

Shaping the Cultural Forces to Promote Visible Thinking: Language and Routines

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Abstract

Making Thinking Visible by Ron Ritchhart describes a theory of creating an environment in classrooms in which students are encouraged to vocalize their thinking process. According to Richhart's theory, there are eight cultural forces, which are evident in all classrooms, that assist in creating this necessary environment. They include opportunities, expectations, routines, interactions, environment, language, modeling, and time. Ritchhart's theory is beneficial to the classroom as it creates a connection between teachers and students as they work together to uncover and discuss their thinking processes. This in turn will assist the students in developing and expanding their critical thinking habits. The study that informed this thesis explored how the classroom teacher intentionally influences and shapes language and routines to promote visible thinking. It also sought to validate whether their practices were aligned with the ideas presented by Ritchhart. The study relied primarily on observations within classrooms with the intent of uncovering the techniques and strategies that the teachers utilized in terms of language and routines in order to create a "visible thinking" classroom environment. The secondary source of data was provided through interviews with the participants at the end of the observations. This was where I was able to share my research findings and emerging themes with my participants in order to ensure that my data was credible. As a result of this thesis, current and future teachers will have awareness as to what it looks like when teachers influence the cultural forces to create a classroom where vocalizing the thinking process is valued.

Introduction

The approaches adopted for education are not static, rather they are constantly evolving based on the ways that educators believe they can best reach future generations. As society progresses, the education system advances in order to prepare students to be successful in the real-world. The implementation of educational philosophies has led to a constant transformation of the ways in which we educate students. After studying the *Making Thinking Visible* theory proposed by Ritchhart, Church, and Morrison (2011) in my entry course for the School of Education at Oakland University, I was immediately intrigued by how this educational philosophy could alter the approach to educating children once again. This was further enhanced by participating in classrooms that were deteriorating from Rosenshine's (1978) direct instruction practice that was previously embraced. I was encouraged to utilize the language and routines suggested by Ritchhart. While doing this, it became evident that the dynamics of the classroom were shifting toward a student-centered classroom that was strategically, yet subtly guided by the teacher. Students were vocalizing their thinking through multiple avenues and it was amazing to witness the sophisticated and compelling conversations that were taking place. There was a need to further explore how the making thinking visible theory was being incorporated in the classrooms because the positive impact that it was having on students was evident.

Literature Review

Educational philosophies evolve and are replaced based on advances in research and the obligation to fulfill students' needs. During the last 50 years, the theories proposed for education have been located on opposite ends of a spectrum. In the late 1960's and early 1970's, Bruner's (1961) theory, *The Act of Discovery*, was adopted as the approach to education. Following a

hands-free method in reference to the teacher, students were in complete control of their educational journey and the teacher was solely there to provide the adequate environment “that [permits] the student to put things together for himself, to be his own discoverer” (Bruner, 1961, p. 1). It was believed that students would learn things on their own, at their own pace, and in their own way without much support from the teacher. Bruner believed humans were innate discoverers who didn’t need much direction in order to make connections and develop understanding with the information and material around them.

The hypothesis that [Bruner proposes] here is that to the degree that one is able to approach learning as a task of discovering something rather than ‘learning about’ it, to that degree will there be a tendency for the child to carry out his learning activities with the autonomy of self-reward or, more properly by reward that is discovery itself. (Bruner, 1961, p. 5)

This self-reward that would be solidified during school would remain a mere foundation of the way the student would carry-out his life outside of school; it would lead to “autonomous and self-propelled thinkers” (Bruner, 1961, p. 2). The focus would transition from the teacher to the students as they were the foundation of the classroom. They would engage in and make connections with the material at their own pace, which would make their learning “their own” and long-lasting. A classroom focused on the teacher was not effective because

...learning that starts in response to the rewards of parental or teacher approval or the avoidance of failure can too readily develop a pattern in which the child is seeking cues as to how to conform to what is expected of him. (Bruner, 1961, p. 4)

Education was considered to be an act of discovery promoted and executed by the student with the teacher merely providing them with the information necessary to create meaning.

In opposition to Bruner’s *Act of Discovery*, Rosenshine (1978) developed an approach that reversed the dominant role back to the teacher. In the middle to late 1970’s, classrooms adopted the idea of *Direct Instruction*. This theory “applies to high levels of student engagement

within teacher-directed classrooms using sequenced, structured materials” (Rosenshine, 1978, p. 46). The main focus seemed to be on attention and compliance, rather than exploration and autonomy. The framework of the classroom was focused on the teacher “...[playing] the role of a strong leader” (Rosenshine, 1978, p. 49). Teachers were encouraged to “...[direct] activities without giving their students choices, [approach] the subject matter in a direct, business-like way, [organize] learning around questions that they posed, and [occupy] the center of attention” (Rosenshine, 1978, p. 49). By following these procedures, teachers would be able to cover the most material in the least amount of time; efficiency was the key. Without the teacher directly telling and giving students the information that was expected of them, they would never receive all the material that they needed to be successful. The teacher was the sole source of knowledge and students would provide their full attention within the classroom if

...teaching activities focused on academic matters where goals are clear to students, time allocated for instruction is sufficient and continuous, content coverage is extensive, student performance is monitored, questions are at a low cognitive level and produce many correct responses, and feedback to students is immediate and academically oriented. (Rosenshine, 1978, p. 46)

Students were required to attain as much material as possible, but only at face value as there was simply too much material to cover to go too far in-depth. It was important for the teacher to be the center of the classroom to prevent chaos, promote attention, and to ensure that as much information was addressed as possible.

After the implementation of two extremely different philosophies, it appeared as if there was a dire need for another shift in the approach to education; a shift that would include a balance in the goals of both Bruner’s act of discovery and Rosenshine’s direct instruction. An overly relaxed environment that focused solely on students’ innateness to discover and an atmosphere that was structured around a teacher’s dominant role to provide all knowledge did

not seem to provide the results that were expected to place students on a path toward success.

Ritchhart et. al (2011) believed that “classrooms are too often places of ‘tell and practice.’ The teacher tells the students what is important to know or do and then has them practice that skill or knowledge” (p. 9). In such a setting, there is no opportunity to focus on thinking. According to Ritchhart, this doesn’t allow students to have an opportunity to learn the material and develop an understanding, instead it is strictly repetition and memorization.

On the other hand, “in the often misunderstood notion of experiential or inquiry-based learning, students are sometimes provided with lots of activities” (p. 9). The act of discovery has the opportunity to lead to understanding, “but too often the thinking that is required to turn activity into learning is left to chance” (p. 9). These methods of delivery and approaches to education were not providing students with the opportunity to explore and understand their thinking. Since understanding is achieved by engaging in deep thinking practices, it was necessary for teachers to begin to consider the type of thinking that they wanted their students to experience, and to make that thinking visible to the students in order for them to be active in the learning process. Ritchhart references his earlier work with Turner and Hadar when he states, “As students become more aware of their own thinking and the strategies and processes they use to think, they become more metacognitive” (Ritchhart et al., 2011, p. 12). By creating an environment where thinking is explored and made visible, students can accomplish the goal of delving below the surface and deepening their understanding. Based on the theories presented by Ritchhart, teachers have designed and structured their classrooms to create this visible thinking environment for their students. It was crucial to discover how the foundations of two opposing educational philosophies were mended together to create a new theory that was shaping the

classroom; how teachers were appealing to the innate discoverers in students while at the same time discretely directing and guiding their learning.

Ron Ritchhart's visible thinking theory stresses the importance of creating an environment where vocalizing the thinking process is valued. Because this theory is relatively new, a limited amount of research has been conducted on Ritchhart's ideas. Salmon and Lucas (2011) designed a study to determine whether a teacher's promotion of the visible thinking routines had an impact on how children aged three to five perceive the act of thinking. The students were divided into two groups to monitor their concepts of thinking: visible thinking (VT) classrooms and non-visible thinking (NVT) classrooms. Responses were categorized as associative, strategic, and metacognitive. Associative responses "[refer] to objects of thought or images, with or without description of people or objects" (Salmon & Lucas, 2011, p. 369). Furthermore, in Salmon and Lucas' view, associative responses include making connections to thinking, telling stories to communicate their ideas about thinking, and perspective thinking (Salmon & Lucas, 2011, p. 371). As cited in, Ritchhart, Turner, and Hadar (2009), Salmon and Lucas found that strategic responses are "related to strategies children mentioned and possibly used for thinking, including looking in books or practicing a lot" (p. 371). Lastly, metacognitive responses refer to the idea of children "[beginning] to develop thoughts about the nature of thinking" (Salmon & Lucas, 2011, p. 371). Results demonstrated that the NVT group had an increase in associative responses from pre to post sessions. In contrast, there was a decrease in associative responses and an increase in both strategic and metacognitive responses in the VT group.

Another researcher, Sliman (2013), explores the positive effects visible thinking routines have on students in high school math. Her findings suggested there was an increase in classroom

discussions, and students performed self-reflections on their level of understanding and made connections to other's thoughts. It was also easier for her to pinpoint misconceptions at an earlier stage. Senokossoff and Fine (2013) took another approach to the visible thinking theory by conducting a study to investigate whether thinking routines could help delayed readers and children with Asperger's with reading comprehension. The results were inconclusive because the students remained at the same reading level or only improved marginally after six weeks; this could have been a result of only monitoring four students, but they were able to conclude that the students presented deeper responses to comprehension questions. Although current research does not explore the cultural forces, it does demonstrate the success that a critical thinking environment can provide students in the 21st century. That is, current research focuses on the positive outcomes of utilizing the making thinking visible theory but there is a lack of research investigating and demonstrating how teachers accomplish this visible thinking environment by shaping and influencing language and routines. Although Ritchhart et. al.'s *Making Thinking Visible* includes short sections titled "Uses and Variations" and "Pictures of Practice" for each of the thinking routines, the research is limited and provides two to three examples. Further research must be conducted to explore how teachers are adopting this theory in their unique ways because all classrooms, students, and teachers differ. This is necessary so that teachers have guidance in creating a classroom that values visible thinking in order to provide students with enriching educational experiences.

Methodology

Ron Ritchhart (2015) has identified eight cultural forces that he claims define a classroom where thinking is a central focus of the teacher's work. The aims and objectives of this thesis describe what a classroom looks like and how it functions when the teacher shapes the

cultural forces to support critical thinking. Since it would be cumbersome to attend to all eight cultural forces at once, the study focuses on two of the eight forces: language and routines. These two forces were specifically chosen because they are closely related; language guides the procedures required by the routines. Future and practicing teachers need to be aware of how to instantiate these forces in their daily routines in order to be successful in creating an environment that values thinking. The objective of this research is to describe what it looks like when teachers are conscious of the importance of the eight cultural forces, to observe and document in particular the language that teachers use in the classroom to promote in-depth thinking on the part of the students, and to discover what teachers do to make thinking routines meaningful to the students.

This was a qualitative case study of five classrooms in two schools. I conducted my research in two fourth-grade classrooms, a second-grade classroom, a physical education classroom, and a music classroom. In the physical education and music classroom, I was able to observe kindergarten through fifth grade levels. The class sizes ranged from 20 to 30 students.

Prior to my research in the classrooms, I formulated a list of language and routine practices that Ritchhart suggests are critical in creating a visible thinking environment and incorporated components that I believed were important regarding these forces. This list assisted me in looking for key elements while collecting data in the classrooms. Ritchhart (2015) subdivided the language routines by the following categories: language of thinking, language of community, language of identity, language of initiative, language of mindfulness, language of praise and feedback, and language of listening. Ritchhart (2015) suggests that these are “key ‘language moves’ that can facilitate the creation of a culture of thinking in schools, classrooms, and organizations” (p. 67-68). Furthermore, I included details and examples that Ritchhart

provided in these sections in order to have a guideline to follow when listening to the teachers' language. The section dedicated to routines was divided by the four categories that Ritchhart (2015) proposes "contribute substantially to the creation of the invisible infrastructure that supports the smooth running of the classroom," which are management, instructional, interactional, and thinking (p. 190). I included the examples that were mentioned within Ritchhart's text as well. This guideline was used to ensure that I was looking for the key elements of Ritchhart's language and routines so that I was able to accurately identify when teachers were using them or making their own adaptations.

Once this process was completed, I arranged to observe five classrooms two to three times a week throughout the winter semester of 2017 depending on the availability of the teacher. These visits took place in the classrooms of teachers who have been identified as active supporters of the making thinking visible theory (Ritchhart et. al., 2011). Each visit lasted two to three hours and over the course of the semester, I visited each classroom five times. Field notes were made during observations within the classroom settings and pseudonyms were provided for each teacher in order to ensure confidentiality. My second source of data was provided through interview sessions that took place with each participant. This was where I was able to gather new data that I wasn't able to collect in the classroom setting and receive validation from my participants that my findings were accurate.

Data Collection

During the course of my observations, I monitored and recorded the language and routines the teachers were using and how the routines related to the idea of visible thinking. I documented my observations through detailed field notes. As soon as I returned home from the

observations, I would examine my field notes and add any connections or reflections that I missed during the course of the visits.

After the observations were complete, I interviewed the teachers in order to gather more data as well as to member check my findings. I initiated a discussion on the themes that arose during my review of the field notes and asked if they were accurate, if I missed anything, or if I misinterpreted the collected data. In addition, I questioned whether there was intentionality in their personal shaping of the forces or if it was considered a natural occurrence. I inquired how they became aware of the making thinking visible theory and the eight cultural forces, and if they considered themselves a mindful advocate of utilizing “language” and “routine” forces in order to support visible thinking. Lastly, I proposed a question asking if they felt that awareness of the making thinking visible theory has changed the way they see themselves as teachers, and if Ritchhart’s theories are in any way related to the goals that they have for their classroom or their individual students. I was able to witness the personal shaping and influencing of the language and routines by teachers within the classroom and then receive confirmation that my data was accurate and aligned with the teachers’ goals and intentions; this ensures that my understandings and interpretations were credible.

Data Analysis

Even though analysis is an ongoing process, I dedicated the summer and fall semesters of 2017 to performing an in-depth analysis of the data gathered during observations in the field and interviews with the teachers within the classrooms. Since this study was intended to examine teachers' practices with an eye to providing practical examples of Richhart's theories, a descriptive qualitative approach was the most useful way to elicit this information. While rereading my field notes, I drew conclusions in terms of the language and routine habits of each

teacher and determined what it looks like to intentionally use the cultural forces. From there, I cross-examined the conclusions drawn from the field notes and interviews of each teacher in order to gather conclusions that were common across all the teachers as well as emerging themes that were unique to some teachers. Consequently, there was no expectation that this study would provide conclusions that would be generalizable to all classrooms. Rather, the goal was transferability. Teachers reading this thesis may be able to see aspects of the classrooms I observed that are consistent with their own practices and may, as a result, develop new insight into what they can do to enhance the impact of the cultural forces in their own teaching. They may develop new ideas as to how they can personally shape their language and routines so they can create or continue to support the visible thinking environment.

During my observations, I was able to observe and document all seven of the language and twelve of the twenty-one thinking routines that Ritchhart proposed in his books *Making Thinking Visible* and *Creating Cultures of Thinking*. As might be expected, each teacher utilized these types of language and specific routines in a different way; however, across all the teachers, I noticed that these language moves and routines encouraged all students to deepen their thinking. Moreover, avenues were established by the teachers' language for all students to make their thinking visible in the classroom. Defining the language moves and the routines that were observed within the classroom is critical in order to recognize and understand how and why the participants incorporated the different types of language and routines within their classroom environments. The language moves and routines I observed can be defined as follows:

Language Moves

The *language of identity* promotes the idea of “teachers [helping] their students come to see themselves not as outsiders looking in on a subject but as members of it” (Ritchhart, 2015, p.

74). By referring to students as professionals in the field such as historians, mathematicians, scientists, etc. and engaging them in “learning the processes and ways of thinking” in that discipline, the “students then come to expect that a large part of their learning in the subject area involves acquiring the thinking abilities and processes of the discipline, not just learning about it for the test” (Ritchhart, 2015, p. 75). The *language of community* promotes the idea of using pronouns such as we, our, and us within the classroom so that the teacher is effectively communicating that they are on this journey alongside their students. Ritchhart (2015) makes it clear that “...the ‘we’ must include the teacher not only as the director of activity but also as a participant in the learning processes of that activity” in order to foster a community of learners (p. 72). Rather than simply stating “good job” or “nice work,” the *language of praise and feedback* digs much deeper as it is “...specific, descriptive, and informative so that it tells learners about what they did correctly and should continue to do in the future as much as indicating what they might do differently” (Ritchhart, 2015, p. 82). In order to incorporate effective conversations and dialogue within the classroom, it is vital to consider the *language of listening*. Utilizing the *language of listening* involves “...[asking] authentic questions to clarify points, [unearthing] any assumptions they may be bringing to the situation, and [being] sure of the speaker’s intent” (Ritchhart, 2015, p. 83). This may lead to individuals paraphrasing the speaker’s ideas in order to receive confirmation that they have understood their thoughts correctly (Ritchhart, 2015, p. 83). When we consider the *language of mindfulness*, we should think about

...language that allows for the possibility of interpretation and that opens the door to even a small bit of ambiguity, [which] has the power to keep the mind in an open state, avoiding early closure, pursuing possibilities, and listening to information presented by others. (Ritchhart, 2015, p. 78)

When encountering someone utilizing the language of mindfulness, we should expect to hear conditional language, rather than absolute language. According to Ritchhart (2015), the *language of initiative* “can draw students’ attention to the strategies being deployed and their consequences, whether students are immediately aware of them or not” (p. 76). Some examples may include “‘Tell me what you just did,’ ‘What’s your plan for tackling this?’ and ‘Where will you go next?’ [which] ask learners to identify strategies and be explicit about them” (Ritchhart, 2015, p. 76). It allows the students to become aware of the thinking strategies that they are utilizing, which in turn will assist them in vocalizing their thoughts. The *language of thinking* can also assist in the vocalization of thoughts as it requires the use of “...words that describe what we do when we are thinking or the results of that thought” (Ritchhart, 2015, p. 69). To clarify, Ritchhart’s colleagues Shari Tishman and David Perkins

[suggested] that the language of thinking could be sorted by those words defining processes (for example, justifying, examining, reasoning), products (for example, a hypothesis, a question, a judgment), and epistemic stances that reflect one’s attitude toward a bit of knowledge or an idea (for example, agreement, doubt, confirmation). (Ritchhart, 2015, p. 69)

Ritchhart (2015) added another category, which he referred to as “states (for example, confusion, awe, wonderment) that describe one’s mental status or state” (p. 69). I encountered the use of the language moves consistently across all the participants and will examine the ways that they found it to be successful in the environments that they each uniquely created.

Routines

Ritchhart et. al. (2011) proposes 21 thinking routines in *Making Thinking Visible* that teachers can utilize within the classroom in order to encourage students to make their thinking visible. He divides the routines into sections based on their purpose and goals. The three categories for the routines include routines for introducing and exploring ideas, routines for

synthesizing and organizing ideas, and routines for digging deeper into ideas (Ritchhart et. al., 2011). Throughout the course of my visits, I observed 12 of the thinking routines or manipulations of the routines in the participants' classrooms. The *Tug-of-War* routine is a great tool for helping students "[take] a stance on an issue and [support] that stance with sound reasoning" (Ritchhart et. al., 2011, p. 199). The teacher is instructed to choose a dilemma with opposing sides and to place them on each end of the tug-of-war rope. The students are encouraged to think of as many arguments that pull the rope toward each opposing side. The students write these "tugs" on sticky notes and place them appropriately on the rope in order to decide which side is stronger and why (Ritchhart et. al., 2011, p. 199). When students are observing an image, object, text, etc., Ritchhart et. al. (2011) suggests that teachers utilize the *See, Think, Wonder* routine as it encourages students to consider the following questions:

What do you see?

What do you think is going on?

What does it make you wonder? (p. 55)

In order to help students represent their thoughts through different mediums, the *Color, Symbol, Image* routine asks students to choose a color, create a symbol, and sketch an image that they think best represents the essence of that idea (Ritchhart et. al., 2011, p. 119). Ritchhart et. al. (2011) and his colleagues "...developed the *Circle of Viewpoints* routine to help students with the process of identifying different perspectives and viewpoints on an issue, event, or topic that they might then explore further" (p. 171). *Zoom In* is a routine that

...asks learners to observe a portion of an image closely and develop a hypothesis. New visual information is presented, and the learner is asked to again look closely and then reassess his or her initial interpretation in light of the new information. (Ritchhart et. al., 2011, p. 64)

According to Ritchhart et. al. (2011), a *Chalk Talk*

...asks learners to consider ideas, questions, or problems by silently responding in writing both to the prompt and the thoughts of others. This ‘silent conversation’ provides learners with time to follow through thoughts without interruption by choosing when they are ready to consider other points of view and make comments. (p. 78)

In the *Think-Puzzle-Explore* routine, Ritchhart et. al. (2011) suggests that the teacher asks the following three questions:

- What do you think you know about this topic?
- What questions or puzzles do you have about this topic?
- How might you explore the puzzles we have around this topic? (p. 71)

This structure helps the students organize their thoughts in order to make deeper connections with the material. The *3-2-1 Bridge* routine

...focuses on the associations one has around the topic in terms of words, questions, and connections. The ‘bridging’ part of the routine was designed to help students link their prior knowledge, questions, and understandings with the new ideas they develop as the unit progresses. (Ritchhart et. al., 2011, p. 86)

A creative way to help students condense their thoughts into one memorable line comparable to the actions of a journalist is the *Headline* routine. Ritchhart et. al. (2011) expresses that “the Headline routine asks students to reflect and synthesize as they identify the essence or core of a situation or learning experience” (p. 111). When focusing on the progression of thoughts, teachers can use the *I Used to Think..., Now I Think...* routine, which “...helps students reflect on their thinking about a topic or issue and explore how and why that thinking has changed” (Ritchhart et. al., 2011, p. 154). The *Micro Lab Protocol* routine is centered around group conversation and “ensuring that all voices are heard” (Ritchhart et. al., 2011, p. 174). The students are divided into groups of three and each person has 1-2 minutes to share their thoughts without interruptions. Then, there is a moment of silence for 30 seconds to “...provide time to

think about what the last speaker said and a chance for the entire group to ‘recenter’ itself” (Ritchhart et. al., 2011, p. 174). This is completed for each person in the group and then the group has approximately five minutes to discuss the ideas that were presented and connections between their group members’ thoughts. When completing a *Generate-Sort-Connect-Elaborate: Concept Maps* routine, students “...organize their thinking and illuminate how ideas relate to one another” as they sort their thoughts by how “central or tangential they are” (Ritchhart et. al., 2011, p. 125). Then, they “[draw] connecting lines between the ideas that have something in common” and are encouraged to “[add] new ideas that expand, extend, or add to [their] initial ideas” (Ritchhart et. al., 2011, p. 125). Some of these routines were included in the classroom in the manner in which they were discussed in Ritchhart et. al.’s *Making Thinking Visible* and some were manipulated and altered to create a unique routine that would work best within the participants’ classrooms. It is apparent that there is no right way to incorporate these routines, and instead, it is focused on recognizing how teachers adapt these routines to match their needs and their students’ needs.

Findings

This study considered two of Ritchhart’s eight Cultural Forces – language and routines. Consequently, the findings for each of those forces are described separately in what follows.

Language

Language of identity was a critical language move that was utilized as an engagement mechanism. Addressing the students as scientists, mathematicians, historians, etc., establishes a purpose for them to contribute to the activity or discussion at hand. Utilization of the language of identity provides the students with the information related to professional individuals in the particular field of study, which allows them to reflect on what they are doing and thinking and

where they should be headed. I was able to observe the language of identity being used 18 times throughout my observations. In a second-grade classroom during a science lesson on experiments, Ms. Smith employed the language of identity in order for her students to understand the steps and procedures that were being taken. As an introduction to the lesson, Ms. Smith stated, “We started a science experiment and we need to do it again because as scientists, we need to make sure it was done fairly and there are similar results each time.” This sets a purpose for the students and gets them involved at a professional manner as their mindsets are focused on taking the role of the professional. Additionally, Ms. Smith shaped her use of the language of identity in the middle of the science lesson in order to be a tool for re-direction. She had set the purpose for the activity by comparing it to the real procedures conducted by professionals in the field, but it appeared as if some students needed further guidance. She reminded her students that “Scientists would be making sure they are observing.” This allowed the students to engage in deeper thinking as they were considering how and why professionals perform these activities, how their behavior matches the behavior of an individual involved in the field of study, and how their actions affect the task. Simply addressing students as scientists, mathematicians, historians, etc. was not the extent of the language of identity used by Ms. Smith. Instead, this language move was incorporated in order for students to understand that there is a connection between what they do in the classroom and what happens in the professions; the thinking and reflecting they do with that mindset will prepare them for the future. Furthermore, this language draws on their imaginations as they are entering the role of the professional, which makes them eager to share their thinking.

Another unique shaping of the language of identity was prevalent in the music classroom. During a first-grade music lesson in Ms. Jones’ classroom, she manipulated the language of

identity to act as a questioning technique. When rehearsing for a musical performance, she offered her students the following question: “What do you think a performer could do if they forget their speaking part? What’s an idea?” This caused the students to genuinely have to see themselves as a performer and consider the actions of a professional; they had to engage their thinking on a deeper level as they had to offer the actions and reasoning related to the performer. This was advanced during a third-grade music lesson in Ms. Jones’ classroom as the language of identity was utilized as a technique of evaluation; this lesson was a preparation for a musical performance as well. The students were required to evaluate themselves as learners, specifically in that particular field of study. When practicing a song for the performance, Ms. Jones mentioned,

You can evaluate yourself. If you are ready to put your paper down, then you can use the points on the board as a guide. If you are not ready, it doesn’t mean you aren’t a good singer or that you’re not smart it just means that you need more time with your words. That means you are a good musician and you are preparing for this.

This allowed them to think critically about themselves as learners in that field of study, which are critical characteristics to have to be successful in the future. Drawing attention to the different points that each student was at in the rehearsal was not a negative action as it was recognized as the act of a good musician; good musicians are able to notice when they are at a level where they can move on. In order to accomplish this act, the students had to evaluate themselves as musicians connecting their prior knowledge of musicians to their own learning experiences.

It appeared as if Ms. Jones shaped her language of identity depending on the grade she was working with. The manner in which she addressed the students as professionals altered across the grade levels. In the example mentioned above during the rehearsals, it seemed as if

Ms. Jones was having the first-grade students think solely about performers and identifying what they do to be successful. As this progressed to third grade, the students were asked to push their thinking and evaluate themselves as the actual performers. Whether this was intentional or not, this language of identity allowed the students to grow as seeing themselves as professionals over time. It provided them with ideas that they should be thinking about during experiences, lessons, activities, and discussions that take place in different subjects based on the individuals of that field of study.

Without the teacher committing to building a community through their use of language, it will be quite difficult for students to feel comfortable to vocalize their thought process within the classroom. Across all classrooms, pronouns such as we, us, and our were very common, but I believe it is important to highlight areas where the teachers uniquely shaped this language move to fit their classroom culture and goals. As has been noted, each classroom environment is unique to that specific teacher and group of students. Likewise, teachers use their language to create a community in different ways. First and foremost, it can be used to specifically signify a community of thinkers. Ms. Nancy, a fourth-grade teacher, made it a priority to refer to the thinking that was taking place during a discussion as the whole group's thinking. This communicated to all the students that everyone's ideas and thoughts were vital contributions. As an illustration, Ms. Nancy addressed the whole-group discussion by stating, "We have already shown that we can push our thinking beyond basic ideas." Ms. Jones incorporated the language of community as a way for students to evaluate and consider how their actions are a great contribution to the progress made in class during music lessons. By using phrases such as, "We will do what is best for our whole group" and "Help us out [student name]. We need you. You

are important,” students are invited into a classroom culture where they see themselves not as individual students, but as an entire unit; a unit that is comfortable working as one.

The language of community also has a powerful effect when being used to prepare students’ mindsets for the upcoming activity or lesson. Ms. Williams guided the thinking of the entire fourth-grade class during a social studies lesson by opening with these remarks:

Step one is for **us** to take a step back and think about what **we** have been doing. **We** are in the northeast right now and we going to head to the southeast moving across the country. As **we** move from the northeast to the southeast, it is important to think about the city that sits on the border.

She made it a collective thinking process and verbalized what the students should be thinking about in relation to this topic. Furthermore, by utilizing the language of community within this introduction, the students are assured that they are not alone in the thinking that will be taking place throughout the rest of the lesson; it builds their confidence and spirit to become a part of the collective learning and hopefully in sharing their thinking.

I noticed a subtle change with the goals related to the language of community within the physical education classroom. From practicing exercises to learning new sports, Mr. Harris used pronouns and language that inspired students to assist one another and work together. When Mr. Harris noticed a group of boys moving too fast while practicing walking push-ups, which caused them to lose the correct form, he provided some assistance by stating, “Boys you are going too fast. Help each other out.” This builds a trust between the students as Mr. Harris is vocalizing to them that they can work better together rather than alone. He also reminded the students that constructive criticism should be welcomed during a stretching routine when mentioning, “It’s okay for someone to remind us how to do something.” Mr. Harris stated that he finds it important for his students to give each other feedback as well as for his students to take feedback in a

positive way. It appeared as if Mr. Harris combined his language of community with his language of praise and feedback. Encouraging students to help each other, give each other feedback, and take that ownership, which Mr. Harris mentioned were goals of his during our interview, can play a significant role when asking them to contribute to discussions. They will be accustomed to assisting each other during physical activities and will recognize that this team effort is just as vital when having discussions about new material regarding physical education. Ritchhart briefly mentions Maslansky, West, DeMoss, & Saylor's (2010) language of trust when he states that it "...focuses on how one builds rapport and connection with others to assist in working toward shared goals" (as cited in Ritchhart, 2015, p. 84). I believe that Mr. Harris' use of the language of community in the physical education classroom could also represent the language of trust, even though Ritchhart does not go into great detail about this particular language move.

When used effectively, praise can be an important component of the dynamic between the teacher and the student. When using praise as a tool to motivate students to vocalize the thinking process, the results are remarkable. The language of praise and feedback in a classroom environment that is determined to making thinking visible involves noting when students are employing deep thinking, describing the actions and behaviors they are adopting that are setting them up for success, and most importantly, mentioning the benefit of these praiseworthy acts. Ms. Nancy used the language of praise and feedback consistently in her classroom to acknowledge when students were engaging in critical and deep thinking. She made it a point to use the vocabulary associated with making thinking visible. To demonstrate, I have provided a few examples:

Ms. Nancy: “I was thoroughly impressed with the noticing, thinking, and reflecting you made with the text.”

Ms. Nancy: “I loved how [student name] took a pause after she wrote her initial thinking. I could actually see her thinking happening.”

Ms. Nancy: “[student name], I loved how you did the ‘because’ and explained your thinking.”

Noting the moments when students are involved in their thinking, like Ms. Nancy demonstrated above, can help students acknowledge their own thinking process and what “thinking” actually entails. Educators can continue to ask students to think about an idea or topic, but that doesn’t communicate what they expect them to be doing when they are thinking. Ms. Smith honored her students’ participation by defining the ways that they were “stretching their thinking” when stating, “Wow! I see lots of friends really stretching their thinking. I see some friends making three letter words and four letter words.” When teachers indicate the moments where students are thinking deeply and use the language of praise and feedback comparable to Ms. Nancy and Ms. Smith, students will feel more comfortable expressing their thoughts because they will have been continuously reminded that anyone can successfully think about a topic or idea. Speaking up and vocalizing their thinking will not be about having the “right answer.”

Educators can make their thinking visible when observing student performance within the classroom. They can use the very same language that they expect of their students in order to provide them with effective praise and feedback. When adopting this mindset, it appears as if teachers relay as much information as possible that surpasses the typical “that’s correct” or “great job.” When offering praise and feedback, Ms. Jones utilized the language that she

encourages her students to use when making their thinking visible. During a rehearsal for a concert, Ms. Jones spoke the following language of praise and feedback:

I am **noticing** a lot of kids using their fingers to follow along and that is an excellent strategy. Your eyes are looking at the words and all of the notes so it is a good idea to act as a guide with your finger.

There is a lot happening with this phrase that makes it extremely effective. She incorporates the phrase “I am noticing” as a model of how to vocalize your thinking, she highlights an effective strategy that students adopted on their own, and she mentions how the students will benefit from this action; this allows her to not only give them an effective compliment, but it also models ways to communicate about one’s own thinking. She communicates to her students that she believes in them and that they have as much power to assist the class in growing as learners as she does. She believes in her students’ thinking and she explicitly communicated that when telling one of her third-grade students, “[student name], your mindset is completely on target. You are believing in yourself and I believe the very same thing.”

Ms. Smith also made it a point to praise students when implementing strategies and techniques that will help them grow as learners. When a student was reading alongside the teacher, Ms. Smith celebrated the reading strategy that the student had utilized without the teacher’s guidance by saying, “Can I pay you a compliment? When you were stuck on a word, it was nice to see that you looked back and got your mouth ready. That was a really good idea.” Ms. Smith modeled what the student should be thinking in regards to this strategy by stating what she did and how it will benefit her. Some similar examples of praise and feedback that support the visible thinking environment in Ms. Smith’s classroom included:

“I like how you are thinking ahead and that’s what good learners do. Sometimes they even change their plans.”

“It was very nice to see that many of you remembered and pulled on your prior knowledge to know what to do.”

Language of praise and feedback encourages students to try new ideas and strategies, and to take risks with the vocalizing of their thinking because their teacher will honor their contribution.

The language of listening within a classroom provides the student with a sense of strong agency. It builds a mutual and sincere bond between the teacher and student as well as with the students and their peers. It establishes genuine discussions as students and teachers are motivating one another to explain and connect their thinking. In order to accomplish these things, individuals have to actively listen to the thoughts of their peers and explore the thoughts that they personally have on the topic at hand. It is evident that when teachers use the language of listening when communicating with students it provides a model for behavior that the students adopt when they are listening to their classmates. Teachers with goals to create a visible thinking environment assist their students in deepening their thinking by asking authentic questions during discussions; this guides students to become comfortable with and aware of the ideas and thoughts passing through their minds. Ms. Jones used authentic questions to stimulate her students’ thoughts during music class. As first graders were listening to a classical piece of music, Ms. Jones recognized that many of her students were startled during a particular part of the piece. Rather than telling the students why that happened, she encouraged her students to consider their own thoughts. She asked one of her students the following question: “What was it

about that sound that startled you or made you sit up?” The student answered with “it was booming and loud.” After the student had provided their thoughts, Ms. Jones was able to connect that with musical terms by stating, “Oh, so it was speed that you are talking about.” By recognizing the student’s response and listening to what the student had said, the teacher was able to ask an authentic question to promote deeper thought, paraphrase the student’s ideas, and offer new vocabulary to their thinking.

Comparatively, the language of listening in relation to asking authentic questions was utilized as a reflection tool. As fourth-grade students were at the end of their composing project in Ms. Jones’ class, they were discussing the journey that they experienced during the process. Ms. Jones wanted the students to think about the process and apply their thoughts to future tasks. She initiated this discussion by stating,

Let’s pretend it’s fifth grade and I say now let’s do some small group composing. What would you do differently? Would you start the process the same way? Do you think it would be easier now that you have experience?

As the students reflect on their experiences and make their thinking about the process visible, it helps them grow as learners. By discussing their thoughts about the composing project, they were able to discover what works and what doesn’t work for them. Ms. Jones seized a crucial opportunity when hearing students discuss the project by having them apply their thoughts to a different context in order to advance as students and thinkers.

When teachers prompt for continuous clarification, it communicates to the students that the teacher wants to have a clear understanding of the students’ ideas and wants them to be visible in the classroom because they are important and valuable. When a student offered a definition of “prevent” in Ms. Smith’s classroom, she made sure she had a strong understanding of the student’s thinking, she made the student’s thinking visible to the class, and she encouraged

the student to dig deeper by using her language of listening. She stated, “What makes you say that? [student justifies their reasoning] So for clarification, are you saying that ‘prevent’ means that if they run out of something they have to make more?” This allows the teacher to address the student’s misconception by providing an opportunity for the students to revise a response rather than simply receiving a correction from the teacher. As a consequence, students become more confident with their thoughts as they are evaluating whether their audience has correctly identified and understood the vocalization of their own ideas.

When leading a discussion about the location of Washington D.C. in a fourth-grade classroom, Ms. Williams responded to a student’s idea with the following question, “So are you thinking maybe if they put it in a state, then it would have a lot of power and get a lot of glory?” The teacher paused the conversation in order to paraphrase the student’s idea so that both the student and her had a mutual understanding. This also provides the student with a sense of agency in the classroom because they have the opportunity to add to or change the way that they communicated their thoughts; it helps them develop a voice that reflects their thinking.

Additionally, Ms. Williams utilized conditional language in her language of listening by incorporating the word “maybe” in her response mentioned above. According to Ritchhart, this is classified as the language of mindfulness. There were 16 occurrences that took place within the observations where the participants utilized the language of mindfulness. The language of mindfulness enhances the language of listening as it reinforces the idea that one’s thinking is never static and that it can constantly evolve and grow; this is important once students are exploring the language of listening with their peers. In Ms. Jones’ music class, she utilized similar language with one of her first-grade students when they were discussing a piece of music they had just listened to. As the student was trying to communicate his thoughts in relation to the

piece of music, Ms. Jones offered the following comment, “It was going from smooth to bumpy. Maybe that’s what you mean?” This helped the student recognize where his thinking was headed, yet it still left him with the ability to refute the conclusion the teacher had drawn from his thoughts.

Teachers utilize the language of listening when engaging with their students with the hope they will incorporate the same language when discussing topics with their peers. During my observations in the classrooms, I noticed that it was quite common for the teachers to have the students explain what their partner had to say about the topic, rather than offering their own ideas. This ensures that the students are listening to their classmates thinking as they have to process what they heard and put it into their own words. Also, students who are offering their thoughts are receiving practice in making their thinking visible. Ms. Nancy established this opportunity for her students when they were discussing the necessary components of a conclusion. She posted a sample conclusion and utilized the turn and talk partners strategy in order for them to discuss what they noticed was included in the conclusion. After the students had the chance to discuss their thoughts with their partners, she stated, “Can I have someone share what his or her partner said?” This allows them to practice their language of listening and it appeared as if the students were not uncomfortable completing this task. Since Ms. Nancy is constantly modeling the language of listening when holding group discussions, the students were aware of how they should shape their own language. Ms. Nancy provided a model for the students to follow as well as reminded them of the vocabulary they should be utilizing by mentioning, “So, I am going to say [student name] noticed, recognized, or shared that...” Now a culture of sharing, valuing, and deepening each other’s thinking is established as everyone has the opportunity to vocalize their thoughts, listen to their peers, and deepen their understanding.

This transfer of the language of listening to the students can be extended by having the students connect thinking with another individual's thoughts. They can connect their thoughts with others or connect their classmates' thoughts with other classmates' ideas. In this method, not only are the students required to analyze, comprehend, and make their peers' thoughts visible, but they also have to take all the conclusions that they made during those processes and connect them with others' thoughts. Ms. Williams demonstrated this strategy during her social studies lesson when the students were working on their vocabulary words. The sentence on the screen read, "The archaeologist thought the spoon was an ordinary piece of [blank space]. But it turned out to solve a [blank space] from history." The students were instructed to look at their vocabulary lists to find the words that would belong in each blank space and discuss their choices with the students at their table. One student suggested "history" and "poetry" as the vocabulary words for the given sentence. Rather than explicitly stating that the student's suggestions were incorrect, she encouraged her students to connect their thoughts with their fellow student's thoughts. She stated, "Any other ideas from what [student name] said? We could add to it. Any ideas?" This encourages the class to become a collective group of thinkers that use their ideas in comparison to others in order to determine the answers that apply. It initiates deep thought as students have to critically consider their classmates' thoughts and compare that to their own ideas.

It appeared as if some teachers took this idea a step further by explicitly using their language of listening to paint a picture for the students of the thought process that was taken by the student that was offering ideas. For example, Ms. Nancy made her student's thinking visible for the class by shaping her language of listening in the following manner:

So [student name], when you saw the word clear, did you think of a word that is similar to clear? So, you thought of transparent. So, [student name]'s train of thought was to think of a word that was similar to the word 'clear'. So, you looked at the word 'clear' and thought of the word's meaning and came up with a synonym to that word.

Rather than Ms. Nancy explicitly stating the thinking process that she would take in order to find an answer, she took the time to make the student's thoughts visible to the entire class. This allows the class to be motivated to acknowledge their own thought processes when reaching conclusions because they were given a model of one of their fellow classmates; it provides an example of what thinking about something entails, which isn't always made clear to students.

With this in mind, we have to consider what it looks like when teachers have their students identify their own thought process and make it visible to the class, which is a common goal that active supporters of the visible thinking theory have for their students. This can be accomplished through the use of the language of initiative. Ms. Jones consistently encouraged this behavior when listening to musical pieces; she really wanted her students to identify how they made the conclusions that they did. After listening to a piece by Sergel Prokoflev, first-grade students mentioned that they heard drums being played. Ms. Jones wanted her students to discover the reason and evidence that they used in order to draw those conclusions. She accomplished this by making their thinking visible through the questions that she asked. She inquired, "How did you know that? Tell me more about that. What makes you say that? Did you have a picture of that in mind?" Asking these follow-up questions prompts students to discuss the thought process that they took to reach that inference. They are asked multiple generic questions that a variety of students would be comfortable answering because the teacher is not looking for a specific answer. Teachers can also encourage students to identify the conclusions that they made based on outside connections. For example, Ms. Jones asked her kindergarteners,

“What makes you say that? How did you know what a ukulele sounds like?” when listening to a piece of music. These types of questions help students make prior connections to help them uncover their thinking process.

When looking at a map during a social studies lesson in Ms. Smith’s class, students were being motivated to explore their thinking process through the language of initiative. Students had very little experience with maps, which served as an excellent opportunity for Ms. Smith to ask her students to discuss how they reached their thoughts and ideas. As students were exploring their thoughts with their classmates, Ms. Smith mentioned, “This is what I heard, ‘That looks like a desk and that looks like a chair.’ They thought it might be a bathroom. What makes you say that? How do we know what this is? What tells us this?” As Ms. Smith was using the language of initiative, she was helping her students notice map features, such as the title and key. She wanted her students to discover these features on their own by having them explore the reason and evidence that they used to reach these conclusions. At the same time, it is encouraging the students to be independent learners. Ms. Williams wanted to encourage her fourth-grade students to be independent learners as well by asking them to offer their own plans as to how they could use their map as a study guide for their upcoming test. She stated, “How about studying this? What strategies do you have for studying this?” Many students began suggesting ideas and using evidence from their last study sessions to support their ideas. They were able to use their past experiences to identify and think about what works for them; this gave them control over their own educational journey.

When observing Mr. Harris’ classroom, I noticed the language of initiative being used in a different manner. Many times, Mr. Harris was modeling for or instructing students as to how to perform a certain physical activity or movement. Following these procedures, he would always

state, “Someone raise your hand and show me or tell me how you understand this.” This allows students to demonstrate the thinking process that they took to understand the given information in two different manners. As a result, the students are ready to tackle the task as they have communicated their plans and thoughts in relation to understanding the activity. Mr. Harris mentioned in the interview that he focuses on the “show me” aspect of this language when working with kindergarteners. Providing them with this opportunity to “show him” that they understand the task and that they know where they are headed has been very successful in his classroom.

As stated prior, educators may ask their students to “think” about a particular idea or topic, but thinking about something can relate to a variety of things; it can cover a vast amount of mental actions. Defining the thinking process is crucial in order to create a visible thinking environment; it is the language of thinking that provides students with the types of “thinking” to engage with in their minds as well as to discuss within the classroom. The language of thinking uses words, phrases, and questions that relay the mental actions that teachers expect students to pursue; it acts as a guide to target their thinking. Rather than stating, “think about what we just read or think about how your reading partnerships are going,” the language of thinking lends the students a clearer understanding of what details they should be concentrating on when thinking about a topic. Ms. Nancy asked her students “what do you notice about how the author started off the book?” during a lesson on conclusions. This made the discussion richer as the teacher communicated to the students where their thoughts should be headed. It is generic enough for all students to provide an answer because the teacher utilized the word “notice,” which is part of the thinking vocabulary, but it gives the students enough subtle direction that they don’t feel detached from the expectations. Furthermore, Ms. Nancy asked her students, “What are a couple

of things you have done in your reading partnerships to be aware of or to improve reading fluency?” Asking these types of questions helps students recognize what they should be thinking about and reflecting on after engaging in this activity; it sets a purpose for the activities. Furthermore, it is preparing students for generic questions such as “how were your reading partnerships” that they may face outside of the classroom; it builds a foundation for the students so that they can participate in rich discussions without much direction in the future.

Correspondingly, this can be seen in Ms. Jones’ first-grade music class when she stated, “Did anyone notice anything about the sounds I used for the names?” She was referring to her daily routine of taking attendance as she sings the students names. These teachers use the language of thinking even during the moments that many may not consider to be educational; this type of practice keeps students actively thinking at all times. Additionally, the language of thinking can also be used to give students hints related to the thinking that should occur about the questions that teachers ask. For example, Ms. Williams stated, “When you hear ‘central,’ what does that tell you about location? Think about the word and its parts.” This specificity of stating “Think about the word and its parts” is a great way to keep the students involved and their minds active in the learning.

On the contrary, teachers can use the language of thinking in a less specific manner to keep the visible thinking varied among the students. Ms. Smith found this method to be useful during a science experiment that was being done as a whole-group activity. After dipping paper into water, she simply asked, “What do you notice?” This question was guided enough for the students to respond with their thinking. During observations in Ms. Smith’s class, she consistently shared her noticings with the class. It was very common to hear her say “I am noticing,” whether it related to educational material, behavioral instances, or occurrences in the

classroom. The students were comfortable with the phrase “I am noticing” and aware of the way they should use it to make their thinking visible because the teacher often had incorporated it in her language. She used the same language during a math lesson when she posted the following equation: $4 + 9$. She opened the lesson by asking, “Before we get the answer, what do we notice about this?” She wanted her students to identify that the following equation requires addition. As students discussed their noticings, it led to them discovering the goal that Ms. Smith was prompting for.

The language of thinking can be used to keep students in control of their educational journeys. It can help them consider what their next plan of action should be and how they should get there; it gives them a sense of agency in the classroom. In Ms. Jones’ kindergarten class, she addressed one of her students by asking, “What could you do to solve the problem that you have?” This allowed the student to talk through the situation and decide what would be the most reasonable decision. This captured the student’s problem-solving strategies and allowed them to analyze their given situation. When students were working on their rough drafts in Ms. Smith’s classroom, she offered them an opportunity to use their visible thinking strategies in a way that would put them in control of their education as well. She asked, “What happens if you read it and you develop more thoughts? What can you do?” This prompts the students to consider how they can continue to revise their drafts in their own ways. By providing the opportunity to discuss this predicament and leave the situation in the students’ hands, it encourages them to be problem-solvers and independent thinkers.

Routines

It was common to observe teachers using the routines discussed in Ron Ritchhart et. al.’s *Making Thinking Visible* to elicit the student’s thinking throughout a variety of subjects. There

were many times that the teachers adapted these routines in their own ways, but there were still plenty of situations where they were used with only minimal changes. When exploring a problem involving the decrease of the amount of salmon that flows along the Columbia River over the past 40 years, Ms. Williams felt that utilizing a Tug-of-War routine would encourage her students to delve deeply into the issue at hand. It was a great opportunity for students to analyze the information given, respectfully debate differing opinions, and determine a position to take. The students were divided into six groups: fishing, dams, people, farming, factories/businesses, logging. Ms. Williams manipulated the Tug-of-War routine slightly as the information that they read in their textbook already gave them the “tugs” of the argument surrounding the salmon; they already had the causes of the problem and she wanted them to debate which they felt were the most responsible. For this reason, they were instructed to collectively synthesize the given information and decide what persuasive techniques they were going to utilize in order to convince their audience. Then, the students sat in their groups as two groups were asked to approach the front of the room at a time. The audience would vote on a sticky note as to which topic they believed caused the most damage and would then place it accordingly on the tug-of-war line, which was drawn on the whiteboard. After the students had placed their sticky notes on the line, the two groups would present their arguments to the class; the students had the opportunity to change the location of their sticky notes after they heard the arguments. Ms. Williams would address this procedure by stating phrases like, “Remember, sometimes when we get information, we deal with things differently. We put our sticky notes up there without much information. Would you move your sticky note after hearing the information? If so, go ahead and do that now.” The students were required to evaluate their opinions prior to hearing the information and compare it to their thinking once they heard the opposing argument. This ability

to visually change the location of their thinking on the line was very powerful; they were held accountable for their changes, which encouraged them to verbalize the thoughts that led them to changing their opinions. As a result, they were becoming more familiar with their reasoning techniques. When a student changed his opinion from one end of the tug-of-war line to the other, Ms. Williams said to the student, “[student name], you seem to make the largest leap. Can you tell us about your thinking that led to changing your mind? What was it that you heard about the dams that made you think that?” The language of thinking that Ms. Williams adopted allowed the student to consider the parts of the argument that transformed his thinking and making that justification visible to the class encourages the class to compare and contrast their thoughts with their peers’ thoughts.

Since students were held accountable for explaining their reasoning behind making changes to their opinions, Ms. Williams utilized this time to incorporate the language of listening to assist her students in constructing the verbalization of their thoughts. A group of students had made a drastic change in their opinions when debating whether factories or farms played the more significant role in the decrease in salmon over the past 40 years. Ms. Williams was curious as to why so many of them altered their conclusions after hearing the arguments. She noted this change by stating, “I see that you and a group of students moved your sticky notes to the center. Can you explain your thinking?” Thus, the students began making their thinking process visible to the class as they discussed and connected their ideas with the other students who had made a similar leap. Since many students were communicating their thoughts at once, Ms. Williams condensed the ideas into one through her language of listening and initiative. She stated,

So, what I am hearing is that the farms and ranches are putting pesticides in the river and the factories are putting chemicals in the river and polluting it. So, some feel like they are equally causing destruction and affecting the salmon.

The students were able to hear how their visible thinking affected the audience and they were able to evaluate whether they vocalized it clearly or not. If not, they were presented with the opportunity to rephrase their thinking or add to their original notions.

It is typically a teachers' intentions to have their students partake in critical thinking and deep exploration no matter what the activity may be. This can be difficult to guarantee when students are working in stations as the teacher is not always involved at every center. Ms. Smith wanted to maximize the thinking opportunity at her "Write About This" station by incorporating a thinking routine. She would post a picture on the whiteboard located at the station and the students were required to either write a story about the picture, make a book, write a letter, or perform a See, Think, Wonder routine. Although the students were able to choose from four different activities, providing a thinking routine ensures that students have an activity that can guide their thinking without the teacher's assistance if necessary. This routine was utilized in a manner parallel to the format discussed in Ritchhart et. al.'s *Making Thinking Visible*, but was applied to ensure an optimal learning experience during stations.

Within the music classroom, Ms. Jones wanted her and her students to embark on a journey of discovery together as they listened to musical pieces, rather than directly telling her students about the musical elements. To fulfill this desire, she decided to utilize a manipulation of the See, Think, Wonder routine called Hear, Think, Wonder. This adaption allowed her students to have direction with their thoughts when listening to the musical compositions. It initiated deep discussions related to the elements that they heard, what it made them think of, connections they had, and things that they were left wondering about related to the piece. It created a great opportunity for Ms. Jones to get everyone to participate as well as to introduce

students to new vocabulary. Even though the students were the ones leading the conversation and offering the ideas, Ms. Jones still played a crucial role as she was asking guiding questions that subtly targeted their thinking or provided them with a new perspective.

Conclusions

As a result of this study, I was able to add support to Ritchhart's theory of the importance of these forces in creating an environment that values deep thinking, provide awareness of how the teacher's words impact the level of critical thinking in which students engage, and demonstrate the strategies and techniques that teachers can adopt in order to be successful in creating a culture of thinking environment. In addition, this study explored how teachers uniquely shaped their language and routines in order to create a visible thinking environment. I had expected to encounter instances where teachers utilized the seven key language moves and the routines in almost the exact manner described in Ritchhart's texts. Upon analyzing the data, I noticed four emerging themes that demonstrated the teachers' unique influences on the manner in which they used their language and routines to foster a visible thinking classroom. The findings demonstrate that the language moves and thinking routines are a starting point and the emerging themes establish the idea that they should not be considered an end in themselves. The themes that will be explored include teachers using their visible thinking language as a means of classroom management, teachers enhancing the routines to meet their own classroom needs and goals, teachers blending the language and routines during discussions, and students internalizing the language and routines.

Classroom Management

For some teachers, there is an alignment in their language used for behavior management and language used for academic instruction. It is this language of thinking, initiative, and praise

and feedback that allows students to be in control of their actions and evaluate their behaviors. In essence, it is this language that encourages students to think through the given situation and determine how they can fix it. Active supporters of the making thinking visible theory are not telling their students what they are doing wrong; instead, they are noticing the behavior and using the language of thinking, initiative, and praise and feedback in a different manner. That is, they use language that attempts to return the responsibility for appropriate behavior back on the students rather than the teacher. When discussing the connection between the visible language and classroom management, Ms. Smith offered the idea that “It is sometimes a form of modeling, letting them know I am thinking this through too just how you can think through it. I’m not just telling you what to do because I am the teacher.” Not only do teachers want their students to be deep thinkers when it pertains to their academics, but also when it pertains to their behavior, which makes sense as to why educators would promote the same language when handling these issues.

When redirecting students, using the language of initiative assists them in acknowledging their behavior and creating a plan to change it. It causes them to engage their problem solving strategies rather than being told what to do. Instead of telling students that they are misbehaving and how they should fix it, the teachers I observed are assisting the students in taking on that responsibility. A student in Ms. Smith’s classroom was not participating in the small-group discussion. As a result, she handled the situation accordingly:

[Student Name], I am noticing that you are far away from your group. I would like you to take a minute and think about if it would be better to have the whole group move or for one person to move to the group. As a buzz leader, I need you to think about what is best for your group.

This method allows the teacher to notice and name the behavior that is occurring and offer the student the opportunity to reflect on how this is affecting their thinking and learning, while motivating them to redirect themselves. It eliminates the teacher's role of a dominant leader within the classroom and instead, develops a sense of agency within the students. The student is allowed to think through their actions and activate their decision-making skills; it gives them the opportunity to try something different on their own. Ms. Smith furthered this idea of giving her students a sense of agency with their behavior when addressing the flexible seating arrangements in the classroom as many students were not using it properly. She stated,

This is what I am **noticing** and you can tell me if you are noticing the same thing. When people have a scoop chair and they are writing, their writing tends to be sloppy. If you are noticing that about yourself, then maybe you can make a better choice. If you aren't noticing this about yourself, then just make the choice that will help you give your best effort.

Using this language of thinking by mentioning "I am noticing" encourages the student to activate the same thinking procedures that are promoted during instruction. She wants her students to think deeply about their choices and reflect on whether they should fix them or not. Providing her students with this control over their actions motivates them to be critical thinkers in all aspects of their life, especially in the classroom as it creates a mutual respect between the student and teacher.

This language of initiative paired with behavior management was also utilized to set goals for a successful day within the physical education classroom. Focusing on good participation and sportsmanship, Mr. Harris opened his lesson for his third-grade class by stating, "Find your PE pals and I want you to share with them an idea that we can do to make this a successful day." Rather than listing his expectations for their behavior that day, he decided to have his students think deeply about their choices and create a plan of action to make the day a

success. After the students made their thinking visible with their peers, he decided to have them share out. He asked for suggestions and a student proposed that they pay attention. He wanted his student to dig deeper with their response so he asked, “How do we pay attention? What does that look like?” Paying attention is an action that many might assume to be straightforward, but by having students explain what that is and how it should look only makes the expectations that much clearer and invites them to be a part of the classroom management. Asking students to “Help me understand what trying your best looks like,” sets the tone that they are working as a team. It is a collective effort by individuals that are deep thinkers and have positive sportsmanship that will make the physical education classroom a success.

Observations are a vital component of the thinking process. Individuals are constantly noticing and observing things when they are engaging in the “action of thinking.” Deep thinkers notice, name, reflect, and analyze given situations and information in order to draw conclusions and gain other perspectives. Following these ideas, Ms. Jones created an observation chair where she could encourage her students to practice their thinking skills in order to improve their behavior. Children were advised to sit in the chair when they were misbehaving until they could identify a person that could inspire them to make good choices. As Ms. Jones stated, “It is not a punishment. It is a help.” Once students could identify a student who was making good choices, they announced these noticings to Ms. Jones and stated how it provided the impetus for them to change. Ms. Jones offered them guiding questions when the students were participating in the observation chair by asking questions such as, “What are you thinking about right now? What are you supposed to be looking for? What is your job?” This helped the students target their thinking and noticings.

Ms. Jones: [Student Name], what did you notice?

Student: Mentions someone who was sitting quietly and participating.

Ms. Jones: “I noticed that you did a complete switcharoo. You were having a really hard time and you completely changed your choices. You are now an inspiration to all of the other kids.

How did you do it?”

The student offered an explanation as to why and how they decided to alter their choices. Ms. Jones utilized the language of listening and praise and feedback to address the student’s response.

Ms. Jones: “Oh, so you didn’t like how it made you feel when you made a bad choice. Wow! Children can do powerful things. That’s amazing!”

By using the language of listening and rephrasing what the student had stated, it helped the student become aware and comfortable with their thoughts. This behavioral technique communicates to students that they have the power to transform their behavior by reflecting on it and deciding on a new plan of action to take; they can activate the thinking strategies that they practice during instruction to transform their behavior.

Asking students why they are acting a certain way through the language of thinking, provides them with the opportunity to critically think about what they are doing and what factors are affecting it. Having students notice and name the behavior and determine what and why it is happening allows them to identify their thought process as well as for the teacher to understand why the student was behaving in such a manner. The students are more inclined to follow

through with the behavior change because it was their decision to do so. Ms. Jones modeled this noticing and naming of the students' behavior in the following conversation:

Ms. Jones: "Did your class get to go outside for lunch recess?"

Students: "Yes"

Ms. Jones: "Does anyone know why I might be asking that?"

Students: "Because of the mitten song"

Ms. Jones: "That's not what I was thinking. I was thinking more about noticing lots of children having the wiggles."

Addressing the first-grade students this way encouraged them to begin to think about the reasons why they were behaving in such a way. She modeled her noticings and the conclusion that she drew from her observations, and she expected her students to do the same in order to make the classroom climate more successful for learning.

When students are misbehaving, some teachers may have them identify how it makes the teacher feel and why it makes them feel that way; this encourages perspective thinking. They can ask them to consider the effects of their behavior as a whole-class discussion so that everyone has the opportunity to make their thoughts visible. Mr. Harris took this approach when the students in his physical education class were not listening and giving their full effort. He stated, "Help me understand that you understand how I feel right now." When students offered their ideas, many drew the conclusion that he was frustrated. He wanted them to further explore what would cause him to feel this way and he did so by asking, "Why do I feel frustrated?" This led the students to discuss the behavioral choices that were causing this frustration. Mr. Harris could

have easily told his students he was frustrated and how their misbehavior caused that, but by having the students discover and acknowledge these things allowed them to learn and grow from the experience as well as take responsibility for whether or not to make adjustments to their choices.

Focusing on the language of thinking when students are not participating adequately or appropriately can help them activate their problem-solving strategies. Again, this follows the idea of the students creating their own plan of action while the teacher uses thinking words and phrases that will guide them to making proper decisions. As many students were left out of the circle in Ms. Jones' kindergarten music class, she decided to take this approach. She stated, "Boys, there looks like there is a problem with our circle. Take a look behind you. What's happening and what do you notice?" Many students looked around without offering any suggestions or fixing the problem. For this reason, Ms. Jones offered her opinion: "I notice that two girls are not included. What could you do to make space for them?" Students began moving around to create space for the girls, but Ms. Jones wanted her students to vocalize their thought process so they were aware of how they decided to make that choice. She fulfilled this goal by asking the students, "Can you use some words to tell me what you did?" By using this language of thinking, such as what do you notice, what is happening, and what could you do, in relation to behavior management allows them to look at their behavior from a different angle.

Acknowledging student actions that are reflecting good behavior for learning is a positive way to address misbehavior in the classroom. Some teachers accomplished this through using the language of praise and feedback while focusing on the act of thinking. When students were shouting out answers during Ms. Smith's class, she decided to focus on the positive part of the class, rather than giving all her attention to the negative behaviors at the moment. She remarked,

“I can see that [student name]’s head is glowing right now, but she’s not talking. She’s thinking without even talking. [Student Name] what a great talent you have.” As this request may seem contrary to the goal of making thinking visible, it is actually consistent with Ritchhart’s ideas. Ms. Smith recognized that the conversations of the other students taking place at the moment were not centered around the topic being addressed in the lesson. She wanted to encourage her students to take a moment and utilize the thinking strategies that they practice when engaging in thinking routines out loud during classroom discussions. She was encouraging them to organize their thoughts. She then advocated for the students to vocalize their thoughts. With Ms. Smith placing her focus on a model for the students to follow rather than criticizing the negative behavior, the students now have something to think about and reflect on.

Noting the excellent choices that are being made in the classroom can lead to a ripple effect among the students. Students will begin to consider what made the teacher say that, what do I see and notice, what can I do to change this, etc.; they will begin to apply this “thinking language” that they use during instructional time in order to respond to and act upon their behavior. Ms. Jones praised one of her student’s decisions to alter their choices during a music lesson when stating, “Oh I noticed you were inspired by [student name] as well. As soon as I was inspired and noticed [student name], you began to copy him. That was good thinking.” Identifying the thought process that the student took in order to change their behavior helps them build a characteristic of thinking critically about their actions. As a student was participating in deep thinking, Ms. Nancy took the time to acknowledge her noticing. “I loved how [student name] took a pause after she wrote her initial thinking. I could actually see her thinking happening.” By recognizing the students’ display of a critical thinking moment, other students within the classroom were inspired to perform the same efforts of thinking. Ms. Nancy

mentioned during our interview that she is very specific when providing praise and feedback to a student in front of the class not only to help that student realize what they did, but to encourage others as well. There was intentionality in Ms. Nancy thoroughly describing her noticing of a student's deep engagement as she knew that it may lead to an inspiration for others to mimic the same actions; making her noticing and thinking visible in relation to the student's behavior had a positive effect on how students saw themselves as thinkers within the classroom.

When teachers create an environment through their language that respects individuals' thinking, it assists in managing the classroom behavior as well. Students are aware of and focus on the behavior that is necessary in order to create a visible thinking atmosphere. This is accomplished through teachers shaping their language to honor and appreciate the act of critical thinking and sharing ideas. Ms. Smith used this method when redirecting her students' attention during a carpet meeting as she mentioned, "You are not being polite and respectful to his thinking if you are speaking and not listening when he is talking." This promoted the positive behavior that was crucial for students to feel comfortable vocalizing their ideas. As Ms. Smith took the time to value the act of thinking and listening within the classroom, students recognized the importance of shaping their behavior to create a classroom where visible thinking was encouraged and supported by both the students and the teacher. Following this idea of respecting thinking in a classroom to act as a form of classroom management, led some teachers to influence their language of thinking in order to foster a relationship between students where they work together and encourage one another to grow as thinkers. Ms. Nancy stressed this idea through her language as she made remarks as such, "Go ahead and thank your friends for maybe pushing your thinking and sharing their thoughts." These constant reminders that working as

collective thinkers is beneficial and that students should collaborate to grow in their thinking encourages the students to create healthy and positive relationships with their classmates.

Teachers Enhancing

As teachers become more familiar with the thinking routines presented in Ron Ritchhart et. al.'s *Making Thinking Visible*, they begin to shape and adapt the routines to match their personal goals and the needs of their students; these unique applications to the routines were common across many of the active supporters that participated in the study. Ritchhart predicts that as teachers become more confident with the use of the routines, they will begin to modify them to meet their needs and incorporate the structure of the routines in their language. He refers to these behaviors as evidence that the teachers have entered the *Advanced Stage of Development in the use of Thinking Routines* (Ritchhart et. al., 2011, p. 266). Throughout the course of my visits, I was able to witness how each of my participants shape their routines and language uniquely in the *Advanced Stage*. Ms. Jones shaped the Color, Symbol, Image routine to assist her and her students in discovering the musical elements of the pieces that they listened to together. To fit the goals of her music classroom, she altered the routine to a Color, Sound, Image routine. This allowed her students to focus on the musical component of the activity and guide their thinking toward the specific sounds that they were experiencing. It initiated discussions related to the objectives of listening to musical pieces, which allowed them to connect the musical elements with their initial thoughts.

When working with younger students, Ms. Smith has noticed that it is beneficial to shape some of the routines in a different manner in order to maximize the experience for her second-grade students. During the interview, she mentioned that her students sometimes confuse symbol and image in the Color, Symbol, Image routine. For this reason, she alters the routine to a Color,

Word, Image routine. This allows her students to engage in the activity and deepen their thinking about a particular topic or character without leading to confusion.

Perspective thinking can be a challenge for some students, but it is a crucial component of the thinking process. There is a routine that Ritchhart promotes called the Circle of Viewpoints that assists students with formulating thoughts around different perspectives. Students have to identify a point of view to take, formulate a thought that the character would have, explain why they would have that thought, and create a question or concern from that viewpoint. As Ms. Nancy was planning a word work activity for her students, she decided that she wanted them to consider the different parts of speech. She wanted her students to focus on one word and consider the different roles and views that it promotes when used in different contexts. As a result, she designed a circle of viewpoints chart that had the students write the word in the center and identify three parts of speech for the word. For each part of speech, the students had to identify the perspective they were taking, write a definition for that perspective, and write a complete sentence using the word with the correct viewpoint. For example, the students had to define and use the word “baby” as a noun, verb, and adjective. Before beginning to fill out the chart, the students had to write their initial thoughts about the word on the back of the paper. This helped them acknowledge the connections and thoughts they had about the word before they completed the research, and then they were able to compare how their thoughts grew about the word once they engaged in the activity. Even though this routine typically has students take on the perspective of a character or individual regarding a certain event, issue, or topic, the goals were parallel with having the students complete the routine when studying the different uses of words.

As students were switching writing genres in Ms. Nancy's fourth-grade classroom and they were looking at a mentor text, she mentioned that she found it beneficial to redesign Ritchhart's See, Think, Wonder routine to match the goals that she had for her students. She modified the routine by calling it the Notice, Name, Explain routine. During this routine, the students are encouraged to engage in the following prompts:

- What do you notice that the author did?
- Can you name it?
- Why did the author do it?

During the interview, Ms. Nancy provided an example of what she expects from her students during the routine as she mentioned, "I noticed that there were sentences in the beginning that caught my attention. I think this is called a hook in an introduction and then explain why they think the author did that." This shaping of the routine assisted the students with focusing on the writing elements that they had learned about in previous lessons and being able to notice them within pieces of mentor text. Rather than just seeing it, thinking about it, and wondering about it, the students were encouraged to find the writing element, recall what they learned about it, and judge why the author would incorporate that component. This alteration of the routine took the activity a step further, which was ideal for the goals that Ms. Nancy had as they were switching writing genres.

When discussing the idea that teachers alter the making thinking visible routines to meet their classroom needs with Mr. Harris during our interview, he was able to recall a particular routine that he shaped to meet the needs of the physical education classroom. When introducing themes or topics in the classroom, he uses a routine called "Jump In." This routine is similar to Ritchhart's Zoom In routine, but Mr. Harris adapted the name to match the kinesthetic nature of

the class. Mr. Harris displays a small portion of the picture so that students can generate some initial thoughts and noticings. For example, he performed the Jump In routine for an introduction to soccer. As Mr. Harris reveals more of the picture of a soccer field, the students begin to add in their own experiences to the discussion. He mentioned that this gets the students more excited to do the activity in the classroom. This routine he finds works best for kindergarten and first-grade classes, as they are being introduced to different sports and physical activities and it allows him to discover whether the students are aware of or have experienced these physical activities.

Rather than altering a routine already suggested by Ritchhart, Ms. Williams has taken pieces of multiple routines and combined them to create a new routine. She mentioned during the interview that she did this when creating the FBI routine. This routine entails the students to consider the following: What is familiar to you already? What is brand new? What do you find interesting that you want to look at more? Ms. Williams used this routine when they were starting to talk about the economy. She mentioned,

There were things that they had already explored such as the history of money, the symbols were something new to learn about, and the students were interested in global trade, especially the things that the United States exports the most.

Ms. Williams explained that “Sometimes I take the idea of a thinking routine, but I want to make it work for the content that I need to go over.” By taking pieces from Ritchhart’s thinking routines, she was able to design a new routine that focused the students’ thoughts on the elements that she wanted them to examine and research.

After spending time in the classrooms observing for unique adaptations to the thinking routines, I noticed that some teachers unintentionally shaped these routines to meet their own classroom needs. The activities they had their students involved with had goals and

characteristics that were comparable to routines suggested by Ritchhart. It appeared as if the teachers' goals for their classroom and for their individual students were so related to Ritchhart's goals for the routines that they just became a natural component of the activities that they planned. To demonstrate, we can look at two different unintentional adaptations to the Chalk Talk routine that were incorporated in two different classrooms. As students were at the end of a Model T assignment in Ms. Williams' class, she decided to have them partake in an activity called a Gallery Walk. A Gallery Walk is similar to a Chalk Talk routine as it encourages students to silently observe others thoughts and ideas, but rather than writing comments to their classmates as they are walking, they are instructed to return back to their table and have a discussion about the observations and noticings that they had during the walk. It focuses on initiating small-group and eventually whole-group discussions, rather than writing to one another. This structure worked better for the Model T assignment because students were observing car designs that their peers had created. It was clear that the goals of the routines were quite similar upon hearing Ms. Williams review the expectations with her students. She stated,

We are going to do a gallery walk. You will remember that a gallery walk is where we walk around silently and **observe** others work. When we look at the cars, we **notice** how our cars vary from others. We can **think** about how our cars are different. We can **think** about the category that we added. We added doors, windows, wheels. You will **notice** there are no ordinary cars.

There was a wealth of "thinking vocabulary" included in the description of the activity and students were provided with a thinking structure that they could follow as they were observing their classmates' designs. Ms. Williams utilized this routine to promote the idea that individuals work better as collaborative thinkers, and that they can learn and think about things in a new way when engaging with each other's thoughts; she did so by incorporating the language of identity.

So, in the spirit of collaborative nature, when people are working on cars, they come together to observe what others have done and communicate and collaborate. Then, they can go back to their designs and add or change something that they liked. So, you may go ahead and make any changes that you would like.

She helped her students realize that the objective of this routine was to see and think about things differently so that they could grow as learners. She mentioned in the interview that using the gallery walk was

...a way without any kind of judgement or any kind of directive to take a look at different creative things that happened because even if I saw yours and I wanted to incorporate that into mine, it's not going to look exactly the same. So it's this idea that you can build off other's thinking and part of the reason the gallery walk is silent too is because it's about taking what I see here and thinking about how it might enrich my own.

Ms. Williams mentioned that she was introduced to this idea of a gallery walk during a Culture of Thinking Workshop, but that it was not described as being related to a Chalk Talk.

The purpose of a Chalk Talk is to encourage students to consider others' thoughts and compare or contrast their opinions with their peers' perspectives. Ms. Nancy saw an opportunity to incorporate these elements as students were beginning to revise their thesis statements. She instructed her students to walk around silently and observe their peers' thesis statements while providing them with their feedback that would help them push their thinking. She provided her students with possible feedback prompts that would help them target their thinking during the revision activity. These prompts included:

What if you tried...

You might want to consider...

What do you mean by...

I wonder what would happen if you...

It might be helpful to...

Could you...

What if you changed...to...

Would you consider...

Ms. Nancy wanted her students to collaborate as thinkers and help each other see things from a different perspective. Students were allowed to agree with other classmates' suggestions by placing a star by their comments, but they were also required to provide another suggestion for that student. This adaption of a Chalk Talk routine was used to assist students in providing constructive feedback as well as ways to improve a thesis statement. Even though this modification of the routine wasn't intentional, it still helped the students engage in the revision process in a new way that focused on deep thinking and making their thinking visible.

As active supporters of the making thinking visible theory, these teachers focused on deep exploration and thinking when planning activities, which led to coincidental similarities between their activities and the routines suggested by Ritchhart. When Ms. Smith wanted to introduce her students to maps, it appeared as if she wanted them to engage in an experience comparable to the Zoom In routine. This routine is an exceptional way to have students formulate initial thoughts about an unknown topic/image, make connections, and explore wonderings. Even though Ms. Smith did not start with a small portion of the map being shown and gradually reveal more throughout the routine like Ritchhart proposes, she did cover parts that were crucial components for this to be considered a map. As the image was projected on the screen, the key and title of the map were covered. The students were instructed to look at the image and discuss their noticings and wonderings with the individuals at their table. Ms. Smith was listening to the discussions taking place at the tables in order to shape her language of thinking and listening appropriately to enrich the students' thoughts. When bringing the students

back to the whole-group discussion, she stated, “This is what I heard, ‘That looks like a desk. That looks like a chair.’ They thought it might be a bathroom. What makes you say that?” As she asked these questions to expand their thinking, she uncovered the title and key. The students gave suggestions and initiated discussions with their peers; Ms. Smith allowed the students to take over the discussion for a few minutes and then asked, “How do we know what this is? What tells us what this is?” From here, the students began to reference the key and the title unaware of their names and how they support a map; they discovered the function of these map features on their own. Even though Ms. Smith did not follow the exact model and structure of a Zoom In routine, she incorporated the element of revealing certain parts of information in order to explore something unknown. She manipulated this activity to cover only the features that would classify this image as a map so that her students could discover the importance and significance of them on their own. Ritchhart et. al. (2011) document two other instances of this type of adaptation – one in a fourth-grade classroom (p. 66) and one in a ninth-grade classroom (p. 261). When teachers are focused on the purpose of the routines, rather than the steps in the process, these adjustments become intuitive. Approaching a new concept in this manner allows the students to have control over the learning and thinking process as it keeps them asking more questions, offering more thoughts and making them visible to the class, and connecting their ideas with others.

Ms. Smith offered her reasoning as to why she manipulates or enhances some of the thinking routines during our interview session. She mentioned how this teacher enhancement can happen intentionally and unintentionally depending on the given situation.

I think a lot of times I will start with I am going to Zoom In and then as we are working through it, it will evolve into something else or the situation that comes up or the questioning or the way that the lesson is moving it evolves into something else.

Sometimes it is a Zoom In lesson, but I use language from other routines or it's a Think-Puzzle-Explore and I am using something from a See, Think, Wonder just because it kind of fits. You can see how the lines kind of blur between some of them and so I think that is what happens a lot of time.

This demonstrates that there are not strict lines separating these routines and instead, teachers can weave them together in order to achieve a desired goal. It is not about the routines in themselves, it's about the foundation that they lay for the teacher in order to provide the students with an opportunity to vocalize their thinking.

Motivating students to connect their thoughts with the physical actions that their bodies are experiencing in a physical education classroom was an objective that Mr. Harris had for his classroom culture. It appeared as if he was able to manipulate the See, Think, Wonder routine in order to make it effective for the goals that he had for his students even though it wasn't intentional. He wanted his students to experience more than just the physical activity within the class; he wanted them to think deeply about how the experiences were affecting their bodies and the lasting impacts it would have for them. Mr. Harris would ask the students to perform a physical activity, think about the effects, and take time to reflect and generate wonderings. This structure led me to believe that Mr. Harris was incorporating a "Do, Think, Wonder." Mr. Harris seemed to manipulate the structure of a See, Think, Wonder in order to focus on the kinesthetic aspect of the physical education classroom. When performing physical exercises, he always made it a point to have his students think critically about what they were doing. For instance, he would state, "I know you felt that in many places, but point to where you felt that the most. Point to where you got stronger." In this particular occurrence, it was beneficial to have the students make their thinking visible in a non-verbal manner. He

would always use follow-up questions when students were engaging in physical activities to ensure that they were thinking deeply and connecting it with the information that they had learned about physical activity. For example, as students were skipping, Mr. Harris asked, “What was the main goal of skipping? What was it working on?” Once students responded with answers such as the lung and hearts, Mr. Harris asked, “Which is what?” He wanted his students to recall that these parts of the body are worked during cardio movements. Students were able to become mentally and physically involved with the activities in the gym as a result of the manipulation of the See, Think, Wonder routine that Mr. Harris employed. This reflection time that Mr. Harris encourages helps the students make more connections and think deeper about the reasons why they perform certain tasks within the physical education classroom. Many times, this reflection time is done through PE Pals, which are assigned partners that Mr. Harris uses for students to discuss classroom topics and themes. Mr. Harris encourages his students to use the language moves during these conversations with their PE Pals. He finds that segmenting into PE Pals to come up with ideas and then sharing as a whole class is a more effective way to engage in making thinking visible within the physical education classroom because of the time constraint. He mentioned, “I don’t try to do things that take away from the physical activity part of it.” By Mr. Harris shaping his questions and language to mimic the See, Think, Wonder routine, with focus on “doing” rather than “seeing,” it encourages students to activate their visible thinking while engaging in physical activities, which ensures that the students are receiving both elements in a well-balanced manner.

For some teachers, using multiple routines at once seemed to provide the best results for their students during certain activities. Implementing a few routines at the same time can help students notice the progression of their thoughts. During a unit on Dr. Martin Luther King Jr. in Ms. Nancy's class, students were involved in the following routines: 3-2-1 Bridge, Headlines, and I Used to Think..., Now I Think.... The students first engaged in a 3-2-1 Bridge because this routine is best for introducing and exploring ideas. This routine helped spark students' initial thoughts related to Dr. Martin Luther King Jr. It helped stimulate their minds toward exploring the new topic. As they proceeded to the Headline routine, they began to focus on organizing and synthesizing these thoughts. They analyzed their thoughts and noticings and drew a conclusion that summarized the main idea behind these thoughts. Ms. Nancy wanted them to recognize how their thoughts had changed over time, which led to her implementation of the I Used to Think..., Now I Think... routine. It assisted them in visualizing how their thinking had modified and transformed from the beginning of the unit. Since the students made their thinking visible to themselves through completing the routines, they then had the opportunity to communicate their thinking and reflect on other's thoughts during the Micro Lab Protocol. The previous routines were used in preparation for sharing their notions with others; they had become comfortable with their own thoughts and now they were ready to voice them and make them visible to their peers.

Ms. Nancy focused on these routines to assist students in generating some initial thoughts about Martin Luther King Jr. as well as synthesizing the material they had gathered from their text. She communicated her reasoning for using multiple routines by stating,

I am going to introduce all three at once and it may seem overwhelming, but when you see them in front of you, I think you will see how the thinking you do for one helps you with the other.

She made her thinking visible to the students so they could have a mutual understanding of the goals and so they could maximize their learning experience during this time. Ms. Nancy took the time to honor thinking and reflecting time within the classroom as she reinforced the goals of the Micro Lab Protocol. She reminded her students that “It is important for you to have some time with your noticings and thinking. We will not be bringing our notes to Micro Lab because it should be about your thoughts and not reading off the paper.” She really encouraged her students to become aware of and comfortable with their thoughts. She wanted them to communicate the progression of their thoughts, for which she had prepared them by introducing multiple routines at once. The prompts used during the Micro Lab Protocol to initiate discussion included “Please share how your thinking has either changed or grown, maybe developed new understandings or realizations, about Dr. Martin Luther King Jr., his life, his legacy” and “What new questions would you ask him if you had the opportunity?” The conversations were rich because the students had engaged in three thinking routines prior to this experience, which had given them the opportunity to deepen their thinking, make connections, and recognize how their ideas had changed over time. Ms. Nancy mentioned during our interview that the ultimate goal was for the students to generate a big idea or a personal belief about Martin Luther King Jr. and she incorporated multiple routines to accomplish this goal because “it is completely different to go at it through a 3, 2, 1 Bridge than it is to go at it through the process of thinking about a headline.” She went on to state that, “For some kids, the avenue or path that the thinking routine takes clicks with different kids.” This ensures that all students have the opportunity to be successful with accomplishing the main goal of generating a big idea or personal belief because there are multiple ways that it can be done through the use of multiple routines.

Ms. Nancy also found it valuable to use multiple routines at the end of book clubs in her classroom. In our interview, she mentioned that “they begin with a headline for their book, they do a Color, Symbol, Image for the protagonist, and they choose two similes or metaphors for the book.” Additionally, they complete a Color, Symbol, Image routine for the protagonist three to four chapters into the book so that they have something to compare it to at the end when they perform the multiple routines. From there, they are able to complete an I Used to Think..., Now I Think.... routine. Through the culmination of these routines, Ms. Nancy was able to recognize what the students learned from the book and what they were able to take away from the reading experience. Overall, using multiple routines at once seems to be a personal preference among the teachers or only preferred during certain activities, but the main goal and purpose of this method seems to be to make the progression of thoughts visible to the students.

Blend of Language and Routines

As the routines become part of the teacher’s natural practice, they seem to become less sacred. The goal is not to strictly use the routines, but rather to create a classroom culture where approaches to thinking become the norm. The language from the routines begin to guide everyday discussions. It seems that Ritchhart (2015) wants teachers to adapt this goal as he states, “...for many teachers there is still the struggle to move beyond routines as good one-off activities to real routines that both teachers and students can activate” (p. 177). Comparably, as Ms. Jones and I were discussing this blend of language and routines, she stated that “as the teacher becomes more familiar and comfortable with the routines, it just becomes a way of operating rather than a forced activity.” For example, when Ms. Williams was exploring the northeast and southeast states with her fourth-grade students, she initiated a discussion about the conflict that rests between the two regions. This conversation mimicked the language suggested

for the Think-Puzzle-Explore routine. Ms. Williams offered her students a guideline that was similar to the structure used for the Think-Puzzle-Explore routine by establishing a piece of history that the students could generate thoughts about, offering a question or puzzle they might have about the topic, and providing them with ways that they might explore this question. She began the conversation by stating, “In history, there has been some conflict between the northeast and southeast states.” Ms. Williams offered her students the topic of the northeast and southeast states and provided them with something that they might think about when discussing this topic, which happens to be the conflict between the two regions. She posed a question or puzzle for them to consider in relation to this topic when stating, “What do you know about history that tells you why there might be conflict between the northeast and southeast states?” In order to help students initiate thoughts and ideas about the question, Ms. Williams presented them with possible avenues they could take to think deeply about the question and explore the topic. She stated, “You haven’t actually learned about this but you may know from reading historical fiction, watching the history channel, or talking with people who love history.” Now, the students have direction in regards to their thinking and can access their prior knowledge in order to offer contributions to the discussion.

Whether the routine is used in the manner described in Ritchhart et. al.’s *Making Thinking Visible* or the language from the routine is just used in a casual conversation for introducing a unit, the goals remain the same. They both pursue the idea of exploring something unknown and activating an awareness of our thinking to deepen our learning. Ritchhart et. al. (2011) mentions that “Think-Puzzle-Explore can provide teachers with a sense of students’ current understanding of a topic and thereby influence the shape and structure of subsequent teaching and learning” (p. 71). Ms. Williams was able to recognize her students’ current

understanding of the conflict between the northeast and southeast states by shaping her language to match the goals and structure of the Think-Puzzle-Explore routine. In this case, Ms. Williams did not have to set aside a specific time to complete the routine, and instead, the routine became a part of her language.

Once the teacher and students reach a certain level of confidence with the thinking routines, it opens another opportunity for the teacher to incorporate the language from the routines in their discussions. As the students were engaging in a word exploration activity in Ms. Nancy's fourth-grade classroom, she was able to direct their thinking by using the phrase "see, think, or wonder" during her discussion. She stated, "Now I want you to think, where might I have heard, seen, or read about this word? What else do I **see, think, or wonder** about this word? Push yourself beyond your initial thinking of this word." Incorporating the "see, think, wonder" phrase guides the students to consider the goals they have when they participate in the See, Think, Wonder routine. The students have become so aware of the routine and its structure that the teacher was able to casually include the phrase and the students knew what was expected of them and how they should be targeting their thoughts. This culture of thinking becomes a norm within the classroom allowing the teacher to use the routines in full, shape their language to match the goals of the routines, or reference different aspects of the routines during discussions to guide students' thinking.

Students Internalizing

When students are emerged in a visible thinking environment, they may begin to internalize the routines and language and promote them as their own. They may begin to have an eye for recognizing when it is an appropriate opportunity to suggest a certain routine or language move during a classroom discussion or activity. This demonstrates that the student has mastered

the goals of the routine or language move, realizes when it is an ideal situation to apply it, and understands what the results will provide. A student in Ms. Smith's second-grade classroom found it to be a perfect opportunity to suggest a particular routine when the class was exploring different types of transportation. The class brainstormed different types of transportation and wrote their ideas on sticky notes. Ms. Smith then encouraged them to post their sticky notes on the board so they could review everyone's ideas. By placing all the sticky notes on the board, it led one student to notice that it would be a suitable time to complete the Generate-Sort-Connect-Elaborate: Concept Maps routine. The student wanted to sort the different types of transportation by land, water, and air. Ms. Smith acknowledged this student's internalization of the routine by stating,

Did everyone hear what [student name] said? He had this amazing teacher thinking and brainstorming and he said, 'Can we do a Generate-Sort-Connect and organize them by water, land, and air?' Do you think we will have some that will go in both places?

By the student suggesting the routine as an avenue for deeper exploration of different types of transportation, the teacher becomes aware that the student now looks at occurrences in the classroom, and hopefully in other parts of his life as well, with a visible thinking mindset. The student has developed a strong understanding and connection with the visible thinking routines and language moves and understands how they can help him grow as a learner and thinker. Moreover, it makes it their lesson and "not Ms. Smith's lesson," which she had stated in her interview. As a result, it increases student engagement.

Ritchhart et. al. (2011) refers to the idea that students begin suggesting routines once they develop a sense of ownership of them, which was mentioned when writing about the advanced stage (p. 266). During our interview, Ms. Smith was able to offer another example of when her students had suggested a thinking routine, which she had not planned for. When she was trying

to have her students generate a lot of prior knowledge, one student proposed that they do a “what I think now and what I think later on.” She noticed that the student was thinking of Ritchhart et. al.’s routine I Used to Think..., Now I Think.... and even though they didn’t use the exact name of the routine, the intentions were the same. It demonstrated that the students were aware of when this routine was appropriate to use and what the outcome would be from performing this type of activity. This is an important idea to consider because just as Ms. Smith states, “If they can do it here, then they can do it independently when they are doing a project or when they are trying to organize their own thinking.” Comparatively, Ms. Jones stated in her interview that students do not necessarily name the routines in her music classroom, but that she can sometimes notice that they are thinking about a particular routine by the suggestions that they give. Additionally, she has noticed that when her students are composing in small groups, they occasionally will utilize the language and structure of certain routines to accomplish the tasks.

Even though I only observed this occurrence one time throughout my observations, it is worth mentioning as this connection could be further explored in the future. It does support Ritchhart et. al.’s (2011) ideas of students using the routines independently and suggesting them in the classroom, which was briefly mentioned in the advanced stage (p. 266). The participants were not able to offer many additional examples of students internalizing the routines and language within the classroom, but that does not imply that these occurrences have not taken place; it is possible that these interactions have gone unnoticed. By drawing attention to this student internalization, teachers may become more aware of these instances and future researchers may be able to explore if there is a plausible connection between creating a visible thinking environment and students internalizing the language moves and routines as their own.

One of the final conclusions that I arrived at was a result of analyzing classroom management, teachers enhancing, blend of language and routines, and students internalizing language and routines as a whole. I noticed some commonality across these conclusions, which was that the language of community lays the foundation for utilizing all other forms of language and routines as tools to encourage visible thinking. The active supporters of the making thinking visible theory would not have been able to perform these practices without first establishing the language of community. Students would not be willing to talk through their behavior and voice their thoughts associated with their actions in order to create a plan unless they felt a part of a community that valued each students' contributions and initiatives. Teachers would not be able to enhance the thinking routines within their classrooms if they didn't use the language of community to demonstrate to their students that they can take risks and face challenges with their thinking and learning as a community. The language of community assists in establishing a comfortable environment that invites others to push their thinking and work through their thoughts as a collective unit. Blending language and routines is a result of establishing the language of community as students would not be responsive to the blend of the forces if they didn't feel a part of a thinking community; establishing a community creates a purpose for students, which in turn keeps students engaged and reflecting on thinking done through the teacher blending the language and routines. Lastly, students wouldn't be inclined to internalize the routines and make them their own if they hadn't initially practiced them as a community. Activating the language of community during routines vocalizes to students that they are not alone when thinking about the topic or idea at hand, which gives them the courage to be active engaged thinkers in the classroom.

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