmised there had been more houses at one time but they fell down because they were old. This image must have been confusing for some students as it depicts three rather unusual looking homes, with somewhat scary looking faces, which is typical for buildings in Burchfield paintings. Students took time viewing without speaking, but no one mentioned the eerie personification present in the houses, other than expressing the houses were old. While viewing *The Insect Chorus*, a student declared the house was old because it was small and "they did not build big houses back then." As only a small portion of the house is visible in the image, the student was attempting to make sense of what she saw without an understanding of perspective. The image *The Child's Bath* was described as from long ago because a student thought the pajamas on the child were handmade, although the student could not explain what made them look as such. The clothes that Prince Balthasar Carlos was wearing were described as old "because they looked dirty."

An important distinction between the behavior of Stage I and Stage II viewers is the emergence of the viewers' interest in the artist's intention. Housen's Theory of

Aesthetic Development tell us that in Stage I, the viewer and the image are one. The viewer makes decisions about the image autonomously and does not consider the artist, or the artwork, in their thinking. There is no thought given to intentionality, as though images appear randomly or by coincidence. The viewer ignores any relationship between the artist and the artwork. The comments pertain strictly to the viewer.

This self-centered view begins to change in Stage II, as the viewer now takes an interest in the artist and the artwork. The viewer and the image are no longer one, but rather the viewer now also considers the artist who created the image. The viewer begins to recognize that some parts of the image are purposeful and realizes the artist intentionally created aspects of the image. Those aspects are not accidental or coincidental but rather purposeful. It was fascinating to watch this thinking emerge.

Recognizing the artist's intention reminded the me of the first time students realize that J.K. Rowling is very purposeful writer and much of what they read in *Harry Potter* is there for a specific reason. A good example is the Mirror of Erised. Many students initially assume Erised is a nonsensical word that the author created for no particular reason. This magical mirror where Harry can see whatever he wants most in life is named Erised because it is "desire" spelled backwards. They realize when one looks in the Mirror of "desire" they see what they desire most in life. What an "ah-ha" moment for students in each situation. In the VTS lessons, students initially began to notice placement, color, line, and eventually Burchfield's auto cryptograms, which led to them seeing sound and movement in his artwork. This brought excitement to some and a smile to several.

In the first VTS lesson, a student noticed the people in *Mis Sobrinas* were floating in the forest and not standing on the ground. The student pointed out the dark space under their feet and the yellow at the bottom of the frame. No one could explain why people might be floating, but a student decided it must be daytime because the "ground under them was yellow, like the sun was shining on them." While this is an example of students noticing placement on the canvas, the artist was never mentioned in the discussion. The next time a student considered the artist while viewing an image was with *Prince Balthasar Carlos on Horseback* in Lesson 4. One student noticed the number in the bottom left hand corner of the painting and brought it to everyone's attention. Students had a hard time coming up with a reason for the number but speculated it represented the time it took to complete the painting or the number of the painting. This was the first instance of students mentioning the artist and considering the artist's purpose.

Color first emerged as a topic for discussion when viewing *Prairie Fire* in Lesson 5. There was much discussion about the colors red, gray, and white in the sky and the color purple on the ground. One student pointed out that red means fire, because fire is red and hot. As Bang points out, red can demonstrate boldness, activity, and danger, all of which the students noticed.[191] Another student went on to say the sky was gray and white because it was full of smoke from the fire. Still another thought the gray and white sky meant a storm was coming. Another student pointed out that the purple plants on the ground looked like they were growing in sand so they were far away in Africa or Asia, as the setting was the desert. Some students considered the red to be "hot lava" and argued that the image was about a volcano erupting.

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[191] Bang, *Picture This*, 3, 9.

Beginning with the Burchfield images that started in Lesson 5, delightfully, students' responses began to focus on patterns, lines, and brushstrokes in the images. This may be because the Burchfield paintings depict patterns, lines, and brushstrokes more prominently than the previous images, which are more representational. This is also evidence that use of the Burchfield paintings was a good choice. As the discussions turned more to artists' intentionality, students continued to notice and discuss color, but storytelling as a focus became less prevalent.

The first Burchfield image displayed was *Mid-June*, and a student immediately responded that he noticed a pattern that looked like triangles in the trees but was not sure why. Another student said she could tell the butterflies were flapping their wings because she could see the pattern marks around the butterflies. There was some disagreement that the pattern marks around the butterflies were indications they were flapping their wings but rather a line of more butterflies trailing after them. A student noticed an "unusual color of blue" in the trees and, after taking some time to think, suggested it might be because there was a river behind the forest. Several students noticed the birds that were "shaped like the letter V and were also in the formation of the letter V." Students were displaying wonder and confusion over the image, which is evidence that the image was in the students' proximal zone.

While viewing *The Four Seasons*, students mentioned first the colors of red and yellow, with one saying the spiked red marks looked like fire. A student disagreed and said it was the bright sun shining on the tree, and another added that the tree was on fire from the hot sun. A couple of students mentioned the white on the bottom and side of the picture, and one decided it was snow. There was much discussion of shape regarding

what students thought were windows in a castle and the normal shape of castle windows. Students mentioned "cold snow on the bottom and sides and the hot sun shining on the castle in the inside," but no one offered an explanation as to why they both were there. Interestingly, students were able to make the connection between winter snow and flowers in one image as a depiction of the coming spring, but this did not occur until three months later when viewing *Fireflies and Lightning*. Their viewing skills had not yet developed enough to make that inference.

The discussion surrounding *New Moon in January* also centered on color, particularly the color of the sky. One student pointed out the light in the sky above the house and said the sun was rising. Another claimed the sun and the moon were both present: the "yellow ball of light" in the house was the sun, and the sky above the house, which was lighter, held the moon. Another student claimed the moon had a dark circle around it and was "that time when the moon covers the sun" which one student said was an eclipse. There was disagreement as to whether the sun was in the house or in the sky until someone decided it was a lighthouse, which was why "it looked like the sun was in the house." Students seemed to be satisfied with that explanation, as they continued to wonder and puzzle over this image.

More detailed noticings took place while viewing *February Thaw*. A student declared there was a river running in front of the houses "because it looked blurry." Another disagreed and said it was not a river but rather it looked blurry because it was melted snow. She knew this because the sun was shining, which melted the snow. One student agreed the snow had melted because the "reflection of the houses looked bumpy and the houses were not bumpy, they were smooth." Other students agreed that it was

blurry and therefore had to be water. One student brought up the color of the sky, gray

with lighter colors and said the two images, this and the previous one, looked similar as

they had the same sky. Students began to make note of other similarities in the two

images including people, houses, and snow on the ground. One student decided they were

painted by the same artist, and another student immediately disagreed. She said it could

not happen because it was a lot of work and "your hand could get too tired." This was the

second Burchfield lesson, thus the second time in which both images viewed were from

the same artist. Yet, it was the first time students made a connection between the two,

noticed similarities in the images, and decided the same artist had painted them. It was

obvious that students were no longer one with the image and were now seeing the artist

present as well. Indeed, one student not only could see the artist but also was able to

imagine what the artist's work felt like. This was a big step forward in aesthetic viewing.

The next lesson seemed to be a breakthrough, in that several students noticed the

lines, brushstrokes, and audio-cryptograms, as Burchfield calls them. The first image

displayed was *The Insect Chorus*. A student saw a triangular shape in the bush, which she

thought to be a secret tunnel. Another student noticed the many patterns on the bushes

and said, "Bushes are not usually like that." One student said it was a hot day because it

looked blurry and "the lines make it look like it's hot, like heat coming out." Others

agreed and repeated that the lines represented heat coming out of the bushes. Then,

another student said she thought the lines represented the wind "blowing and moving the

bushes." There was some discussion as to what was making the movement, such as birds,

chipmunks, and other animals in the trees. Finally, one student declared the lines coming

out of the bushes "looked like music notes" and actually represented "the noises that were

outside." Students thought about that quietly, and no one spoke or had anything more to add. What is remarkable about this student's response is that the students were not aware that the name of the image was *The Insect Chorus*, clearly an indication of the artist's intention to represent "the noises that were outside."

The image displayed next in the lesson was *Autumnal Fantasy*. The first comment was from a student who noticed circular patterns, which looked liked the planets in the solar system, next to a bird hanging upside down. That comment drew silence for a moment. A student then declared the image was of a mythical forest with a lot of "magical stuff." When asked about the magical stuff, the student said "white lights around trees, a swan, and the sun setting in the mythical forest." This student said the painting had a dark and light side, and the light side was trying to destroy the dark side, which he claimed was more evidence of a mythical forest. Another student noticed lines in the water at the bottom of the page, which she said indicated the water was moving. Another student noticed some marks near a tree and thought they were arrows. One student declared the light was coming from a star behind the moon until one student pointed out it was the sun, not a star. Finally, one student said the marks on the trees were not arrows but "sound effects by the birds, you can hear stuff like the birds are cheeping."

In this lesson, students noticed the audio-cryptograms that Burchfield is known for incorporating into his work. They took note of the markings in the paintings and attributed them to movement and sound. When the student first said "bushes are not usually like that," the student was noticing something which is not found in the students familiar culture, as Housen would say.[192] In light of this dissonance, the student came up

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[192] Housen, "Eye of the Beholder," 14.

with an idea of why the bushes would be like that, which was heat or sound emanating from the bushes. This demonstrates the effectiveness of presenting confusing, or puzzling, images in supporting students' thinking skills. This type of thinking is characteristic of viewers in Stage II, which Housen describes as when "the viewer begins to demonstrate an understanding of the artist's purpose and attempts to explain why the image was created in a particular way. This viewer has moved from storytelling to a more detailed description of the image."[193] Also significant is the student describing *Autumnal Fantasy* as a mythical forest. Burchfield's work has often been described as having a fantastical and mystical quality and the second grader recognized it as such.[194] This lesson propelled many students forward in the development of their visual thinking skills.

In the last VTS lesson, students first viewed *Fireflies and Lightning*. The first comments were from a student who pointed out the patterns on the trees and the pattern of the colors, going from light to dark, which indicate an awareness of the artist. She claimed the light areas of the painting were hot and the dark areas were cold. Another student chimed in and said the trees had designs, but did not go into further detail. Another student agreed and said the trees had a zigzag pattern and lines, adding that it looked "like an artistic tree, not a real tree." Here is an example of the viewer including the artist in her observation. Another student added that the zigzag patterns were there because there was a lot of wind and the air and trees were moving. He could also tell this by the "lines in the sky." Students continued to notice and make meaning from Burchfield's use of audio-cryptograms to see the sounds and movement in his images.

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[193] Housen, "Eye of the Beholder," 14.

[194] "Charles Burchfield."

While viewing *Telegraph Music*, students immediately thought the wind was blowing. One student said she thought the wind was blowing because she saw a "gray thing" on top and it looked like wind. This same student saw shadows of birds that were zigzags on the electric wires. This student then commented that the artist wanted to add "volume" to the image to make it more interesting. When asked about this, the student clarified that volume meant noise. Another student decided the image was foggy, because the background was gray, and thought that might be due to the wind. Several students noted many shadows of birds. Another student saw a zigzag line in the sky, by a tree, and said it was an internet line was but was "moving in a zigzag because it was windy." One students agreed and said the lines were "wiggly" because of the wind, and several students agreed. In this lesson, students continued to make the artist's intention a focal point of the discussion. Indeed, it had become common for students to mention the artist in their comments, saying things such as, "the artist wanted to add volume."

It was particularly interesting that the student specifically noted the noise from the telegraph wires. Burchfield himself found this to be of interest as well. Consider his comment: "There are few sounds that are as wild and elemental as the 'music' of the telegraph wires that stir the blood as much, as fill the listener, boy or man, with such vague but intense yearning for he knows not what."[195] Like Burchfield, some students in the VTS class also noticed the "music of the telegraph wires." It should be pointed out, however, that this student was not a man or boy, but a girl.

Students routinely mentioned the sounds and movements they saw as well. While there was some storytelling going on in the last lesson in May, it was significantly less

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[195] "Works of Charles E. Burchfield: Transitions, *Telegraph Music*."

frequent than what had taken place in October. Most students had definitely shifted toward Stage II by the end of the school year. They had changed their priorities when thinking about artwork and become more sophisticated and nuanced viewers. It was clear that the students' visual thinking skills had developed and changed over time.

There were other patterns of thinking that developed through the course of the visual thinking lessons that are indicative of patterns of thinking in general, rather than patterns of visual thinking. These include the ability to make inferences about images and the ability to agree or disagree with peers while supporting their opinions with evidence. These behaviors have all been found to be positive outcomes of training in VTS.

The first time a student made an inference was in Lesson 1, while viewing *Mis Sobrinas*. One student noticed that some of the leaves in the image looked as though an animal had nibbled on them. She decided this was the case and said there were a lot of animals in the forest. In Lesson 3, a few interesting inferences were made. After some time viewing the second image of the lesson, *Waiting for the Train*, a student noticed the man in the image was holding a suitcase. He announced that the man and the boy had only been in the city for the weekend. When asked how he knew this, the student explained that the suitcase was small so it "would not hold a lot of clothes so they could only stay for a couple of days." This was a high-level inference and required some intensive viewing to notice the detail. Students quietly considered this and most concurred, although one student disagreed. The student who disagreed claimed the suitcase was large enough for five days' worth of clothes. After that, another student decided the father and son were shopping to buy clothes for the son's mother, as she was not in the picture.

The previously mentioned discussion reagrding the tree in *Mid-June*, and whether the tree had been chopped down or fell on its own, demonstrates students making an inference. There was no ax in the image, nor was there anything to cause the tree to fall. After viewing *New Moon in January* and *February Thaw*, students noticed the similarities in the two images and one student made an inference that the images were created by the same person. This thinking involved comparing and contrasting the two paintings, another higher-level thinking skill. Furthermore, students did this comparing and contrasting autonomously, without being instructed to do so.

When students began to make note of the lines, patterns, and cryptograms of Burchfield, not only were they noticing the artists' intention, they were also making inferences to determine the nature of his intention. They not only realized that the artist had purposefully added those elements into the image to convey meaning, they were also able to decipher that meaning. This is evidenced by numerous comments such as seeing the butterflies flapping their wings, lines looking like heat coming out of bushes, music notes that represent noises outside, lines that indicate movement of animals in the bushes, sounds effects that represent hearing the birds cheeping, and zigzag lines where the artist wanted to add volume to the image. This inferential thinking is high quality for second grade students.

Housen tells us the more that students engage in purposeful viewing, "the more they see … that there can be more than one right answer."[196] Providing students with the opportunity to hear diverse viewpoints and agree or disagree with their peers is an invaluable experience. It is for this reason, Housen explains, that she highlights the

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[196] Housen, "Art Viewing," 11.

importance of the instructor being neutral in all comments during VTS lessons. She advises that the non-judgmental paraphrasing by the instructor is helpful in supporting students' ability to listen to each other, consider others' opinions, and do some critical thinking of their own. It is required in order to create an environment where students can safely, "explore new subjects and pursue incipient questions."[197] Students should feel comfortable while at the same time be challenged to "look at new things and voice their thoughts."[198]

Throughout the VTS lessons, students had many opportunities to explore unfamiliar subjects and voice their thoughts and to agree or disagree with their peers. They did so without hesitation after a few lessons. What follows from these experiences is the opportunity to influence others' thinking or have their own thinking influenced. All of these occurred increasingly throughout the school year. In the first lesson, a student claimed river water was dirty and disgusting, and another disagreed because "some rivers are clean." A discussion about the environment, and the importance of keeping it clean, ensued. During that same lesson, students disagreed on whether or not we wear long dresses today. One student firmly stated that the painting *Mis Sobrinas* had to be from long ago because "we don't wear long dresses today." When another student gave an example of herself wearing a long dress at a wedding, the first student listened thoughtfully and agreed. This was the first incident of one student changing another's opinion and a student having her own thinking changed, both of which are positive outcomes expected from VTS lessons. While the first student was technically correct, as

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[197] Housen, "Art Viewing," 11.

[198] Housen, "Art Viewing," 11–12.

the painting was from eighty years ago, it is the thinking about the image that is most important. This was a significant thinking exercise because one student was able to provide a specific example that supported her opinion. Such an act as supporting an opinion with evidence is a skill that can be transferred to writing, reading, math, science, social studies, and other contexts both in and out of school.

Students continued to agree or disagree with each other throughout the lessons. While viewing *Waiting for the Train*, students initially thought the father and son had spent the day in the city until one student noticed the father held a suitcase and made the inference that the suitcase was small so they were in the city for two days. Most students agreed with this changed narrative. One student changed the opinions of others when she decided the child, *Prince Balthasar Carlos on Horseback*, was not a cowboy but rather a prince. The evidence provided was the gold crown she noticed on the child and the horse. While viewing *Prairie Fire*, most students came to an agreement that there was a fire from which everyone was running. This change of opinion came after one student provided the evidence that fire is red, and smoke is gray. While viewing *Mid-June*, there was much disagreement, but no consensus, as to how a tree looks when it is chopped down. Each student involved in the discussion offered evidence as to why each was correct, including describing the instrument that must have been used to do the chopping.

New Moon in January provided material for much discussion about who was in the house and where the sun and moon were located. This painting includes ambiguous images and is one reason for the selection of this image. Students spent much time debating how the sun was in the house and who, exactly, was sitting at the table inside eating or drinking. Everyone's perplexity seemed to be assuaged with the final

explanation of one student who claimed the house was really a lighthouse, which is why

the sun can be inside. No one responded to that statement and everyone seemed to

continue to wonder. When students claimed *February Thaw* and *New Moon in January*

were painted by the same artist, one student loudly disagreed. Her supporting evidence

was that it could not happen, because "your hand could get too tired."

As we progressed through the VTS lessons during the school year, a pattern

emerged regarding students disagreeing with one another that continued with subsequent

lessons. A student would make an initial comment and, as others took time to view,

notice more details, and add onto the initial comment, the initial thinking evolved.

Housen says the emergence of responses that are linked to one another is a characteristic

of movement from Stage I to Stage II.[199] An example is from the lesson with *Fireflies*

and Lightning when a student first decided the image was of the spring. Another student

pointed out what he thought was snow and said the image was about winter. A third

student eventually decided the image was winter becoming spring, as elements of both

were present, and everyone seemed comfortable with that explanation. As students

became more observant, and could offer more detailed evidence to support their ideas, it

appeared that students were more willing to listen and agree. They had become more

accepting of others' ideas, especially when there was some specific evidence to support

them.

The use of more abstract art during the last four VTS lessons should be

considered as a contributing factor in the students' shift from Stage I to Stage II. The fact

that the images were less representational and more abstract may have supported the

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[199] Housen, "Eye of the Beholder," 14.

students' ability to participate in higher-level thinking. As the research by Stewig pointed out, abstract images may be preferred by elementary age students.[200] Salkind and Salkind also found that elementary students had an overall preference for artwork that was more abstract as opposed to representational.[201] He offers the possibility that, if abstract images are preferred, they may provide more opportunities for students to engage in critical thinking and therefore make inferences.

Based on my research and experiential study, I offer the possibility that abstract images may provide more opportunities for students to make inferences. The direct telling that is evident in realistic or representational images allows students to rest on what they see. The literal meaning may be more obvious to students. On the other hand, abstract images may require students to make more effort in order to create meaning. Students may have to do more high-level thinking to create meaning from the image. This greater effort could have supported students' inference making skills while students may have taken the realistic images at face value and not taken the time for deeper thinking. For this to be accurate, however, the abstract images must have to have been within the students' proximal zone. In other words, the images would have to present something familiar so as not to completely confound the students, while presenting something puzzling at the same time. It is expected the Burchfield images achieved such a goal. It should be pointed out, however, that by Lesson 7, when the audio-cryptograms were first noticed, students were more experienced viewers. They had the experience of

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[200] Stewig, *First Graders Talk About Painting*, 312.

[201] Salkind and Salkind, "Gender and Age Differences," 253.

being coached in visual thinking skills during six previous lessons. This experience could have contributed to the students' ability to make inferences.

An unanticipated outcome of the VTS lessons was the scientific nature of discussions that occurred, mostly while viewing the Burchfield paintings. There was discussion of the sun, moon, and stars and their expected relative positions in the sky as well as discussion surrounding an eclipse, including what it is and what it looks like. Students spoke about hibernation, when it occurs and which animals actually hibernate. There was much talk of insects such as fireflies, what they look like and why. Students also commented on the physical nature of water as a liquid and a solid. The change of season was a topic that came up more than once as students puzzled over elements of more than one season present in an image at once. Although environmental issues came up with *The Child's Bath* when there was discussion of the water in the image, the use of the Burchfield images seemed to spur conversations about science and nature frequently. The VTS protocol supports students in thinking about the content of the artwork, so it makes sense that this would happen mostly with Burchfield's artwork as the content is most often about nature.

With the change of presentation from in-school, live lessons to a virtual learning program, it was anticipated the remote classroom discussions would not be of the same caliber as those held in the classroom. This did not turn out to be accurate. VTS discussions held during virtual learning were just as robust as those held in the classroom. The discussions took the same amount of time, students continued to interact with each other by both agreeing and disagreeing, and students demonstrated the same interest in the lesson as they had in school. In fact, the discussions that evidenced the most elevated

thinking skills occurred in Lesson 7 during remote learning. In this lesson, students regularly commented on the sound and movement in the painting and made the most note of Burchfield's audio-cryptograms. This was the lesson where students could hear the noises outside, hear the birds cheeping, and see the bushes moving.

It was also surmised that fewer students would participate in the virtual lessons, which was not the case. The number of students participating in three remote lessons was more than anticipated, as there were eleven participants in Lesson 6, twelve participants in Lesson 7, and eleven participants in Lesson 8.

While the amount of oral language used was not specifically counted, one result of this study is the increased opportunities for students to use oral language. During VTS lessons, the entire session was dedicated to discussion, with the exception of about four minutes where students were viewing each of the two images. There were eight lessons in total and each lesson took a maximum of forty-five minutes. This amounts to five and a half more hours in the school year during which students had the opportunity to discuss ideas with their classmates. Discussion with peers is an important pedagogical strategy and one that is normally embedded into the daily routines of a second-grade classroom. The VTS lessons occurred during students' writing workshop. While some of that time would have otherwise been devoted to discussion, not all of that time would have been. It is not typical that students have an opportunity to engage in classroom discussion for forty minutes at a time. While not measured quantitatively, it can be surmised that the students' additional use of oral language had a positive effect on their thinking and use of language as a whole. Additionally, the use of solely open-ended questions during the VTS lessons offered students more opportunities to engage in higher-level thinking in

general. In fact, that is the purpose of the specifically designed questions in the VTS

protocol. This type of questioning, too, should have had a positive effect on students'

thinking.

Chapter 5

SEEING IS THINKING

This study aimed to determine if monthly instruction in visual thinking skills, during the course of one school year, would support second grade students in developing visual thinking skills and improve their narrative writing performance. Based on quantitative and qualitative data, it has been determined that instruction in visual thinking skills resulted in increased capacity of students to craft a narrative and to engage in higher-level thinking, both in thinking about art and in thinking in general.

The results indicate that instruction in the visual thinking skills protocol facilitated students' ability to "read" visual stimuli. This includes making detailed observations and inferences, forming opinions, backing up opinions with evidence, influencing the opinions of others, and considering others' opinions thoughtfully enough to have their own opinions influenced. It has also been determined that instruction in visual thinking skills had an impact on students' ability to craft stories, an integral aspect of effective writing, while it did not produce a noticeable impact on other aspects of students' writing. The improvement in students' ability to craft stories was particularly strong among students who were studying English as a second language.

The quantitative data indicates students who were instructed in visual thinking skills demonstrated more growth in their use of craft over the course of a school year. This is particularly significant as the use of craft in writing a narrative is one of the two most important elements of students' writing. Craft includes the ability to select strong words to help a reader picture a story as well as the ability to write in such a way as to enable readers to picture what is happening and to bring a story to life. The craft

component refers to the skill of including using precise words and details. This can include showing why "characters did what they did," including "their thinking and responses," slowing down "the heart of the story," and adding "precise details and figurative language" as well as varying sentences in order to create pace and tone.[202] Instruction in visual thinking skills provides support for all these skills through the wide use of paraphrasing throughout all VTS lessons. While paraphrasing is an instructional strategy teachers can use during instruction of any type, it is specifically required and used frequently during all VTS lessons. Paraphrasing is an integral part of VTS instruction and used again and again during each and every lesson.

During VTS instruction, students have numerous opportunities to use oral language to describe what they were seeing and listen to other students' descriptions. As students become more adept at describing artwork with detail, and the instructor paraphrases students comments, students have the opportunity to experience a more language-rich environment over the course of a school year. The use of paraphrasing increases students's exposure to the oral discourse of their peers and offers them more exposure to more advanced use of languare from their instructor. Thus, the strategy of paraphrasing during VTS specifically supports students in their ability to become familiar with and use precise and descriptive language.

This research indicates that these opportunities had an impact on the students' ability to select and use strong words to create a narrative as well as to select details to bring a story to life. The students' higher growth in craft occurred despite the overall

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[202] Calkins, *Writing Pathways*, 11, 67.

higher writing scores by the students who did not receive VTS instruction. This highlights the impact that VTS lessons had on the students' ability to write narratives.

It is also significant that ESL students in the VTS class improved their ability to craft stories, compared to the ESL students in the non-VTS class, at an even higher level than the VTS students in general. This difference was 64% for the VTS ESL students compared to 14% for the non-VTS ESL students. Also significant is the finding that ESL students in the VTS class had higher craft scores at the end of the year than ESL students in the non-VTS class did. Not only did the VTS ESL students demonstrate more growth but they outperformed the non-VTS ESL students as well. They were simply better at using craft in their narratives. This finding echoes what Yenawine reports about the positive effects of VTS for students who are newly acquiring language.[203]

The qualitative evidence supplied by the students' thinking during the VTS lessons indicates significant growth in students' ability to use visual thinking skills when viewing artwork. It was apparent that students started out as Stage I viewers on Housen's Aesthetic Development Scale and were well entrenched in Stage II viewing behaviors by the end of the school year. This supports Housen's claim that moving along the stages of aesthetic development requires purposeful practice and support with "eyes on canvas."[204] Students were able to make observations that were more detailed, make inferences about what they saw, and began to consider the artist's intention, as they became more experienced viewers. The VTS protocol supported the students in becoming more skilled viewers. This study supports Eisner's assertion that students who become more skilled

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[203] Yenawine, *Visual Thinking Strategies*, 119.

[204] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 53.

viewers will become better writers because once they are skilled at seeing, they will have more to say.[205] Students who are better able to make detailed observations and inferences will become better users of language all around. It follows, then, that instruction in visual thinking skills does help students improve their visual literacy.

Further anecdotal evidence indicates that students developed their thinking skills, not just specific to viewing artwork, but creative and higher-level thinking skills in general. During this study, students enhanced their ability to form opinions, agree or disagree with others' opinions, find evidence to support their ideas, influence others' thinking, and have their own thinking influenced. The skill of finding evidence to support one's views is a vital one in teaching students to read and write, and is not an easy skill to develop. The experience students had with finding supportive evidence while viewing will serve them when having to find supportive evidence in text. This study also reflects Housen's findings in Byron, Minnesota, where students grew in their ability to back up inferences with evidence and to speculate between different interpretations of art.[206] These skills are invaluable in other academic areas such as writing opinion pieces, which students are required to do as early as kindergarten.

Another advantage of experience with devising and supporting an opinion is the opportunity for students to be exposed to, and become comfortable with, diverse points of view. This occurred many times during the VTS lessons, and students became more comfortable agreeing and disagreeing as time went by. Indeed, students seemed to ignore each other in the first lessons as they engaged in an "autonomous, and aesthetic response"

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[205] Eisner, "Mind as Cultural Achievement," 471.

[206] Hailey, Miller, and Yenawine, "Understanding Visual Literacy," 59.

to the image, typical of Stage I viewers.[207] As the lessons progressed, they noticed their classmates and gave thought to what their classmates had to say. It is never too early to expose children to diversity, in its many forms, so children may learn to embrace differences of thought. This seems especially relevant in 2020, when so much of the public discourse can be viewed as negative and intolerant of different opinions. This also has implications for the development of students' social-emotional learning (SEL), a priority with school children across all grades in 2020. The development of students' ability to feel comfortable with diverse points of view is an important component in students developing their social-emotional skills, an additional positive outcome of this study.

This research also indicated that interaction with artwork of a more abstract nature benefits students' visual and critical thinking in ways that representational artwork might not. The evidence shows that students clearly demonstrated more critical thinking when viewing the Burchfield images than they did while studying the more realistic artwork. It was apparent that the more abstract images stimulated students to do more thinking. This is significant in that elementary schools are full of realistic and representational images. As Stewig has stated, the prevalence of more representational images in schools may be due to the assumptions that adults make about what children prefer.[208] This study provided evidence that students enjoyed interacting with abstract images, and abstract images provide students with more opportunities to engage in higher-order thinking. I suggest that educators and curriculum developers take note of this and increase the use of

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[207] Housen, "Art Viewing," 4.

[208] Stewig, "First Graders Talk About Paintings*,"* 312.

abstract images in elementary instruction and offer more opportunities for students to be

exposed to art of a more abstract nature throughout elementary classrooms and hallways.

Salkind and Salkind support this when they say, "students may be more likely to become

engaged and their learning facilitated, when the focus is on materials they prefer."[209]

Further research on the impact of abstract images on students' thinking is suggested.

Further investigation is also warranted to determine if students' ability to engage in

higher-level thinking about abstract images is related to the style of the image and its

relative realism or abstractness, or whether it is more dependent upon the content of the

image as Salkind and Salkind indicate it might be.[210]

The results of this study indicate that the implementation of VTS in second grade

has a positive impact on students' ability to listen. Throughout the course of the school

year, students demonstrated their ability to listen for longer periods of time and became

more comfortable with viewing an image without speaking. As has been noted, the

"importance of listening is hard to overestimate" in second grade students.[211] This is

more evidence to support the inclusion of visual thinking lessons in an elementary

school's curriculum.

The study also has implications for the implementation of visual thinking lessons

in elementary schools, as the VTS protocol provides more opportunities for the use of

oral language. Exposing students to images and artwork is an excellent stimulus for the

production of language. The more practice students have in engaging with others through

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[209] Salkind and Salkind, "Gender and Age Differences," 246.

[210] Salkind and Salkind, "Gender and Age Differences," 247.

[211] Yenawine, *Visual Thinking Strategies*, 46.

language, the better they become at using and understanding language. This is especially

true for students who are learning a new language. As educators are aware, immersion in

a language-rich environment is key to supporting language development and an important

pedagogical approach with elementary students that enhances both expressive and

receptive language skills. The VTS lesson are very language rich and all students,

whether new to English or not, benefit from the increased opportunities to use language.

Housen has studied the transfer of critical and creative thinking skills for several

years and has found that students who are instructed in visual thinking skills apply the

skills learned to subjects beyond art.[212] It is expected that the skills the students acquired

during the VTS instruction in this study will transfer to other academic areas.

Observation skills will be relevant in math, science, and social studies, as students read

and decipher charts, tables, graphs, and maps. Making inferences is critical for

developing competent readers, and finding evidence to support one's opinions is required

in most subjects including, but not limited to, when reading texts and writing opinion

essays. Calkins speaks to the importance of transfer as well when she directs educators to

"teach the writer, not the writing."[213] Calkins wants the students to learn skills needed not

just to improve one piece of writing, but to transfer them to all their writing. It is

expected students will transfer their increased use of craft when writing opinion and

information pieces, and not soley narrative writing pieces. The results of this study

indicate that transfer should take place as the students apply their visual thinking skills to

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[212] Housen, "Aesthetic Thought," 99.

[213] Calkins, Hohne, and Robb, *Writing Pathways*, 14.

other subject areas in school. This is another justification for the implementation of the VTS protocol in schools.

Surprisingly, the quantitative data gathered during this study did not indicate more of an impact of the visual thinking lessons than it did. I suggest two reasons why the data may not have indicated a stronger impact on students' writing. First, the sample size became smaller as the school year progressed. I initially expected about twenty-three students per class and ended up with nine and eleven students in each group. This could have affected the reliability of the data. Additionally, the change from live, in-school lessons to a virtual format may have affected the validity of the data. Both these circumstances were out of my control and could not be avoided. Utilizing a virtual format may have altered some of the data from the posttest, as it opened up the possibility that someone other than the student may have had their hands on the student's end-of-year work. Interestingly, the most significant change in students' thinking took place during a virtual VTS lesson, which provides evidence that presentation of the lesson in a virtual format did not negatively affect their effectiveness. For this reason, more research using a virtual format to teach visual thinking skills is suggested.

Based on the study's conclusions, I recommend that visual thinking skills instruction be added to elementary curriculum to support students' development in visual literacy, as visual thinking skills do not develop on their own. These skills need to be supported and taught. I also recommend that visual thinking instruction be included in the curriculum for more than one school year. As this and other research has pointed out, the more time with "eyes on canvas," the more development occurs in visual thinking skills. In addition, it is suggested that VTS lessons occur more than once a month. This research

indicated that monthly lessons had an impact, so it follows that lessons presented more often will have an even greater impact. The addition of visual thinking skills curriculum will enhance students' ability to improve their critical and creative thinking skills, to enable students to develop their use of oral language and offer students experience with hearing and responding to diverse opinions. The effects of such instruction will provide growth in many academic areas, in addition to art, and assist students with navigating a world full of diversity in many forms. The findings also suggest that educators incorporate increased use of abstract images throughout elementary schools for the benefit of the students' thinking skills. The use of Burchfield's images as a way to spur conversations about science and nature should be considered.

The findings of this study are significant, as VTS lessons have a positive impact on students' outcomes in many areas. Students' strengthened ability to listen and reflect; their stronger use of words to help readers pictures their stories, especially with students learning English; and their demonstration of higher-level thinking all support the implementation of a VTS curriculum in elementary schools. The importance of students becoming sophisticated viewers of images to enable them to best able to navigate the visual worlds in which they live, cannot be overstated. The skill to discern between images that are valuable and those that are not is vital so students are able to make accurate judgements on what they see all around them. The ability to back up their opinions with evidence, influence others' opinions, and have their own opinions influenced by others could not be more relevant in the diverse, and somewhat contentious, society in which they live. Perhaps most significant was the finding that abstract images, more than representational or realistic images, better enabled students to

make inferences and facilitated their use of higher-level thinking skills. This finding

should inform educators as to the types of images displayed in elementary school as well

as the types of images used to facilitate instruction. In addition, this should inform the

selection of images for any VTS curriculum in schools. All of these results further

support the idea that students who have developed their skills in viewing, or seeing, will

be better thinkers and writers, as they will have much more to say. This begs for the

inclusion of VTS curriculum in all elementary schools.

Appendix A

DREW UNIVERSITY IRB APPLICATION

HUMAN PARTICIPANTS RESEARCH REVIEW FORM

1. Project Title: Visual Thinking Lessons and Elementary Students' Writing

2. Principal Investigator: Sloan Scully

3. If student research, name of faculty sponsor: Dr. Liana Piehler; Dr. Laura Winters

4. Name of anyone else involved in the study administration/data collection: None

5. Email address of Principal Investigator: █████████████

6. Duration of the Project: September 2019 through June 2020

7. Describe how the requirement to obtain training in the responsible conduct of research involving human subjects was met: Completed the CITI Program course; Responsible Conduct of Research (RCR), Basic RCR + Human Subjects, Basic Course

8. Review the types of research listed on the IRB website. Check the box of the type of research you believe that you are conducting.

X Exempt from further review
☐ Expedited
☐ Full Review

9. Electronic Signature(s):
Principal Investigator: <u>Sloan Scully</u>   Date: <u>March 13, 2019</u>

Faculty Supervisor: <u>Dr. Liana F. Piehler</u>   Date: <u>April 3, 2019</u>

10.   Provide a brief description of the purpose and goals of the proposed research, including in what form the research is potentially to be published (e.g. thesis, dissertation, article, book).

> 1. The research will be published as a dissertation. The purpose of the research is to investigate whether instruction in the use of Visual Thinking Strategies will have an impact on second grade students' writing composition. The goal is to determine if the use of VTS in the classroom has a positive effective on students' writing.

11.   Describe your participants. Indicate the total number of participants and whether any of the participants will be minors or will be from other protected populations (e.g., those whose decision-making ability is impaired or compromised in any way, prisoners, etc.).

> 1. Participants are second grade students at ███ Elementary School in ██████, New Jersey, from September 2019 through June 2020. Approximately 23 students will participate in the VTS lessons and test scores only will be used from the rest of the second-grade cohort at ████ School, approximately 22 students.

12.   How will participants be recruited (via a message, an advertisement, a phone call, face-to-face)? Are there any specific selection criteria? Will participants be compensated in any way for their participation? How will you ensure that participants do not feel coerced to participate?

> 1. Participants will be selected by informing them face-to-face. The only selection criteria is that they are enrolled in the second grade in the 2019–2020 school year at ████ School. Parents and Guardians of the participants will be asked to give written consent to participate. The consent form will indicate this is not a required activity and they may opt not to participate. Students can withdraw at any time. Parents/Guardians can withdraw their child at any time. Not participating will not in any way effect the student's or guardian's relationship with ████ Elementary School or the ██████ School District.

13.   How will you obtain consent from participants (or legal guardians, if minors are involved)?

> 1. Permission will be obtained through the Consent Form and a ██████ School District permission form

14.   Describe the study's procedures and all activities that participants will be asked to perform. Remember that copies of ALL materials should be submitted as part of this completed form.

> 1. Approximately 23 students, or one second-grade class out of two, will be exposed to eight (8), 30 – 60 minute lessons on the Visual Thinking Strategies (VTS) protocol, a researched based instructional strategy, developed by Dr. Abigail Housen. The instruction includes time to view a

piece of art work followed by an instructor led, non-evaluative discussion which is based on three questions; What is going on in this picture? What do you see that makes you say that? What more can you add? The first five lessons will be provided once a month, from October to February, in one second-grade classroom. The remaining three lessons will be provided through a virtual learning format, Google Classroom, during April and May. VTS instruction will be provided by the researcher, Sloan Scully. Anonymous anecdotal notes of discussion comments will be taken by Sloan Scully as well. The classroom teacher will be present in the classroom during the lessons in school, but not deliver the lessons. Any student who is not participating in the lesson will remain in the classroom and work on language arts curriculum dictated by the school district's curriculum guide. The classroom teacher will supervise these students. All students will be invited to participate during the virtual lessons through the classrooms teacher's Google Classroom.

Writing assessments from both second-grade classes, approximately 45 in total, will be analyzed for growth. These assessments are the second grade beginning and end of year writing assessments, as required by the ███████ ███ School District's curriculum. Lucy Calkins' 'Writing Pathways' Rubric will be utilized. The writing scores of students who received VTS instruction will be compared to those who did not receive VTS instruction in terms of growth. Participants' names will be anonymous during data analysis and publication. The beginning of year writing assessments will be completed in the students' classroom and the end of year writing assessments will be completed through the virtual classroom.

15. Where will this research be conducted?
   1. ██████ Elementary School, ████████████████, ██████████, NJ

16. Are any aspects of your research kept secret from participants? If yes, indicate what will be hidden and why it is necessary to hide this information.
   1. Nothing will be kept secret from the participants.

17. Describe any potential benefits of your research to participants and/or society.
   1. Potential benefits for students include enhanced writing, viewing, and critical thinking skills, increased exposure to varied opinions in a non-evaluative setting, increased opportunities for art appreciation and use of oral language. Other potential benefits include enhanced teaching skills for district teachers, as well as improved writing test scores for the school and district. This research has potential to add to the knowledge base on ways to best support students' writing. Students not participating in the VTS lessons can benefit from contributing to knowledge about improving students' writing. Benefits of utilizing a virtual classroom include

expanding the depth of the research to consider virtual learning, increasing the relevance of the results to education beyond the actual classroom, and identifying important implications of virtual learning. It can also offer insight into the implications technology has on seeing and viewing and enhance the conclusions that arise.

18.   Consider the risks that your study may pose to participants, including physical, psychological, social, economic, or other types of risks or harms. Explain these risks even if minimal or routine to daily life.

      1. It is possible some potential participants may feel obligated to participate as the study is being completed by the school principal.

19.   If applicable, explain the procedures that you will use to minimize the risks to participants that you identified in your answer to question 18.

      1. To minimize the risk, all potential participants will be informed in writing, on the consent form and permission form, that selecting not to participate will not, in any way, effect the students' or guardians' relationship with ███ School or the ████████ School District. Potential participants will also be informed they may withdraw from the research at any time and that will not, in any way, effect the students' or guardians' relationship with ████ School or the ████████ School District.

20.   Discuss the procedures you will utilize to protect the anonymity or confidentiality of your participants and your data.

      1. Writing assessments that are analyzed will be anonymous. Teachers will submit writing assessments after the students' names have been replaced with an identifying number.

      2. Anecdotal notes taken during the lesson will not include names of participants.

      3. Published research will not contain the names of student participants or teachers.

      4. All reasonable measure have been taken to protect the identity and responses of participants during online transmissions. For example, the data is SSL encrypted, it is stored on a password protected database, and IP addresses are not collected. However, e-mail and the internet are not 100% secure, so it is also suggested to participants that they clear the computer's cache and browser history to protect their privacy after lessons.

      5.

21.   For the majority of research projects, participants should be provided with a debriefing form that contains further information about the study and contact information for the principal investigator(s). Will you provide a debriefing form? If not, indicate why.

      1. Yes

STUDENT CONSENT FORM: VTS CLASS

Visual Thinking Lessons and Elementary Students' Writing

CONSENT FORM I

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1.   **SUMMARY and KEY INFORMATION**

You are invited to participate in a research study about the impact of visual thinking skills on writing composition. Your participation is voluntary. You were selected as a possible participant because this research is being conducted in the second grade at ▮▮▮▮▮▮ School.

The purpose of this study is to determine if instruction in visual thinking skills has a positive impact on students' writing composition. The research will last from September 2019 through June 2020. As part of the study you will participate in as many as eight lessons on visual thinking. In addition, the writing samples you routinely complete at the beginning and end of the school year, as part of the ▮▮▮▮▮▮▮ School District second-grade curriculum, will be analyzed for change. Three of the lessons, as well as the end of year writing assessment, will be delivered through a virtual learning format. The benefits of participation are the knowledge gained from lessons on visual thinking and possible increase in writing ability. The study is being conducted by the Principal of ▮▮▮▮▮ School, Sloan Scully, who is a Drew University, Caspersen Graduate School student.

We ask that you read this document and ask any questions you may have before agreeing to be in the study.

2.   **BACKGROUND**

The purpose of this study is to determine whether direct instruction in Visual Thinking Strategies, strategies on how to critically view images, will have a positive impact on students' writing composition. Research completed with students in elementary school through college level indicate that such instruction has a positive impact and increases a students' ability to use vocabulary, think critically and improve their use of language, both oral and written.

3.   **DURATION**

The length of time you will be involved with this study is from September 2019 through June 2020.

4. PROCEDURES

If you agree to be in this study, we will ask you to do the following things: Participate in five (5) lessons on Visual Thinking Strategies in the classroom during the school day and three (3) lessons on Visual Thinking Strategies in a virtual learning format during the school day. Participants will be asked to view a piece of art work and then participate in a non-graded discussion guided by three questions: What is going on in this picture? What do you see that makes you say that? What more can you find? Lessons will last 30 to 60 minutes once a month. Participants may decline to engage in the discussion during any of the 8 lessons. Participants may end their participation at any time without consequence or penalty.

5. RISKS/BENEFITS

Potential benefits for participants include improved writing, viewing, and critical thinking skills, increased exposure to varied opinions in a non-evaluative setting, and increased opportunities for art appreciation and use of oral language. Other potential benefits include enhanced teaching skills for district teachers, as well as improved writing test scores for the school and district. This research has potential to add to the knowledge base on ways to best support students' writing as well as the impact of virtual learning. A potential risk is that some participants may feel obligated to participate as the study is being completed by the school principal. To eliminate that risk, all potential participants will be informed in writing, on the consent form and permission form, that selecting not to participate will not, in any way, effect the students' or guardians' relationship with ▮▮▮▮ School or the ▮▮▮▮▮▮ School District. Potential participants will also be informed they may withdraw from the research at any time and that will not, in any way, effect the students' or guardians' relationship with ▮▮▮▮ School or the ▮▮▮▮▮ School District.

6. CONFIDENTIALITY

Beginning and end of year writing samples will be stored by the classroom teacher; the data collected from such will be stored by the researcher. When writing samples are shared with the researcher the student names will have already been replaced with numbers. Anecdotal records of conversations will be stored by the researcher with no names attached. The results of the writing samples and anecdotal notes will be included in the published research with no identifying information. Final results of the research will be shared with participants and the school district. Online transmissions do have the potential for security breaches. E-mail and the internet are not 100% secure and all reasonable measures have been taken to protect students identity and responses (e.g., SSL encryption, which is the best security available and the same that is used by financial institutions, will be used, IP addresses will not be collected). Participants are encouraged to clear the cache and browser history to protect their privacy after completing the lessons. The researcher(s) has taken all reasonable measures to protect your identity and responses. For example, the data is SSL encrypted, it is stored on a password protected

database, and IP addresses are not collected. However, e-mail and the internet are not 100% secure, so it is also suggested that you clear the computer's cache and browser history to protect your privacy after completing the lessons.

7. VOLUNTARY NATURE OF THE STUDY

Your decision whether or not to participate in this research will not affect your current or future relations with ▮▮▮▮ Elementary School, the ▮▮▮▮▮▮ School District or Drew University. If you decide to participate in this study, you are free to withdraw from the study at any time without affecting those relationships and without penalty.

8. CONTACTS AND QUESTIONS

The researcher conducting this study is Mrs. Sloan Scully. You may ask any questions you have right now or later. You may contact the researcher at ▮▮▮▮▮▮▮▮. If you have questions or concerns regarding this study and would like to speak with someone other than the researcher(s), you may contact Dr. G. Scott Morgan, IRB Chair, at ▮▮▮▮▮▮▮▮.

Participants will be debriefed by the researcher on purpose and methods through a Consent Form and a ▮▮▮▮▮▮ School District permission form. The results will be shared with participants through a Debriefing Form.

9. STATEMENT OF CONSENT

Please verify the following: The procedures of this study have been explained to me and my questions have been addressed. I understand that my participation is voluntary and that I may withdraw at any time without penalty. If I have any concerns about my experience in this study (e.g., that I was treated unfairly or felt unnecessarily threatened), I may contact the Chair of the Drew Institutional Review Board regarding my concerns.

Student Name _____ **Date**_____

Parent/Guardian signature _____ **Date**_____

Appendix C

STUDENT CONSENT FORM: NON-VTS CLASS

Visual Thinking Lessons and Elementary Students' Writing

CONSENT FORM II

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1.   **SUMMARY and KEY INFORMATION**

You are invited to participate in a research study about the impact of visual thinking skills on writing composition. Your participation is voluntary. You were selected as a possible participant because this research is being conducted in the second grade at ████ School.

The purpose of this study is to determine if instruction in visual thinking skills has a positive impact on students' writing composition. The research will last from September 2019 through June 2020. As part of the study, your writing assessments routinely completed at the beginning and end of the school year as part of the second-grade curriculum, will be analyzed for change. These assessments will be anonymous; all identifying information will be removed from the writing assessments. The benefit of participation being able to make a contribution to knowledge gained about visual thinking and its possible increase in writing ability. The study is being conducted by Mrs. Sloan Scully, Principal of ████ School, and a Drew University, Caspersen Graduate School student.

We ask that you read this document and ask any questions you may have before agreeing to be in the study.

2.   **BACKGROUND**

The purpose of this study is to determine whether direct instruction in Visual Thinking Strategies, strategies on how to critically view images, will have a positive impact on students' writing composition. Research completed with students in elementary school through college and university level indicate that such instruction will have a positive impact and increase a students' ability to use vocabulary, think critically and improve their use of language, both oral and written.

3.   **DURATION**

The length of time for this study will be from September 2019 through June 2020.

4.   **PROCEDURES**

If you agree to be in this study, your beginning of the year and end of the year writing scores will be analyzed for growth. You may end your participation at any time without

consequence or penalty. Your beginning of the year writing sample will be completed in school and your end of year writing sample will be completed through a virtual classroom.

5.   RISKS/BENEFITS

The benefit of participation is an opportunity to contribute to knowledge gained about how to improve writing instruction in school. A potential risk is the possibility of feeling pressure to participate as the research is being conducted by the school principal, Sloan Scully. To alleviate that risk, you are ensured that the student's or guardian's relationship with ▮▮▮▮ School, and the ▮▮▮▮▮▮ School District, will not in any way be affected.

6.   CONFIDENTIALITY

Beginning and end of year writing samples will be stored by the classroom teacher; the data collected from such will be stored by the researcher. When writing samples are shared with the researcher the student names will have already been replaced with numbers. Anecdotal records of conversations will be stored by the researcher with no names attached. The results of the writing samples and anecdotal notes will be included in the published research with no identifying information. Final results of the research will be shared with participants and the school district.

7.   VOLUNTARY NATURE OF THE STUDY

Your decision whether or not to participate in this research will not affect your current or future relations with ▮▮▮▮ School, the ▮▮▮▮▮▮ School District, or Drew University. If you decide to participate in this study, you are free to withdraw from the study at any time without affecting those relationships and without penalty.

8.   CONTACTS AND QUESTIONS

The researcher conducting this study is Sloan Scully. You may ask any questions you have right now. If you have questions later, you may contact the researchers at ▮▮▮▮▮▮▮. If you have questions or concerns regarding this study and would like to speak with someone other than the researcher, you may contact G. Scott Morgan, IRB Chair, at ▮▮▮▮▮▮▮.

Participants will be debriefed by the researcher on purpose and methods through a Consent Form and a ▮▮▮▮▮ School District permission form. The results will be shared with all participant's families through a Debriefing Form.

9.   STATEMENT OF CONSENT

Please verify the following: The procedures of this study have been explained to me and my questions have been addressed. I understand that my participation is voluntary and

that I may withdraw at any time without penalty. If I have any concerns about my experience in this study (e.g., that I was treated unfairly or felt unnecessarily threatened), I may contact the Chair of the Drew Institutional Review Board regarding my concerns.

Student Name_____ **Date**_____

Parent/Guardian signature_____ **Date** _____

Appendix D

DEBRIEFING FORM

Visual Thinking Lessons and Elementary Students' Writing

DEBRIEFING FORM

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1.   PURPOSE OF THE STUDY

The study in which you just participated was designed to implement the Visual Thinking Strategies (VTS) protocol in a second-grade classroom, and in a second-grade virtual classroom, over the course of one school year and analyze its impact on the writing capacities of the students. It is theorized that the implementation of VTS will increase the students' ability to write in terms of the structure and development of their compositions. Research has indicated students exposed to the VTS protocol improve their use of language across subjects, including oral and written language.
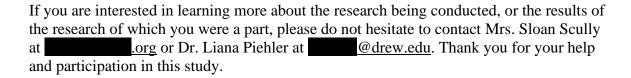
2.   METHODOLOGY

In this study, some students were asked to participate in five (5) lessons on Visual Thinking Strategies in the classroom during the school day, and three (3) lessons on Visual Thinking Strategies in the virtual classroom during the school day. Participants were asked to view a piece of art work and then participate in a non-graded discussion guided by three questions: What is going on in this picture? What do you see that makes you say that? What more can you find? Lessons lasted 30 to 60 minutes approximately once a month. Participants had the opportunity to decline to engage in the discussion during any of the 8 lessons and/or end their participation at any time without consequence or penalty. These students were asked for permission to use their beginning and end of year writing assessments to be analyzed for growth. Other students did not participate in the VTS lessons but were asked for permission to use their beginning and end of year writing assessments to be analyzed for growth.

3.   ADDITIONAL RESOURCES

For more information on the topic of this research, please visit the Visual Thinking Strategies web site at https://vtshome.org. There you will find numerous research studies on the effectiveness of VTS in a school environment as well as sample lessons and protocols.

4.   CONTACT INFORMATION

If you are interested in learning more about the research being conducted, or the results of the research of which you were a part, please do not hesitate to contact Mrs. Sloan Scully at ▇▇▇▇▇▇▇.org or Dr. Liana Piehler at ▇▇▇▇@drew.edu. Thank you for your help and participation in this study.

Appendix E

LETTER OF INSTITUTIONAL APPROVAL

████████ Public Schools
████████ Street
████████, New Jersey ████
"Committed to Excellence"

████████   ████████
Superintendent of Schools School   Business Administrator
████████   Board Secretary
FAX ████████████████

_____

_____

March 19, 2019

To Whom It May Concern:

This letter is to inform you that Mrs. Sloan Scully has permission to participate in her dissertation involving elementary school students at the ████████ School District.

Mrs. Scully will follow all District policies, including receiving parent consent to conduct her study.

If you need any additional information, please do not hesitate to contact my office.

Sincerely,

████████

Superintendent of Schools

Appendix F

INFORMATIONAL LETTER TO PARENTS OF STUDENTS IN VTS CLASS

Public Schools
█████████ **Elementary School**
██████ **Ave.**
███, **New Jersey** ████
███ **FAX** ████████

Mrs. Sloan S. Scully, Principal

September 10, 2019

Dear Parents and Guardians,

I am a doctoral student in the Caspersen School of Graduate Studies at Drew University in Madison, New Jersey. I will be conducting a research project, under the supervision of Dr. Liana Piehler, a Drew University Professor of Writing, as part of my Doctoral Dissertation. My research project will study how instruction in Visual Thinking Strategies impacts a students' ability to use written language. I am requesting permission for your child to participate in this research. The goal of the study is to determine how visual thinking skills impact students' writing composition.
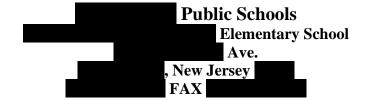
Each student in your child's second-grade class will be presented with eight (8) lessons on Visual Thinking Strategies (VTS) beginning in October 2019 and ending in May 2020. The lessons, which will be presented by the researcher, will consist of time to view artwork followed by a discussion that is guided by three questions: What is going on in this picture? What do you see that makes you say that? What more can you find? The discussion will be non-evaluative and not graded. Anonymous anecdotal notes will be taken regarding the discussions. At the end of the 2019–2020 school year, students' writing assessments will be analyzed for change. To protect the identity of each child, all identifying information will be removed from the writing assessments.

Your decision whether or not to allow your child to participate in this study will have no effect on your child's standing in class or in school. At the conclusion of the research a summary of the results will be made available. If you have any questions or concerns please contact me at ████████ or █████████, or Dr. G. Scott Morgan, chair of the Drew University Institutional Review Board, at ████████.

Sincerely,
Sloan Scully

Please indicate whether or not you grant permission for your child to participate in this study by checking the appropriate statement below and returning this letter to your child's teacher by September 27, 2019.

☐ I grant permission for my child, _____ to participate in this study.

☐ I do not grant permission for my child, _____ to participate in this study.

Parent/Guardian Signature _____

Appendix G

INFORMATIONAL LETTER TO PARENTS OF STUDENTS IN NON-VTS CLASS

Public Schools
Elementary School
Ave.
, New Jersey
FAX

Mrs. Sloan Scully, Principal
September 10, 2019

Dear Parents and Guardians,

I am a doctoral student in the Caspersen School of Graduate Studies at Drew University in Madison, New Jersey. I will be conducting a research project, under the supervision of Dr. Liana Piehler, a Drew University Professor of Writing, as part of my Doctoral Dissertation. My research project will study how instruction in Visual Thinking Strategies impacts a students' ability to use written language. The goal of the study is to determine how visual thinking skills impact students' writing composition. I am requesting permission to use your child's beginning of the year and end of the year writing assessments as part of the research. These assessments will be used anonymously; all identifying information will be removed from the writing assessments.

Second grade students, who are not in your child's class, will be presented with eight (8) lessons on Visual Thinking Strategies (VTS) beginning in October 2019 and ending in May 2020. The lessons, which will be presented by the researcher, Sloan Scully, will consist of time to view artwork followed by a discussion that is guided by three questions: What is going on in this picture? What do you see that makes you say that? What more can you find? The discussion will be non-evaluative and not graded. Anonymous anecdotal notes will be taken regarding the discussions. Your child will not participate in the VTS lessons. At the end of the 2019–2020 school year, all second grade students' writing assessments will be analyzed for change. Your child's writing assessments will be used as part of this analysis. To protect the identity of each child, all identifying information will be removed from the writing assessments.

Your decision whether or not to allow your child to participate in this study will not effect on your child's standing in class or in school. At the conclusion of the research a summary of the results will be made available. If you have any questions or concerns please contact me at █████ or █████, or Dr. G. Scott Morgan, chair of the Drew University Institutional Review Board, at █████.

Sincerely,
Sloan Scully

Please indicate whether or not you grant permission for your child to participate in this study by checking the appropriate statement below and returning this letter to your child's teacher by September 27, 2019.

☐ I grant permission for my child, _____ to participate in this study.

☐ I do not grant permission for my child, _____ to participate in this study.

Parent/Guardian Signature

_____

Appendix H

LUCY CALKINS GRADE 2 NARRATIVE WRITING RUBRIC

Name: _____   Date: _____

Rubric for Narrative Writing—Second Grade

	Kindergarten (1 POINT)	1.5 PTS	Grade 1 (2 POINTS)	2.5 PTS	Grade 2 (3 POINTS)	3.5 PTS	Grade 3 (4 POINTS)	SCORE
STRUCTURE								
Overall	The writer told, drew, and wrote a whole story.	Mid-level	The writer wrote about when he did something.	Mid-level	The writer wrote about one time when she did something.	Mid-level	The writer told the story bit by bit.	
Lead	The writer had a page that showed what happened first.	Mid-level	The writer tried to make a beginning for her story.	Mid-level	The writer thought about how to write a good beginning and chose a way to start his story. He chose the action, talk, or setting that would make a good beginning.	Mid-level	The writer wrote a beginning in which she helped readers know who the characters were and what the setting was in her story.	
Transitions	The writer put her pages in order.	Mid-level	The writer put his pages in order. He used words such as and and then, so.	Mid-level	The writer told her story in order by using words such as when, then, and after.	Mid-level	The writer told his story in order by using phrases such as a little later or after that.	
Ending	The writer had a page that showed what happened last in his story.	Mid-level	The writer found a way to end her story.	Mid-level	The writer chose the action, talk, or feeling that would make a good ending.	Mid-level	The writer chose the action, talk, or feeling that would make a good ending, and worked to write it well.	
Organization	The writer's story had a page for the beginning, a page for the middle, and a page for the end.	Mid-level	The writer wrote his story across three or more pages.	Mid-level	The writer wrote a lot of lines on a page and wrote across a lot of pages.	Mid-level	The writer used paragraphs and skipped lines to separate what happened first from what happened later (and finally) in his story.	
							TOTAL:	

PART II: THE ASSESSMENT TOOLS—NARRATIVE WRITING

NARRATIVE
Teaching Rubrics

2

NARRATIVE
Teaching Rubrics

2

	Kindergarten (1 POINT)	1.5 PTS	Grade 1 (2 POINTS)	2.5 PTS	Grade 2 (3 POINTS)	3.5 PTS	Grade 3 (4 POINTS)	SCORE
DEVELOPMENT								
Elaboration*	The writer's story indicated who was there, what they did, and how the characters felt.	Mid-level	The writer put the picture from her mind onto the page. She had details in pictures and words.	Mid-level	The writer tried to bring his characters to life with details, talk, and actions.	Mid-level	The writer worked to show what was happening to (and in) her characters.	(x2)
Craft*	The writer drew and wrote some details about what happened.	Mid-level	The writer used labels and words to give details.	Mid-level	The writer chose strong words that would help readers picture her story.	Mid-level	The writer not only told his story, but also wrote it in ways that got readers to picture what was happening and that brought his story to life.	(x2)
								TOTAL:
LANGUAGE CONVENTIONS								
Spelling	The writer could read her writing. The writer wrote a letter for the sounds she heard. The writer used the word wall to help her spell.	Mid-level	The writer used all he knew about words and chunks of words (at, op, it, etc.) to help him spell. The writer spelled all the word wall words right and used the word wall to help him spell other words.	Mid-level	To spell a word, the writer used what he knew about spelling patterns (tion, er, ly, etc.). The writer spelled all of the word wall words correctly and used the word wall to help him figure out how to spell other words.	Mid-level	The writer used what she knew about spelling patterns to help her spell and edit before she wrote her final draft. The writer got help from others to check her spelling and punctuation before she wrote her final draft.	

* Elaboration and Craft are double-weighted categories: Whatever score a student would get in these categories is worth double the amount of points. For example, if a student exceeds expectations in Elaboration, then that student would receive 8 points instead of 4 points. If a student meets standards in Elaboration, then that student would receive 6 points instead of 3 points.

LANGUAGE CONVENTIONS (cont.)

	Kindergarten (1 POINT)	1.5 PTS	Grade 1 (2 POINTS)	2.5 PTS	Grade 2 (3 POINTS)	3.5 PTS	Grade 3 (4 POINTS)	SCORE
Punctuation	The writer put spaces between words. The writer used lowercase letters unless capitals were needed. The writer wrote capital letters to start every sentence.	Mid-level	The writer ended sentences with punctuation. The writer used a capital letter for names. The writer used commas in dates and lists.	Mid-level	The writer used quotation marks to show what characters said. When the writer used words such as can't and don't, she used the apostrophe.	Mid-level	The writer punctuated dialogue correctly with commas and quotation marks. While writing, the writer put punctuation at the end of every sentence. The writer wrote in ways that helped readers read with expression, reading some parts quickly, some slowly, some parts in one sort of voice and others in another.	
								TOTAL:

Teachers, we created these rubrics so you will have your own place to pull together scores of student work. You can use these assessments immediately after giving the on-demands and also for self-assessment and setting goals.

Scoring Guide

In each row, circle the descriptor in the column that matches the student work. Scores in the categories of Elaboration and Craft are worth double the point value (2, 3, 4, 5, 6, 7, or 8 instead of 1, 1.5, 2, 2.5, 3, 3.5, or 4).

Total the number of points and then track students' progress by seeing when the total points increase.

Total score: _____

If you want to translate this score into a grade, you can use the provided table to score each student on a scale of 0–4.
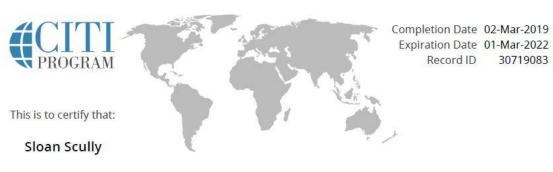
Number of Points	Scaled Score
1–11	1
11.5–16.5	1.5
17–22	2
22.5–27.5	2.5
28–33	3
33.5–38.5	3.5
39–44	4

NARRATIVE
Teaching Rubrics

2

Appendix I

CITI PROGRAM CERTIFICATION OF COMPLETION

CITI PROGRAM

Completion Date 02-Mar-2019
Expiration Date 01-Mar-2022
Record ID 30719083

This is to certify that:

Sloan Scully

Has completed the following CITI Program course:

Responsible Conduct of Research (RCR) (Curriculum Group)
Basic RCR + Human Subjects (Course Learner Group)
1 - Basic Course (Stage)

Under requirements set by:

Drew University

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w92f8b09b-02f9-4bf4-ba39-8a4effabe8b8-30719083

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School	Degree	Date
Secondary:		
South Brunswick High School Monmouth Junction, New Jersey	High School Diploma	June 1976
Collegiate:		
College of Saint Elizabeth Morristown, New Jersey	Bachelor of Arts Sociology	May 1980
Graduate:		
Walden University Minneapolis, Minnesota	Master of Science Curriulum, Instruction & Assessment	January 2004
College of Saint Elizabeth Morristown, New Jersey	Master of Arts Educational Leadership	May 2009
Drew University Madison, New Jersey	Doctor of Letters	December 2020