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Further Investigation: A Daily Inquiry Practice in the Elementary Classroom

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Abstract

Researchers have shown that many students lack problem-solving skills. This deficit can be addressed through the implementation of inquiry-based learning. However, many teachers lack expertise in this area. The purpose of this study was to address both issues with a newly created inquiry practice called Further Investigation time, or FI time. The researcher studied what happened when this practice was implemented in a second-grade, self-contained classroom. In addition, student and teacher perceptions of the FI time were studied. Data was collected through the use of observational head notes, student surveys, and individual teacher and student interviews. Qualitative data was analyzed using the constant comparative method, while the quantitative data was analyzed using descriptive statistics. The following themes were identified: students transitioning into independent researchers, using concrete objects to deepen understanding, the desire to research topics more thoroughly over time, overall student behavior, and the input of students and their interests.

Further Investigation: A Daily Inquiry Practice in the Elementary Classroom

What about your introverted kids? Aren't you worried about them? How are you addressing the needs of your quieter students? Don't you think they'll be pushed to the side? How will you know if the shier students are sharing as much as they want to? These were the questions that I was consistently approached with when introducing my research to fellow colleagues. Naturally, they were concerned that an open-inquiry practice that allowed students to discuss openly and dictate the events in the classroom would leave the introverted students unattended to. However, I was convinced that if student interest and true collaboration were involved in my practice, everyone could succeed.

I was proven correct, and I have Lilie (all names have been replaced with pseudonyms) to thank for that. Lilie was a naturally quiet, reserved student. She kept to herself and only spoke to her three closest friends. She hardly ever raised her hand during class to offer input and paid close attention to what others had to offer. When she did speak, she was very soft-spoken and would turn red. Then, Further Investigation (FI) time happened.

Lilie was the first one to have her topic voted on by her class. She came in running the next morning and immediately asked, "Are we going to do FI time today?" I smiled and told her, "Yes, of course we are!" We studied the Bermuda Triangle that day, and her classmates loved it. Her topic was chosen three out of the first four times to vote. She initiated the movement to bring in artifacts to share with the class. She began offering her input during discussions, celebrating in front of her classmates, and researching topics of her own at home. In addition, she consistently challenged her classmates to research further and began growing in confidence. She absolutely thrived. So, no. I'm not worried about my introverts.

Purpose

Soft skills, such as interpersonal skills, oral communication, self-confidence, and problem solving, are a necessity in today's workforce. Without them, it is extremely difficult to get hired. Unfortunately, many potential employees lack the necessary skills to solve problems independently (Dean & East, 2019). Researchers have shown that when students are taught using inquiry practices in elementary school, their ability to problem solve rises (Ozcan, Ormanci, Kacar, & Balim, 2017). While it is the responsibility of the classroom teacher to implement inquiry practices that focus on student interests and developing 21st century skills, many pre-service education programs are failing to prepare future teachers to do so (Avidov-Ungar & Forkosh-Baruch, 2018). Therefore, teachers lack the confidence to integrate innovative practices into the classroom, and students fail to develop their inquiry skills. Consequently, students continue forward without the ability to problem solve.

In light of this, I created a unique version of inquiry practice that can be used by new elementary teachers. It is a daily, 15-minute practice known as FI time. During the FI time, students voted on a topic that they wanted to investigate together. Then, as a class, the students asked questions, researched the topic in depth, and discussed the findings. The teacher acted only as a facilitator, while the students directed the inquiry process. While this format differed from other approaches, the key characteristics of inquiry based learning remained intact (Borovay, Shore, Caccese, Yang, & Hua, 2019).

In this study, I answered the following research questions:

- **Research Question:** What happens when a daily, student-led FI time is implemented in a second-grade classroom?

          o   **Sub Question:** What are the student and teacher perceptions of the daily, student-led FI time?

During the duration of the study, I was a full-time graduate student completing a year-long clinical teaching placement. I co-taught at West Elementary alongside my clinical teacher. We were in a second-grade, self-contained classroom with students of all ability levels. West Elementary was located in a West Texas town with a population of around 120,000 people. West Elementary had over 600 students enrolled in grades kindergarten through fifth grade. Of those students, 15.4% were African American, 28.8% were Hispanic, 46.7% were White, 0.3% were American Indian, 3.0% were Asian, and 5.8% were two or more races. For the purpose of this study, only students from our classroom served as participants.

Literature Review

In essence, educators are responsible for fully preparing their students for the future. In order to experience successful, fulfilled lives, students must be infused with a notable amount of skill sets. In today's work force, soft skills are especially important. These include interpersonal skills, oral communication, self-confidence, and problem-solving. Unfortunately, results from a recent study showed that there is a large deficit within employees to solve problems independently (Dean & East, 2019). If one cannot solve problems independently, he or she will not be considered for hire. In this, the future of our students, and their security in life, is threatened. This causes an immediate need for attention from current educators. While it may seem like an overwhelming task, improving students' ability to problem-solve is quite simple.

In a recent study, Ozcan, Ormanci, Kacar, and Balim (2017) found that a strong, positive relationship exists between problem-solving skills and inquiry learning skills. In other words, when students participate in inquiry learning practices, their ability to problem-solve rises. The

degree of student improvement is dependent on the amount of time dedicated to inquiry learning. As the amount of time rises, the level of ability does too. A study conducted by Irwanto, Saputro, Rohaeti, and Prodjosantoso (2018) further confirmed this through the implementation of an inquiry-based practice that resulted in an increase in problem-solving and critical thinking skills. The researchers argued for the immediate introduction of inquiry-based practices in the classroom setting. Lastly, a recent study verified that students who participated in inquiry-based learning significantly outperformed their peers who participated in a traditional lecture style (Margunayasa, Dantes, Marhaeni, & Suastra, 2019). Considerable advantages on student learning and performance were shown.

If inquiry-based learning is the answer to the problem-solving deficit discussed earlier, it is imperative that educators understand what it is. Inquiry-based learning is a teaching and learning method that invites students to openly investigate and solve a problem in-depth. Simple curiosities are replaced with deep understanding and critical thinking as exploration, questioning, and sharing lead the process. While various formats of inquiry-based learning exist, four main characteristics prove the most successful. In a summative analysis, Franco (2013) lists the following components as the most useful: open discussions, student ownership, and teacher-facilitation. Creators of a recent inquiry approach also include fluidity as a favorable attribute (Yeo et al., 2019). Within these four traits, inquiry approaches flourish.

Open discussion is an essential component in inquiry because it allows the opportunity for multiple perspectives to form together and contribute to the conquest. As one student's direction of thought is challenged by another, both are forced to dwell in the process of questioning. A study conducted by Pontinen, Karkkainen, Pihlainen, and Raty-Zaborszky (2019) supported this by finding that student involvement and various viewpoints increase as students

generate their own questions within a collaborative inquiry setting. Here, students profit the most

as they learn how to think critically of various insights, respond accordingly, and provide

feedback to one another (Yeo et al., 2019). Commitment to this questioning phase increases the

students' overall ability to problem-solve. Furthermore, as students are given the opportunity to

explore multiple subjects of their choice, benefits increase significantly in comparison to

assigned topics (Borovay, Shore, Caccese, Yang, & Hua, 2019). Student ownership and open

discussions work together to increase student growth.

        Likewise, teacher-facilitation and fluidity are interwoven with one another. Franco (2013)

argued that the benefits of teacher involvement is comparable to none. It is vital that the teacher

leads the inquiry process by modeling the skill set to the students. When students see that inquiry

is a relevant, lifelong skill, they become more enthused and committed to the process. So,

teachers must be willing to model inquiry skills during planned lessons, as well as randomly

throughout the day. In addition, the teacher must consistently consider the needs of the students

as they alter the inquiry format accordingly. In a recent study, researchers found that the effects

of inquiry differed depending on the academic tendencies, or intellectual abilities, of the

individual students (Margunayasa et al., 2019). So, it is crucial to consider the academic needs of

students when implementing inquiry-based practices. Teachers must not over-commit to a

specific, linear format. Instead, the format must remain flexible, and the teacher must remain

reflective and directive at all times.

        If soft skills are lacking in students and a solution is available through inquiry

implementation, why are teachers not pursuing this avenue? It is simple. Both pre-service and

currently practicing teachers are ill-equipped to service students the way they desire to. A current

study revealed that many pre-service education programs are failing to prepare teachers in the

ability to implement innovative practices, such as inquiry based learning (Avidov-Ungar &
Forkosh-Baruch, 2018). The same study showed that currently practicing teachers have fully
accepted the role of adapting to innovation. However, they are still in the process of learning.
Teachers are seeking to understand how to transition smoothly between their current practices
and those of innovation.

Avidov-Ungar and Forkosh-Baruch (2018) argued the immediate need for teacher
support, encouragement, and strengthening when concerning innovative practices. It is
absolutely necessary to provide teachers with effortless, easy to understand methods. As
discussed prior, inquiry based learning techniques are the most imperative given the deficit in
problem-solving skills. In response, I created a daily, fifteen-minute inquiry practice named FI
time. This format included the four key characteristics of inquiry based learning and centered
around the needs of elementary students. It was designed to regularly exercise students' problem-
solving abilities, be widely-implemented across all subjects, and allow students to dwell in a
slow, meaningful inquiry period. It is expected to supply teachers with a simple, effective
method that will undoubtedly benefit the students in their classroom.

Methods

The following sections describe the action research study that I conducted in a second-
grade, self-contained classroom. I studied what happened when a daily, student-led FI time was
implemented in a second-grade classroom. I also studied the student and teacher perceptions of
the daily, student-led FI time. This research was completed during my year-long student teaching
placement, which resulted in a high level of comfort between the students and I in my role of
both researcher and teacher.

Participant Selection

The participants of this study included one classroom teacher and all students, with the exception of one, of a self-contained, second-grade classroom. I sent home a teacher consent form, or student assent form and parent permission form, to each of the participants to be signed and returned. Of the one classroom teacher and 22 students in the classroom, all who signed and returned the appropriate forms participated in the study. Only one student chose not to participate. The classroom teacher was a Caucasian female. The participants consisted of 10 females and 11 males. Thirteen of the students were Caucasian, two were Hispanic, two were Asian American, and four were African American. Seven of the students had been identified as gifted learners, two of the students had been identified as ADD/ADHD, one student had been identified as Emotionally Disturbed, and two students received services for speech.

Data Collection

As mentioned before, the intervention was unique in structure. Throughout each instructional day, students openly offered ideas that they wanted to center the FI time around. I wrote each idea on the board as it was suggested. Before the students were dismissed for the day, a class vote was conducted in order to choose the topic that would lead the FI time the following morning. When students returned the next day, we completed our morning routine and then immediately transitioned into FI time. Together, we researched the topic that was voted on the day before. Both open-ended and closed-ended questions were offered by the students. Discussions took place as a whole-class and in student pairs. The class interpreted the new information, analyzed its meaning, re-formulated their questions, and came to a conclusion. The FI time was closed with a time of reflection. The intervention was implemented every day of the week for about fifteen minutes each day.

Throughout the four-week duration of the study, I collected data through the use of head notes. I observed the students, teacher, and learning environment during the regular instructional day and the FI time. I wrote down key words concerning the learning process, overall attitudes about instruction, and attitude about the FI time. I did this on a notepad during the day. Once school was over, I used the key words to write as much information about the day as I could from memory. This was summative, rather than word for word. This occurred each Tuesday and Thursday of the four-week implementation period.

Once the implementation was fully completed, all of the students were given a survey (see Appendix A). This survey consisted of eight closed-ended questions relating to the daily, student-led FI time and its implementation. Students answered these questions using a Likert scale. There were also two open-ended questions.

I chose a sample of students, based on their responses to the survey, to interview individually. This sample included six students in total. I used purposive sampling (Patton, 1990) to choose two students who considered the FI time as a positive implementation, two students who considered it a negative implementation, and two students who considered the implementation ineffective either way. The sample represented the demographic makeup of my class. Each of the interviews lasted approximately ten minutes and were a one-time occurrence following the implementation. In addition to the student interviews, I also conducted two 20 to 30-minute interviews with the teacher. One occurred before the implementation, while the other one occurred after the implementation. The interviews were semi-structured and included pre-written, open-ended questions (Hendricks, 2017). Additional questions were asked depending on the responses of the participants.

Data Analysis

The collected, qualitative data was analyzed using the constant comparative method, with initial coding followed by the identification of emerging categories and the identification, description, and summary of an emerging theory (Hubbard & Power, 2003). I accomplished this by first analyzing 20% of all collected data manually. I then created a list of fifteen to twenty level 1 codes that had emerged, which show the basic activities and processes in the data (Tracy, 2013). I took the level 1 codes and created level 2 codes, which serve to explain, theorize, and synthesize the data (Tracy, 2013). These level 2 codes represented the major themes and findings. I used the level 1 codes created from the first 20% of the data to code the remaining 80%. In addition, I created a codebook (see Appendix B) that included a list of all the codes, code definitions, and corresponding examples from the collected data. Moreover, I wrote memos concerning each level 2 code in efforts to reflect and understand the major themes found in the data (Tracy, 2013). As for the quantitative data, descriptive statistics were used for analysis. The data from the student surveys were graphed using a bar graph (Hendricks, 2017) (see Appendix C).

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Findings

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During the data analysis process, the following five codes emerged: students transitioning into independent researchers, using concrete objects to further student understanding, the desire to investigate a topic in more depth over time, student behavior during the implementation and the regular instructional day, and the input of students and their interests. These themes were consistently demonstrated throughout the field notes, student surveys, student interviews, and teacher interviews. Together, they work to answer both the research question and sub-question, making the research both well-rounded and complete.

Becoming an Independent Researcher

The first theme that emerged from the data is one that I referred to as, "Becoming an Independent Researcher." This code was centered around the process of students transitioning into independent researchers over the course of the implementation. In fact, it mirrors the timeline of the action research pretty closely. In this way, it is unique in nature as it demonstrates the overall journey that the students underwent.

Prior to the implementation, I asked the classroom teacher, Mrs. H., about the current condition of her students and their research abilities. She mentioned that the majority of the students knew how to problem solve in real-life situations, such as conflicts with their friends. However, when it came to actual classroom research, there were some students who had difficulty even formulating their own question to lead the research with. In addition, she mentioned that at the beginning of the year, students demonstrated "resistance to doing things on their own" and that she was very intentional about "building their confidence to know that they can do it." Intentional feedback, one-on-one attention, opportunities to work independently, and talk-alouds would all be necessary, in her opinion, in order to build the students up into independent researchers.

At first, students had great difficulty choosing a single topic to suggest for the voting list. In fact, on the first day of implementation, students had suggested over 30 topics that they wanted to focus on for the following day. I immediately began involving them in talk aloud processes to help filter out redundant suggestions and condense the list into a manageable size. In addition, students became quickly startled when an answer was not produced immediately. When we would research a topic on a website, and the topic was unavailable, students would deflate their bodies, let out sighs, and become noticeably discouraged and agitated. It seemed as

though they thought the answer simply did not exist. Once again, I began leading them through a talk aloud process as I began suggesting alternative word choices, websites, and methods. The students were hesitant to continue forward; however, I worked to encourage them. Once we did come across an answer, I also worked to celebrate with them. Over time, the class learned how to persevere through hiccups in the research process, filter through their topic suggestions before offering them, and list all of the successful websites that we had used. In fact, they not only mirrored my own strategies, but began using their own. An example of this is when one of the gifted students began offering websites that they had used in their own experience to the rest of the class.

When we approached the final implementation day, students were asking deeper questions, making connections to their personal lives, and describing misconceptions that they had prior to the research. In addition, students began seeking information on their own time. Some students continued researching the topic of the day at home with their parents, while other students checked out library books on topics that they had offered and had not been chosen by the class. As students sought out their own information, they began sharing their findings with their fellow classmates. I observed students showing one another the information within the books that they checked out, as well as having conversations about alternative topics they had researched at home. Mrs. H. commented on the students' newly acquired ability to wonder about the world around them, search safe websites, and to persevere through the challenge of finding answers to their problems. It was clear that they had fully engaged in the journey of becoming an independent researcher.

Let's Bring it to Life!

Another level 2 code that immersed within the data was, "Let's Bring it to Life!" This code was used to highlight any, and all data, that discussed sources of information that deepen student understanding in a concrete way. Often times, these sources used more than one of the five senses. They tended to be aesthetically pleasing and as realistic as possible.

The sources included websites, real-life artifacts, and books. While this was not initially a strategy that I had included in FI time, it quickly became one of the students' favorite parts. It first began when one of the students, Lilie, brought in a book from home to extend on the topic from the day before. We had been left with a lot of remaining questions, and she wanted to help us answer them. On this occasion, Lilie had asked me to share her source with the class, while she simply sat next to me. As the implementation continued, more students began offering their artifacts from home, as well. Students brought in a box of geodes, a live sea sponge, dehydrated starfish, books, seashells, and an animal index book. As time went on, students became more willing to allow their classmates to feel and manipulate the resources. In fact, on the very last day, Lilie allowed her book of animals to stay on the small group table for the first half of the school day. Her classmates took turns flipping through the pages and discussing their findings with one another.

While the overall excitement for these real-life experiences were felt and expressed class-wide, there were other perspectives involved as well. One of the students who offered their artifacts shared that she felt worried at first. She did not want her things to be broken by her classmates. However, when asked if she would do it again, she said yes because "it's fun to share things with people that you have." Another student, Troy, shared that he felt "kinda lonely" because "everybody else brought something- each thing- and I never did." Mrs. H. worried about

this being the case since a wide variety of home lives were demonstrated by her students. However, she argued that, for this reason, students sharing with one another was a strength of the implementation. Each of them had been offered new experiences throughout the implementation period that they had not had before. Troy supported this idea by saying that he would keep this aspect of FI time the same because he really enjoyed seeing all of the real artifacts.

While the majority of the data included in this code is based on real events, some of the data is concerned with the future hopes of students. When asked how to alter FI time, many of the students suggested incorporating field trips, tour guides, and videos. Specifically, students wanted to understand deeper concepts such as animal habitats, interactions with other animals, fur patterns, sizes, textures, colors, and eating habits. They suggested going to the zoo and aquarium. They also suggested spending more time on a website that I introduced to them, which included live webcams of animals around the world. One student recommended a hybrid format that included online research and field trips. They suggested that, "We could learn a little bit of research on the computer. Then, we could learn some at the zoo!" While the offers varied in nature, they were numerous, nonetheless. It was all in the effort to continue what we had done together, as a class, and expand on it even further. I included it because it represented the genuine desire to learn in deep and concrete ways.

Stop and Smell the Rain

The next theme that I found was, "Stop and Smell the Rain." This code included any and all data that discussed the desire for FI time to be longer in nature, so that more depth could be had over the topic. It was echoed continuously by both the students and the classroom teacher. The code is significant due to its multi-perspective take.

Mrs. H. summarized the theme perfectly by stating, "So, some of the kids, I felt, were kind of left hanging in topics. They wanted to know more, and they wanted to research more, and there wasn't enough time to do that." Ultimately, students felt that the amount of time that was spent on each topic was too short. Therefore, the amount of information and depth that they were seeking was hardly ever reached. Comments such as, "I want to learn about the first topic before we go to anything else," "I felt like 15 minutes was 2 minutes," "We don't get to look at the topic that much," "I wish we would do more FI time more," and "I was kind of disappointed it ended" were made by students following the implementation period. Students were pleading for additional time to dive into the amount of information they so craved.

Some students simply asked for FI time to be a few more minutes each day. Other students, along with Mrs. H., recommended spending up to two or three days on a single topic. It was even suggested, by a student, to choose one topic per week in order to keep the information organized in their minds. The daily turnover seemed to be too quick in nature, and a bit flustering at times.

This idea was represented during the last week of implementation. I invited the students to vote on how long we should spend researching animals, since it was a topic that consistently made it to the list on the board. Initially, the students voted for this topic to only be a day long. However, as students began to realize, it was not enough time to learn as much as they desired to. So, the students re-evaluated their decision, and they chose to devote the entire last week of FI time to animal research, instead.

With the extra allotted time, Mrs. H. and her students hoped to have more opportunities to explore topics in greater depth. It was their goal to focus with great intentionality, so that they could discover the fine details that they so curiously wonder about. Troy even mentioned

researching topics that haven't been completely understood yet. He wanted to find answers that were yet to be found by scientists. Overall, as the students learned how to become independent researchers, they began to feel limited by the inability to fully exercise their newly-found skills.

How Was Behavior?

This code is probably one of the most important ones. It is known as, "How Was Behavior?" I named it this because I knew that would most likely be the burning question behind every reader's mind when they first read that FI time is a time in which students take almost complete control of the classroom. This code included all of the data referencing the behavior of the students during both FI time and the regular instructional day. Classroom dynamics, reactions, and perceptions were collected from both the students and the classroom teacher, thus, creating a holistic code.

"How Was Behavior" was the second leading code in the amount of supporting data entries. All together, they helped create a full picture for me as the researcher. Through the use of head notes, I was able to note the students' behavior throughout the entirety of the day. Overall, I would conclude that the students handled themselves very well. When it was time to suggest and vote on topics, students would immediately direct their attention to me, sit quietly, and listen attentively. Once we had voted as a class on the topic for the next day, students would begin discussing it with their peers. They would share hypotheses, questions, and any related experiences they had with one another as they packed up for dismissal. These conversations continued until they each went home for the day. Each morning, as the students were arriving for the day, a few of the students would come up to me and would offer comments about the topic of the day. They were able to participate in their regular morning routine, without distraction.

During FI time itself, students were highly engaged in the process. They sat correctly in their spots, waited for instruction, and offered their opinions. At the beginning of the implementation, they were unsure how to actively participate. However, as time went on, they learned how to quietly engage with one another, give me direction respectfully, and offer information that they had to their classmates appropriately. I implemented a signal voting strategy within the FI time, which involved the students raising their fingers in the air. For example, when it was time to choose a website to use, I would list off three potential options and show the students how to show me using their fingers. Lifting one finger in the air communicated the want for website A, two fingers was for option B, and three fingers was for option C. This allowed me to quickly scan the room and allow each student to offer their suggestions. When it was my turn to talk, the students were very attune to what I had to say. They were often interested in my own opinion on the topic and looked to me for advice on how to move forward in the research process. Lastly, when peers were sharing artifacts with them, the students actively listened, raised their hands to ask questions, and followed the specific rules for handling the artifacts. They also thanked their classmates for sharing their artifacts with them.

Once FI time was finished for the day, the students were able to transition into the next subject with ease. Often times, they would take part in a mini-lesson and then participate in a short brain break. During this time, Mrs. H. allowed them to walk around, go to the bathroom, get a drink, talk to classmates, or participate in an interactive video. Students would approach me during this time to further discuss the topic of the day and ask questions. Once we were done with this, the students seemed to completely fall back into their natural rhythm for the remainder of the day. Mrs. H. agreed in saying that she didn't find that FI time "affected the academic part of the day at all" and that students were "able to transfer into math pretty easily." The students

seemed to have a strong sense of differentiation between the FI time dynamic and that of the

regular instructional day.

It is important to note that clear expectations were vocalized to the students at the

beginning of the implementation. They were also reminded consistently throughout the FI time

process, in a proactive manner. For example, before I would announce the winner of the vote

each day, I would remind the students that we were going to react respectfully. We would be

excited to learn something new, be happy for our friends who suggested that topic, and try

offering our own suggestion again, at a different time. When students would begin to push these

boundaries, they had the consequence in which they had been warned about. For example, two of

my students chose not to keep their eyes closed during the voting process, so their votes did not

count for that day. Students only had to experience the consequences one time before altering

their behavior. It seemed that they did not want to miss out on the events of FI time. In fact,

being able to participate in FI time was highly motivating for them to do what was expected.

I chose to ask the students about their individual perspectives on behavior. At first, I had

several students say that they were indifferent or unaware to the behaviors that happened during

FI time. It wasn't until I worked through the survey data that something intriguing arose. When

finishing the sentence stem, "If I could change one thing about FI time it would be," one of the

students wrote, "quiet because sometimes the people got too loud." Shortly after this find, the

classroom teacher began mentioning a particular student who continuously talked out during the

FI time period. Mrs. H. went on to say that she believed this action was not due to the nature of

FI time, but rather a personality trait held by the child. She noted that the same behavior is shown

by the child all throughout the school day. In fact, she stated, "I think a lot of times, when that's

a behavior that's seen all day, then students get used to it. So, they just let it happen." It was her

belief that the students had just become immune to the behavior in question. It dawned on me in that moment that that might have been the reasoning behind the initial responses I was hearing from the students. It was also the source of the loud sounds that the student above mentioned. It became clear to me that while FI time is engaging, captivating at times, it is not meant to alter student behavior. Kids will act how they are used to acting. The implementation of FI time will not better it alone. However, that means, that it cannot worsen it alone, either. Ultimately, it is the responsibility of the teacher to implement the appropriate behavior management in their classroom at all times. It is from this structure that behavior is determined. FI time is simply how learning is conducted.

This is Our Voice

The final theme that emerged within this data was, "This is Our Voice." It was used to highlight the data that concerned the input of students and their interests. This level 2 code is very valuable because it so nicely ties with the intent of the study. It was my desire to create an inquiry practice in which the students could fully take ownership. I wanted them to lead themselves through the topic selection, research methods, and problem solving process as much as they possibly could. This code demonstrates how well the students took initiative in that.

Students consistently offered their interests as topics to be voted on for FI time. They were persistent in sharing these, even when it would not get voted on by the class the first time. They would try again the following day, or begin researching the topic on their own. In addition, students did not shy away from giving their honest votes on websites to search. Each vote held had a lot of variety in what the students were choosing. In fact, I often had to count the student hands individually because the votes were so close in nature. As mentioned before, students

began offering their own research strategies that they had learned from other avenues in their

lives.

It was very apparent, through the students' movements, that they appreciated feeling

heard. When Lilie's topic was voted on by her classmates, she smiled, shrieked, and celebrated

with her group of friends nearby. Likewise, Anthony cheered in pride when his topic was chosen,

looked at his friends, smiled really big, and said that he couldn't wait. In addition to these

physical reactions, the students consistently associated their voice with FI time. When discussing

the implementation, students often used phrases like, "the one *I* like a little bit more," "*I* mostly

want to learn about," and "stuff that *I* want to learn about." Students were very attune to the fact

that the practice was centered around their interests. In Mrs. H.'s words, "they loved that they

felt that what they wanted to do was important and what they were interested in was important."

The self-value added to the students was very noticeable to all involved.

In addition, this code demonstrates the transformation of thinking had by Mrs. H. While

she was aware that student ownership was a large benefit to student learning, it was clear that she

realized it at greater depths. She stated that the students' interests might be off topic at times,

however, "it's where they find success" and that "celebrating those successes, even if they don't

have to do with school, is important." She finished by stating that, "FI time is the perfect way to

do that." She confessed to having her eyes widened as she witnessed the success had within the

students as they integrated their interests into the classroom content, as well. She encouraged

other educators to challenge themselves not to take over, but to honestly let the students take

charge. She shared that it was very exciting to see how the students took ownership of their own

learning. It is in this dynamic that are able to invest the most and learn the best. It was overall a

very enlightening experience for her.

With that being said, there was a level 1 code that emerged that is equally as important to consider. While students are excited to lead their own learning, they also depend on the direction and protection of the teacher. In fact, during one of the individual interviews, I asked the student how they felt about the teacher leading the actions on the computer. She replied by saying, "I trusted you." It was clear throughout the rest of the data that students trusted the teacher to filter through content in order to check that it was age-appropriate. This included topics, websites, and videos. In addition, the students asked for assistance in sharing their artifacts with the class and monitoring the students as they manipulated the objects. They vocalized the appreciation they had for me to be able to spell things correctly for them and find websites to show them. Overall, while students cherished the opportunity to make decisions for themselves, they also valued the overarching supervision of the teacher.

Implications for Teachers

Overall, there were five main themes that emerged from the data. First and foremost, students learned how to become independent researchers over the course of the implementation. With the support of talk alouds, modeling, and practice, students were able to move from complete dependence on the teacher to leading their own research. They were asking deeper questions, researching topics on their own, and persevering through trials. In addition, students fully immersed in the task of bringing their research to life. They offered real-life artifacts and books as resources to extend their understanding in a concrete way. They also suggested adding topic-related field trips into future implementations. Moreover, students vocalized their desire for FI time to be longer, so that they could research their topics in more depth. They wanted to research a topic more thoroughly before moving onto the next one. As for behavior, students were highly motivated to meet the expectations had for them, so that they could continue to

participate fully in FI time. They only needed to experience a consequence once before altering

their behavior accordingly. Lastly, students appreciated the ability to lead themselves through the

inquiry process and involve their interests in the classroom. They took complete ownership of

their learning, while still being under the supervision of the teacher.

Personally, I learned a lot during the implementation of FI time. The most valuable lesson

was that it is never too early to introduce problem solving skills to students. In fact, it is

imperative that a solid foundation is formed in the younger grades. Students must realize that

their curiosities are valuable, they are capable of finding solutions, and they are resilient in the

face of adversity. This growth mindset, coupled with inquisition, empowers the students in a way

that is necessary in experiencing success in the older grade levels. I would encourage other

educators to begin integrating these practices into their own classroom and to stay open to the

outcomes that will occur. Students will be flustered at first. However, with the support and

guidance of the teacher, the students will soon take ownership of the practice. In fact, they will

begin to crave more and continue to press forward.

FI time is a valuable contribution to the educational community because it offers an

inquiry practice specifically built for younger students. It was created in a simple, easy-to-learn

format for newer educators. Since it is fluid in nature and open to student input, there is not

necessarily a wrong way to implement it. It is a quick practice that will integrate smoothly into

the daily functions of the classroom, and it is motivating for students.

As I moved through the action research, there were a few questions that I had, as the

researcher. I began to wonder how this practice might be simplified even more so for

kindergarten and first grade. I would also like to implement FI time with some of the suggestions

offered by the students. I am torn between offering the students a new topic daily or weekly.

While I understand that the students want to go in depth, I found it productive to have students

offer topics that were related to the other classroom content from that given day. I found that

students were able to make many meaningful connections this way. In addition, I would be

interested to see how this practice would effect students over the course of an entire academic

year. This implementation was limited due to the four week time frame. Overall, my own

curiosities cause me to want to expand on this research even further in order to perfect the

practice in which I created. With that being said, I can't help but hear one of my student's voices

saying, "it's one of the most funnest things I did in second grade."

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Appendix A

Further Investigation Time Survey

1. Do you like investigating new topics?

| Not At All | Not Really | I do | I really do! |

2. Do you like knowing a lot of information over one topic?

| Not At All | Not Really | I do | I really do! |

3. Do you feel like all of your questions are answered during the regular class time?

| Not At All | Not Really | I do | I really do! |

4. Do you like working together as a class to investigate a new topic?

| Not At All | Not Really | I do | I really do! |

5. Do you think we chose daily topics fairly?

| Not At All | Not Really | I do | I really do! |

6. Do you think that 15 minutes was enough time to learn about the daily topics?

| Not At All | Not Really | I do | I really do! |

7. Do you think that using the computer is the best way to research something?

| Not At All | Not Really | I do | I really do! |

8. Do you think the teacher should be the one leading the actions on the computer?

| Not At All | Not Really | I do | I really do! |

9. My favorite thing about FI time was…

10. If I could change one thing about FI time it would be…

Appendix B

Codebook

Color	Abbreviation	Name	Level	Definition	Example
Peach	IR	**Becoming an Independent Researcher**	2	The process of students transitioning into independent researchers.	"I think that they can see that if they are having trouble doing something, and they have questions about how to do stuff, they can research those questions and find answers to them."
Red	BIL	**Let's Bring it to Life!**	2	A source of information that deepens student understanding in a concrete way. Often times, using more than one of the five senses.	"So, lots of your classmates got to bring stuff in and show them to us, how did you feel about that?" "That's fun, especially when we get to feel stuff."
White w/ Light purple marker	WAIT	**We're All in This Together!**	1	The building of community between students as they collaborated with one another.	"Well, I really liked learning and working together. I liked learning a lot of different things and I like to see what people thought of it."
Berry	LIK	**Listen to Your Kids**	1	Concerning data in which the researcher, or	"So, I felt like it was just another tool to

				classroom teacher, attempted to understand individuals on an intrinsic level.	get to know the students on a more personal level of what's really important to them."
Navy	OKG	**Opportunities for Other Kinds of Growth**	1	Any type of growth seen within the students, aside from the ability to problem solve and/ or inquire.	"It can also make others convinced that they should learn more, and love more, and you know, like, be a leader."
Pink Purple	WF	**Well, That's Fair**	1	Concerning data in which the students recognized an equal balance between two mediums.	"And I like how we sometimes did things that we didn't want and then sometimes we did things that we did."
Gold	TMU	**The Mysteriously Unknown**	1	Referring to the students' interest in topics that are foreign, or unknown, to them.	"Well, it might be the best one because it might be a little bit more mysterious."
Green	MKO	**They Have Strengths, Yes They Do**	1	The recognition that each student has their own strengths to contribute to the class as a whole.	"Cause, sometimes, I don't know a lot of information. So, I would like to do it with groups to learn what they know about it."
Dark Brown	DYO	**If at First You Don't Succeed…**	1	Concerning data in which the first avenue of learning failed.	"So, showing that sometimes the first avenue of learning doesn't always

					work and you have to keep trying to find the answers that you're seeking.
Light Brown	OV	**This is Our Voice**	2	Data concerning the input of the students and their interests and/or needs.	"I think one thing is they just felt like their voice was heard a little bit."
Dark Purple	KOKO	**Keep on Keeping On**	1	The transition periods between FI time and the regular instructional day.	"Then, we carried onto math with a smooth transition."
Light Blue	WTA	**Meeting the Students Where They Are**	1	The tailoring of instruction and knowledge based on the needs of the students.	"So, I think being able to be flexible to let the FI time tailor to your specific class that you have currently in your class."
Salmon	ITY	**"I Trust You"**	1	Data concerning the trust that students have within the teacher to properly facilitate their learning.	"When we're not in school, look for more websites and so you can tell us about them and show us some cool stuff in it."
Gray	DFI	**Distinctly FI time**	1	The acknowledgement that FI time is different than the regular school day.	"We got to have time out of the normal school day and that's pretty much it."
Orange	GG	**Glows and Grows of FI time**	1	Both the areas of growth, and praise, concerning the format of FI time.	"I actually think it was great. I don't really want to change

					anything."
Black	SSR	**Stop and Smell the Rain**	2	The desire for FI time to be longer in time, so that more depth can be had over the topic.	"So, some of the kids, I felt, were kind of left hanging in topics. They wanted to know more and they wanted to research more and there wasn't enough time to do that."
Bright Pink	Beh.	**How Was Behavior?**	2	Data referencing the behavior of the students during FI time and the regular instructional day.	"Their eyes were locked on the screen and many of their mouths were open in awe."
Medium Blue (Turquoise)	Curr.	**Yeah, But Is It Connected With the Curriculum?**	1	Data concerning the interweaving of FI time content and the regular curricular instruction.	"In addition, two students chose to write about sea animals during journal time."

Appendix C

Quantitative Data from Survey Results