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The Case for Joy in Learning: Teacher and Students' Perceptions of Flow Experiences in Upper Elementary Classrooms

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DePaul University
College of Education

THE CASE FOR JOY IN LEARNING:
TEACHER AND STUDENTS' PERCEPTIONS OF FLOW EXPERIENCES
IN UPPER ELEMENTARY CLASSROOMS

A Dissertation in Education
with a Concentration in Curriculum Studies


by

Rhonda L. Stern

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of
Doctor of Education
November 2019

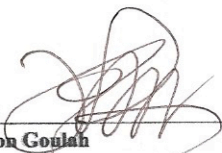
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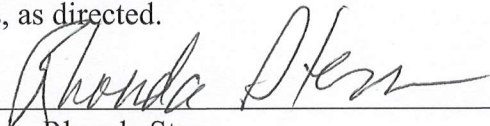
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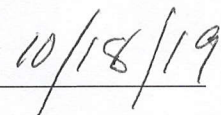
I certify that I am the sole author of this dissertation. Any assistance received in the preparation of this dissertation has been acknowledged and disclosed within it. Any sources utilized, including the use of data, ideas and words, those quoted directly or paraphrased, have been cited. I certify that I have prepared this dissertation according to program guidelines, as directed.

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Date



ABSTRACT

This dissertation focused on intrinsic motivation in elementary schooling, with Csikszentmihalyi's flow theory and the conditions and dimensions leading to optimal learning, serving as the theoretical framework. This qualitative case study investigated: 1) How do teachers create flow-producing learning experiences for upper elementary students and 2) How do upper elementary students experience flow in their daily school lives. Fieldwork included observation, collection of work product, and interviews of thirteen students and two exemplary teachers. Students were also asked to take digital photos of artifacts or spaces that related to their learning, and that they were proud of or found exciting. This case study makes a significant contribution to the literature by providing evidence that enjoyable, flow-like learning can be experienced in upper elementary classrooms. Analysis of data indicated that teachers created flow-like conditions by modeling habits of the mind, providing challenges at student readiness levels, offering feedback, and modeling enjoyable learning experiences. Student participants reported enjoyment in the learning process under conditions that allowed them to move freely in the classroom, concentrate, yet have the opportunity to obtain immediate feedback, and become immersed in, with control over, learning tasks. Fueled by intrinsic motivation, flow-producing learning experiences in upper elementary classrooms also have the potential to put students on the path to lifelong learning before middle school. More research on intrinsic motivation in elementary schooling needs to be conducted to maximize learning experiences.

Keywords: flow, optimal experience, play

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ACKNOWLEDGEMENTS

I would not be a joyful person without the support, commitment, sense of order, and love of my husband, Skip. He stands by my side daily, including a near almost all-nighter to assist in formatting and completing this dissertation in a timely manner. I am indebted to him for giving me the resources to pursue my dream, a career in education, and to live the life I also hoped for, a happy family life.

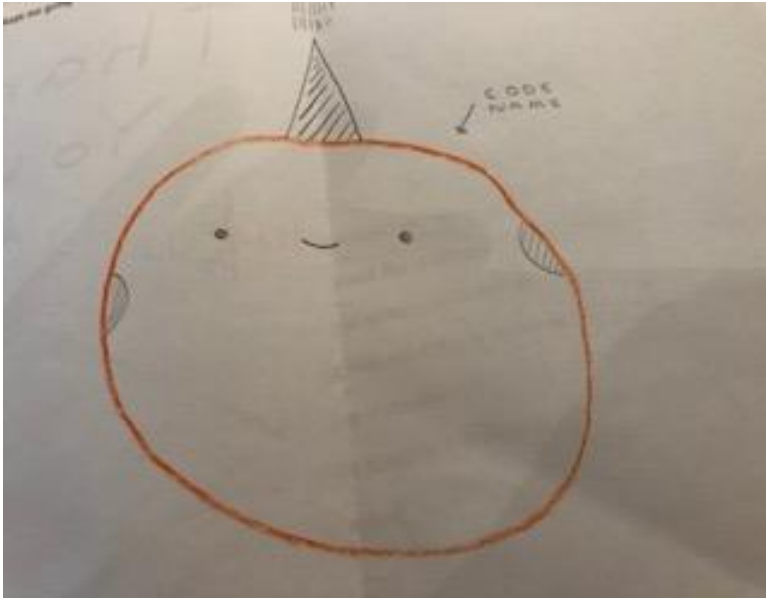
This brings me to my children, Rach and Rob, who rock my world with joy, laughter, endless enthusiasm and frequent adventures. I have been described as a parent who really loves her children and is very proud of the adults they have become, and it's true, I cherish my children and their spouses.

I met Dr. Hilary Conklin at a DePaul brown bag gathering. She wowed me with her careful research and her interpretation of play. Over the years of our collaboration, I would learn that she was an exquisite writer, a great—and organized-- thinker, and an individual who was also devoted to children. Countless times, Hilary reminded me to tie everything back to my research questions, even to the point of posting those two questions on a nearby wall. While at DePaul, I was very selective about which classes I took, and any time I could take a class with Dr. Jay Goulah or Dr. Karen Monkman, I jumped at the opportunity. I am deeply grateful to Jay for introducing me to Tsunebaro Makiguchi, a profound educator and theorist, and encouraging me about opportunities to present at conferences. Karen broadened my lens on feminism by introducing me to bell hooks. Karen also invaluablely contributed to this dissertation by introducing me to the works of Claudia Mitchell on how to structure and supervise photography projects with children.

DePaul University is a special place. Professors and students interact easily, and cohorts often feel family-like yet at other times, intellectually demanding. DePaul is a place where one leaves her ego outside the door in order to truly experience transformation and growth, and I made an excellent choice when I enrolled in January of 2013. This dissertation would not have happened, but for the support of Edward Evins, faculty member and writing coach extraordinaire, and Dr. Cynthia Norbeck, who, like Mary Poppins, is practically perfect. Certainly, family, friends and cohort friends supported me as well during this dissertation journey.

I am grateful to all of you.

It's hard to find words to describe my participant teachers, Jason and Hank (pseudonyms). Yes, they are extraordinary teachers, but they are also extraordinary human beings, and in this era of dehumanization (as well as standardization), I was awed and grateful to know them and watch them teach as they built relationships with their students. As for the students, they were very committed research subjects, very serious about their contributions, and this research. One student's goodbye card depicted her respect for confidentiality. Note how she referenced code name.



I tried not to smile too hard, but there are few joys as great as being in a classroom, and in that regard, I am also grateful to my former students (now adults and my friends) who shaped me as a teacher. HP Greenkids, you rock!

As Jason would say to the next generation, “may the force be with you” as you seek to drive change.

DEDICATION

To my future grandchildren and the elementary students and teachers of the next generation

CHAPTER 1: INTRODUCTION

Background of the Study

Similar to renowned theorist Mihaly Csikszentmihalyi (Csikszentmihalyi & Csikszentmihalyi, 1988, 1990a, 1990b, 2004, 2014) my interest in studying flow (or joyful learning pursuits) was piqued by observing deep participant engagement in a process, though at the time I witnessed student engagement, I had no understanding of flow theory. As part of his doctoral research in the 1960s (described as the “prehistory of flow theory”), Csikszentmihalyi studied artists working on sculptures or paintings (Csikszentmihalyi & Csikszentmihalyi, 1988, p. 3). These artists thought about their work constantly while they were in the process of creating their pieces. Few, according to Csikszentmihalyi and Csikszentmihalyi (1988), could expect to sell their works. Lack of financial gain did not appear to distract any of the artists. These artists were totally focused on every phase of their work until they finished. Csikszentmihalyi and Csikszentmihalyi (1988) reported that once an artist completed a work, it didn’t seem to matter much to her anymore, and she moved on. Csikszentmihalyi suspected that the artists were intrinsically motivated (Csikszentmihalyi & Csikszentmihalyi, 1988). He surmised that, “the reasons might be within the activity; that the rewards from painting came from painting itself” (Csikszentmihalyi & Csikszentmihalyi, 1988, p. 4).

Over the next ten to fifteen years, Csikszentmihalyi and others conducted more research on immersion in an activity (akin to the artists’ fascination with their works), and this led to books on optimal or peak learning experiences. Csikszentmihalyi (1990) decided to call this behavior the “phenomenon of enjoyment” or flow (p. 49). For the purposes of this dissertation, “flow” or the “optimal experience” are used interchangeably. Csikszentmihalyi (1990) articulated eight components or conditions leading to, or being part of, the flow experience (p.

49). Subjects described one or more of the following conditions while in the flow state: deep concentration, opportunities to self-direct or receive feedback, harmony between challenge and skill, control over the task, altered sense of time, lack of self-consciousness, and joy arising from the pursuit of the challenge. All of the conditions of flow theory will be set forth in the beginning of the Literature Review.

I wish I had been more familiar with flow when I was teaching elementary students. On reflection, I saw hints of flow in my classroom and others. Back in 2000, when I started teaching, I followed the advice of one of my legal mentors who suggested I focus on one goal as a rookie (teacher or lawyer): be prepared. My curriculum supervisor at the time had recently acquired top-notch science curriculum developed by Dr. Robert Ballard (along with the Jason Project), the scientist and geographer who believed that students should be engaged in real science. Ballard wasn't happy with what was on the market so he hired scientists from NASA and NOAA to train interested teachers. Under the scientists' tutelage, Ballard, and his staff wrote a more relevant, interdisciplinary curriculum, with an emphasis on experimentation in science.

Typically, I spent a week or two each summer going to science camp in Milwaukee to learn the curriculum, but during the first year, I missed science camp so my fellow gifted resource teachers taught me concepts about volcanoes in Hawaii, the subject of the Jason Project's science curriculum that year. The curriculum was chock filled with hands-on learning experiences and was fun. I taught students the concept of a volcanic rift zone by injecting fluids into a mini Jell-O mold, the mock volcano. So deeply influenced by the nature of curriculum and student responses, by my second year, I had a new motto: make learning real and make it personal.

A summer or two later, Ballard's team focused on the Rainforest, with a chapter on the impact of climate change. I was telling some neighbors about the experience of hearing firsthand scientists and geographers explain their research and model experiments that could be conducted with students. One neighbor decided she would help me build a rainforest in my classroom. What a hook to the content, especially seeing paper images of monkeys and sloths! My students made the funniest connections. One fourth-grader decided that he would study deforestation in the Panamanian rainforest over the course of seventy years. Why? His grandfather was 70. Others studied the canopy of the Rainforest. I pointed out that a scientist who was involved in the Rainforest Expedition had written a children's book about the view from the canopy of the Rainforest. Now the students were seeing interdisciplinary connections. Students were drawn to experimentation, too.

One student took charge of experimentation on heat trapping gases. This fourth grade boy would jump into my classroom after school to track the results of our experiment simulating the greenhouse effect: an investigation on whether trapped air in a two-liter bottle (akin to Earth trapped by greenhouse gases) was hotter than circulating air. After that, students experimented on checking the temperature of the black top pavement and comparing that temperature to heat in a nearby park.

In terms of building relationships with students and even with parents, my experience was different than most teachers. If a student was identified as highly gifted, she was on my caseload from Kindergarten to fifth grade. I learned as much—or even more from students—as they did from me. We tackled tough emotional issues through our studies of oppressed peoples: the Cherokees journey on the Trail of Tears; *The Giver*, and chapters in *The Narrative of Frederick Douglass*. Two fourth grade girls read the entire narrative for their fourth grade

book club. One student was so excited by our unit on the Trail of Tears, he asked his mom to bake Indian Frye bread and brought it to school.

I don't know for certain whether my former students were in flow, but some of the students on my caseload took control over their learning. While I participated as a member in writing groups at lunch, a fourth grader taught Lego Robotics to interested students. Fourth and fifth graders created a school newsletter on environmental issues called the CC Konnection. Learning even erupted out of goofy exchanges. One morning, I left my classroom to get a book on folktales and returned only to find that I couldn't open my classroom door. It was locked. And the leader of the pack, a student I had nicknamed Tank because he drank insane amounts of water, told his very amused peers to wait a few minutes before opening the door. Tank was really hooked by the possibilities of this caper. Then, a second grade student (Tank was on my caseload from Kindergarten to fourth grade), Tank began a novel that he worked on through fourth grade, entitled "Teacher Locked Out."

Though I was a resource teacher, I postulated that classroom teachers as well could create flow-like experiences even in challenging instructional situations. Two of my colleagues at my former school had built a greenhouse and were teaching students how to engage in hydroponic farming. Students grew flowers and vegetables and sold them to local purveyors.

While my title was gifted resource teacher, I did not work solely with the gifted population. In fact, during my last year in the District, I taught 41 students (gifted and general education students) in a multiage classroom to meet building goals of improving math and reading scores, though all of the 41 students (out of approximately 300 students in the building) had exceeded expectations on the ISAT. Because we were such a big group, we met in the library; students could freely move around the room and collaborate. Like a catchy tune, I often

replay images of the faces of some the students awed by learning discoveries. They took their research on chosen authors or topics seriously and loved the control they had. Each day, they would walk around with such delight percolating from the process of learning: “Mrs. Stern, there are desalinization projects in Israel!” In the reading unit, the students decided to participate in the Web of Dreams Contest, a contest asking students to write about their dreams to incoming President Obama. Tank was in charge of putting the final piece together, and the 41 students participating won top honors.

When I came to DePaul, I wasn’t sure what I was going to research. I literally discovered flow theory in a backwards way. I used to write a blog, “Gifted Matters,” on The Chicago Tribune’s blog site, ChicagoNow. A couple of years back, I started getting comments from an unknown person (call her “Unknown”) who kept telling me that her students were a lot like my former gifted students. At first, I didn’t pay much attention to Unknown; I just wrote quick replies to her comments on my blog. When Unknown reached out to me by email, I learned that she worked at a local college. Unknown invited me to visit a college class and meet some of her students. I sat in a classroom and listened to students deeply engaged while analyzing the *Odyssey*. Afterwards, I met a few more students and heard about how and why they landed at this particular college. Basically, the students hadn’t fit in or weren’t challenged during elementary and middle school and stopped paying attention to their class work. By high school, they were totally indifferent to school and their grades reflected that indifference. It turned out that many of these students scored well on standardized tests but were rejected from top colleges because of their low GPA. Unknown introduced me to one boy she met in a train station. She noticed him because he was reading a complex novel and decided to engage him in a discussion.

Not only was the discussion promising, after a few subsequent email exchanges with Unknown, he elected to enroll at the college.

Unknown was always busy so I rarely had more than fifteen minutes with her. I wanted to understand how her students had become engaged in learning. I asked, “How are students so committed to their studies now? What changed?” As she got ready for her next appointment, Unknown suggested that I pick up a copy of *Flow*. “*Flow* would provide some answers.”

Unknown later told me that she was a student at the University of Chicago during Mihaly Csikszentmihalyi’s tenure there. After I finished *Flow*, I was hooked. I had wanted to write a dissertation that advanced positive approaches to learning and this was my opportunity to do so. Given differences in teaching styles and pressures arising from testing, budgetary issues, staffing problems and more, I wondered whether I would find flow in elementary school. Below is how I perceived the problem.

Problem Statement

At present, concern abounds over dominant teacher-led instruction in education that locks students in seats and limits participation and play. Moreover, research indicates that high stakes testing has increased student anxiety and dramatically reduced student joy in learning (Pinar, 2012). Research also indicates that those with negative learning experiences have become most disconnected from school, finding little meaning and happiness in less than democratic schooling (Darling-Hammond, 2010). While there has been some research on intrinsic motivation aligned with Csikszentmihalyi’s (1990) flow theory at the middle school level and beyond, little research has been done on flow theory in upper elementary grades.

Purpose Statement

The purpose of this research is to explore intrinsic motivation in upper elementary students in the

age of standardization.

Research Questions

In this qualitative research, I study two questions:

1. How do teachers create flow-producing learning experiences for upper elementary students?
2. How do upper elementary students experience flow in their daily school lives?

Overview

This is a case study of flow-like learning experiences in two upper elementary classrooms. When I began the dissertation process, I framed my research questions with an eye towards unpacking joyful learning experiences in the classroom. Ten days into my fieldwork (March 13, 2018), I hypothesized that students might be experiencing flow mind states. My hypothesis was confirmed after coding my field notes, interview transcripts, student photography, and student work product. After discussion with my chair, I reframed my original research focus, shifting my lens away from “joyful learning experiences” to a focus on joy as described in the phenomenology of flow or optimal learning (“flow”).

I examine flow theory in the Literature Review, Chapter 2 of this dissertation. In the Literature Review, I introduce the elements of flow, describe the conceptual nature of flow, and address Csikszentmihalyi’s and Stith’s (1971) conclusions on the overlap between flow theory and exploratory play. I explore how contemporary researchers have also seen the connection between flow and play in the classroom. I also discuss the potential consequences arising from slipping out of the flow channel.

In chapter 3, I describe my case study methodology. I conducted observations during the period beginning March 3, 2018 (excluding March 17, 2018 to March 22, 2018) to May 23, 2018. I interviewed two upper elementary teachers and thirteen fourth grade students. Fourth

graders took pictures of classroom items that made them proud or excited in their learning, and then explained their choices during interviews. I chose to investigate upper elementary students because I thought that they might have an emerging sense of their academic interests and believed that they would be able to describe what they enjoyed in the classroom. I also targeted this group because Nakamura and Csikszentmihalyi (2003) raised concerns that some students might lose interest in schooling by middle school.

In the final chapters, I present and analyze my findings. Chapter 4 presents data on the ways in which teacher participants created flow-producing lessons by modeling habits of the mind and injecting creative or relaxing components into lessons, i.e., drawing, listening to music, or fun breaks. Chapter 5 presents evidence on students in flow states in which they describe strikingly similar experiences. In Chapter 6, I present the contributions of this study and discuss research implications. The major contribution of this case study is that when conditions to the flow experience are in place, students can experience flow in the upper elementary classroom. Mainstream teachers can gain insights on how to capture student attention, keep students engaged and excited in learning, and recognize signs of autotelic learning (learning for the sake of learning).

CHAPTER 2: REVIEW OF LITERATURE

Introduction

This literature review surveys the research on flow experiences in the context of education, beginning with a brief description of the theoretical conditions of flow theory.

Once I describe the conditions of flow, I discuss barriers to the flow experience so teachers and students can be mindful of obstacles to flow-like learning and act proactively to maintain flow-producing challenges. Next, I compare the theoretical overlap between the flow experience and exploratory play in the classroom. Finally, I explore empirical studies on flow theory in academic settings.

According to Csikszentmihalyi (2014), mainstream educators have failed in attempts to engage and challenge students. Csikszentmihalyi (2014) argued that there is a better way of delivering instruction than what we see in a traditional classroom setting. Though it no longer exists, Nakamura and Csikszentmihalyi (2002) noted that the Key School in Indianapolis served as a wonderful model of how to create the conditions for flow experiences. Indeed, one of the spaces at the Key School was called the Flow Activities Center (“Center”). When operating, Center instructors provided students with challenges in harmony with their skills and consistent with areas of interests, plus there were no time constraints placed on students. Later, Csikszentmihalyi and Rathunde (2005) noted that the structure of the Montessori classroom fostered similar learning opportunities. Montessori teachers lecture less, encouraging active student learning and engagement. At Montessori, students can work freely, and time constraints, grades, and tests are rarely given. Csikszentmihalyi (2014) maintained that students will thrive and find the pathway to lifelong learning with free and active learning. As will be discussed over the course of this literature review, Csikszentmihalyi’s ideas have landed mostly on deaf ears.

Flow Theory

In terms of early learning, Csikszentmihalyi (1990) believed that toddlers and pre-school students were natural and intrinsic learners, readily exploring and interacting with objects in their environment. If nothing interfered with early exploration, then the emergent learner would find herself naturally engaged in the flow experience (p. 49). Defining the flow experience as the “phenomenology of enjoyment” (p. 49), Csikszentmihalyi (1990) described this phenomenon as an opportunity for action and challenge requiring deep concentration, feedback, harmony between skills and the challenge, and task control. Setting up these conditions enabled the participant to take control of the challenge and get lost in her learning, forgetting about time. Think of the dancer engaged in a dance, dancing just for the joy of dancing or the avid reader engrossed in a novel. It’s participation in the process that drives engagement. Over the span of fifty years, Csikszentmihalyi (2014) continued to advance the importance and ongoing joy arising from flow experiences.

Conditions of Flow

Csikszentmihalyi (2014) reiterated the conditions of the intrinsic flow experience:

1. Goals Are Clear—One knows at every moment what one wants to do.
2. Feedback Is Immediate—One knows at every moment how well one is doing.
3. Skills Match Challenge—The opportunities for action in the environment are in balance with the person’s ability to act.
4. Concentration Is Deep—Attention is focused on the task at hand.
5. Problems Are Forgotten—irrelevant stimuli are excluded from consciousness.
6. Control Is Possible—In principle, success is in one’s hands.
7. Self-Consciousness Disappears—One has a sense of transcending the limits of one’s ego.

8. The Sense of Time is Altered—Usually it seems to pass much faster.
9. The Experience Becomes Autotelic—It is worth having for its own sake (p. 134).

In fact, Csikszentmihalyi (2002) suggested that there might even be a pool of people for whom regularly taking on flow-producing challenges becomes autotelic.

Sadly, Csikszentmihalyi's (2014) ideas have had little traction in mainstream schools, though highly respected reformers such as John Goodlad (1999) have embraced and advanced his ideas. Goodlad (1999) embraced flow theory as a tool for improving student and teacher engagement. From Goodlad's (1999) perspective, when teachers and students connected, they both experienced flow and the desire to learn within and outside of the school. To Goodlad, (1999) "teaching is very much a process of creating an ethos in which one's students develop and enjoy as many dimensions of their lives as possible" (p. 576). Similarly, in the preface to *Applications of Flow and Human Development, The Collected Works of Mihaly Csikszentmihalyi*, Csikszentmihalyi (2014) insisted, "To really live means to be able to express one's unique individuality, to hone one's strengths to their limits, while... contributing [to the human network]. That is what living truly means and that is what schools should teach" (xxii). While some theorists support flow theory and its implications, practitioners may be unaware of how to set up the conditions of flow as "much of the research on flow theory has been conducted on talented teenagers in their talent areas" (Schweinle, Meyer, & Turner, 2006, p.272). In the next section, I explore the problems arising from what some researchers see as barriers to flow.

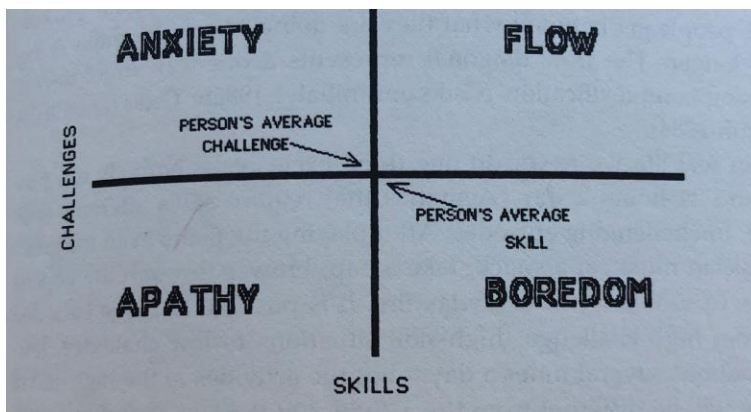
Barriers to the Flow Experience

Over the course of his career, Csikszentmihalyi (2004) has been very critical of traditional schooling and the lack of focus on student enjoyment of learning (Csikszentmihalyi and Csikszentmihalyi, 1988). Students are still tied to their desks, tied to the clock (not able to

work on a project on their own timetable), and anxious or bored because of dull lectures and/or rote and repetitive assignments (Csikszentmihalyi, 2014). Csikszentmihalyi (2004) argued that public school educators have leached “joy out of [student] learners” (p. 346), and Csikszentmihalyi found it remarkable and troubling that the joy arising from learning is rarely a subject of scholarship.

Conceptually, flow theory cogently explains how easy and likely it is for students to fall prey to boredom, anxiety or apathy (Nakamura & Csikszentmihalyi, 2002, p. 94). If a teacher fails to structure a challenge that is slightly above the student’s skill set, then the student has a far greater likelihood of being mired in a negative learning experience as Figure 1 below.

Figure 1. Conceptual model of flow challenge situated by anxiety, apathy, and boredom



(Adapted from Csikszentmihalyi & Csikszentmihalyi, 1988, p. 261; the flow model applied to the Experience Sampling Method)

In the four-quadrant analysis depicted above in Figure 1, Csikszentmihalyi and Csikszentmihalyi (1988) portrayed a model that described potential learning outcomes. Three of the four quadrants, anxiety, apathy, and boredom, interfere with instruction and are barriers to flow or engaged learning. The top quadrant on the right hand side is flow, which is an optimal

form of learning for most learners, because they are stretching their minds and skills and moving towards mastery in activities that are engaging.

Anxiety creates chaos in the mind and significantly interferes with learning. If student skills have not been developed enough to meet the challenge (or goals or feedback are lacking), then students are likely to become anxious. Students realize that they don't have the skills to meet the task. Students' lack of skills may come from poor teaching or failing academic policies. In terms of failing policies, Apple and Beane (2007) have argued that students have borne the brunt of challenges and pressures placed on teachers and administrators. These include: "financial cuts... the obsession of measuring anything that moves in the classroom, bureaucratic intransigence, and a society that has been told that public schools can't work in creative ways" (Apple & Beane, 2007, p. 152).

Narratives on student anxiety pointedly demonstrate the ways in which anxiety can diminish learning and self-esteem. Kirk (2001), an educator, wrote an article for the *Journal of Adolescent and Adult Literacy*, aiming to encourage teachers to cultivate a deeper understanding of students' backgrounds. In support of his argument, Kirk (2001) detailed how he experienced shame and failure as an elementary student while he was growing-up in the Appalachian Mountains with little academic support. Kirk (2001) explained that he was retained a couple of times in the primary grades because he could not read, and those grade retentions caused him to experience deep shame. In first grade, Kirk (2001) remembered, "school literacy tasks meant nothing to me. They only showed my incapability...and how unfit we [some of his peers] were for such an academic setting" (p. 421). Kirk (2001) attributed some of the emotional damage he suffered to poorly trained teachers in Appalachia who lacked the tools to help him advance. His second retention in third grade thrust Kirk into a depression. Attributing the nightmare of his

elementary schooling to poorly trained teachers, Kirk (2001) explained, “Without malice, my teachers critically damaged my self-esteem and the perception I held of myself as a learner. . . . They forced me to take five years to get through grades 1, 2, and 3” (p. 422). At the age of 10, Kirk (2001) was unable to read or write. While this is an extreme case, it has a positive ending, with Kirk receiving a doctorate and working as a college professor. Yet, Kirk (2001) remained concerned about students who were not as fortunate as he was, students who had teachers who did not consider their needs or interests when formulating challenges. As a primary student, Kirk figured out math problems when given manipulatives to use to reframe the problem. Less fortunate students might be given worksheets. Moreover, none of the teachers built context for him, i.e. giving him books related to his years living in Appalachia. Kirk believed that he would have experienced less anxiety if his teachers had attempted to personalize his learning.

Not only is anxiety a problem for students, so is boredom. Boredom has only become more prevalent as accountability and standardization have played larger roles in educational policies. Educators wonder about the delicate balance they must maintain when it comes to student engagement, “How do we loosen up the strict classroom without losing control, and how do we add structure to the out-of-control classroom without losing interest?” (Rea, Millican, and Watson, 2000, p. 23).

Students become bored when they are given challenges beneath their skills. One of the best examples of boredom comes from *Literacy and Intrinsic Motivation*, in which Csikszentmihalyi (1990) described research on high school students in a history class. Randomly asking students to describe their classroom engagement at set periods of time, Csikszentmihalyi (1990) reported on researchers’ attempts to record high school students’ interest in history. Students were given electronic pagers and when those pagers sounded,

students were asked to complete a brief questionnaire explaining what they were doing, how they were feeling, and what they were thinking about. In one traditional high school, the pagers went off just as the teacher was talking about Ghengis Khan's invasion of China. According to Csikszentmihalyi (1990b), only two of the 27 students in the class were thinking about "something even remotely related to China," with the rest paying little or no attention (p. 134). One of the two students was wondering why Chinese men wore ponytails and the other was thinking about dinner at a Chinese restaurant with her family (p. 134). Noting the fact that only two students made some connection to China, Csikszentmihalyi (1990b) reported, "in our studies of classroom experience, we find that even in very good schools students actually pay attention to what is supposed to go on quite rarely" (p. 134).

Wolk (2009) came to a similar conclusion after realizing that some students were not recognizing that reading served purposes beyond studying for an exam. Wolk (2009) had asked his graduate students to investigate student purposes for reading. While Wolk (2009) did not expand upon his methodology, he did note that some of his graduate students interviewed "young adults" (Wolk, 2009, p. 664) about reading within and outside of school. According to Wolk (2009), "not one student interviewed could articulate a purpose for reading in school other than to 'get the assignment done,' 'read the textbook,' or learn a skill. There is [also] no mention of reading for pleasure, reading to stay informed of current events or reading to shape political, moral or cultural identities...they do not see any thematic content in books as a purpose for reading in school" (p. 664). Though Wolk (2009) acknowledged the importance of reading for pleasure, the main purpose of Wolk's (2009) article was to make teachers and students aware of the ever-growing library of thought provoking works designed to foster democratic engagement. Through a social justice lens, Wolk (2009) identified specific works for discussion on racism,

multiculturalism, and the environment. Reading, reflecting upon, and discussing social justice topics would certainly reduce boredom, and ideally, foster student engagement and democratic discourse.

Perhaps the most serious outcome of disengagement is apathy, the opposite of flow. Little qualitative research has been conducted on apathy, in spite of the fact that Csikszentmihalyi (1990b) viewed learning to read as a motivational problem, not a cognitive one that would be tough to shake: “as long as disadvantaged youth perceive that the greatest financial rewards accrue to drug dealers, athletes and entertainers among their midst, none of whom made it good on the strength of their academic records...why should they worry about not performing up to our expectations on abstract and meaningless intellectual tasks (Csikszentmihalyi, 1990b, p. 123)?”

On the college level, Gute and Gute (2008) studied student disengagement after becoming alarmed when reading about the “epidemic” of disengagement on college campuses (p. 192). According to these researchers, there had been reports that “anxiety, boredom, and apathy appear to be much better represented in college classrooms than full concentration and enjoyment of learning” (p. 192). To learn more about disengagement, these researchers sought to study disengagement subjectively as well as to examine ways to counter it. Their sample consisted of 25 students from two sections of a writing composition course. Student participants were introduced to flow by assigned readings, listening to an interview with Csikszentmihalyi, and completing an interest survey. The instructor asked students to engage in flow writing, in which they described what they were doing in one of their core classrooms, the environment of the core classroom, and their states of mind while in the core classes they were reporting on (in this composition course). Journals were turned in three times during the semester. The last

submission differed in that students were asked to assess their performance in the core classroom. Less than half of the sample credited teachers with improving student concentration through humor, feedback, enthusiasm or knowledge. Eighteen students described instructor traits fostering anxiety, such as disorganization, assumption of prior knowledge, ineffective humor and moving too quickly through material. Five other students cited boredom, which the instructor, including dull and lengthy lectures given slowly or with a monotone delivery. In terms of identifying any “facets of flow” experienced by the student participants, eight students saw positive benefits from using the flow journal as an outlet to express sentiments about the course and six believed the journal improved their concentration in the class (p. 211).

Csikszentmihalyi (2004; 1993) also feared that our mainstream education system was moving away from democratic principles of freedom and equality. Fewer schools expanded the curriculum to include multiple viewpoints and perspectives, to give students a participatory role in learning, and to encourage staff to model critical thinking and contribution to communities. Apple and Beane (2007) collected a series of narratives on democratic schooling in which contributors outlined creative methods for restructuring schooling and revising the curriculum. While these narratives were edifying, not all the progressive changes endured, as one contributor, Brodhagen, reported (2007). Before she left to pursue a doctorate, Brodhagen (2007) had created an engaging and motivating learning environment for her seventh grade students. Brodhagen (2007) reported that these students were so enthusiastic about their learning they wrote a constitution providing for “meaningful learning” and “fun” experiences (p. 83), and the school principal witnessed the reading of it and signed it. Not only did these students participate in the writing of the class curriculum, they reflected upon their learning and contributions daily, and participated in conferences (parent-teacher). Unfortunately, after Brodhagen’s (2007)

departure, everything changed. When Brodhagen (2007) returned to visit, her former students described a total loss of autonomy, participation, and control over their learning. In sum, her students said they missed “having a say in what they learn, being able to study something in depth, working in groups, knowing they can bring up an issue even if it isn’t on the agenda, making presentations about what they learned, talking politics, and participating in making decisions about much of the day-to-day life of the classroom” (p. 101). Brodhagen’s (2007) students had no power within their school to maintain the positive learning pathway they had experienced while Brodhagen was their teacher. Brodhagen (2007) attributed the negative student experiences to time and testing pressures, “If teachers want to continue integrative practices, they have to spend a lot of time getting to know what is in the new programs. And in many cases, teachers simply do not have the confidence to do anything but “teach” the mandated programs...or teach to the test” (p. 105). Whatever the reason for the loss of democratic practices, students suffer (Csikszentmihalyi, 1993, p. 49).

Not every student succumbed to learning challenges. Gute and Gute (2008) concluded that students had the potential to find flow experiences, especially when given the tools, like the flow journals, to confront learning issues. One participant in Gute and Gute’s (2008) study wrote in her flow journals that “It felt good just to get things that bothered me about that class off my chest”; still another wrote about her concerns in a grammar class: “I was journaling on... a class that I was very worried about...Over time I became much more confident in my class and I ended up doing very well in it” (p. 213). Gute and Gute (2008) presented additional evidence on student participants who took control over their learning process. For example one student learned how to correct math errors on his own. The most significant changes involved participants who began to enjoy the classes that they were writing about in their flow journals.

One student saw growth: “As of this moment my psychology class is going very well. As a person, I’m starting to get very interested in the human brain and how it functions” (p. 214)

Csikszentmihalyi (2014) made it very clear that in order for an individual to remain in flow and grow, she must become a complex learner. With complexity, the learner adds increasing challenges to a task. Not only is the task continuously differentiated to meet individual skill levels, the learner must integrate his learning within communal and cultural boundaries so that she can be a contributing citizen. Integration means ascertaining how to make meaning with others who have different philosophies and talents and how to collaborate with them to work for the good of the social group (Csikszentmihalyi, 2004). Like earlier theorists Vygotsky (Kozulin, 1992) and Rogoff (2003), Csikszentmihalyi (2014) believed that learning is interactive. In terms of a young child or student, the first social groups she will encounter will be the family or members of the classroom, both of which provide networks of support and interactive experiences. According to Csikszentmihalyi (2014), “a complex person is one who has the self-regulative capacity to move towards optimal experiences by negotiating a better fit or synchrony of self with the environment” (p. 31). Thus, the learner learns how to negotiate challenges within the network. This process begins at home as part of play, the relation between play and flow is outlined in the next section.

Relationship Between Play and Flow

The second body of work that informs flow theory is play. The process of play is highly related to the flow experience. In play, there is no pressure to succeed. A child can freely explore his environment with or without the assistance of adults. Deeply engaged, the child chooses what to do and maintains control over the experience. He may imitate adults or find novel ways of interacting with the environment. At the start of his career, Csikszentmihalyi was

fascinated with the creative and intrinsically rewarding aspects of play and found the elements of play to be highly similar to the conditions of flow (Csikszentmihalyi, 1990). Play involves interaction with the self (Csikszentmihalyi & Bennett, 1971) as does flow. There is also overlap with flow in that there is an opportunity for action and self generated feedback. Moreover, as in flow, “the self becomes superfluous and the player can merge with the process in a state of monistic awareness...with one added feature: play stops when it becomes boredom” (p. 73).

The literature reflects the impact play has had on the role of the teacher in the classroom. Conklin’s (2014) research was situated in play. Conklin (2014) observed that there was significant overlap among theories of play and intrinsic motivation (including the flow experience). From the lens of play, Conklin (2014) described an engaging teacher named Andy. During one lesson, Andy “auctioned off a Starburst candy” to teach supply and demand. On another occasion, he dressed in a costume to kick-off a simulation on Communism. The students, according to Conklin (2014), were deeply engaged. When Conklin (2014) interviewed Andy, he told her that he built his lessons upon what he thought students would enjoy: “I think good social studies teachers enable the students to become passionate about learning about the subject...if they’re enjoying it, they’re learning more” (p. 1247). Describing the connection between teachers and students, Conklin (2014) reported that Andy’s students were equally enthusiastic about learning, and Andy’s classroom was typically “filled with joy and interest” (p. 1247). Conklin (2014) emphasized that student comments supported the enthusiasm and joy she observed in Andy’s classroom. In particular, one student commented, “it is fun he absolutely does nothing wrong! He helps everyone out! And makes his class fun every day” (p. 1241).

In another example related to play, Conklin (2014) demonstrated how one teacher’s creative ideas hooked a reluctant learner. After concluding a unit on the Middle East, one

seventh grade teacher gave students a series of choices for student final products, including an option to research and prepare a product related to mummification. According to the teacher, the student “got really creative...He included hieroglyphics and he tied in that knowledge and then he just got comical with it: how to mummify a chicken and then called it King Nugget.... [He] put a comic strip in it and ...quizzes: is your mommy a mummy? This is a kid who [I] can hardly get to pick up a pencil” (p. 1243).

A generation earlier, Block (1984) had tried to merge work and play, proposing that teachers make learning more play-like than work-like. Block (1984) traced the roots of play-like activities back to Dewey and contended “Csikszentmihalyi’s ...flow model has served as our conceptual template for making current school learning activities more play-like” (p. 67). Rea, Millican, and Watson (2000) described lessons that were both serious and playful, i.e. study of look-alike liquids, an advertising campaign related to protecting dangerous species, and building boats to test and graph buoyancy. To put this research in context, Dewey “once referred to learning as being playful and serious at the same time” (Csikszentmihalyi and Rathunde, 2005, p. 347). Rea, Millican, and Watson (2000) reminded educators “serious play liberates students from mind-dulling textbook... [and] fact-memorization approaches,” and puts adolescents on the path of active learning in high school and beyond (p. 28). Highlighting the importance of scaffolding, these researchers cautioned, teachers who create lessons that generate serious play must move “among the students, giving information when necessary and offering encouragement and praise appropriately” (p. 27). The teacher’s role in “giving information” and “encouragement” is very similar to adhering to the conditions of the flow model (p. 2): setting goals, building balanced challenges, and delivering feedback while supporting student concentration and task control.

In another twist on play, Barab, Sadler, Heiselt, Hickey, and Zuiker (2007) linked problem solving on a current environmental issue to playful, digital exploration. This is highly relevant to this study because Csikszentmihalyi (2014) acknowledged the value of “computer assisted” instruction and emphasized that teachers are more likely to engage students “when they show the relevance of what they’re doing to the life of the student” (p. 221). Barab et al. (2007) created a multi-user virtual environment narrative for gifted fourth grade students on diminishing water quality. These researchers studied fourth grade students in a gifted classroom who engaged with their three dimensional narrative (Barab et al, 2007). One of the researchers’ aims was to see whether they could design an academic play space in which students could collaborate and problem solve. These researchers also wanted to see how the gifted teacher supported her students while working on the narrative. During observations, the researchers saw deep student engagement and were pleased with how students discussed issues of water quality and multiple perspectives of stakeholders, i.e., tribal interests, loggers’ claims and the governmental interests. According to the researchers, these students became very immersed in the challenges built into the narrative. Fourth grade gifted students delved into more than “factual acquisition; these [students immersed themselves] in a real world problem, [exploring] socio-economic complications” (p. 76). The researchers concluded that students were enjoying the experience.

The researchers did not specifically ascribe the flow state to students because they did not have direct access to the students (no student interviews; only informal chats with students that might have compromised researcher methods). Yet, the researchers saw potential in flow theory. In the future, the researchers argued, students could find balanced flow-like challenges and interact within their peers within an improved narrative framework. Therefore, the researchers concluded that “motivationally, [narratives] create a more engaging learning context than simply

teaching formalisms as coldly cognitive material; practically, it is more consistent with how the content is experienced in the real world...the socio-economic agenda” (p. 80).

Though there is significant overlap between flow and play, and some educators have turned to play in the classroom, flow theory has not really gained traction in the public schools (Pink, 2009, Block 1984). According to Gray (2013), school is not free or engaging. Consequently, students don’t enter an academic situation and readily perceive opportunities for play and flow-like challenges. Gray (2013) researched play extensively and believed that children should be free to learn whatever they find engaging. Yet, Gray (2013) realized that his vision would never take hold because children lack the power to make meaningful changes to education and parents like sending their children back to school to get a break from child rearing. “And yet, if adults were treated as children are in school, nobody would find it funny” (p. 66).

Gray (2013) is not alone in his thinking. It’s amazing that so few adults step in the shoes of children or even take a break to listen to students describe their experiences (Greene, 1999). Griffin (2011), a social justice researcher, interviewed second and third grade students to ascertain the influence of music in their daily lives, both inside and outside of school. Griffith (2011) stressed the importance of letting students weigh in on curriculum affecting them. After conducting her research, Griffith (2011) conclusively found that students were being stifled at elementary school. She argued that “children’s perspectives need to be honored...children’s musical nuances, utterances, and sentiments ought to be acknowledged and celebrated as central, valuable contributions that can integrally shape elementary music education curricula in the future” (p. 89).

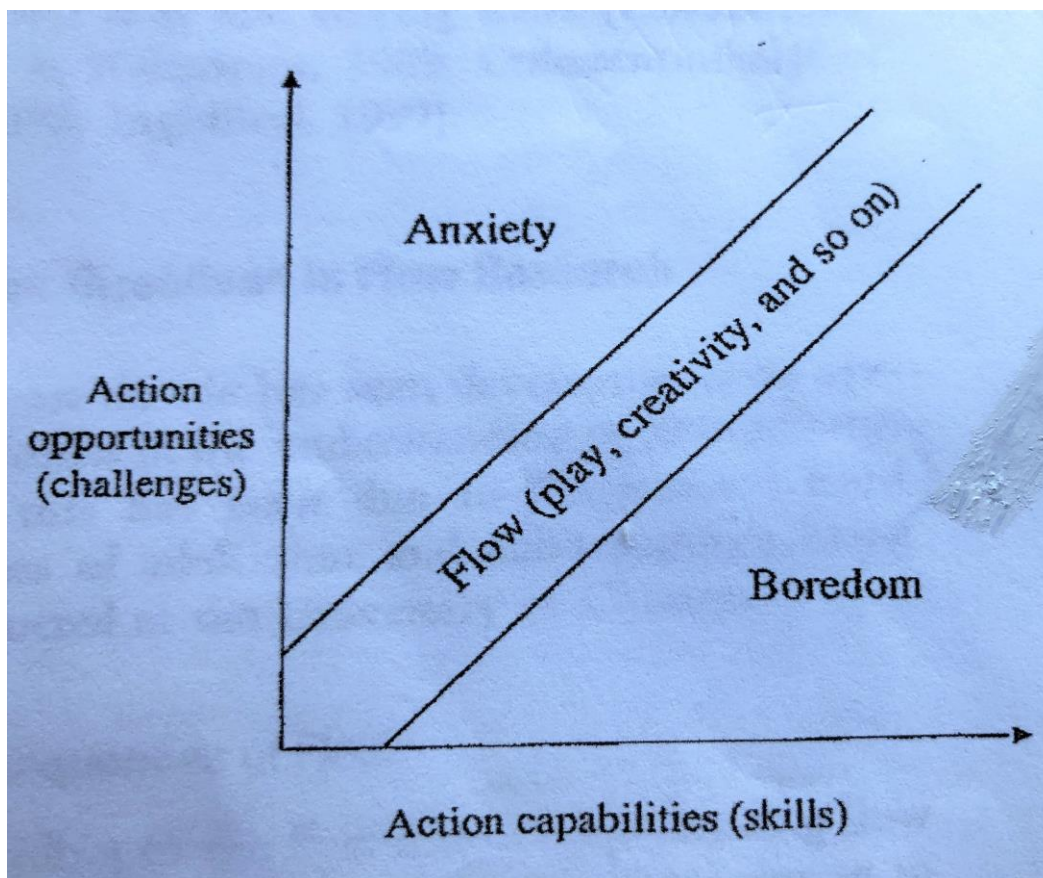
In the next section, I discuss flow in the upper elementary classroom. Csikszentmihalyi (1990) has researched the psychological state of flow in diverse domains, the corporate world,

athletics, recreational activities, education, and creative endeavors. Indeed, his research has even taken him to observe different cultures and countries, using both qualitative and quantitative measures to identify flow (Csikszentmihalyi, 2014). Yet, applying flow theories to the mainstream schooling in the United States remains a challenge. I have created a special section on flow in the upper elementary classroom setting so that readers can quickly identify the gap in the research, follow exemplars pursuant to the Model of Wisdom approach (thick description of exemplary teachers), and turn directly to the recommendations made by Csikszentmihalyi.

Flow in the Upper Elementary Classroom Setting

Ever since he began studying flow theory, Csikszentmihalyi (2014) has insisted that there is a better way of learning than what we find in mainstream education. Pink (2009) calls flow theory “the oxygen of the soul” because we enjoy what we learn (p. 121). Flow-producing learning is seeded in Vygotsky’s (1978) theory of the zone of proximal development (“ZPD”). In ZPD, the child depends on the teacher to guide his participation. Lured by seeing how close she was to independently meet a challenge, Csikszentmihalyi (2014) believed that the student would be motivated to work with her teacher to add to her skills, and thus be able to leave the ZPD, emerging as an independent learner. According to Csikszentmihalyi (2014), “[f]rom a phenomenological perspective, it is the attraction of flow that spurs the child to move out of the zone [ZPD] by acquiring new skills” (p. 58). Now that skills and challenges are balanced, the student is positioned to enter the flow channel as reflected in Figure 2 below.

Figure 2. The flow channel



Whether the student remains in the flow channel depends on teacher feedback, task control and continuing concentration. Keeping the student engaged is the challenge the teacher must address.

What mainstream educators fail to realize is that fun, play, and flow are organically tied to exploration in childhood and connected to self-actualization. While exploring and learning to maximize her strengths, the student pursues what she finds enjoyable. Indeed, Nakamura and Csikszentmihalyi (2002) argued that flow theory gave teachers new opportunities for improving instruction. Teachers could create engaging classroom environments and maximize learning and potential by situating learning challenges and experiences in student interests and strengths.

Thus, inherent in the flow model, is an opportunity for flexibility, differentiation, and latitude on ways to provide scaffolding and help students reach mastery. Nakamura and Csikszentmihalyi (2002) hardly expected immediate immersion in the flow experience, noting that the goal of education “is not [necessarily] to foster the state of flow directly, but rather to help individuals identify activities that they enjoy and learn how to invest their attention in these activities” (p. 100). For teachers, the first steps towards helping students channel flow experiences could be quite simple, recommending a book to a student or posing a math problem. Once the student discovered a learning pathway, i.e., a preference for a genre or an interest in algebra, the student could perceive flow-like challenges in the learning environment. Flow challenges could be fostered with or without the help of the teacher, depending on learner independence and skill.

Goodlad (1999) identified flow theory as a critical pedagogical tool. Goodlad (1990) believed that schools should implement flow-structured learning because of the deep satisfaction, growth, and joy arising from collaboration in the student and teacher relationship:

There is a critical delicacy at work in the human relationships here. The excellent teacher seeks to ensure that the child will be fully conscious of her own efficacy and will know the joy that goes with this realization. Otherwise, neither child nor teacher will experience flow. The child must genuinely believe that she did it. The child’s experience is testimony to the superb craftsmanship of the ethos, which in turn, is testimony to the teacher that he, too, succeeded (p. 57).

The interaction between teacher and student is a fundamental component of flow theory (Schweinle, Meyer and Turner, 2006). Little research, however, has been conducted on flow experiences at the elementary school level (Schweinle, Turner & Meyer, 2009). In fact, Csikszentmihalyi’s work has been challenged because his studies have focused on teenagers,

particularly gifted or talented teenagers or middle school students (Schweinle, Turner & Meyer, 2009). In spite of these limitations, flow-producing experiences at any grade level can add to conversations on flow and the nature of the flow experience. In the next section, I will explore flow research in the context of two high school classrooms because researchers have painted a vivid picture of flow-like experiences. After that, I will discuss research on the middle school level that is oriented towards advancing Csikszentmihalyi and Rathunde's (2005) notion of an ideal classroom. I conclude with a series of studies involving a small sample of fifth and sixth grade math students.

I begin with a high school English classroom that is very different from some of the apathetic venues described earlier. In an article outlining flow experiences in his high school and college classrooms, Professor Romano (2009) conceded that not every student is in flow in his classroom, but he's always aiming for flow when he works with his students. For Romano (2009), flow or joy in the teaching process, is synergetic: From the teacher's lens, Romano (2009) reported that he's "giddy" when a student, immersed in her study, looks up and wonders how much more time is left in class (p. 31). Romano (2009) found it equally exciting to collaborate with emerging writers or dive into interpretations of great literature. Romano (2009) called these experiences deep fun and likened the responses of students in flow to "Bulldog Learning." According to Romano (2009), intense learners latch onto a bone of knowledge and gnaw away until they learn all that they can" (p. 31).

Romano's (2009) fun or what he later characterized as "Deep Fun" is very different from superficial teaching that may be entertaining but does not lead to student absorption in a task and meaningful learning. Romano (2009) used the word deep for a reason; the challenges in his classroom were complex and rigorous. According to Romano (2009), students were engaged in

flow-like or deep learning when reading and discussing great works such as *Hamlet* or *The Great Gatsby*. Romano (2009) called on teachers to create a reading curriculum that was challenging and engaging:

Every English department must ask this: Is there a substantive, accountable, independent reading program in place, a program in which students can choose and be guided to books that are the right match for them developmentally, psychologically, and personally, books with which they might have optimal psychological experiences (p. 34)

On the high school level, Romano (2009) was calling for rigor, balanced challenges, student control over learning, and an optimal reading experience that fuels choice, growth and enjoyment. To demonstrate a sense of rigor on the college level, Romano (2009) also shared exemplary student work from one of his student teachers. According to Romano (2009), playful and engaging work could be the product of creative reflection, as one student demonstrated by writing a parody on loss of motivation, something this student had experienced as part of her student teaching fieldwork:

Deceased: Motivation Cause of Death: Lowered Expectations

Motivation was found early Monday morning barely breathing as he crawled across the corner of Stout Street, trying to make it to Smith High School....It was too late to save him....An eye-witness observer later told investigative authorities that he saw Lowered Expectations side swipe Motivation....We can only hope that Lowered learned her lesson: traveling at 60 mph may help you reach your destination faster, but faster is not always better when student Motivation is at stake (p. 35)

Like the author of this piece, Romano (2009) worked with students who had mixed academic experiences. Romano (2009) worked to motivate students so that they could regain

their academic footing, hopefully in flow experiences. Romano (2009) noted a student's transformation after engaging in personalized work: [He described] a "bemused sophomore transfer student...who has completed countless grammar worksheets over the years but rarely asked to write his own vision. He finally catches fire when he writes [a movie recommendation]" (p. 31). Romano (2009) was helping this student find flow by giving him a chance to express his voice in writing about a topic that interested the student.

"Catching fire," "being in the zone" or "in the groove" is a way in which high school student subjects have described flow (Egbert, 2003, p. 499). High school foreign language teacher Egbert (2003) also believed in the synergy of flow between teacher and student. In her mixed methods study, she identified learning tasks that she considered to be a "preliminary way" to capture flow in the language learning classroom p. (513). Those tasks included "reading out loud in Spanish, discussing and responding to 'mystery emails,' and electronic chats in Spanish" (p. 508). Like Csikszentmihalyi (1990), Egbert (2003) believed that the flow experience could occur even when all of the conditions to flow (p. 2) were not present. The critical conditions that were identified by Egbert (2003) were:

1. Challenge and skills;
2. Attention (concentration);
3. Interest; and
4. Control.

Egbert (2003) did not add the term "joy" to the mix; she did, however, highlight the fact the teacher's aim is to "make classrooms places students enjoy" (p. 506). She argued that beginning students might not find flow because of lack of competency. Still, if the tasks were interesting and appropriate, flow might occur. Egbert (2003) worked with thirteen upper level

high school students. Like many researchers, Egbert (2003) was worried about barriers to flow in the foreign language classroom. Calling flow “a complicated phenomenon based on the interaction of many learners, tasks, and contextual variables,” Egbert (2003) feared that disruptions in the foreign language lab or issues of competency or control might interfere with her research (p. 503).

Notwithstanding her concerns, Egbert (2003) observe that students enjoyed the novelty of the video chats, and survey results indicated that all but one of the participating subjects experienced flow during video chats on the dimension of challenge and skill. Two other students reported focused attention during a video chat. Egbert (2003) found that students’ curiosity was sparked when talking to a native speaker as one student reported: “I really liked this activity. It was the best one I think we have done all year. I had a lot of fun waiting to see what they had to say to me and see if I could understand it or they could understand me...”(p. 512). During interviews, student subjects reported that they also found flow while corresponding via email with their peers “because you don’t have to just listen to the teacher talk...you can ‘do your own stuff’ and make your own decisions” (p. 513).

In addition to issuing preliminary findings on flow, Egbert (2003) offered two critical insights. When talking about the balance between challenge and skills, she noted that learners with “low ability and low or optimal challenge might still have a flow experience from this balance if the task is “interesting” and the other dimensions are present (p. 504). Though “interest” is not expressly defined as part of the conditions of flow, it can be read to be implicit motivator underlying some of the flow conditions (i.e., goal setting, balanced challenge and control over the task). Moreover, Nakamura and Csikszentmihalyi (2002) expressly urged teachers to create emergent flow by supporting student choice in activities that piqued student

interest. Perhaps the most significant observation Egbert (2003) made was that autonomous learners have a better chance of finding flow at school. Like interest, autonomy is not an express condition to flow theory, but implicit in the sense that students in flow experience positive task expectations and perceive opportunities for task control.

Moving to research on the middle school level, I describe Csikszentmihalyi and Rathunde's (2005) comparison of traditional schooling and Montessori schools. This study is noteworthy because it provides a flow-like setting, giving the reader insight into Csikszentmihalyi's vision of an ideal school experience. The selection of Montessori schools was not random. Csikszentmihalyi and Rathunde (2005) aimed to conduct research at a Montessori middle school that incorporated flow practices in learning. Csikszentmihalyi and Rathunde's (2005) results were aligned with their expectations. On a weekly basis, Montessori students experienced significantly more flow than traditional middle school students. Csikszentmihalyi and Rathunde (2005) attributed these findings to the fact that Montessori middle school students "had freedom to select projects and improvise on themes introduced by teachers....Teachers utilized field trips, experts from the community, and hands on experiences to augment the curriculum. Authority was not rigidly hierarchical...time was unstructured" (346). The upshot was that students could freely collaborate with their peers, research ideas that interested them, and largely be spared the worry of grades. In contrast, traditional schools issued report cards to students, organized the day into 45-50 minute periods, implemented standardized testing, did not have opportunities for students to participate in school decision making, and promoted listening and note taking over participation in the classroom.

Csikszentmihalyi and Rathunde (2005) argued that the philosophical and structural differences in schooling led to the increase in flow experiences at Montessori. In addition to

providing a better quality of education, Montessori educators also did a better job of bridging the transition from elementary school to middle school. What Csikszentmihalyi and Rathunde (2005) hoped to encourage educators to do was to restructure schooling so that students would have ample time to reflect on their learning, model their teachers' problem solving strategies, and develop good habits of the mind: "habits formed in adolescence can set the tone for adult habits of attention that can affect future experience and career success" (p. 343). While middle school experiences add to the interpretation of flow experiences on the elementary level, I believe that the companion studies of Schweinle, Meyer, and Turner (2006, 2009) are most pertinent as they raise the question of where in the field of intrinsic motivation does Csikszentmihalyi's flow theory really fit in mainstream schooling. These researchers also explore the question of what drives student engagement.

Schweinle, Meyer, and Turner (2006, 2009) have struggled to find flow in the fifth and sixth grade mathematics classroom. Initially, Schweinle, Turner, and Meyer (2006) suggested that changes in the delivery of instruction might make it easier for students to engage in flow. The researchers sampled six students from seven mathematics classrooms (fifth and sixth grade subjects; four days in the fall, winter, spring). Researchers described the research setting as largely white and middle class. The researchers relied on quantitative methods from flow theory (Experience Sampling Form or "ESF") as well as qualitative observations of fifth and sixth grade teachers who ranged in ability. Their first research question was "what are the conceptual relationships between motivation and affect." Expecting to find flow (tasks in harmony with challenge), their findings landed in self-efficacy theory: students "perceived task difficulty as a threat to ability" (p. 278). Instead of enjoying a challenge, students preferred to tackle an easier

task with higher skills. Their findings were inconsistent with the task enjoyment predicted by flow theory (Csikszentmihalyi, 1990, 2014).

In their companion study (Schweinle, Meyer, and Turner, 2009), these researchers again turned to flow theory to examine student experiences in math (same fifth and sixth grade sample) in different instructional environments (p. 274). Data from observations indicated that students valued when the teacher clarified and elaborated as she modeled how to solve a problem. Noting earlier that humor, support and cooperation were also helpful to students, Schweinle, Turner, & Meyer (2009) found “partial support” for flow theory. Yet, once again these researchers concluded that skill was the most important variable to students, and concluded that students preferred to face a challenge when they were highly skilled, even if the challenge was beneath their actual skill level. Schweinle, Meyer & Turner (2009) wondered whether students were more comfortable avoiding risk, particularly in math class where students don’t have much control over the task.

Schweinle, Turner, & Meyer (2006) also described negative instructional behaviors as part of their classroom observations. If useful for no other purpose, the observational data confirms what Gray (2013) suggested: students are treated miserably in some educational environments. According to Schweinle, Turner, and Meyer (2006), one teacher, Ms. Duncan, threatened students about their behaviors, telling them: “You need to listen because this is your one and only warning, this is it, you got it, after this you are yanked from the hallway” (p. 286). Ms. Duncan also failed to check for understanding and provided limited feedback to her students. Schweinle, Meyer, and Turner, (2006) emphasized that Ms. Duncan’s delivery of instruction conveyed the impression that student mistakes were not part of the learning process; in fact, those mistakes would negatively affect grades.

Even though these researchers failed to find flow in mathematics classrooms, a number of issues emerged from these studies. First, some wondered about the utility of flow theory when Schweinle, Turner, & Meyer's (2009) once again demonstrated that students value efficacy over challenge. Earlier, Schweinle, Turner, & Meyer (2006) had noted that noted researchers "Wigfield and Eccles (2001) disagreed with the premise of flow theory, contending that students do not necessarily value optimally challenging tasks, but rather tasks in which they believe they can succeed" (p. 272). In spite of Wigfield and Eccles challenge to flow theory and the fact that Schweinle, Meyer and Turner (2009) really hadn't found flow in the context of mathematics, Schweinle, Meyer, and Turner (2009) suggested it would be worthwhile to study whether affect "plays a role in students' motivation to learn in a variety of classroom contexts" (p. 141). In fact, Schweinle, Meyer, & Turner (2009) had only conducted research with an extremely small sample of upper elementary mathematics students, somewhere between 14-21 fifth grade students (it is not clear from the literature exactly how many students came from fifth or sixth grade classrooms). Might results have been different in science or language arts where it might be easier to fashion appropriate challenges and increase opportunities for task control?

Conclusion

Herein lies the gap in the literature. Researchers have been able to find flow in public high schools, but rarely in middle school or upper elementary schools (Csikszentmihalyi & Rathunde (2005), Csikszentmihalyi, Rathunde & Whalen, 1993). Csikszentmihalyi would argue that Montessori practices give students an opportunity to learn freely, providing choice, control, time, and space (Csikszentmihalyi & Rathunde (2005). Moreover, it appears that on the elementary level, gifted and talented students have more opportunities to work creatively in the classroom (Barab, et al, 2007) than their peers in the general education classroom.

On a theoretical level, we are left wondering about the relationship between theories of intrinsic motivation, like flow theory and efficacy theory. Turning specifically to flow theory, how can upper elementary teachers create flow-producing challenges that encourage students to stretch their skills? How do we position an upper elementary student to understand her learning strengths and feel confident and competent before entering middle school or high school? Nakamura and Csikszentmihalyi (2002) noted the importance of keeping students on the pathway of lifelong learning, noting more research was required on the elementary level because it was not clear why some students drifted away from learning, becoming bored or apathetic, while others were inclined—and seemed prone--to find flow experiences in middle school and beyond. What experiences led to lifelong learning? In the area of play, which Csikszentmihalyi and Csikszentmihalyi (1988) viewed as an embryonic form of flow, Rea, Millican, and Watson (2000) proposed, “To instill a love of learning, it is imperative that students in their formative middle years experience the benefits of fun in the classroom” (p.28). Could this happen even earlier? To find out whether upper elementary students perceived learning experiences as enjoyable and engaging (leading to a predilection for lifelong learning), I designed a case study to be implemented in fourth and fifth grade classrooms.

CHAPTER 3: METHODOLOGY

In this chapter, I describe the process by which I conducted an instrumental case study on flow experiences in two upper elementary classrooms.

Conceptual Framework for this Case Study

For nearly the entire research process (save the first ten days of data collection), I relied on flow theory to frame my conceptual framework, always keeping my research questions (listed below) at the center of my inquiry:

1. How do teachers create flow-producing-learning experiences for upper elementary students?
2. How do upper elementary students experience flow in their daily school lives?

By creating a conceptual framework through aligning flow theory to my research questions, I was able to envision navigation through the flow channel as a two-phase process. The first phase related to the role of the teacher participant in setting up the first four conditions to the flow experience: concentration, goal setting, feedback, and challenges balanced to skills. In phase 1, I formulated many questions, including how did the teacher participant engage the student participant's attention? In what ways did the teacher participant collaborate with the student participant to set goals? What feedback was given and how and when and from whom? How were challenges harmonized with the student participant's skill set? I anticipated that peers would provide feedback to student participants, too. In the second phase, I envisioned the student participant entering into and then navigating the flow channel. What was the interplay of those remaining conditions to flow, i.e., time, task control, continuing concentration and lack of self-consciousness? How was concentration maintained? Did the student participant's consciousness merge with the experience? How did the student participant take charge over her

learning over time? Was the experience autotelic (enjoyable for its own sake, Csikszentmihalyi 2014). As I pictured these interactions, ironically enough, I returned to the very first image I used to advance this concept in my Research Proposal in June of 2017. At that time, I conceived the issue (or academic challenge) as how does the student participant climb the monkey bars? I wondered what the scaffolding would look like, and how the actual climb would feel to the participants? The same notion, students navigating a course of active learning, was a common theme throughout this case study.

Rationale and Teacher Prototype (Purposeful Selection)

I had seen gifted and talented students become excited about learning, eager to return the next day to learn more. I did not know whether this excitement and enthusiasm could be generated in general education classrooms at upper elementary schools. I had a hunch that if experienced teachers implemented democratic practices, i.e., dialogue, reflection and collaborative opportunities, I might see students experience flow in the classroom. Early on in this study, my chair suggested I read Apple and Beane's *Democratic Schools, Lessons in Powerful Education*. This small tome helped me visualize the type of teacher participant I was looking for in my study. In *Democratic Schools, Lessons in Powerful Education*, Apple and Beane (2007) described teachers and students engaged in primarily thematic instruction at neighborhood schools. Each of the featured teachers wrote a chapter on ways in which she strove to create democratic classrooms and invite active learning. One featured middle school teacher created a democratic classroom community in which dialogue and collaboration dominated. This teacher's seventh grade students were involved in developing their curriculum by choosing to study the environment and crafting a class constitution. Students also participated in year-end conferences with parents (Brodhagen, 2007). Similarly, a second

featured teacher and his fifth grade students devised a problem-based learning unit arising from the need (and neglected promise) to fix dilapidated aspects of their home school in Cabrini Green (Chicago area). Students implemented an action plan by highlighting needed repairs, writing to local politicians and newspaper staff and testifying before the Illinois State Board of Education (Schultz, 2007). Students valued these experiences with exemplary teachers.

The benefits of conducting research with exemplary teachers who are skilled at pedagogy and have a deep understanding of content has been explored by Model of Wisdom theorists (Shulman, 1987; Wineburg & Wilson, 1988). Under the Model of Wisdom approach, teachers like Brodhagen and Schultz, who were lauded by their peers for engaging students and making learning relevant and meaningful would be deemed great teacher role models, allowing “us to learn from the possible, not only the probable” (Hess, 2002, p. 15). For these reasons, I purposefully sought to recruit an exemplary teacher who was open to student participation, encouraged dialogue, gave students an opportunity to take control over their learning, constructed knowledge from multiple lenses, reflected on pedagogy and content, and was willing to take risks to connect with students, as both Schultz (2007) and Brodhagen (2007) had. I also wanted a teacher who considered ways in which to “motivate and engage...students in their learning, while teaching them the necessary skills to matriculate to the next grade level and beyond” (Schultz, 2007, p. 65). I described the identified teacher traits as my “teacher prototype” when I sought to gain entry into various school districts and find a participating teacher.

Research Design

My research was conducted as an instrumental case study under the umbrella of qualitative research. Because there has been little research on flow in upper elementary

classrooms, I decided to study flow experiences (unit of analysis) in that bounded system. Upper elementary is often considered a bridge to middle school, yet researchers believe that around the time of the transition from elementary to middle school, some students lose their interest in schooling altogether. Nakamura and Csikszentmihalyi (2002) urged researchers to study this issue noting, “we need to extend flow research downward into childhood in order to identify the endowments and experiences that differentiate those who reach adolescence with a propensity for flow from peers who prefer states of control, relaxation, and even apathy to the risk and rigors of challenging activities” (p. 101). Nakamura and Csikszentmihalyi (2002) added that qualitative methods would help develop a rich account of the flow experience (p. 93). Merriam (1988) affirmed that “case study research and in particular qualitative case study research is an ideal design for understanding and interpreting observations of educational phenomena” (p. 2).

Stake (2005) opined that an instrumental case study would be particularly useful in terms of “refining theory” and “reflecting on human experience” (p. 460). As I established the boundaries of the case, I focused on the contexts of the classrooms, the participants, both students and teachers, and other influences on the bounded system, ranging from administrative staff to parents to classroom teachers.

Stake (2005) observed that the case study researcher has a two-pronged challenge in that “a case study is both a process of inquiry about the case and a product of that inquiry” (p. 444). In preparing the case and documenting classroom functions, I aimed to focus on the particular as well as the typical and thickly describe the interactions of teacher participants and student participants. Stake (1994) also expected the researcher to be open to unexpected outcomes when reconstructing the case:

Epistemological constructivism is more than experiential knowledge, more than the invention of constructs and theories. Paraphrasing Nelson Goodman (1978), it is a declaration of flowing reality formed of interpretations worked and reworked personally and social examined, a search for authority, while denying the authority of Truth, and casting a skeptical eye on tests against an empirical world. We shouldn't be dismayed if it sometimes puts New Jersey by the Pacific Ocean (pp. 40-41).

My reconstruction of the evidence in this case study was not what I expected when I began my research. Yes, I found joyful learning experiences, but my findings confirmed that teacher participants and student participants experienced joy in the context of flow theory.

Research Population

The research population consisted of 36 upper elementary students and two teachers at two elementary schools in two suburbs outside of a major metropolitan area. To protect confidentiality, each student participant chose his or her own pseudonyms. I selected the pseudonyms for the teacher participants (“Hank” and “Jason”) and renamed the schools (“Todd School” and “Gentoo School”) and suburban sites (“Park City” and “Maize City”). Photographs and other documents were treated confidentially, with all identifying markers removed.

Research Sites/Gaining Entry and Recruitment

I discussed my teacher “prototype” with former colleagues and they suggested that I contact the Superintendent in Park City, with whom I had worked when I was a gifted resource teacher. During the summer of 2017, the Superintendent recommended Hank, a former Golden Apple recipient who taught fifth grade at Gentoo School. In the course of preparing my IRB application in January of 2018, I contacted the Superintendent to confirm the opportunity to

research in Hank's classroom. On January 12, 2018, the Superintendent restricted my research to observation only in Hank's classroom at Gentoo School.

Now it was necessary to find a second research site, as my research design called for interviews of both teacher participants and student participants. One of my colleagues recommended a teacher at Todd School. She declined, but I learned that my former principal was a part-time principal at Todd School. I discussed my teacher "prototype" with my former principal and she recommended Jason, telling me that she thought very highly of Jason and believed he might be a good fit. I trusted my former principal's judgment and Jason agreed to participate in the research. Unlike the Superintendent in Park City, my former principal and Jason did not impose any restrictions on this case study.

Most of my research was conducted in Jason's classroom in Maize City, an affluent suburban area, and home to approximately 30,000 residents. Maize City offers a rich variety of cultural offerings in the arts, including a seasonal music festival. Parks, historic gardens, and recreational facilities dot the landscape of Maize City. Residents of Maize City are over 90% white, highly educated, and historically committed to schooling, though a recent school funding referendum failed to pass and some schools in the District were closed. Private schools in nearby suburbs did compete with Todd School and other schools in the District.

Gentoo School, the site of Hank's classroom, was located in a neighboring suburb, Park City. Park City is also an affluent residential area, with a number of parks and public gardens. Park City is more residential than Maize City. Gentoo School's student population was primarily white (90% Caucasian). Other than the information referenced here, I was not given any data on Gentoo School or its students.

Data Collection/Timetable

The Institutional Review Board granted me approval to conduct this research on February 28, 2018. The following day, I made arrangements to begin my research at Todd School on March 2, 2018. While at Todd School, I observed regularly for a minimum of four hours a day from March 2, 2018 through March 30, 2018 (other than the week beginning March 12, 2018). I returned to Todd School during the week beginning May 8, 2018. My final visit to Todd School occurred on May 20, 2018 and lasted an hour. I conducted a semi-structured interview with Jason on March 29, 2018. That interview was audio-recorded and lasted approximately thirty minutes.

I observed at Gentoo School for five hours a day beginning on April 16, 2018 and ending on May 23 2008, with the exception of April 19, 2018. On April 19, 2018, I was at the school for ten hours (regular school day and Parent Night in the evening). On May 23, 2018, I conducted an unrecorded interview with Hank because both of us were hesitant to conduct a formal, semi-structured interview given the Superintendent's restrictions on my research (observation only). I pushed back on this restriction suggesting to Hank I would limit my questions to experiences that I had observed in his classroom. He agreed to the interview and surprised me by also referencing MAP testing records indicating that all of his students were performing above target levels ("Hank", personal communication with Hank, May 23, 2018). The informal interview took less than thirty minutes.

Student Participants

Soliciting student participation in this research went more smoothly than expected. I selected an inclusive approach because there is a dearth of data on how students perceive the learning experience in elementary education (Griffin, 2011, p. 80). Consequently, every student

in Jason's classroom was invited to participate. Jason asked me to prepare packets to be sent home on Friday, March 17, 2018. In the packet Jason distributed, I sent a letter describing my research, parent permission slips, and student assents. Though I asked for the documents to be sent to the main office, the permission slips and assent forms were returned to Jason before the week beginning March 24, 2018.

The students: Of the eighteen students in the fourth grade classroom, thirteen assented to participate. All of the girls in the classroom elected to participate. Five boys decided not to participate. As far as I could tell (I was not given any demographic information), all students in this classroom appeared to be white. Table 1 lists the pseudonyms and ages of student subjects. All of the student subjects returned the requisite forms in March, except for Z-Math who returned his assent and parent permission slip on May 8, 2018.

Table 1

Listing of the student subjects by pseudonym and age

Pseudonym	Age	Sex
Sprinkles	9	F
Jelly Bean	10	F
Poison Ivy	10	F
Lucy	10	F
Mimi	9	F
Despereaux	10	F
Mr. Judge	9	M
Unicorn	9	M

Rico-Sam	10	M
Fretters	10	M
J-Dog	10	M
Steve Greenburg	10	M
Z-math	10	M

Analysis of Documents

Because of the lack of student voice on joyful learning in the classroom, I gave students a supplemental research tool for identifying joyful learning experiences, the opportunity to take pictures on my iPhone 5 (Bowman, 2007; Wolsey & Uline, 2010). In structuring this photography project, I relied closely on the procedures utilized in Wolsey and Uline (2010) and Mitchell and Reid-Walsh (2002). Mitchell and Reid-Walsh (2002) studied adult-organized photography projects involving children and students, covering a variety of themes, including joy and play. Mitchell and Reid-Walsh (2002) viewed giving a student a camera as an act of decolonization and an asset for exploring “the visual in relation to understanding student perspectives” (p. 89). According to these researchers, even adult insiders who work in the school lack the capacity to tell the story of a student’s transformative learning experience (Mitchell and Reid Walsh, 2002). I made students active finders of their individual or group joyful experiences by asking them to take pictures on my iPhone 5 of things that make them proud or they found exciting. This became a key way of identifying student affect and encouraging fourth grade subjects to capture and express their inner experiences.

I had originally thought that I would give a student a camera for a day (from 9:00 a.m. to 1:00 p.m.) and ask her to discreetly take pictures in the classroom and the lunchroom but not take

pictures with identifying features. That approach did not work in a bustling classroom. Instead, student subjects took pictures as part of their interviews. At the beginning of the interview, I would hand each subject my iPhone 5 and ask her to take pictures of items or features at the school of which she was proud or found exciting. The results varied. Some student subjects took me to their favorite classrooms or the library; many asked to photograph the gym. Other students photographed work product that they found meaningful. The pictures were incredibly revealing in that students showed deep investment in what they were studying and their school; many pictures are displayed in the next two chapters. Overall, the students took pictures of subject matter content, books they had read or were reading in the classroom, and assignments completed in every academic discipline.

Every student subject was given the opportunity to take pictures during the week of March 26-30, 2018. Rico-Sam and Z-Math took additional pictures during the week of May 8, 2018. Rico-Sam insisted on taking pictures of the boat races on May 8, 2018 in order to show me new content areas he enjoyed and of which he was proud.

In terms of document analysis, I was given very few documents produced by the teacher. However, when I asked to look at particular assignments in fourth grade, I was permitted to look at part of the assignment, such as a math problem or a worksheet. I also read essays and book reports that were posted in the classroom. Since a great deal of student work was posted and accessible, I did not feel shortchanged. Still, I compensated by taking pictures of students solving math problems and students working on their scrolls (Social Studies). Students also posted observations on their study of the Dust Bowl, and I took pictures of their posts. Fourth grade student Rico-Sam insisted on giving me a copy of his Island Project. Jason also sent me a link to some of his newsletters and those gave me a lens into interactions with parents. In fifth grade, I

was permitted to look at documents that were posted and observe the work the students were doing. I copied some of the math diagrams that Hank created and was given one worksheet related to a science project. I was able to reconstruct student perceptions in Hank's classroom by relying on my field notes and studying posters within and outside of the classroom.

Interviews of Teacher and Student Subjects

With respect to interviewing, my data collection was two pronged: interview of participating classroom teacher and all participating students. The interview guides for teachers and students are attached as Appendix B and Appendix C, respectively.

I conducted two semi-structured interviews with Jason. The first was on March 29, 2018 and was audio-recorded. The second was conducted on May 8, 2018. The second interview was conducted for purposes of member checking and was unrecorded. Jason reviewed the first transcript for accuracy on May 8, 2018.

My plan was to conduct the first interview of the classroom teacher well after I started my research, but Jason asked to be interviewed during my fourth week in the classroom. He saw his students being interviewed and he was curious. Jason's first interview was semi-structured, conducted after school, and lasted 25 minutes. The reason I had delayed Jason's interview was that I wanted to have an opportunity to observe the classroom teacher creating joyful learning experiences for and with students as part of an entire unit (Nakamura & Csikszentmihalyi, 2002). I only had handwritten notes after my informal discussion with Hank on May 23, 2018. I typed my notes, and Hank's transcript was member checked via email. During the teacher interviews, I explored the classroom teacher's reasons for entering teaching, his content knowledge, his pedagogy, and the ways in which he uses resources available to him to create joyful learning

experiences. Finally, I explored the classroom teacher's perception of the role his students play in participating in joyful learning experiences in a variety of contexts.

The student interviews were semi-structured and lasted approximately 30 minutes each. I conducted thirteen interviews and then met again with each of the student subjects to member check each classroom. Each interview was conducted in TARDIS (anteroom to Jason's classroom named after a fictional time machine and spacecraft used by sci-fi celebrity Dr. Who). The door to TARDIS was left ajar during each interview. Second interviews with students were limited to member checking. I audio recorded the student interviews. During the interviews with student subjects, I formulated non-leading questions:

What can you tell me about your classroom?

What do you like about the classroom?

In what areas do you see your learning strengths and skills?

What kind of goals do you set for yourself and how do you achieve them?

Going deeper, I asked more leading questions:

What do you like learning just for the sake of learning at school?

What triggers excitement in school?

Can you remember a time when school excited you or sparked your interest or made you more excited to come to school the next day?

The photographs taken by students served as useful prompts when interviewing the student subjects about their learning experiences and sentiments about learning (Wolsey and Uline, 2010; Mitchell and Reid-Walsh, 2002). According to Mitchell and Reid-Walsh (2002), the photographs taken by the subjects and their interpretations of those photographs "may challenge adult conceptions of the classroom" (p. 91). In some respects, as will be set forth in Chapter 5, I

was surprised by student responses. With the promise of confidentiality, trust and a good rapport, students spoke freely about their experiences.

Fieldwork

At both schools, I observed conversations, nonverbal behaviors, facial expressions, and the physical setting of the classroom and the school. I expected that my role as participant observer in the classroom might change at times, becoming more or less involved with the students. My role did not change at all in Hank's classroom. I did face one unexpected issue. The principal at Gentoo School was not pleased that Hank invited me to Parents Night and urged me to adhere to confidentiality at the strictest levels. I promised to respect confidentiality, which I believe assuaged the principal's concerns. Students in Hank's classroom were curious about the role I played, and when asked, I simply replied that I was here to see how students learned, and when pressed for more information, I once mentioned that I studied good teachers.

Jason did expand my role as a participant-observer. I was asked to help a gifted student with algebra, and I thoroughly enjoyed the interaction. In terms of establishing a rapport with the students, I was friendly, but did not give students in Jason's classroom a description of my study other than to say that I was interested in how students learn. I believe I observed authentic interactions between teacher and students and among students and peers. I did not want participants to gear their behavior to my research questions.

I recorded my observations daily, taking handwritten field notes. After I left school, I retyped expanded field notes on my home computer. In the margin of my handwritten field notes, I highlighted atypical activities, concerns arising from the participants' behaviors, or any other unique or unexpected occurrences. I also noted unexpected issues (very limited) arising from my role as a participant observer. I did not use a tape recorder during observations because

I feared audio recording would give me a partial and incomplete lens of student experiences. In my experience as a gifted resource teacher, I found elementary classrooms to be noisy, and I was right!

While a wider focal point would have enabled me to study the class' interaction with the participant teacher, both teacher participants rarely taught at the head of the classroom. Consequently, I narrowed my focal point to see how each teacher adapted lessons to meet the needs of individual students (and even small groups), providing structures and scaffolding necessary to enable student participants to enter the flow channel. Nakamura and Csikszentmihalyi (2002) argued that small group learning could also be viewed as shared flow. A narrower lens allowed me to see how the individual students experienced flow-like joy in their daily school lives. A teacher can also nurture flow indirectly by helping students identify areas of interest.

Data analysis

All of the interviews were transcribed, reviewed with Edward Evins, faculty at DePaul (and a tutor at the Lincoln Park Writing Center weekly), and reviewed again and again as part of the coding process.

The first cycle of coding led me to identify some elements of the flow experience. Upon Dr. Norbeck's recommendation, I cut the transcripts into linear slips of text so that I could inductively identify patterns in student responses, and was able to chunk the data by the following categories, all of which related to the flow experience: "aha moments," "feedback," and "lost in learning." These categories were based on ideas generated from hypothesis coding and reflection on categories set forth in the literature on flow theory (Miles, Huberman, & Saldana, 2013). I also relied on attribute coding. Attribute coding focuses upon the participants

and their characteristics, the setting of the fieldwork, and other variables. I highlighted transcripts as I looked for patterns and themes and sought to reconstruct perceptions of flow. Moving into second cycle coding, I relied on the leads and categories from the first cycle. I coded using charts listing each of the conditions of flow and cataloging teacher and student perspectives. To categorize what I saw, and start developing themes, I considered factors related to: 1.) What helped advanced a student into flow and 2.) What hindered entry into the flow channel. I also considered when, how, and why students took charge of their learning and how they collaborated with teachers and peers. Patterns and similarities began to emerge. Student participants would describe words flowing out onto the paper (“Sprinkles,” Sprinkles personal communication, March 28, 2018) and sensory cravings emerging while writing a narrative (“Jelly Bean,” personal communication with Jelly Bean, March 26, 2018). Reframing learning as a game or a mystery was another common theme (“Hank,” personal communication, April 18, 2018; “Mr. Judge,” personal communication, March 26, 2018; “Mimi,” personal communication, March 27, 2018) Creativity, teachers in flow, gaming, challenge, choice, independence, novelty, complexity, and control were themes I explored. I continued to analyze the data by writing analytical memos and those memos became part of the structure for the analytical chapters of this dissertation.

Trustworthiness

Guba and Lincoln (1994) advanced the concept for trustworthiness for evaluating the reliability and validity of qualitative research. Bailey (2007) clarified the standard: “trustworthiness does not mean that the reader agrees with the conclusion of the researcher; rather, [the researcher must]... communicate in detail the procedures used and the decisions made throughout the research process” so that the research can stand on its integrity (Bailey,

2007, p. 181). Interconnected, the four elements of trustworthiness are credibility, transferability, dependability, and confirmability. I have sought to demonstrate my trustworthiness by thickly describing my research process and data so that readers may understand the particularities of the case and may delve into the data and analysis as I outline my process. In order to reconstruct the perspectives of participating students and teachers in the upper elementary classrooms, I prepared a highly textualized account, focusing on relevant contexts. In that regard, my aim was to have my account “ring true” to both participant and reader (Bailey, 2007, p. 182). As Stake (2005) observed, trustworthiness will be enhanced because readers may make connections while reading the case from which they can generalize. According to Stake, in terms of trustworthiness, qualitative researchers must be aware that readers have “a certain cognitive flexibility, the readiness to assemble a situation-relative schema from the knowledge fragments of a new encounter” (p. 456).

My research involved a purposeful sample of a population. This enabled me to focus on the particularities of participant experiences, and understand how and why teacher participants framed instruction in a certain manner and how and why student participants acted on these learning opportunities. It is my hope that readers of this dissertation will be able to transfer knowledge from setting to setting.

I also triangulated my research. My data came from four sources: observation, teacher and student interviews, work product, and student photographs. These multiple perspectives add to the trustworthiness of this study. In terms of dependability, I listened over and over again to the audio interview transcripts of the participants, aiming to reconstruct participant experiences accurately. Throughout this process, I questioned the participants on anything that was unclear to me. Each participant was given an opportunity to member-check her respective typewritten

interview transcript. In terms of confirmability several of my colleagues read all or part of this dissertation and believed that the data supported findings made in this study.

Disengaging from the Research Site

Schram (2007) emphasized that at the conclusion of the research, the researcher should analyze his emotions about the site and the participants. I was sad to leave Jason's classroom because of attachments to his students. I handled this by dropping by his classroom in late May to watch the students present parts of Dahlapalooza which allowed me to say goodbye in small groups, telling each student how much I appreciated their participation. Half of the participants had written goodbye notes to me that I loved. It was easier for me to disengage from Hank's classroom. Given that I was only an observer, I did not have deep bonds with Hank's students.

Conclusion

In this chapter, the researcher explained how the case study paradigm was an excellent fit for flow research. Research sites were described. Research tools, including observation, interviews, and analysis of documents, notably photographs taken by student participants, were also described. Ethical concerns and trustworthiness were explored.

CHAPTER 4: PRESENTATION OF FINDINGS

FIRST RESEARCH QUESTION

The concept of flow has been widely researched at mainstream and private schools, with researchers primarily using quantitative methods to study students from middle school through college. Few, however, have researched how elementary students derive joy in the context of flow in the classroom. This chapter focuses on the how—the process teachers engage in to make learning fun and enjoyable through the creation of flow producing challenges. In my first research question, I explore: How do teachers create flow-producing learning experiences for upper elementary students?

In order to describe the ways in which each of these teachers created learning experiences that were joyful and flow-like, I had to explore the teacher's backgrounds, interests, and respective passions for teaching. The intersection of these components led me to identify the following themes:

- Teachers facilitated flow in their respective classrooms;
- Teachers engaged students in flow-producing learning experiences;
- Joyful teachers came alive as they teach; and
- Teachers created pathways to lifelong learning.

Before I discuss these themes in the order listed, I aim to provide a richer description of the two very different, yet alike classrooms. Once the settings have been established, I turn to the themes, drawing similarities between the two teachers as well as probing differences.

Jason's fourth grade classroom was in the back of the school, bordering part of the playground that can be seen from windows on the eastern side of the classroom. As I entered the classroom, I walked into a short hallway. On the left of the hallway (as I entered), were student

created mailboxes (for taking work home and back to school). Student work lined the right side of the hallway.

The classroom itself was sizeable, with more than enough room for the 18 desks it housed, plus space in the rear for a carpet that comfortably sat all of the 18 students in the classroom. The carpet was custom-printed with an image of the continental 48 states. On the east side of the classroom, opposite the carpet and the student desks, was space for three worktables, one sat six students, and the other two sat four. Significantly, one of the tables, a round table, topped with a white board, was where Jason did the bulk of his work providing feedback to students. After a time, I dubbed it the Miracle Table, and Jason liked that name and used it with students. There were white boards at the front of the room and the side of the room, and a screen for projection. Student work bordered the white boards and the entire area above the carpet. Todd, school was built near a park and students enjoyed the run of the park during recess.

Hank's fifth grade classroom was modern, located on the second level of the building. Empowering slogans and quotes papered the walls. My notes indicate that I had a favorite: "women who seek to be equal with men lack ambition."

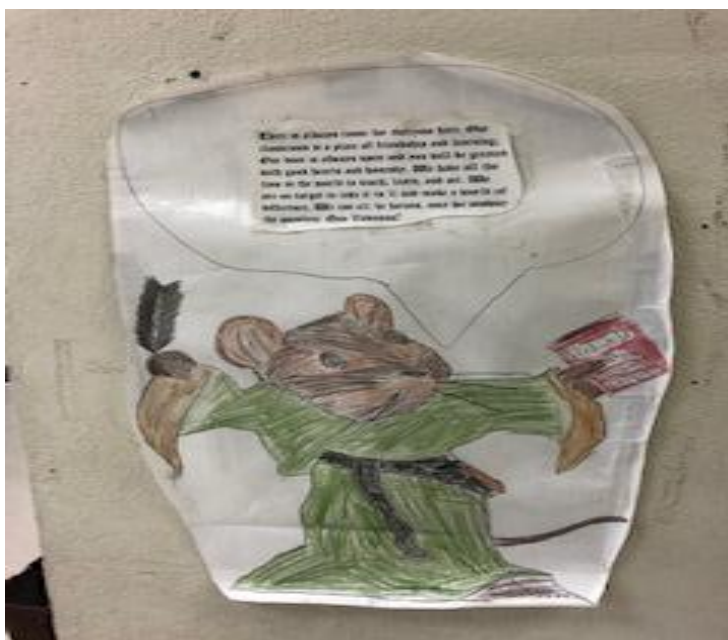
Turtles in glass tanks bordered the windows. Student desks were most unusual. Students built the desks out of PVP piping and topped them with white boards. The front side of the desk was student designed, a poster showing family members, motivating slogans and depictions of student interests. While students had the option of sitting on chairs, most opted to sit on buckets that were used for storage. This set-up was not used in other classrooms at Gentoo school.

Facilitating Flow in the Classrooms

While the physical structure of a classroom sets a tone for flow-like learning, the relationship between student and teacher drives flow-like learning. How do teachers build relationships with their students? What makes students feel welcome and comfortable in their classrooms, and willing to take risks? One of the central relational qualities Hank and Jason shared was the ability to develop supportive relationships with their students. According to Hank, “I think we really develop a bond in a relationship and part of teaching is you’re getting to know each other as well...so I think I make myself very vulnerable as a teacher and they get to know me and we support each other” (Gentoo [anonymous internet site], 2013).” When there exists a genuine connection and understanding between student and teacher, students will trust teachers to lead them in fulfilling, flow-producing learning experiences.

While Hank and his students had a give and take relationship that developed over time, Jason was very open and transparent. The minute students walked into Jason’s classroom, they realized he was a sci-fi fanatic who also loved historical fiction, spy novels and fantasy. At the front of the classroom, Jason displayed a Welcome Poster depicting a scholarly mouse; the mouse (Figure 3 below) warmly invited [students] to join as friends in learning.

Figure 3. Friendship and the purpose of schooling announced in welcome poster



Jason advised me that the quote came from Brian Jacques' *Redwall*. The text is as follows:

There is always room for everyone here. Our classroom is a place of friendship and learning. Our door is always open and you will be greeted with good hearts and honesty. We have all the time in the world to teach, learn, and act...we can all be heroes once we answer the question: QUO VADIMUS? [To what purpose]

Jason confirmed the source of the quote by email communication ("Jason," personal communication, January 16, 2019). Jason regularly invited his students to think about the purposes of learning; he encouraged them to not let obstacles, like standardized testing or a dislike of a core subject derail their journey, urging persistence. The *Redwall* poster symbolized the opportunities for unique and supportive growth in Jason's classroom ("Jason," personal communication, January 16, 2019).

On top of the welcome messages in the *Redwall* poster, Jason also signaled to his students that they were special by singing and playing the guitar, bringing joy as well as ritual to the classroom:

Rhonda: How has your music shaped teaching?

Jason: Always had to take an instrument in my house. In grad school I remember Professor Jerry Rudman came out dancing to drum beats playing on the radio. Talked to us about the value of incorporating music in the classroom. I started pulling out my guitar. Some other teachers snickered at me, but the kids really liked it. Guitar helped connect the kids with me. They liked silly songs. Connected with them. Hey, I am in Jason's class. We get these songs that are special to us. No one else gets to do that.

Rhonda: You sang that song about a building?

Jason: Yeah. I take guitar lyrics. *Godzilla's all right* [comes from] the *Kids Are All Right*. [I] changed—the Who's lyrics. Another one—*Squeeze Box* [I turned into] the name song. I'd incorporate names of kids into the Name Song. Lots of fun. Gotta lot of requests. I'd bring my guitar and have a blast ("Jason," personal communication with Jason, March 29, 2018).

Both Hank and Jason used music to give students a sense of closure at the end of the day. Adapting a song written and sung by R.E.M., Hank and his students sang, "It's the end of the day, as we know it...." Jason's closure was a little more elaborate. Jason's students knew all of the lyrics to Jason's songs and they too, sang along with enjoyment, as one student noted:

Rhonda: What do you feel about Jason's music?

Steve Greenburg: Jason — Great. Music is a great way to end the day; love that Jason makes stories up about his life and tells stories about personal things that inspire people

in class to try to do whatever they want. He has inspired me to try whatever you feel [interested in]...Jason makes you feel at home ("Steve Greenburg," personal communication with Steve Greenburg, March 26, 2018).

Students also seemed to be thrilled by the fact that Jason gave his all when he was supporting their efforts. Collaboration on the Gold Rush project was one example.

Figure 4. A Gold Rush project on display



Z-Math told me that the project “took lots of effort, but everybody liked learning about the Gold Rush. [Jason] took our pictures home and baked them in the oven to make them look old” (“Z-Math,” personal communication, May 8, 2018). Jason’s dedication encouraged trust and participation.

Jason’s students knew that teaching energized Jason; he was passionate about it. Jason was always on the move in the classroom, giving feedback or teaching students how to solve problems. His students also knew that he had left the classroom to become a principal and missed the classroom so much that he returned to teach fourth grade at Todd School.

Similarly, Hank’s students not only experienced his passion, they knew that he wanted to cultivate passion in them. On a poster, Hank displayed the following quote: “The Greeks did not write obituaries, they only asked one question after a man died, ‘did he have a passion?’” Hank, when accepting the Golden Apple Award for excellence in teaching years ago, conveyed his passion for teaching:

If there’s a perfect job out there for every person then I’ve definitely found mine it’s the passion, the excitement, and the love of learning that we get to share together and without that nothing great can be accomplished on test scores or anything else (Gentoo [anonymous internet site], 2013).

Peppered in the language used by each teacher (when giving feedback to students) were encouraging words, like “great,” “fun,” or “love.” These men looked joyful when teaching their students: Jason would lean in towards students when working with them while Hank would invite them to sit or lay down on the carpet as they worked together. When Hank walked around the room, Hank would tell students “great job” or “love what you are doing.” After discussing segments of the first chapter of *Chains*, the story of an enslaved girl’s struggle, Hank ended the

meeting with, “all excellent comments.” On Parent Night (similar to an Open House though students show parents their work), Hank showed visiting parents a video highlighting classroom learning investigations. At the conclusion of the video, Hank described the joy he had teaching these students, emphasizing: [what a] “fun year—love working with these guys.” In an extremely similar vein, Jason also frequently told his students, “I love your thinking” and “I love your theme.” During math, Jason was constantly telling his students, “You got it.”

Respect for others and commitment reverberated around each classroom. Hank posted the following reminders of classroom behavior and commitment:

- “Nothing was ever achieved without enthusiasm.”
- “To handle yourself, use your head, to handle others use your heart”—Eleanor Roosevelt.
- “You miss 100% of the shots you don’t take”—Gretzky.
- “Creativity is allowing yourself to make mistakes. Art is knowing which ones to keep.”

Jason also posted supportive slogans, including “you’ll never walk alone,” and “we are pals for life.” Aiming to create a familial atmosphere in their classroom, these teachers began to hone the skills these students would need to be ready and willing to face complex learning challenges.

Engaging Students in Flow-Producing Learning Experiences

Team or partner collaboration was at the heart of the fourth and fifth grade experience, and that was intended to give students the feeling of shared responsibility and achievement. Both teachers saw themselves as facilitators, conveying the message that we are all in it together. Indeed, when it came to math and science investigations Hank created, students

were instructed that they had to support their team members. Hank also expected students to “embrace academic challenges and not shut down (“Hank,” personal communication, May 23, 2018). Jason showed brief excerpts of inspirational movies to build confidence in students. Watching a clip from the *Star Wars* movie, students saw the consequences of a situation where Luke Skywalker doubts his ability:

Luke to Yoda: You want the impossible...

[Students watch as Luke tries to move a spaceship and fails]

Luke to Yoda: I don't believe... [that it is possible to move the spaceship].

[Yoda concentrates and moves the spaceship]

Admonishing Luke for his lack of belief, Yoda states: “That is why you failed” (*Star Wars: Yoda's Wisest Words*, 2015).

It was equally important to each teacher to lay the foundation for being open to challenges. Each teacher recognized the importance of developing strong thinking skills or habits of the mind. Both teachers wanted students to realize, as former University of Michigan coach Bo Schembechler observed, “games are won on Wednesdays and Thursdays, not Saturdays” (Schembechler, Date unknown). Hank and Jason aimed to give students the confidence to face struggles, problem solve, build habits of the mind and the ability to work interdependently, just like Bo's football players.

Interestingly enough the author of *Chains* raised the issue of developing good habits on the very first page of her text with a quote from Thomas Paine: “Youth is the seedtime of good habits, as well in nations as in individuals.”

Hank read the Thomas Paine quote aloud to his students, inquiring, “what in the world does that mean?”

Girl: Young, fresh for work...

Hank: You form good habits....

Another student: Start new and change ways....

To Jason, the development of strong learning habits was a critical component of participating as a learner in fourth grade and enjoying the benefits of becoming an independent thinker. In my experience, it is rare when elementary teachers teach literary devices and tackle challenging novels, and even rarer when extraordinary scaffolding, as depicted below in Table 2, is provided to students. As I observed Hank and Jason, I noted how each instructor excelled at key elements of teaching literacy: introducing context, encouraging questions, and delving into complex themes, among others.

Table 2

Comparison of literary analysis methods between fourth and fifth grades

Skill	Fifth Grade	Fourth Grade
Thinking skills	Hank taught <i>Chains</i>	Jason taught two novels, <i>Shakespeare Stealer</i> and <i>Tale of Despereaux</i>
Constructing context	Hank had his students build a historical timeline in Social Studies and integrated this timeline with the study of <i>Chains</i> ; also discussed, sentence by sentence, pages in the first chapter, introducing characters and having pairs of students visualize the setting and identify characters	In terms of Shakespeare Stealer, a story about an indentured youth, Widge, who had to grapple with whether to copy (and steal) church sermons, <i>Hamlet</i> and other works. Jason showed a trailer of the book and a video clip on shorthand (mastered by Widge). Jason also conducted small group discussions about changes in the Catholic Church during the Renaissance and what it meant to be an indentured servant, like Widge; students also saw pictures of the Globe theater
Encouraging questions	“Great that we have questions.”	Classroom motto: “We must ask questions.”

Complex vocabulary	Introduced making inferences: protagonist becomes the property of “malicious” people; “malo” is the root; Meaning? “kin;” “taut” rope	Introduced slang and had students create vocabulary lists. Unicorn’s list: apothecary and stenography
Making predictions	Student: “May see Momma’s grave”	Jason: “look at Widge’s luck”
Identifying themes	Freedom, Survival, Kinship	Freedom, Survival, Friendship
Wordplay	Ghosts and figurative language; Personification	Shorthand and codes

The teachers taught these lessons in an informal fashion that was designed to calmly draw students into the process of literary analysis. My notes on April 20, 2018 reflect that Hank was “seated on the carpet at the front of his classroom, along with.... eight kids; eight other [students were seated] at their desks, with one lying on the ground. Jason, on the other hand, preferred to meet in small groups as he explained the turmoil in the Catholic Church during the Renaissance (the setting of *Shakespeare Stealer*), or the value of an indentured servant who understood how to read and write. Jason met with these students at a small, circular whiteboard table (I dubbed it the Miracle Table because Jason enjoyed meeting with students there to give them feedback). Like Hank, Jason let students spread out in the room as they were engaged in reading and learning. Having freedom to move was valued by J-dog and others: [Our] teacher lets us spread out and not just work at our desks; last year and year before had to stay at our desks; I did not like it as much (“J-dog,” personal communication, March 27, 2018).” J-dog’s sentiments seemed to be widely shared, given student movement in the classroom.

The relaxed instructional atmosphere appeared to make give and take very comfortable between teacher and students. After the initial discussion of the novel, *Chains*, in Hank’s fifth

grade classroom, one student observed, “I think ...[*Chains is*] good—[I am] hooked into what’s happening; really want to know”... In response, Hank laughed and commented on how engaging reading can be “kind of like a mystery now.”

Jason’s students also appeared extremely interested in *Shakespeare Stealer* and a second novel Jason taught, *Tale of Despereaux*. Mr. Judge decided to do more research on shorthand as he was curious how Widge, the protagonist in *Shakespeare Stealer*, could speedily copy information. Unicorn, a rather shy boy, was very proud of his short answer response to a question on *Shakespeare Stealer*, and at Jason’s urging, Unicorn read it to me: “Widge continues to steal his sermons because he doesn’t think he has much of a choice. He thinks that his master is stronger than him” (“Unicorn”, personal communication, March 27,2018). Jason told Unicorn that he, Unicorn, had nailed the short answer response. Mastery, even nailing a small assignment, was one of the key reasons Jason loved teaching fourth grade:

Rhonda: You say you are a great fit for fourth grade. Tell me why?

Jason: My greatest enjoyment is the excitement of when they get it—the aha moment. Really see it in fourth grade—the excitement of learning. It’s kind of like riding a bike. OMG gosh [the students realize] I can do this on my own. Younger less—so the fourth grade curriculum is more challenging (“Jason,” personal communication, March 29, 2018).

From my lens, Jason very much enjoyed Unicorn’s “aha” moment.

Both teachers were also extremely adept at engaging students in science and math. Hank, a STEM adherent (he described the STEM process below), created nine different investigations in math and science for his students in 2017-2018 derived from the curriculum, but also enriched with STEM resources he received from the Golden Apple Foundation (“Hank,” personal

communication, May 23, 2018). While I was at Gentoo School, the students were working on investigations involving matter, probability and fractions. Each student in the classroom was expected to support his or her teammates during each investigation. While the students didn't have to work together, they all had to jointly review anything that was turned in to Hank. Though Jason's classroom investigations were much less structured, there was significant overlap in the process as outlined below in Table 3. In this table, I've categorized the STEM process Hank follows as supported by the Golden Apple Foundation ("Hank," personal communication, May 23, 2018) and demonstrated by fourth and fifth graders.

Table 3

Comparison of STEM processes between fourth and fifth grades

STEM Process	Fifth Grade	Fourth Grade
Play	Students played with mealworms.	Students played while measuring heights of waves
Exploration	Testing to see whether mealworms like light or dark; testing to see what types of food mealworms prefer, i.e. oats or honey	Creating waves with jump ropes; creating waves using disks in water containers; building habitats for mealworms
Conceptual Development	Experimentation on what motivates mealworms	Speed and force change waves; how will mealworms thrive.
Building Knowledge	Integrated study: motivation of mealworms and calculation of mealworm movement into fractions.	Climate change, weather and tsunamis.
Apply (reasons WHY we study)	Experimentation; how to measure mealworm preferences, direct movement, and present data in fractions?	How do we solve the problem of climate change?

Connections to STEM methods not only hooked students through opportunities to play, but also compelled students to consider the purposes of those experiments. In Jason's classroom,

students realized how relevant waves and tsunamis were to intense weather events in our society. In Hank's classroom, students learned how to classify and hypothesize about mealworm movement (Hank's students also applied STEM practices to other scientific topics, i.e., density). Lessons like these show students how different and meaningful learning experiences can be. Not only did this instruction become increasingly more complex, students also gained an intrinsic sense of the next step to take in the process, giving them more and more control over the learning process. Significantly, they also saw relevance to today's world.

In closing, Jason raised a novel idea about habits of the mind. Jason believed that group dynamics theory contributed to good habits and readiness to learn:

Rhonda: New habits is another theme—... Your aim?

Jason: I think of myself as in a group dynamics classroom. Start off exploring. Then, we get into storming; they test me late September and before Halloween, [they are] storming. [Students are] trying to figure out their place in the classroom. Test me. After Halloween, they're normal. [Students] know what to do and it's comfortable. Back from winter break, they are Performing. Best work –Jan –April. They come back after Spring Break—[still] best work. Fifth stage—Destruction. Year-end is their [either] love school or hate school; it's a transition. [In 2018] It's a big transition because they are going to a different building next year ("Jason," personal communication, March 29, 2018).

Jason's observations made sense. Every year, students had to adjust to new teachers. On a smaller scale, I also found that some of the students did indeed have a hard time adjusting to and concentrating at school during the week. Not every student came to school with a ready to concentrate mindset. For example, Jelly Bean found herself distracted by weekend events, having trouble shifting into school mode on Mondays:

Rhonda: Anything you want to add [to this interview transcript]?

Jelly Bean: I think about focus—getting in [the] moment—on Monday, I am still caught up on what I am doing on Sunday and Saturday; having fun on weekend and then back to school; I behave more on Friday; I misbehave on Monday [because it’s right after the weekend] (“Jelly Bean,” personal communication with Jelly Bean, March 26, 2018).

Steve Greenburg also had trouble focusing on Mondays. J-dog and Sprinkles, on the other hand, needed time daily to become focused on a school task. As J-dog reported:

When we get to the middle of something, [I] feel in it. [I] start to transition, but by the middle I am really focused. [I] have had time to calm down and settle down and know what to do (“J-dog,” personal communication with J-Dog, March 27, 2018).

Many of Jason’s students urged that they be given breaks. Mimi found them particularly helpful (“Mimi,” personal communication, March 26, 2018). These responses suggest that teachers consider giving students time to transition or breaks for unwinding, and also for “reflecting and deconstructing work both individually and collaboratively” (Kist, 2003, p. 11). Nearly every student participant valued the breaks Jason gave (Hank gave breaks, too), and one student urged me to tell educators that breaks were critical to learning.

Rhonda: What would you tell teachers to make school better?

Mr. Judge: Well, I mean, I would say maybe sometimes give us a break, sitting at a desk more silently... just [a] break. More transition time from science and math;

Rhonda: More transition time, more breaks? You like the breaks Jason gives?

Mr. Judge: Yes....

Rhonda: Brain Ball?

Mr. Judge: Brain Ball—awesome, you can spread out [and catch the ball as teacher tosses from student to student]. I love Brain Ball (“Mr. Judge,” personal communication, March 27, 2018).

Exposing students to meaningful habits of the mind not only grounds them, but also makes them feel competent to explore challenging tasks—provided they get a rest (Kist, 2000).

One of the concerning aspects of this research was that teachers did not believe that they could intrinsically engage students, so they added extrinsic rewards to achieve that goal. No doubt these teachers – and readers – will be surprised by the fact that fourth graders would have embraced the challenge without rewards. I explore the question of extrinsic and intrinsic methods next, crediting the teacher participants for continuously reflecting on the best ways to engage the fourth and fifth grade participants.

Students prize hands-on learning. Though I was hoping to see more examples of intrinsic motivation in each classroom, both teachers used extrinsic rewards as well. Jason’s students said they’d do the work without the reward and often did. Hank explained the reason for his usage of extrinsic motivation. At one point in his career, Hank found himself at a low-income school and was having trouble motivating the students. Hank described this challenging situation:

Hank: [At this particular school], I used intrinsic and extrinsic motivation, though neither worked. Students didn’t care if they did poorly on a test [and neither did their parents]. Students needed learning that was more than a score—they needed to work towards an end challenge [and win].

Rhonda: Did winning the investigation give them joy in the process?

Hank: Yes. This was part of the reason students were asked to build desks; [I] wanted to give them visual change and control in the classroom—[it] started at this particular school.

Moreover, according to Hank, losing seemed to motivate students to try harder next time. Hank had planned for nine investigations during the 2017-2018 year. He was very proud of the way his students were supporting each other during the investigations and noted that one very collaborative student had already been a member of four winning investigative teams, a record (“Hank,” Hank personal communication, May 23, 2018).

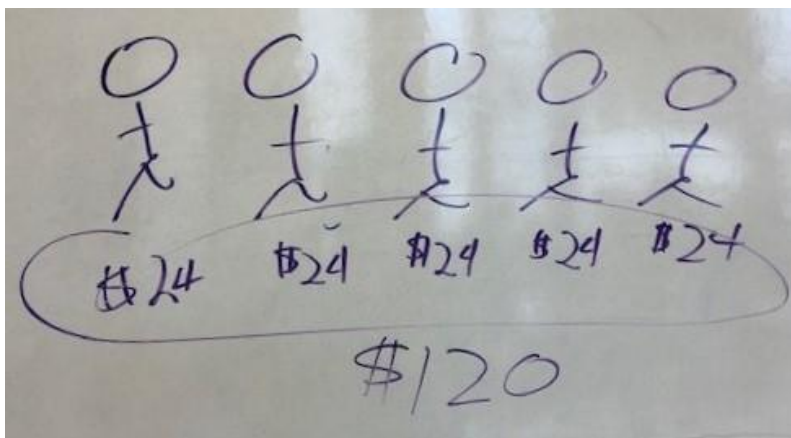
On top of changing motivational strategies, Hank made physical changes to his classroom. He decided to create a very visual and flexible classroom, continuing to require students to build desks made out of PVP piping that were topped with white boards. Those desks could be deconstructed, leaving space for experimentation and presentations. On Parent Night pictured below, Hank could display to visiting families large posters reflecting student work as well as pennants (an ongoing feature in Hank’s classroom) highlighting winners of the investigation.

Figure 5. Hank's classroom during Parent Night on April 19, 2018



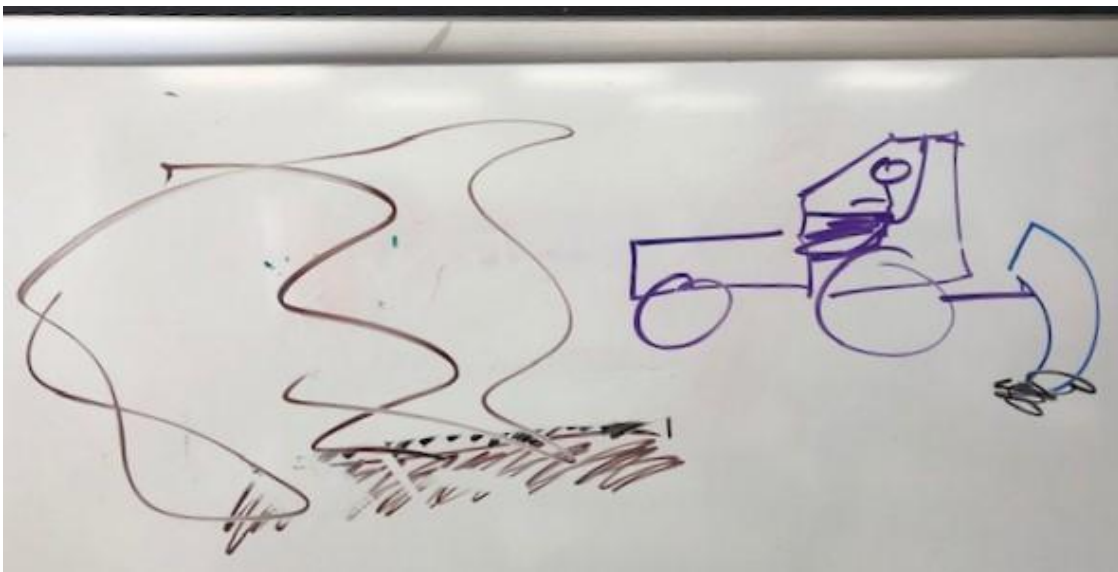
Similarly, Jason taught to students' visual strengths. Jason loved to use drawings to make meaning in every subject, including math (Figure 6).

Figure 6. Modeling the solution of a math problem



Jason also capitalized on his personal experiences to make history come alive. His grandparents had a farm during the Depression and the Dust Bowl. His deep understanding of farming practices illuminated the impact of the Dust Bowl.

Figure 7. Explaining tractor damage to soil during the Dust Bowl



Both teachers enjoyed—and valued--giving students the opportunity to make a variety of sensory connections. Table 4 shows the way in which Jason and Hank tapped into student learning styles. I relied on Carolyn Coil's differentiation practices related to learning styles and modalities to frame my observations in the table below.

Table 4

Comparison of interdisciplinary analysis methods between fourth and fifth grades

Modalities	Fifth Grade	Fourth Grade
Visual	Math investigations, Science Investigations Parent night board Student desks have white boards and can be broken down for space	Math Problem Solving Videos: Dust Bowl and Manatees White boards everywhere; Carpeted area and TARDIS room where students worked Drawings on scrolls for social studies project relating to regions of the U.S.

Auditory: lessons especially geared to listening	Storytelling Cocktail Party/science mystery	Dahlapalooza: acting out scenes from Roald Dahl books
Kinesthetic/Play	Mealworm investigation Area and square foot: constructing cubes Density/Matter investigation	Simulating waves Building a battery Building habitats for mealworms Building propellers on boats Building an island

There is immeasurable value in expanding the ways in which students can make meaning in the classroom, particularly when students exhibit diverse modality preferences.

Joyful Teachers Come Alive

Does demonstrating their love of learning cause teachers to be in flow? Might teachers be in flow when they pull off a great lesson? Do teachers experience flow when their students make strong connections while learning? Hank could not have been more excited to have his students participate in an integrated lesson (science and language arts), or, as he presented it to his students, cocktails and dinner in a mansion. To establish the mood and provide a setting for the cocktail party, Hank displayed a projection of a mock, upscale veranda on the projection screen. Next, he handed out “secret” roles to his students (in character roles based on a novels read in class). As he did so, Hank was “snapping” his fingers and dancing. Though it was merely a dress rehearsal, a number of students were wearing costumes. Hank was smiling at his students and taking pictures, noticing when one boy used the word passion when describing his character. Hank continued to beam, reminding students that this was a practice and “they were not invited to the dining room yet.” Hank later jumped into the role-play, turning to a boy who appeared to play the main character in Gary Paulsen’s *Hatchet*, (Brian, the protagonist, was an

injured survivor of a plane crash). Hank tried to comfort the limping boy “Brian,” pretending, “I can tell that you have pains in your legs.” Anticipation and excitement increased while Hank modeled the mixing of cocktails, showing students how they had to toast and drink. And it was clear that students were happily anticipating tomorrow’s cocktail party, with one boy saying to Hank: “I usually hate science, but you make it fun” (personal communication, April 18, 2018).

The following day, students changed into their costumes and strode out to the classroom floor, ready to cocktail. Hank and many of his in character students were dancing to soft music as they mingled, trading clues on their identities. From the look on Hank’s face, I could tell that he thought he had achieved his goal. On April 19-2018, I wrote that Teacher/Hank is smiling, excited face; he knows he is going to pull off a good lesson; both he and his students are absorbed. Just after my notation,

Hank shouted: Freeze.

Hank continued: We are not going to celebrate [cocktail party and dinner] as I have reason to believe that there has been a contaminant. Someone has spread poison.

Hank asks students to get cups and line up. The soft music is off and the students start to form a line. It appears that it is time to investigate the identity of the poison carrier. Hank models how to solve the investigation by dropping food coloring into a glass [and] tells a student she is innocent.

Girl shouts: thank g-d!

Moments later, the atmosphere of the classroom has completely changed as students have put on their investigative hats. Each team is engaged in trying to figure out the culprit, using what they know about look-alike liquids. Poor George Washington was detained with charges of attempting to poison a fictional character.

Hank is laughing as his students reset the room. Hank tells the students that being in character is a fun way to study look alike liquids, adding that he likes mystery. That his joy has spilled over to his students is evident on their faces, with one-fifth grader even thanking him for the experience.

Likewise, Jason showed his passion for learning during a science lesson on measuring waves. Students were asked to simulate the movement of waves using a jump rope. A second group was measuring waves using disks and Ping-Pong balls in a small container of water. The students were getting varied results depending on how quickly they moved the rope or the disks, and Jason told them that's one variable in their research. One student wondered: how does that variable affect the slope of a ball. Another student made an analogy to spin on a soccer ball. My notes on March 5, 2018 reflect that "one student is describing his experience watching soccer in Liverpool [and asks]—does wind change results. [Jason] says tell me more...think about spin...your comments are leading to where I wanted to go; at which point Jason appears to be thrilled with the questions and the connections (personal communication, March 5, 2018). He ties the lesson to his eighth grade science fair project and a phenomenon called the Magnus Effect. My notes indicate that Jason then told the class:

When I was in 8th grade, my science fair project was on motion; I made a Ping-Pong ball with glue on it like stitches on a baseball; that created spin. Jason [describes] pitchers with spin like Kerry Woods—his arm got hurt because of so much spin.

Continuing on this theme, another student talks about the impact of the moon on tides/waves and gravity pull. My notes on March 5, 2018 also reflect Jason telling the student, "That's a great contribution." Then he looks at the class, grinning widely and admits that "I get

so excited.” I note—what fortunate students to have a teacher who loves to learn (Stern, personal communication, March 5, 2018).

Perhaps the most revealing aspect of the two teachers’ passions was their tendency to create experiences for their students that the teachers personally found enjoyable. These teachers created learning experiences that were not totally derived from materials tied to the standard curriculum. Hank, in particular, “hated” using worksheets in his classroom. In my final discussion with Hank, he told me that he “wanted visual experiences for his students, wanted students to see things in different ways, and wanted students to feel it...his aim [for his students]— “learn for learning sake (“Hank,” personal communication, May 23, 2018).” My notes also reflect:

When thinking about materials for teaching, [Hank] looks for what he likes doing—what can I do to motivate and connect...cool to engage, i.e., teaches students that they can control mealworms’ movement by food given to the mealworms; mealworm study ties into fractions, a much more cool way to teach math (personal communication, May 23, 2018).

On April 17, 2018 Hank taught the mealworm lesson he had described as “cool,” and his students appeared totally engaged. While on its face the assignment looked simple, the directions were complex. Students had to run research trials to ascertain mealworm preferences. They were required to give mealworms four choices of a variety of items listed on the assignment sheet. Students ran each trial for 3-5 minutes and recorded their findings for each independent trial (Figure 8).

Figure 8. Mealworm roulette investigation

Mealworm Roulette Investigation

Directions: Conduct preference tests to learn more about the mealworms' likes and dislikes. Provide your mealworm with four choices and record data to inform your decision making when setting up the mealworm roulette board. Conduct several tests. Each test should last 3-5 minutes. Document the choices and the results near the boxes provided. Options for materials include, but are not limited to the outlined below:

Containers

- 1) Vinegar
- 2) Hot Sauce
- 3) Lemon Juice
- 4) Mint Mouthwash
- 5) Vanilla Extract
- 6) Cherry Syrup
- 7) Salt
- 8) Pepper
- 9) Flour
- 10) Cinnamon
- 11) Sugar
- 12) Almonds
- 13) Oatmeal
- 14) Lettuce
- 15) Carrots
- 16) Apple
- 17) Sand
- 18) Corn Starch
- 19) Tamar Sauce
- 20) Celery

Additional Materials

Black Paper
Laminant
Paper Towel
Flashlight
Water

Findings:

Findings:

Findings:

Findings:

My notes on April 17, 2018 reflected that one-fifth-grade team ran two trials, trying to figure out how to attract more mealworms by offering them more sunscreen. I continued to listen to students as they offered hypotheses on mealworm movement. “Will they [mealworms] gravitate to honey? I wonder if daylight or darkness makes a difference?” Though students had to adhere to investigative procedures, they never lost sight of two things: the scientific method for tracking mealworm movement and a simultaneous opportunity to have fun while doing so.

My notes also reflected total student absorption in the learning experience: “Students are grabbing mealworms, concluding dog food and carrots appear to be enticing to mealworms.” One team made up a mealworm song while they waited to see where mealworms will go, singing “bubbly wubbly.” The highlight of mealworm research that day was a girl’s

decision, with her mom's approval, to eat a mealworm. The entire class laughed when she told her peers that the mealworm tasted "crunchy;" Hank responded, "That's one of my happiest moments of my teaching career" (personal communication, April 18, 2018).

Because Jason's background intersected with the fourth grade curriculum, that helped him enliven the curriculum with stories on the Depression and life in the Midwest. He loved the book, *An Occasional Cow* and made that novel part of his fourth grade "book rotation" because it was very much connected to his own childhood visits to his grandparents' family farm. The study of regions in the U.S. is a central part of the fourth grade curriculum. Students found the book and Midwest farm life intriguing:

Rhonda: You talked about ... farm life [referenced with the students in the classroom]—how did those experiences shape your teaching?

Jason: Growing up—my mom is the daughter of a real Iowa farmer—and we visited family out there. I did not realize [the impact] at the time. I didn't like those trips, but they were teaching me a lot about my country. Oh, it was useful that I spent a lot of time in Iowa. I understand how it [farming] works; the crops come in and we store them in a silo. Had a lot of experiences—rotating crops. My experiences fit in well with fourth grade curriculum.

Rhonda: Was your choice of the novel *An Occasional Cow* influenced by your farm days?

Jason: *An Occasional Cow*? [This] book choice was influenced by farm experiences. Yes. In 1998, a friend recommended it [and said] you have to read it with your class. I loved it. I had such a connection to the main character that had to spend summers in Iowa ("Jason," personal communication, March 29, 2018).

Jason loved the book so much that he sent a letter to the author. Jason’s students connected to *An Occasional Cow* as a literary piece set in the Midwest, teaching about farming and raising themes about friendship. Unicorn summed it up: it’s a great story—a student helped another student who felt a void” (personal communication, March 7, 2018).

Pathways to Lifelong Learning

Jason believed that students were primed to grow in fourth grade, but all growth would be incremental:

Jason: Yes--Gotta know in advance what they want to accomplish—what goal is it gonna be. They set the goal, Yeah, they do, and I have a goal from the lesson guide. The really juicy aha moment [is] not going to happen every day to those huge heights that I love. [Take] starting to set the goal for reducing fractions. [I] see it building up. [Does] not happen every day. [I] can see it...moving along, moving along, little aha moments” (“Jason,” personal communication, March 29, 2018).

Jason’s student, Fretters, described skill building and feedback:

Fretters: If I get problem wrong on a math [assignment], he’ll explain it to me because that’s what he does. [Jason will] give me a sheet and call me over to a table within the next day or so (“Fretters,” personal communication, March 26, 2018).

And Jason attested to the varied aspects of growth:

Jason: Students are all working on different aspects. [Students or groups of students move] they move at their own pace with encouragement from me (“Jason,” personal communication, March 29, 2018).

Still another student, Poison Ivy went on to describe mastery:

Rhonda: How does your teacher help with math?

Poison Ivy: He gives us a challenge packet—a lot of times, I do not understand equations, I just ask him--keep asking and asking him because it does not make sense at first, after a while, when we do it the way he has shown us and practice, it starts to make sense—oh, this is how you do it. So, then we just remember how to do it (“Poison Ivy,” personal communication, March 27, 2018).

Although Jason claimed to struggle with math in his youth, the students knew that he had conquered his fears and mastered math instruction. According to Steve Greenburg, Jason’s ability to teach math was greatly appreciated, telling me: “Jason is really good at math!” (“Steve Greenburg,” personal communication, March 26, 2018).

To Jason, there was joy in incremental growth and sometimes even greater joy in explosive student growth:

Jason: Little aha moments [when] they get to the end. It’s great just like what happened today. We [redid a] test. Kid came up and said—it is amazing how much easier it is now. Loved hearing about that. Big moment for me (“Jason,” personal communication, March 29, 2018)!!

And it was certainly a big moment for Jason when Mimi, who had been struggling in math, developed the skills to advance to fifth grade. Mimi genuinely valued the support she had received from Jason:

Rhonda: And what about Math?

Mimi: I actually learned a lot this year—Because at my old school, we really didn’t have a good education; it was just like crime near my old school and it was really bad.

Rhonda: Compare yourself as a learner from [your] old school to this school:

Mimi: I think I have done better at this school because [even though] I got better grades at [my] old school--good grades, but [I] did not feel that they were exactly true—maybe they were, but in my heart, I did not feel that they were true. [At] this school I feel like—yeah (“Mimi,” personal communication, March 27, 2018).

Jason’s students appeared to have caught the learning bug. Several other of the student participants indicated that they developed new interests this year: Poison Ivy did not like social studies last year, but this year she did (“Poison Ivy,” personal communication, March 27, 2018); Mr. Judge did not like math much last year, but now he “loves” it (“Mr. Judge,” personal communication, March 26, 2018). Sprinkles indicated that she is reading much more than she did in third grade (“Sprinkles,” personal communication, March 28, 2018). Steve Greenburg cited overall improvement: “This year is really different. I’m really successful compared to other years” (“Steve Greenburg,” personal communication, March 26, 2018). Jason’s aim was to create independent learners and, from the perspectives of many of his students, he succeeded.

Similarly, as I watched Hank teach a series of lessons on density, I saw student interest rise and peak. First, Hank asked students to draw pictures of an orange tube falling through water. Next, his students hypothesized why Coke is heavier than Diet Coke; after that, students worked with look-alike liquids. Finally, groups worked with a variety of materials to create rainbow density in a small test tube. During Parent Night, most students recreated the rainbow density experiment for their parents. One boy, however, decided to teach, not just show the experiment. Before demonstrating rainbow density, he probed his parents’ knowledge of density, asking them to guess the densest ingredients displayed on the table. I don’t know whether Hank saw this interaction, but no doubt this student had mastered concepts related to density and matter, and his parents had the good fortune to experience his newfound knowledge.

At the onset of my study, I was concerned research participants would be influenced by standardized testing and standardized practices in the classroom. Nonetheless, I have witnessed how even in the age of standardization, teachers can create flow-like learning experiences that are inviting and engaging. Sharing understanding and knowledge, the classroom becomes similar to a familial environment in which both teachers and students thrive, collaborate and support each other. These teachers have demonstrated the ability and the power to make flow-producing challenges come alive. As students become deeply immersed in flow-like learning, Csikszentmihalyi (1990) posited that they ought to be positioned to experience enjoyment in the learning process, and the data indicates that student participants did find joy in learning.

CHAPTER 5: PRESENTATION OF FINDINGS

SECOND RESEARCH QUESTION

The fourth and fifth grade subjects in this study had the freedom to learn on their own terms. Given the unique and thoughtful design of each classroom and individualized opportunities for instruction, students experienced joy daily and articulated flow-like experiences. In this chapter, I focus on the students' perspectives on joy in the classroom. My second research question speaks to this issue: how do upper elementary students experience flow in their daily school lives? Interestingly enough, little research has been conducted on students in the flow state in elementary school. How is their curiosity sparked? How do they set goals and master challenges? What enables upper elementary students to enjoy the process?

Flow theorist Mihaly Csikszentmihalyi (1990) spoke of the curious nature of toddlers and argued that their curiosity gets sapped upon entry to public elementary school. Yet, it appears that researchers, focusing largely on middle school populations and beyond, may have overlooked an informative sample. The fourth and fifth grade students who participated in this research had firm opinions on what they enjoyed at school, what they disliked, and how they became engaged (or re-engaged) in learning.

The findings are:

- Classroom environments were conducive to experiencing flow;
- Learning was transformative and engaging; and
- Students experienced a range of enjoyment and flow.

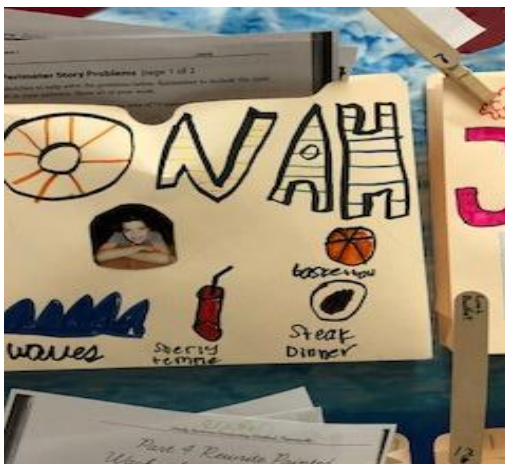
Jason, who viewed classroom management from a group dynamics lens, believed that after Halloween, students were settled in the classroom and ready to work. He thought their best work came after winter break. In his mind, "students were performing!" Jason also saw students

enthusiastically growing from each experience (“Jason,” personal communication, March 29, 2018). Steve Greenburg agreed, noting that his attention was “sparked” (Steve Greenburg, personal communication, March 26, 2018). Similar to Steve Greenburg, Hank aimed to have his students “feel” the learning (“Hank,” personal communication, May 23, 2018). The evidence indicated that students were performing, growing, and in flow.

Classroom Atmosphere and Student Perceptions

Aiming to maximize learning experiences, Jason and Hank primarily designed each classroom to meet the students’ needs and interests. To encourage students to get to know one another and become comfortable collaborating, both Hank and Jason asked students to design desk placemats reflecting their interests and attach them to their desks. In Hank’s fifth grade classroom, the placemats typically listed personal characteristics, including “I am funny,” or “I’m creative,” plus pictures of camp and family life. In contrast, J-Dog, one of Jason’s fourth graders, focused this representation (Figure 9) on his personal interests: food, basketball, Shirley Temple, and science (a wave project during science was a favorite among Jason’s fourth grade students).

Figure 9. Fourth grade student’s representation of his interests



Sharing student (and teacher) interests eased the transition of entering a new classroom and helped build community according to fourth grade subjects. Jason, J-Dog, Fretters, Rico-Sam, and Mr. Judge shared an interest in sports. Chase (not a subject, though he spoke out in class during observations), like most of his peers, was delighted when his family visited the classroom to play games with the class. Poison Ivy, Unicorn, Chase and others loved art and drawing, and Steve Greenburg enjoyed a good magic trick. Jason's decision to encourage openness and collegiality created a space in which students felt free to focus on projects independently or collaborate with others.

In terms of classroom design, Hank wanted "custom made space" ("Hank," personal communication, May 23, 2018) to give fifth graders more visual freedom and control ("Hank," personal communication, May 23, 2018). In the space of ten minutes or less, the fifth grade classroom could be reconfigured to meet the nature of the lesson, and Hank's fifth graders appreciated that. To get ready for Mealworm Roulette (integrated math and science exercise), the fifth graders swiftly took down their desks made of PVC piping and moved their buckets to the hallway, creating open space so that the students could spread out and spill BBQ sauce, oats, honey, Scope, and other items on mats to see what motivated mealworm movement. Enjoying the open space in Hank's classroom, some students sat on the ground as they laughingly monitored mealworm movement. Indeed, Hank asked his students to collapse their desks during many lessons, including a Probability Lesson (Hank's classroom was turned into a mock casino), the "in character" cocktail party (poison slipped into a cocktail derailed the festivities and resulted in an investigation of look-alike liquids), and Parent Night (entire classroom cleared out so that students could post and share learning investigations with parents).

Neither classroom was authoritarian. Hank rarely instructed standing at the head of the classroom. Instead, Hank would relax on the rug at the front of the room with small groups of students, reviewing various novels that student groups were reading or providing individualized instruction in math. Students also worked in pairs or small groups in the back of Hank's classroom and in the hallway. Those who preferred to work alone could be seen sitting on a bucket or at a desk in the back of the room. Hank's students were uniformly on task, and always comfortable in the classroom. Two students randomly (and at different times) asked me why I was observing, and I told them that I follow good teachers. In each case, I was advised that I had come to the right place. Jason's students also spread out all around his fourth grade classroom, in the hallway, and in TARDIS (adjacent back room), particularly when they were working on their scrolls (social studies research project) or doing English and language arts. Sometimes, Jason taught a mini-lesson at the front of his classroom, but most of the time he worked with students at a small, circular table, topped with a white board. The table sat four and stood adjacent to the windows in the mid-section of the classroom.

Jason's fourth grade students, identified by pseudonyms below, found Jason's individualized instruction incredibly beneficial. As Rico-Sam indicated: "I learn best not when he is talking to the whole class; but when I walk up to him and I ask him about it. He teaches me privately. I can ask as many questions as I want" ("Rico-Sam," personal communication, March 26, 2018). Sprinkles, a student who struggled in math, emphasized the importance of access: "Math is not my favorite subject; if I can't figure it out, I go to the white table and ask; he walks through the problem with me. For multiplication, I do the box method; it's really easy for me. He taught me and this is definitely what I need to use" ("Sprinkles," personal communication, March 28, 2018). Mimi spent nearly every day at the white table during math

and she truly valued the support, recognizing she really “learned a lot this year” (“Mimi,” personal communication, March 28, 2018).

J-Dog told me that no teacher had influenced him as much as Jason, observing, “this year is different because [I’m] learning a lot more supported by Jason” (“J-Dog,” personal communication, March 27, 2018).” J-Dog also was happy that he did not have to sit at a desk all day, like last year (“J-Dog,” personal communication, March 27, 2018). Steve Greenburg liked the familial aspect of Jason’s classroom, advising teachers “to make students feel comfortable and at home, give them a little free space...a little room” (“Steve Greenburg,” personal communication, March 26, 2018). Also thrilled that this year he wasn’t tied to a desk, Mr. Judge valued a spot in the classroom where he could in fact let off a little steam. Mr. Judge photographed the broken chair (Figure 10 below), the place where he and others liked to let loose.

Figure 10. Photo of broken chair



He told me, “it’s comfy and I can spin around—I like to move a lot” (“Mr. Judge,” personal communication, March 26, 2018). There was plenty of competition for that chair.

Letting off steam helped improve focus, but also sent a signal to educators--there are limits to students' attention span. Indeed, students complained that they needed more breaks so they had time to recharge. According to Despereaux, "It's good to have a break.... If I am focused all of the time, I get tired and mixed up" ("Despereaux," personal communication, March 27, 2018). Students particularly enjoyed kinesthetic activities during their break. Jason's fourth grade students loved playing a form of catch known as Brain Ball. Tossing the ball to each other inside Jason's classroom, fourth grade students cheered, hoping that they would not be eliminated when they dropped the ball. As the table below reflects, moving away from traditional instruction, and reconfiguring classroom space made learning more joyful on a daily basis. The table below also shows the striking similarities between the classrooms, giving students choice on how to learn, and freedom to move around the classroom. The following table's characteristics were based on my observation of shared traits of and practices between the two classrooms.

Table 5

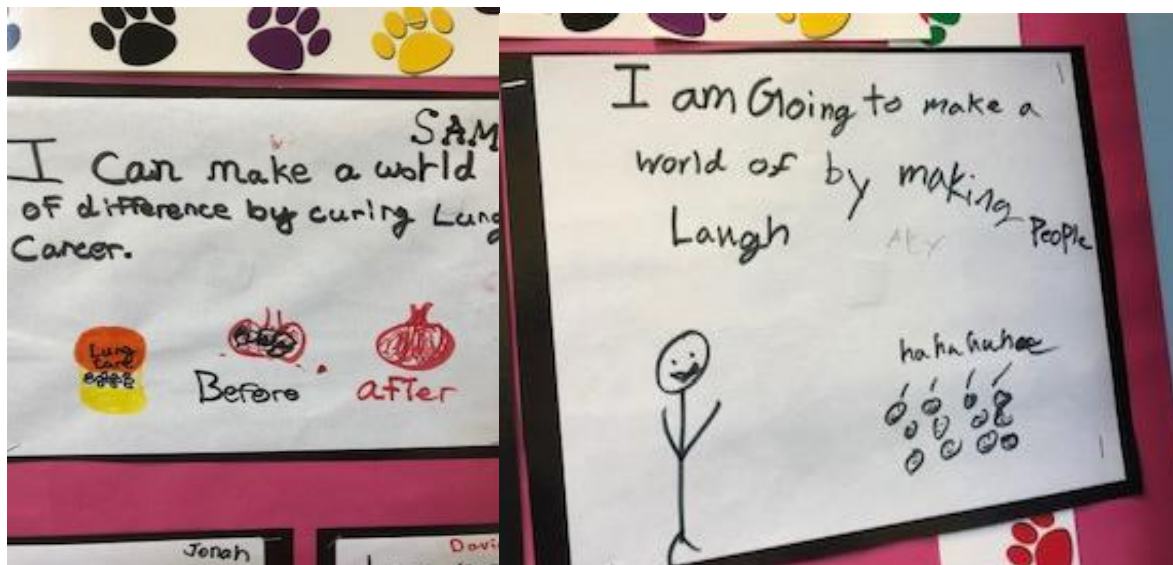
Shared attributes of these two classrooms

Characteristic	Fifth Grade	Fourth Grade
Art integrated into projects	Sometimes	Daily
Students can listen to music at times	Sometimes	Daily
Student Choice: work alone or small groups; choose novels to read	Daily	Daily
Opportunity to spread out in classroom (lying on floor, reading on rug, collaborating with peer, working in hallway or TARDIS)	Daily	Daily
Breaks	Daily	Daily

Singing and cheering	Daily	Daily, and on one occasion, the Principal walked into the classroom and joined the singing
Laughter	Daily	Daily
Dancing	Daily	Daily

Students viewed these classrooms as spaces of inspiration and fun. Jason asked students to draw pictures reflecting the ways in which they would make a difference in society.

Figure 11. Pictures reflecting student aims to make a difference in society; Rico-Sam took a serious approach while Steve Greenburg took a lighter approach.



Likewise, Hank's fifth graders were never far from inspirational posters that provided students with a deeper sense of the learning process; notably, that few people get things right on the first attempt. Learning involves experimentation and trial and error; it's a process. The value of these posters cannot be overstated. Rea, Millican, and Watson (2000) emphasized that a

number of “great inventors and Nobel Prize winners followed the path of serious play... [all learners] have a common thread in their learning experience; they ‘messed around,’ ‘tinkered,’ and “imagined possibilities.” Notably, Thomas Edison was one of the inventors Rea, Millican and Watson (2000) referenced. Thomas Edison is featured in the student poster in Figure 12 below.

Figure 12. Fifth graders channeling their inner “Edisons”



To outsiders and insiders, the atmosphere of these two classrooms was very different than the traditional classroom. When he ran into me in the hallway, Hank’s principal told me that he has never seen a teacher teach like Hank. Similarly, Fretters indicated that he loved fourth grade because Jason was different than other teachers, not strict or conventional.

Rhonda: How does Jason run his classroom?

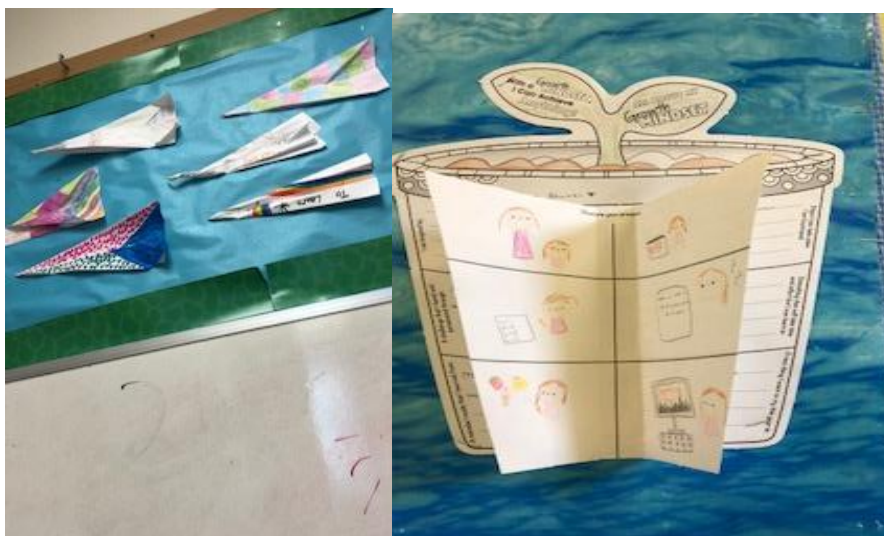
Fretters: [Gives us] space to learn—Jason. is one of my favorite teachers. Jason is more patient with me.... Teachers who are not strict take time to help you. These teachers are patient (“Fretters,” personal communication, March 26, 2018).

In Fretter's experience, teachers who are patient met students' individualized needs.

Both Jason and Hank were open-minded enough to envision and create classrooms that worked for students—not designed solely to meet a teacher's needs. That's why it was okay to lay down on a rug, sit on a bucket or take a brief break and spin around in a chair. Informal environments and sharing of interests (via the placements on desks or dialogue) also fostered relationships in the classroom. As Despereaux emphasized, "a lot of kids do work well with friends if they don't get off topic" ("Despereaux," personal communication, March 27, 2018). Hank required his students to collaborate on each and every investigation. They could work alone, but they had to share information with team members ("Hank," personal communication, May 23, 2018).

When teachers and students understand each other after dialoguing or collaborating, it's easier to achieve flow. Notably, both teacher and student gain more insight on goal setting, feedback, and creating balanced challenges. In terms of mastery and growth, each teacher was optimistic about student potential, and created subtle reminders of ways to achieve and ways to manage stress. Jason asked students to draw and display paper airplanes (on track to meet goals) and flowerpots symbolizing a growth mindset. On each flowerpot, students identified strategies to use if they got stuck or frustrated, mechanisms for support, and a personal acknowledgment that learning challenges take time and effort (some fourth grade students also recalled successful, prior achievements). Students found the flowerpot and planes (depicted in Figure 13 below) helpful.

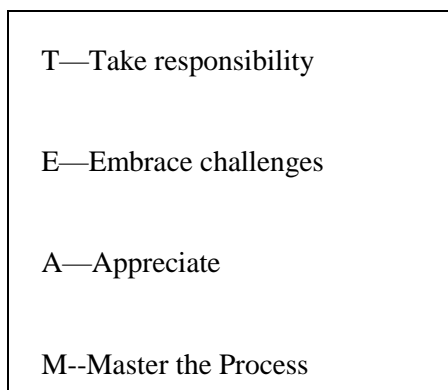
Figure 13. Evidence of setting goals and developing a growth mindset



Steve Greenburg noted that the flowerpot and planes forced him to think about aspects of the process, “learn about you and your goals” (“Steve Greenburg,” personal communication, March 27, 2018). Sprinkles viewed this as a marker of not just learning, but mastery. The flowerpot was a “good way to learn and realize I am learning -- growth” (“Sprinkles,” personal communication, March 28, 2018).

Unconsciously, Hank sent a message about classroom expectations to his fifth graders that was akin to Csikszentmihalyi’s (1990) flow theory. Csikszentmihalyi (2004) recognized that complexity in development comes from differentiation (for the individual) as well as integration (within a group): “[A] complex person is one whose consciousness is uniquely individuated, yet whose desires, goals, and actions are in harmony with a cause greater than the self” (p. 343). In terms of classroom life, that meant respecting individual differences and collaborating like a family or team. Students were reminded of their complex roles by the chart on the wall in the fifth grade classroom (Figure 14).

Figure 14. Differentiating classroom behaviors through integration as a team



Note how individualism and teamwork were subtly intertwined in Hank’s classroom, just as Csikszentmihalyi (2004) envisioned, and exactly the way fifth graders executed during their investigations. As I’ve outlined in the above section, each teacher made deliberate, constructive choices to create a space for students that was conducive to creativity, collegiality, and individual growth. The students appreciated space and options. The combination of thoughtful classroom environments, dynamic educators, and immersive lessons and projects would generate flow learning. Once a supportive environment is established, students have the opportunity to control their learning and become immersed in flow-like challenges.

Learning Was Transformative and Engaging

Students want to learn how to take charge over their learning. According to Unicorn, passive learning is “boring” (“Unicorn,” personal communication, March 27, 2018). In contrast, learning that is engaging and interesting is viewed as fun and satisfying.

Rhonda: What advice would you give to teachers about creating challenges?

Z- Math: To teachers, it’s more fun for kids when they are not just watching what happens, but they are making it happen.

Rhonda: How does that make you feel?

Z-Math: I get a great sense of accomplishment when I am more involved in my own work. I made my own habitat for mealworms [on the playground yesterday]. Eventually they will turn into beetles....When I am interested, and there is a fun activity [like mealworms], I want to get to it quickly. With Jason, the way we learn is fun (“Z-Math,” personal communication, May 8, 2018).

How does a teacher help a student become autonomous? What choices can a student make responsibly in a classroom? Will those choices put the student on the path of lifelong learning? Hank told me that he wanted his students to embrace challenges, try hard, behave responsibly, and “want to learn for learning sake” (“Hank,” personal communication May 23, 2018). When I observed in Hank’s classroom, I listened to students describe their engagement in the learning process. Matilda stayed up all night working on her costume for the “in-character” cocktail party. Others thanked Hank for help in math or giggled as they discussed literary devices in small groups (meeting with Hank on the rug in the front of the classroom). Though I was not permitted to interview Hank’s students, experiences on Parent Night (parents invited to visit classroom and see student work) gave me insight to into flow-like learning in the fifth grade classroom. My notes on that evening reveal flow-like learning experiences in class (personal communication, April 19, 2019). One student, Matt, was very proud of the Alka Seltzer rocket he created at school and invited his parents to make a rocket and set it off. Another student, Brian, explained density to his parents and even asked them to guess which ingredient might be the densest ingredient. That night, Brain ran through a litany of projects, showing his parents the jellybean decimal project (place value) and moving on to explain the tall tale election, for which students wrote tall tales and then ran for office on the platforms established in the tall tales. Brian told his parents that the tall tales project was a fun project and added that so was the child

labor simulation (hat-making in a factory). Brian's most favorite assignment was researching Civil Rights. In a word, it was "awesome," and Brian's father agreed" (personal communication, April 19, 2019). Other parents also remarked on the quality of the Civil Rights research.

Figure 15. Brian's jellybean decimal project



In addition to the flow-like experiences described by Hank's current students, posters lining the walls of Hank's classroom showed how Hank's former students experienced flow in the classroom. These posters were enlarged notes of appreciation from former students. One former student looked forward to fifth grade learning daily:

Former Student Poster Tribute: "I miss vocabulary act out, IL, and social studies. I liked when we felt what it was, like to work in a Hershey's factory back then. You always made me laugh. I actually had something to look forward to when I came to school every day. Weather [student spelling] it was a science experiment or a student act out, I always had a great time."

If near perfect attendance was a sign of commitment and flow behaviors, then Hank's former student below clearly demonstrated his commitment and joy:

Former Student Poster Tribute: "Ever since the first day, I have missed two days of school. Those two days were due to spraining my ankle. That is how much I loved this school year...you taught me about work ethic and math concepts, also you are the only teacher I know who had wizard costumes and clown wigs in the closet.

Jason's fourth grade students also experienced flow. Fretters felt "in control of learning...because there were choices" in Jason's room ("Fretters," personal communication, March 26, 2008). Deciding he did not like reading a novel about Shakespeare, J-Dog took the initiative and switched books mid-unit, joining the *Tale of Despereaux* reading group. Indeed, fourth grade students explained that they were absorbed in challenges in every discipline, ranging from discovering exponents ("Unicorn," personal communication, March 27, 2018) and algebra ("Z-Math," personal communication, May 8, 2018), to playing with waves and electricity during science ("Fretters," personal communication, March 26, 2008, "Mimi," personal communication, March 28, 2018) and writing about the impact of human activity on manatees. Sprinkles loved the manatee assignment, noting that as in flow, "the information was just pouring out" as she wrote her essay ("Sprinkles," personal communication March 28, 2018). Emphasizing how much she enjoyed Jason's class, Sprinkles inadvertently bridged her experience with flow theory: "He teaches us, but kind of in a fun way—breaks and work with friends—gets me excited about the process; I like his style of teaching...Makes me wanna learn" ("Sprinkles," personal communication March 28, 2018). In both classrooms, students demonstrated that they were challenged, engaged, and had become independent learners--losing track of time while pursuing intellectual passions. They had found flow experiences.

A Range of Enjoyment and Flow

Csikszentmihalyi (1990) introduced flow theory nearly thirty years ago, noting “[w]hen people reflect on how it feels when their experience is most positive, they mention at least one” and typically most or all of the elements of flow (p. 49). This study indicated that flow remains relevant in elementary education. Csikszentmihalyi (2014) reiterated the opportunities that flow provides for heightened performance in the classroom, once conditions to flow are in place, enabling the student to concentrate and take control over her learning, getting so absorbed that she has lost track of time and self, finding the challenge so meaningful and enjoyable, she wanted to do it again, at a slightly more complex level.

As described in student interviews, fourth grade subjects unconsciously (and uniformly) experienced the elements of flow in a variety of disciplines. Jelly Bean, a student who admittedly had a hard time focusing in school, was so immersed in a writing project that when she finished writing, she was literally and figuratively thirsting for more.

Rhonda: Do you like writing essays?

Jelly Bean: [I] prefer writing stories over essays; Jason—he asks us [to] write a story that has a lot of detail—tell something exciting talk about [the] character—real life story....

Rhonda: How does Jason help with you with your writing?

Jelly Bean: Jason tells us—“show don’t tell.”

Rhonda: Can you give me an example?

Jelly Bean: {I} wrote about Six Flags—found slushies exciting because they taste good.

Rhonda: Were you really absorbed in writing this story?

Jelly Bean: Yes—I wanted a slushie right after I wrote it.... [I] thought about slushies; [that's] because I did a good job. I focused on what I did before I got a slushie and what I did when going home (“Jelly Bean,” personal communication, March 26, 2018).

Consider the ways in which Jelly Bean’s description falls within the flow elements highlighted above. Jelly Bean understood the goal and received feedback that she has to “show, not tell” when she writes. She took control over her writing, focusing on the experience of visiting Great America and getting a slushie. Her concentration was so deep that she came away from this written piece with the urge to quench her thirst and get a slushie. In terms of mastering growth, Jelly Bean found Jason’s feedback to be most valuable:

Jelly Bean: This [advice] changed my writing—used to say—got in car, on way to Great America...Now I develop [the] place of Great America—after I explain the theme park, then, I say Great America (“Jelly Bean,” personal communication, March 26, 2018).

Thoroughly pleased with this experience, Jelly Bean told me she wished she had more opportunities for creative writing (“Jelly Bean,” personal communication, March 26, 2018). Two of her peers, Mr. Judge and Rico-Sam, also experienced a flow-like state of mind, though not in writing. These two boys raved over a creative geography assignment, the Island Project (depicted in Figure 16 below).

Figure 16. Map showing the location of student-created islands



Mr. Judge explained the assignment:

Mr. Judge: The Island Project—that was awesome (drew out word)—pick a place on the world map where we would put an Island. Create shape. Name. Main leaders. Decide the names of streets on the Island, money; mine was a big Island—Pineapple/Chupa Island—where pineapples are on them, [the assignment required that we] say how the Island was formed and stuff like that,

Rhonda: How the island was formed?

Mr. Judge: [We picked] who was leader and [whether he] was a prime minister, emperor, or dictator. I did not want to have a dictator—[that's] mean, so I picked a prime minister; I made a slide show, currency, made clay replica of the Island using flour and water. I made a pineapple for my island; I loved it... (“Mr. Judge,” personal communication, March 26, 2018).

Mr. Judge’s experience captured the flow experience: clear goals, feedback, immersion, control, and concentration.

No student was more passionate about the Island Project than Rico-Sam. His detailed description highlighted nearly all of the elements of flow:

Rico-Sam ...Basically, we researched where and what would make up an island in the world. I just picked an island right in the middle of the Indian Ocean. I didn't know what it is; it's called the Chagos Archipelago, and I named my island Peanut Sauce Island because it sort of looked like a peanut. In my general description, I made a slide show out of this; the Island had two peanuts, Peanut Vertical and Peanut Horizontal and they connected with a bridge. And then these four dots are tiny, little islands.

Rhonda: Cool, I love the connection with the bridge.

Rico-Sam points to a classroom map: This is a statue of the island; this is where it's located in the Archipelago; and this is one of the cool streets of my island which like has so many intersections and looks really, really cool. The climate there is really warm; it sits right near the equator and there is a piece of the island that is really small. I really like the fact that the Island is in the middle of nowhere.

Rhonda: I've been in the Indian Ocean.

Rico-Sam: The economy—I have this Island but I made up what it's like. The economy—most people on my Island work in the Peanut Sauce Factory. Some people robbed the peanut sauce factory for peanuts. Because [peanuts] they are money on my island; the currency is peanuts. I don't really like peanuts. I just chose them. There's a war in 1300 before calendar between Gerald R Peanut and Jonathon Sauce. Both were immigrants and the war was a very interesting one; it was whoever won the war would get both islands. They kept fighting for slow, long years and then eventually decided it was a tie; they decided that each person would take one island and then ever since there was peace.

Rhonda: Did you come up with that whole idea to end in a tie?

Rico-Sam: Yes....

Rhonda: Very cool.

Rico-Sam: My government—we have a president and mayor for each city. Instead of an election, there's a contest, whoever climbs up the top of Mount Peanut Mountain (which is that statue I told you) whoever gets up first, gets to be president or mayor--their choice. My miscellaneous fact--The language is soft—pronounce “Sss” or Ccs” with a slithering sound, like sauce or Sam. Sauce would be pronounced (Rico-Sam models with emphasis) Saucce.

Rhonda: How did you feel when you finished that [project]?

Rico-Sam: Well, I felt really great that I made this accomplishment; I think it was a really fun project—it took a long time—we did it in the beginning of the year and it took about two months to finish. First, we did research on the island, then we created the slide show, and after that we made our own play dough and diagrams of what the island would look like. And it took about two months to do.

Rhonda: And how do you think it will help you learn more?

Rico-Sam: It was sort of like a social studies research thing where you researched one island and I think it helped me learn—social studies and science are really fun; get to do all of these fun projects like electricity and researching stuff....

Rhonda: How do you think it will help you as a fifth grader and further on...

Rico-Sam: I think we are going to do projects like this at least one more time [in fifth grade] in my following years at school. But it was a really fun project; we basically

researched a whole bunch on one tiny island....("Rico-Sam," personal communication, March 26, 2018).

The beauty of the Island Project (as well as other classroom challenges) was that challenges and skills were matched, as Jason aimed to do in each content area.

Rhonda: How is this year with Jason different than other years?

Rico-Sam: Work at level you are at; gentle conversation ("Rico-Sam," personal communication, March 26, 2018).

For Rico-Sam and others in the classroom, the Island Project gave students a welcome opportunity to be creative, going beyond rote instruction. Rico-Sam asked his teacher to give me a copy of his work product. Rico-Sam gave the project the highest mark of praise; he saved it on his hard drive.

Rhonda: Anything else you want to tell me?

Rico-Sam: The Island Project was one of those really fun projects that I will always remember because it's on my drive here and I'll probably have this chrome book throughout middle school ("Rico-Sam," personal communication, March 26, 2018.)

To mark mastery of each assignment, Jason strung a chain outside his classroom door; adding a link to the chain reflected one more challenge mastered. Rico-Sam took a picture of the growing chain (Figure 17 below).

Figure 17. Chain of mastered challenges



That Rico-Sam was on the path to lifelong learning was fairly evident. When I visited the classroom in May to finalize some interviews, Rico-Sam took me by the hand and said, “Mrs. Stern, I have some more things that I am proud of and excited about showing you.” As I handed him my iPhone 5, I told him, “You know the drill.” Below in Figure 18 are pictures Rico-Sam’s insistence on taking a photograph of his next challenge, building a wind propelled boat (Rico-Sam, personal communication, May 8, 2018). It looked like the entire fourth grade was immersed in the sailing expedition, taking over the school cafeteria to conduct the boat races. Even though it had been a few weeks since I had visited Jason’s classroom, students remembered my research, and wanted to add even more to the conversation on joyful learning experiences.

Figure 18. Pictures of newly completed boat project taken on May 8, 2018

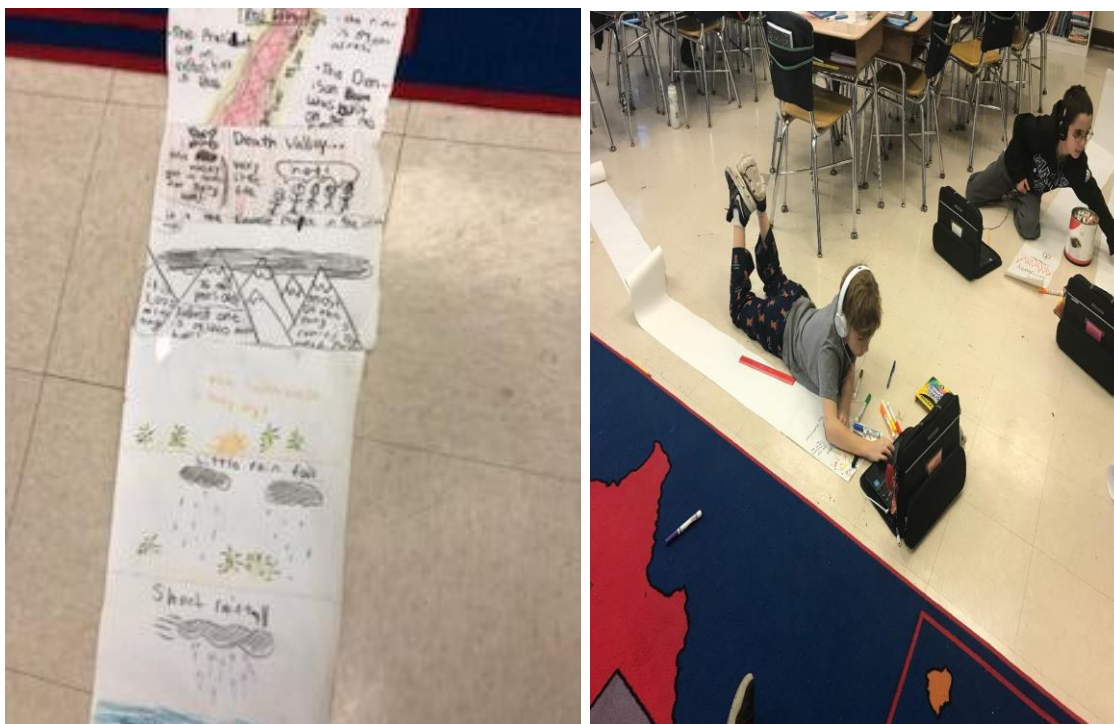


Jason's fourth grade classroom was an ideal place for sowing—and then experiencing—flow. It was easy to see how this happened as he clearly posted guidelines and discussed assignments. Jason was also constantly on the move giving feedback to students. When I asked Jason about what his students enjoyed in his classroom, he told me that it “varied,” noting some

valued social experiences while other students, like Steve Greenburg, valued “the sense of really doing a quality piece of work. I can see it in his face” (“Jason,” personal discussion, March 29, 2018). I think Jason underestimated his skills as a teacher, as 13 out of 15 of the student subjects voiced their enjoyment of the Tour of the U.S. A. or as the class came to call it, the “Scrolls” Project.

According to guidelines Jason posted and reiterated, students were asked to research all of the regions of the US, and then pick two facts each about climate, geography, history, economics, and government. Once students had researched the facts from a reliable source, they could draw, handwrite or otherwise incorporate relevant facts of their own choosing, on a long piece of paper.

Figure 19. Fourth grade students working on scrolls



Jason's aim was to teach students how to research independently because he believed that research skills are essential in middle school. His aims were high, but his process was relaxed and enjoyable. In Appendix A, I elected to include some of the language students used to describe the scroll project so student experiences could be compared to the conditions of flow. In terms of engaging students on this project, it appeared as though play was a subtle motivator. Jelly Bean admitted that she was not a fan of social studies, but she enjoyed scrolls because she liked to draw. Mimi and Fretters told me outright that they liked working with their friends, while many others seemed to enjoy socializing while working on their scrolls. Novelty played a role as well, with Sprinkles and J-Dog seeing new connections arising from their research, Sprinkles made connections to novels the class was reading ("Sprinkles," personal communication, May 28, 2018) while J-Dog was impressed by the workings of interstate commerce ("J-Dog," personal communication, March 27, 2018). Calling the Scrolls Project exciting, Fretters chose to take a picture of the displayed scrolls ("Fretters," personal communication, March 26, 2018), while Unicorn focused on his personal efforts ("Unicorn," personal communication, March 27, 2018).

Figure 20. The landscape of the Scrolls Project



Unicorn's neat and carefully designed scroll (above right) showed the premium he placed on art as part of the learning process. During an observation on March 16, 2018, I observed Unicorn analyzing a picture related to a lesson on the Dust Bowl. Unicorn, who liked to work alone, told me that he liked to "think and draw; it helps him express his ideas; he wants to do more of this" ("Unicorn," personal communication, March 27, 2018). Indeed, drawing might be a way for introverted students to reflect.

Overall, student participants identified both playful elements (drawing, socializing, and listening to music) flow-like study (concentration, goals and feedback, and control, autotelic behavior), all of which fostered mastery and joyful learning experiences. That Jason's students were in flow while working on their scrolls is in large part due to Jason's mastery in designing lessons and monitoring student work. Teachers like Jason and Hank, as Csikszentmihalyi (2014) observed, were "orchestra conductors," balancing skills and challenge so that students were primed—and given adequate time—to experience flow (p.140). Nearly every afternoon, students in fourth grade could choose to work on their scrolls (one scroll for each of four regions). In addition to giving students enough time to work on scrolls, Jason was always on the move to provide feedback and support. The chart set forth on Appendix A establishes how student participants experienced the conditions of flow during the Scrolls Project.

Similarly, Hank captured his fifth graders attention and orchestrated flow by turning the study of probability into a game. Hank told his students that much of math was gaming, and he was going to let them gamble, using Monopoly money. Hank introduced the concept of probability (tied to gaming) by asking students how many times they could win when they tossed a die.

The following morning, Hank and his students collapsed the desks and transformed his classroom into a casino. Fifth graders were pumped to participate in the gambling exercise. Hank asked the students to come to the carpet and then pulled out two sets of colored chips: Set 1: one pink, one black, and one green and Set 2: one pink, one orange, and one green.

Hank: Nine combinations, right? Hank drew out his statement, and some students answered in the affirmative as they reviewed their charts. Excitement was pervasive.

Girls on one of the investigative teams in Hank's room started singing a gambling song, "24 Carat magic in the air."

Another student joked that fellow students were wearing their poker faces. Still another encouraged his peers to take risks, "Go big or go home." Before drawing chips, Hank reminded his students that:

1. Combinations are repeated more than once;
2. Students are more likely to win using repeated combinations; and
3. The Expected Value is that the "House" will win.

Hank had set a long board in the middle of the rug, and students laid down Monopoly money to bet on the various combinations. Each time Hank pulled a chip out of the bag to form a new combination, the winning students cheered loudly and the losing students had to pay up. Student teams were referring to their charts to identify combinations that would maximize their return. Still, there were no winners during round three of the betting. Hank told the students that he would run the games six more times. Hank's students continued to cheer for their chosen color combination. My notes reflected the fifth graders' raw enthusiasm: "it's so loud in Hank's classroom that I can't hear the winner" (personal observation, April 20, 2018). Hank's students were begging to bet. During the fifth round, I heard wilder student

cheering, with Hank again reminding students that some combinations are more likely than not. Once again, I had trouble hearing student discussion, with Matt screaming, “I want it so badly.”

At the end of the ninth round, Hank summarized the betting outcomes: five teams lost, a bunch of 1x winner/teams who received \$2 each, and only one 2x winner/team that received \$4. With such scant winnings, it was clear there was more to learn. After explaining expected value and comparing it to predicted value (winnings), Hank ended the lesson with a joke, telling students “if you lost nine times, ‘the Bank/House’ needs people like you.” Taunt or joke, these students were engaged, beginning to understand probability, and motivated to beat the House.

Not only were these flow-like “gambling” experiences joyous, like the scroll experience that called for the making of four different scrolls (each of the four U.S. regions), successive rounds and lessons helped students realize that the learning process was indeed a process. Though some of Hank’s fifth graders experienced immediate gratification once they won, students recognized that much more study and practice was needed to achieve mastery. In fact, Hank told a struggling student that there would certainly be more opportunities to practice probability.

Learning was much more than a game in these fourth and fifth grade classrooms. Jelly Bean and others observed that the relaxed atmosphere, hands on opportunities and creative activities may have felt play-like (“Jelly Bean,” personal communication, March 26, 2018) but did it matter when they were learning as much or more than their peers in traditional classrooms? Each student subject took advantage of learning experiences and found joy in mastery under lighthearted and nearly stress free conditions. Poison Ivy sort of chuckled when she described her fourth grade class as “a little misbehaved, but not too misbehaved” (“Poison Ivy,” personal communication, March 27, 2018). Jason would tell stories and Hank would

randomly crack jokes. Both encouraged wordplay, with fifth graders identifying similes or literary devices, and with fourth graders writing about idioms. Taking word play to a new level, Poison Ivy and Despereaux were so absorbed in analyzing *Tale of Despereaux*, that when they spoke to each other, they used a French accent. When I mentioned this to Despereaux, she didn't realize the change in dialect. She was too engrossed in her study of *Tale of Despereaux*. Despereaux even photographed the book (as part of her interview) because she was proud and excited by her work in connection with that novel.

It seemed that there was a blurred boundary between learning and play in these classrooms. Indeed, Jelly Bean made that observation when talking about science: “science is like playing—he gives us toys to mess around” (“Jelly Bean,” personal communication, March 26, 2018). I also saw students taking the initiative to master tasks on their own. A fifth grade team declined help from Hank one day, insisting they could discover rainbow density on their own. I watched as team members gently sent Hank away, telling him “we are not done.” Hank declined to interpose his teacher authority, and a few minutes later, a team member shouted at Hank, “Now you can see it!”

Figure 21. Picture of rainbow density



Hank told his team how happy he was with their “cool results.” No doubt he was also thrilled with the fact that they wanted to solve this problem independently.

The data also indicated that there are variants of flow. Students appeared to be in “group flow,” enjoying the process of solving a challenge together. Indeed, fourth graders Fretters, Z-Math, J-Dog, Mr. Judge, Poison Ivy and Despereaux told me that they enjoyed shared problem solving in math. Likewise, students in Hank’s class enjoyed working together on science and math investigations. One-fifth grade team member asked another student to help her solve the area of a geometric form, reminding the other student that it was okay to help her because they were on the same team.

In this study, I also saw “indirect flow.” Csikszentmihalyi and Nakamura (2002) defined indirect flow as putting students on the path towards flow, “the [teachers’] goal is not to foster the state of flow directly but rather to help individuals identify activities that they enjoy and learn how to invest their attention in these activities” (p. 100). I wonder if teachers realize how easy it is to achieve indirect flow—just recommend a book or introduce a balanced challenge. Indeed, Jason’s reading recommendations really resonated with students. After Z-math read the first book in the *Storm Breakers* series recommended by Jason, Z-Math went on to read the entire series because he enjoyed the first book so much. Similarly, Chase and Mr. Judge were obsessed about another book that Jason recommended, *Alex Rider*, the story of a spy who was trained by his uncle. After his uncle was murdered, the protagonist had to untangle the murky circumstances of his uncle’s unexpected murder. In math, it was no surprise that Z-Math, who loved a challenge, grabbed a book on algebra out of my hands. Steve Greenburg continuously begged me for a book on Physics. It was extraordinary to see students who clamored to learn, their fervor a testament to the power of flow.

Conclusion

Jason and Hank's fourth and fifth grade students are forging a new chapter on the teaching and learning narrative in upper elementary. They are pushing back against the myths that student behavior has to be rigidly controlled in the classroom, and learning is tantamount to work, not play or exploration. Students feel supported enough that they were not afraid to take risks as they fielded new experiences or openly gave content areas they previously disliked a second chance. Poison Ivy was never a fan of social studies until this year ("Poison Ivy," personal communication on March 27, 2018), and Mr. Judge only read picture books in third grade ("Mr. Judge," personal communication on March 26, 2018). Jason and Hank taught their students to be open, and to not let past negative experiences deter their learning. In essence, these teachers encouraged students to take risks while learning, and as the poster in Figure below indicates, not be afraid.

Figure 22. Fight fear poster outside Hank's classroom



Upper elementary students want to contribute to the conversation on flow. No doubt their teachers set the stage for flow experiences by modeling how to “rise” and meet (with scaffolding) challenges without fear. Hank and Jason were wise enough to relinquish control when their students found themselves positioned to embark upon meaningful, creative and joyful learning experiences. Knowing when to back away and when to support or even when to give students a gentle “push” led to growth. For some students, it also put them on the path of lifelong learning. As Sprinkles observed, Jason focused on the future, describing he pushes “ourselves”—[to] be better than him” (“Sprinkles,” personal communication, March 28, 2018). Isn’t that the mark of a good teacher?

CHAPTER 6: CONCLUSION

Ideally, the end of extrinsically applied education should be the start of an education that is motivated intrinsically only. At that point, the goal of studying is no longer to make the grade... it is to ...develop a personally meaningful sense of what one’s experience is all about. From that will become the profound joy of the thinker (Csikszentmihalyi, 1990, pp. 141-142).

As the student and teacher participants made sense of their experiences, the evidence indicates that all participants (even the teachers) found themselves in flow. This study revealed that flow-producing challenges were created and enjoyed in the upper elementary classroom.

In this chapter, I outline the major findings arising from this research. Unlike Egbert (2003) who limited her study to four conditions of flow, I believe that looking at the interplay of all of the flow conditions creates a deeper understanding of flow theory in an upper elementary setting. The combined impetus from the interaction of all or most of the flow conditions

increases the likelihood of entry into the flow channel and thus deserves greater attention. After my analysis of the flow conditions in the context of my research questions, I discuss the limitations of the study. My next step was to explore the implications of my research, aiming to put forth new constructions of the mainstream school day. I conclude with suggestions for future research, ranging from additional qualitative studies on elementary students to longitudinal research. Elementary students come to school excited to learn, but sometimes get sidetracked. Additional research may guide us in making school more inviting and engaging by creating opportunities for flow in the classroom (Csikszentmihalyi, 1990, Coil, 1999).

Returning to the First Research Question

I have divided my findings into sections that relate to each of my research questions. I begin with my initial research question: how do teachers create flow-producing learning experiences for upper elementary students?

Environments Conducive to Flow

The first major finding of this study is that the exemplary fourth and fifth grade teachers created learning environments that were conducive to flow. Both teachers gave students space to learn and established clear purposes for learning tasks. In Jason's classroom, students had ample time to pursue and become engaged in challenges, particularly in the afternoon when students could elect to work on their scrolls or read a novel of choice. Routines like sharing a song at the end of the day, allowing breaks to regain concentration, and sharing outside interests through conversation or drawings on student created desk placemats enabled students to work as a team. These interactions forged connections in each upper elementary classroom. Regular exchanges also provided useful information on what interested students, particularly in science and reading. Csikszentmihalyi, Rathunde, & Whalen (1993) observed that students became hooked

on content when teachers created flow challenges by focusing on students' interests' and experiences. These researchers noted "Dewey postulated that the ideal conditions for optimal interest, for example, were ones that facilitated a student's momentary enjoyment while making her or him work toward long-term goals" (p. 258). Teacher mindset was equally important.

In terms of teaching styles, Hank and Jason were anything but authoritarian. Both paid attention to student interests and were respectful of students' needs. Hank held small group novel study on the carpet near students' desks, exploring ideas among reading groups and setting goals. When he wasn't circling the room to check in with students, Jason collaborated with students in English/language arts and math at his small, circular table. His students uniformly appreciated his availability and support. As Steve Greenburg summed it up, "he will help you with stuff and make you feel at home" ("Steve Greenburg," personal communication, March 27, 2018).

The relaxed tone in each classroom allowed students to feel comfortable there, experiment with ideas and interests and collaborate as emergent problem solvers by developing skills and habits of the mind. Opportunities of this nature were what Brodhagen's (2007) students valued and lost. As Brodhagen (2007) noted, when teachers and students work together in planning, "young people see their teachers listening to them and treating them seriously. Respect and trust between students and teachers grow as both observe how actions and words bring the curriculum to life" (p. 90). In addition to expecting challenge, concentration, task control, and autonomy, researchers Schweinle, Turner, and Meyer (2009) envisioned that teachers in flow classrooms would provide affective and social support (p. 272).

Habits of the Mind

My second finding is that teachers can create flow challenges by providing scaffolding and nurturing habits of the mind. Teachers are architects of learning and forge competence through developing intellectual habits and skills. In terms of providing scaffolding for flow producing challenges, Hank encouraged his students to form hypotheses because “the best way to get a great idea is to have lots of discussion” on theories (personal communication, April 18, 2018). Students in Jason’s class also valued classroom discussion and learning different analytical approaches. As Sprinkles noted, “this year, over last year, I learned a lot more. [Jason] showed me another way to do things using better strategies. I understand more and it is easier to do the work” (“Sprinkles” personal communication, March 28, 2018).

Describing books read in class, Z-Math emphasized how important it is for teachers to be skilled at literary analysis: “I also liked reading *Because of Winn Dixie*. [Jason] really knows that book. It’s always better when the teacher understands the book. We can go deeper in our understanding of themes and content...and point of view” (“Z-Math,” personal communication, May 8, 2018). Likewise, Unicorn excitedly reported a schema that worked for him: drawing helped him organize concepts and he was going to integrate that in his learning (personal communication, March 8, 2018). For his part, Jason emphasized that he wanted his students to become independent researchers so that they could have an easier time in middle school. Moreover, he was insistent that math could be mastered by whatever strategy worked for students, and Jason had a host of strategies to avert frustration and boredom. Studying flow in the context of project-based learning, Meyer, Turner and Spencer (1997) noted that those students who are comfortable with a challenge can form “positive associations” with complex subjects such as math (p. 515). Not only did these teacher participants create a positive and

comfortable atmosphere for their students, Jason and Hank also sought to give their students independence and a sense of control over their learning in the classroom.

Capacity to Enter the Flow Channel

The third major finding of this study is that students perceived opportunities for action and discovery in their respective classrooms. Perception is not mastery; it's the belief that one can undertake an enjoyable learning challenge. But before students entered the flow channel, they also had to focus on setting goals and managing feedback. The value of precise feedback cannot be emphasized enough. Students have experienced anxiety when challenges are unclear, feedback is imprecise, and student effort is not valued. According to Larson (1988), the sting of imprecise feedback could be remedied by discussing issues during conferences or giving focused feedback. Nonetheless, some teachers persist in giving vague and insulting commentary, i.e.: “your paper tackles too much! Your topic is way too broad...” (p. 157). In contrast, Hank and Jason made goal setting and feedback organic parts of the process. Teacher participants were readily available whenever a student had a question. In fact, questions were encouraged in each classroom.

Jason acknowledged that his students had a voice in formulating challenges and deciding how they would master those challenges. Jason also individualized the learning process by giving students varied problem solving strategies. For example, Mr. Judge reported that the drop the line strategy [for division] problems made more sense with the new math curriculum (“Mr. Judge” personal communication, March 26, 2018). Fretters, on the other hand, preferred to use the regular multiplication algorithm because solving problems using an array set was too challenging (“Fretters,” personal communication, March 26, 2018). Sprinkles preferred the box method for solving multiplication. Sprinkles valued Jason’s flexibility: “Jason is flexible. He

makes changes if he needs to. If an order of [operations] doesn't work, he makes an exception" ("Sprinkles" personal communication, March 28, 2018). As differentiation expert Carol Ann Tomlinson (2001) confirmed, "the ways to design, support, and assess challenging products are endless" (p. 92).

In terms of the fifth graders, Hank did offer his students differentiated or tiered challenges in math, but most of the time, he relied on his creativity (along with student input) to devise engaging challenges at students' readiness levels. The drawing below (I copied Hank's problem because I was not permitted to take any photographs while students were in class) is an example of the way in which Hank embedded challenges of increasing complexity, without resorting to worksheets.

Figure 23. Calculating Area of Figure in Fifth grade Geometry



Hank would ask his fifth grade students (who worked in investigative teams) to start measuring and then calculating the area of colored portions of the I-shape (note colors on page). Students also attempted to find the area of the entire shape when they were ready. Hank reported that he liked to take an inquiry approach to geometry, letting students devise their own

formulas as a first step. He stated, “I don’t even give students the formula; we develop it [solutions] and [then] the students understand all of these different shapes as a ratio to a square” (Gentoo [anonymous internet site], 2013).

The Phenomenon of Joy in the Flow Experience

In essence, Hank was asking his students to discover geometry by learning through hypotheses, drawing conclusions and making new predictions based on prior mistakes. Csikszentmihalyi, Rathunde, and Whalen (1993) lauded this type of instruction, noting that it was tantamount to feedback focused on the activity itself, noting this approach thrives on “trial and error...assisting the student to search out that next adjustment-the needed bit of knowledge essential to achieving a further step in competence” (p. 192).

Both Hank and Jason sought to optimize challenges in their classrooms. Hank and Jason noted that if they found a challenge interesting, then they expected students would most likely enjoy it too (“Hank,” personal communication, May 23, 2018, “Jason,” personal communication, March 29, 2018). This belief influenced their content decisions and led them to be more creative in the classroom. As noted earlier, even though I was not permitted to interview Hank’s students, I had a window into their enjoyment on Parent Night, as students eagerly described participating in experiments on density (look-alike liquids), jellybean math (a different color for each decimal), construction of electric cars, participation in a hat-making project designed to simulate child labor experiences, math games, and research on Civil Rights. I observed students in both classrooms dancing and singing as they acted on learning opportunities and interacted with their peers and their respective teachers. Csikszentmihalyi (1993) emphasized that the “phenomenology of flow further suggests that the reason we enjoy a

particular activity is not because such pleasure has been previously programmed in our nervous system, but because of something discovered as a result of interaction” (p. 189).

The evidence showed that learning discoveries were ongoing as students acted on the encouraging feedback their teachers gave them. Every student in Hank’s classroom had a whiteboard desk. During math, for example, Hank walked around the room while students worked on calculations. Frequently, students held up their white boards to ask questions or show mastery. When one boy was fretting over a mistake, Hank pointed to his white board and said, “So you know, your work is right. The mistake is in the addition” (personal communication, April 18, 2018). Likewise, Jason was always on top of students’ progress. When he wasn’t sitting at the round whiteboard table helping students, he was circling around the classroom or working with small groups.

Harmony between Skills and Challenges

Another central condition to positioning a student for a flow experience is in balancing challenges to student skills. In optimal situations, the challenge is a little above the skill-set so that the student has to stretch. J-dog reflected on how he was positioned to enjoy learning. He reported “just right” challenges in math because of tiered challenges. He liked working on those challenges with six other peers in the classroom. In English and language arts, J-dog did not think he could wrap his head around Shakespeare after he started *Shakespeare Stealer* so he asked Jason if he could switch to the second novel, *Tale of Despereaux*. Jason agreed. Similarly, when asked to do some research on the Dust Bowl during the Depression, Unicorn thought that writing facts would not be challenging enough so he approached Jason about organizing the facts in a “for” and “against” format. Again, Jason agreed.

Applying group dynamics theory (learned while a camp counselor), Jason understood the cyclic rhythm of the learning process and the need to thoroughly support each student. Jason checked with students regularly to see if the balance between skills and challenge remained in harmony. If students indicated that they were ready for more challenges, Jason gave those students options to pursue math enrichment in algebra or geometry, depending on their own interests. When students needed more support, Jason worked with them at the small white table. Each teacher also reflected on how to foster enduring learning connections with students. Hank told me that when he was working at different school years ago, he couldn't figure out how to motivate his former students; they didn't care if they got bad grades and their parents didn't seem to care, either. After trying different strategies, he incorporated challenges into science and math investigations largely drawn from the STEM field (provided by the Golden Apple Foundation to motivate former underachieving students). Hank found that his former and current students enjoyed the collaborative, competitive investigations. Those who wanted to work on their own could do so, but most liked the way Hank structured the problem solving challenges. Jason, too, tried to provide challenges in the way the students learned. Jason felt that students were positioned to achieve strong growth once they learned the structure of the classroom and developed an understanding of the way they learned. Fourth grade was a time to become an independent learner. Obviously, theories beyond the scope of this research also influenced these teachers, but each teacher participant created challenges that fell in the sweet spot of flow.

Returning to the Second Research Question

The evidence stemming from my second research question will add to the literature on flow, as there is very little qualitative data on flow from the perspective of upper elementary

students. In that regard, my second research question was: How do upper elementary students experience flow in their daily school lives?

My first major finding is that students found themselves in flow daily, and they had strikingly similar experiences (Csikszentmihalyi, 1990). In the fourth grade classroom, the scrolls assignment triggered the greatest number of individual flow responses because students had the opportunity to research and choose the facts they wanted to highlight in their scrolls. Thirteen out of 15 students reported experiencing at least two elements of flow, with many reporting more. The evidence suggests that the Scrolls Project was universally engaging because Jason incorporated a playful mode. Students drew geographic features of each region in tandem with researching and identifying facts related to the various regions. Student participants reported being completely absorbed in their learning, eagerly taking control over the task, not being self-conscious, and losing track of time while working on their scrolls. Indeed, one student subject asked Jason if she could work on the Scrolls Project over Spring Break.

Hank and Jason also injected play into science, English and language arts, and some social studies lessons. Hank brought imagination to the “in-character”(students dressed up in as their favorite literary character) mock cocktail party and the child labor simulation. Perhaps the most dramatic injection of play occurred when Hank turned his classroom into a mock casino in order to teach probability. Fourth grade participant Jelly Bean reported that she loved the play opportunities in science: “Science is like playing—he gives us toys to mess around.... I learned how things work—magnets have a North and South Pole.... I really liked the day we made light bulbs” (“Jelly Bean,” personal communication, March 26, 2018). As Csikszentmihalyi (1990) suggested, those who play with and transform their environment experience more advanced and enjoyable learning (p. 149).

One of the most significant aspects of these flow challenges was that students became active and often independent learners (Kist, 2003). Students valued the opportunity to take charge of their learning, whether building a habitat for mealworms in the fourth grade or participating in a storytelling project in the fifth grade. Dahlapalooza, also a fourth grade event, tied together dramatic retelling of a story and reading. Daniels (2010) valued these active learning experiences, noting “when we put students in control of constructing understandings, they learn better and feel more engaged (p. 27). This is particularly true when the student finds material novel or relevant. Scherer (2014) interviewed Csikszentmihalyi in 2002, and he told her, “whether the topic is bugs or stars or singing, there are connections...[o]nce the students are hooked, the teacher should be the gatekeeper to the enormous richness in the world” (p.221).

Poison Ivy enjoyed researching and drawing her scrolls because the data gave her insight into travel (“Poison Ivy,” personal communication, March 27, 2018). Unicorn was all excited to study waves because he was traveling to the beach in South Carolina with his family (“Unicorn,” personal communication, March 27, 2018). J-Dog enjoyed the novelty of being introduced to iron production in the Northeast (“J-Dog,” personal communication, March 28, 2018).

Range of Flow Experiences

The final finding of this study is that there were flow variants. Students were engaged in flow, whether working on a group task, individually, or even while reading an interesting book. During the thirteen interviews, each and every fourth grade participant gave subjective accounts of joyful learning experiences. This goes to the heart of Csikszentmihalyi & Csikszentmihalyi’s (1988); research purposes: the “first concern is the quality of subjective experience” (p. 7). While student interests varied, there was significant overlap in how they described their joyful inner experiences. The benefit of supporting students in areas of strength

or giving a student tools to achieve mastery independently cannot be emphasized enough. Unfortunately, educators task students with the burden of constantly working to be excellent in every area. Csikszentmihalyi (2014) rightly pointed out that “it’s kind of hypocritical to expect that all children should be good across the board when most adults aren’t successfully at everything” (p. 222).

Just as adults gravitate towards areas of strength, so should students. Jason, and Hank modeled instruction that was respectful of students and their strengths. These two teacher participants created learning pathways aimed at student interests as well as student needs. Emerging writers Sprinkles and Jelly Bean experienced sensory satisfaction while creating their stories. A large number of fourth and fifth grade students enjoyed math much more once they adopted strategies that worked for them. The creative projects in both fourth and fifth grade hooked students, with some student participants, notably Rico-Sam, Z-Math, Lucy, J-Dog, Fretters, Sprinkles, and Unicorn, demonstrating autotelic behaviors (interest in lifelong learning challenges) by describing engagement in successive learning experiences, beginning with the Island Project and concluding with building habitats for mealworms.

Legacy of Flow-like Learning

Hank wanted his students to learn for learning sake (“Hank” personal communication, May 23, 2018). Jason aimed for that, too, and indicated that nothing was more satisfying than receiving letters from students telling him what fourth grade meant to them (“Jason,” personal communication, March 29, 2018). Flow experiences are important to fostering lifelong learning “for this reason: memories of peak moments motivate students to keep improving in hopes of achieving the same intensity of experience again” (Csikszentmihalyi, Rathunde, & Whalen, 1993, p. 253). For example, during the mealworm lessons in each classroom, not only did the

moments turn into peak experiences, but enthusiasm also spread among students and teachers like a contagion. Of all the disciplines, science in particular seemed to spark meaningful engagement leading to profound learning experiences.

Major Contributions of this Study

In this qualitative case study, looking in depth at the lived experiences of teachers and students in the upper elementary classroom helped illuminate the context of flow in the upper elementary classroom. In particular, my qualitative lens enabled me to reconstruct the impact of flow on students' inner learning experiences during fourth and fifth grade, a topic that has rarely—if ever—been considered. The student participants reported that they came to school excited to learn more and relied on Jason and Hank for scaffolding and informative feedback. One of Hank's students wrote to Hank that Hank's instruction gave him a reason to come to school almost every day. The only reason this former student missed two days of class was because he had a broken ankle. Still another praised Hank's creativity and willingness to experiment with new challenges. Even though I made it clear that I could not interview Hank's students, a few could not resist approaching me to tell me what an awesome teacher he was. Student participants in Jason's classroom uniformly expressed how he had impacted their learning, valuing the math strategies, the homey environment, the relaxed nature of the classroom, the breaks, the opportunity to “play” with the curriculum, whether it was simulating waves by using a jump rope or injecting play into an otherwise dry social studies project on geographic attributes of regions in the United States.

Even today, some teachers do not give students the respect and credit that they deserve. The evidence in this study indicated that some teachers are still placing unnecessary restrictions on student learning. Jelly Bean resented being forced by teachers to do things, telling

me that her message to teachers was “don’t force anybody to do something they don’t want to” (“Jelly Bean,” personal communication March 26, 2018). J-Dog described his frustrations in second and third grade: “last year and year before we had to stay at our desks; I did not like it as much” (“J-Dog,” personal communication March 27, 2018). Mr. Judge registered the same complaint about previous years (“Mr. Judge,” personal communication with Mr. Judge, March 26, 2018). Poison Ivy appreciated the new opportunity to use class time the way she “wanted to” (Poison Ivy, personal communication, March 27, 2018). The fourth grade students reconstructed an improved school day, seeking breaks to regain focus, calling for art and music to be embedded in the curriculum, and citing the importance of blocks of time (as long as an entire afternoon) to work on a project. Though this is not a new issue, students also pressed for individual time to work with their teacher.

Student praise for Jason and Hank, and insights into their learning indicated that another major contribution of this study came from my purposeful selection of excellent teachers who implemented democratic strategies in their classrooms. Not only did each teacher reflect on what might interest upper elementary students, Hank and Jason modeled enjoyment while facilitating learning and experiencing discoveries in the classroom. Hank and Jason also supported students in the flow process by creating engaging lessons and encouraging independence. The selection of excellent teachers distinguished my findings from the findings of Schwerin, Turner, and Meyer (2006, 2009), and may be the reason that I found flow in the upper elementary classrooms when those researchers failed to find flow in similar demographics and a slightly older population. Put simply, Schweinle, Turner and Meyer (2006, 2009), did not study excellent teachers in every classroom. These researchers selected only one teacher who was identified by participants in their study as above average. The researchers described the second

teacher as in the “average range” and the third as “below average” (p. 280). As mentioned previously, the third teacher, the weakest instructor in the group pressed for “correct procedures and correct answers” even when students didn’t readily grasp material (p. 286). She also failed to check for understanding and used “threats” in class (p. 286). It is not surprising that the students in Schweinle, Turner, and Meyer’s (2006, 2009) companion studies rejected flow-like challenges, and instead opted for efficacy and safe and easy tasks (low challenge and high skill); participants in those companion studies lacked support and opportunities for discovery and independent action. Certainly, in the weakest classroom, the students were not respected as learners, but forced to give up their independence and comply with rigid structures. As Csikszentmihalyi (1993) indicated “as school starts to force [student]...growth into patterns over which they have no control...flow begins to become rarer” (p. 191).

Ancillary Discovery: Flow Experiences for Teachers

It has been suggested that when the teacher is in flow, her students may be in flow (Egbert, 2003; Goodlad, 1999). Whether the teachers were in flow was not a research question in this study, though there is support for Egbert’s (2003) assertion. Notably, Hank and Jason’s positive and enthusiastic efforts certainly impacted their students. Both Hank and Jason also brought passion to the classroom. In at least two instances, Hank and Jason were in flow. Hank experienced flow when he turned the in-character cocktail party into a criminal (poison) mystery. He was beaming when he shouted FREEZE to his students and ordered a study of look-a-like liquids to find the poison-injecting culprit. From the expression on students’ faces, they were thoroughly engaged. Jason, in turn, was thrilled with a discussion arising from the waves unit, concluding with an analogy to the Magnus Effect. Jason also found joy in the rhythm of the classroom and then the “aha learning moment” (“Jason,” personal communication, March 29,

2018) and that contributed to his decision to stop working as a principal and return to teaching. When studying talented high school students, Csikszentmihalyi, Rathunde and Whalen (1993) realized that any teacher in any classroom can delight in putting students on the path of lifelong learning, noting “teachers who encourage integration and who stimulate differentiation by making involvement and freedom possible will be successful with the autistic as well as the prodigiously gifted” (Csikszentmihalyi, Rathunde, & Whalen, 1993 p. 195). Likewise, Goodlad (1999) and Romano (2009) anticipated that there would be occasions when students and teachers experienced flow-like synergy.

If we want schools to adopt a flow model, some have argued that the message has to come from the top, the Superintendent and the principal. Jason had a supportive principal who was child-centered and also teacher-centered. She encouraged teachers to be supportive and creative in the classroom. This contributed to Jason’s ability to establish flow-producing challenges in his classroom. According to Brodhagen, building principals can advance agendas: “my current principal has many of the same democratic educational goals as my own, and it has become amazingly clear how much easier it is to do this difficult work” (p. 102). In contrast, Hank’s principal viewed him as an outlier, though the Superintendent valued his work.

Limitations

As this case study focused on two upper elementary classrooms, some may question its generalizability. Merriam (2002) however, indicated, the reader “can learn vicariously from an encounter with the case through the researcher’s narrative” (p. 178). The sample size of this study was quite small, though I aimed to provide a thick description. As with most case studies, I experienced pitfalls, primarily at Gentoo School. I had hoped to interview fifth grade students, but the Superintendent in Gentoo School’s district changed his mind, though I was able to

conduct an informal interview with Hank at Gentoo School. The pedagogies, content, and strategies used by Hank and Jason can assist interested teachers in developing new opportunities in the classroom (Hess, 2002).

Perhaps the lack of diversity in this study will also limit its applicability. Though I was able to interview fourth graders at Todd school, the only information I was given was students' names and ages. All of the students appeared to be Caucasian. Given the fact that my research was conducted in two affluent communities, demographics may also have influenced the results. It was not my intent to observe in classrooms run by two Caucasian male teachers. I tried to gain entry into two third grade classrooms run by women, but after discussion of the nature of my research, both elected to pass. I do believe that different contexts, diverse communities, and classrooms taught by different genders, would add to the findings of this study.

Outside Influences on Teacher Participants

In terms of mastery of the curriculum, Jason complained about getting new resources in science and math. He felt pressure arising from teaching a new curriculum with little preparation time, though the student subjects valued his support in science and math and did not appear to struggle. He also felt pressure during the PARCC testing. While he told his students that the class would “get through” the PARCC experience and did everything to make them feel secure, he was troubled by perceived anxiety (short-lived according to the students) and the seven-month delay in receiving PARCC results. This delay prevented class discussion of the PARCC results. In contrast, Hank did not feel terribly phased by standardized tests. He had done his student teaching in Wales, and in Wales, there was no standardized testing at the elementary level. Hank

emphasized that he firmly believed that standardized test was only one indicator of student growth (Gentoo [anonymous internet site], 2012).

Limitations Arising from My Experiences

No doubt, my perspective can be biased. As a former gifted resource teacher, I had preconceived notions on readiness and learning challenges. I tried to compartmentalize my ideas and biases. Because it's hard to detect one's biases, I consulted the literature on factors to consider regarding my subjectivity. I also attended a seminar run by Dr. Hollenbeck on subjectivity. I was concerned about my role as an insider-researcher. Obviously, students experiencing joy in the classroom was something that was very important to me, and that impacted my subjectivity (Willis, 2007, p. 210). Was I encouraging a result? Did I smile too much when the teachers teed up a strong challenge? Or when I saw students dancing in the classroom after I heard Hank or Jason or a peer gave a student positive feedback? I got very excited when I read a passage in *Shakespeare Stealer* and found a character in flow (totally absorbed while watching Hamlet), yet I could not bring the passage up for discussion. I had to sit and wait for a student to reference it. When one student did see the reference, I was really excited. He went on to treat the word "lost" in a different way than absorbed. He thought the character was confused. I had to let go of my excitement.

I also had a hard time bracketing my responses related to classroom management issues. I thought that teachers trusted students too much when they worked outside in the hall. This was a true problem for me because time is precious, and some unsupervised students goof off and waste time while working in the hallway. In the process of writing and compiling this dissertation, I raised my concerns with my colleagues and I also revisited issues with Dr. Amy Hollenbeck. During the seminar, we discussed how hard it is to avoid judging, and once

aware of our issues, we might have an easier time managing our internal tension. Merriam (2016) noted that through reflecting on the process, we as researchers learn our strengths and weaknesses, our points of connections, and the boundaries of connecting with our participants (p. 421). Overall, I think that I had fewer issues to bracket because the teacher participants in my study were exemplary teachers and I was so impressed with their work.

Implications

The findings of this study have theoretical, practical and methodological implications. From a theoretical lens, this study extends the reach of flow theory to elementary school. This research makes a significant contribution to upper elementary and elementary education, especially given earlier evidence that flow opportunities become scarce once students enter elementary school (Csikszentmihalyi, 1990, Coil, 1999, Apple, 2004). It is critical to provide flow-like opportunities at every grade level, not just during a semester or even a year. Students need to build upon positive learning experiences. These experiences help them identify their strengths (Csikszentmihalyi 2014). Moreover, the evidence in this study suggests that when students cultivate habits of the mind and challenges are injected with play, it is more likely that students will be engaged in their learning.

This research is promising from a practical lens because the flow framework can serve as a blueprint for teachers who reflect upon the following: Did we establish a clear goal? Is my feedback informative? Can the student provide his own feedback or receive feedback from others? Are challenge and skill in harmony? Can students take control of their learning and how? Poison Ivy and Despereaux were excellent examples of students who took charge of their learning. During math, they tried to work out problems on their own before they sought out Jason. In English and language arts, they were so engaged they lost all sense of self-

consciousness. They were totally in sync while analyzing *Tale of Despereaux*. Their literary exchanges were made using a French accent, although they didn't realize that until I mentioned it.

After finding flow in certain academic subjects, elementary students may be better equipped to persist at academic challenges in middle school and high school. Positive learning experiences give students an improved ability to find new or more complex flow channels. Students in each upper elementary classroom gained confidence in their ability to master challenging tasks. As Steve Greenburg indicated, Jason's support led him to believe in himself: "he has inspired me to try whatever you feel [interested in]...don't stop believing in yourself." ("Steve Greenburg," personal discussion, March 27, 2018).

From a methodological lens, this case study was enhanced by the rich description of the ways in which Jason and Hank devised flow-producing lessons and activities. Jason was always developing new and creative strategies aimed at supporting his students, particularly in math and social studies. Hank's creativity engaged his students in integrated investigations. Hank also hooked students into using and understanding literary devices. Each teacher created an environment where students could and did succeed. Given their mastery of upper elementary content and pedagogy, and unique abilities to connect and make meaning with their students, Hank and Jason have demonstrated that they are wise practitioners, and other educators could learn from them.

The photography project I organized for the students in Jason's class gave them an opportunity to reflect about why a learning experience was joyous and exciting. Giving them my iPhone 5 to use as a camera allowed them to be active field researchers. The joy of capturing the

process stayed with some students. Even after I finished my research in Jason's class and had just dropped in to say hi, Rico-Sam reached for my camera to capture new flow experiences.

Future Research

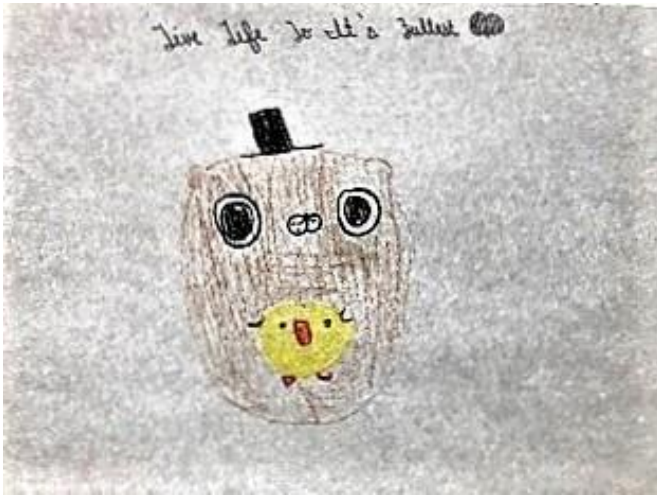
Additional research needs to be conducted on the upper elementary level. Upper elementary students face daunting challenges in middle school and beyond. Today, college preparation begins in middle school in some communities and that can cause students to become exceedingly anxious. My experience as a parent and teacher tells me that upper elementary students may encounter negative learning experiences. If students can internalize what they learned about their learning strengths and interests after participating in flow experiences, they may be able to counter difficult teachers or adverse learning experiences down the road. Armed with knowledge of learning strengths and peak learning moments (flow experiences), students also have a better chance of becoming lifelong learners. Longitudinal research, hopefully in more diverse communities, would deepen our understanding of flow learning opportunities, the development and realization of learning strengths, and the steps needed to take in order to find the path that leads to lifelong learning. Qualitative is an excellent tool for giving the researcher insight into the participants' subjective experience (Nakamura & Csikszentmihalyi, 2002).

Additional research might also clarify some of the confusion in the flow framework. A more descriptive definition of challenge would be useful to educators. There is no reference to the term "interest" in any of the flow conditions, yet Csikszentmihalyi and others postulate that students are motivated by interesting challenges that are in harmony (differentiated) with their skill levels (Csikszentmihalyi, Rathunde, & Whalen, 1993). Similarly, in her research, Egbert (2003) appeared to assume that interest was a precondition to flow.

Less concerning to the educator, but problematic to the researcher is the existence of ambiguity on the autotelic condition. What constitutes enjoyment of the task? Must the research participant find the experience enjoyable throughout the duration of the task? Would it be enough to say that the task is satisfying (and not even advance to the question of enjoyment)? Is enjoyment of the activity merely emergent flow (Gute & Gute, 2008) or an element of flow itself (Csikszentmihalyi 2014)? Do participants transition to higher degrees of enjoyment or flow over the course of the flow experience (Gute & Gute, 2009)? Qualitative tools, particularly interviews and perhaps focus groups, appear to be the best way to measure the subjective nature of enjoyment. As Gute and Gute (2009) posit, there may very well be different levels of enjoyment in a task and teachers may need to make adjustments in order to optimize learning.

Csikszentmihalyi (2014) urged educators to teach students how to “really live:” “To really live means to be able to hone one’s strengths to the limits, while becoming part of the human network and contributing to it” (p. xxii). Jason and Hank started that process; they taught their students how to learn in a differentiated manner, but they also highlighted the importance of working as an integrated classroom community. Csikszentmihalyi (2004) would laud their instruction as achieving complexity. Jason and Hank also made connections to the real world so that students could understand the reasons for learning and continuing to learn. The student subjects rose to—and enjoyed—their challenges with flow-like enthusiasm. Lucy took a picture of the poster below because she liked learning and good messages (“Lucy,” personal communication, March 27, 2018). Her message recorded below—Live Life to its Fullest-- was reminiscent of Csikszentmihalyi. In particular, it was reflective of the profound joy experienced by the emergent fourth grade thinker.

Figure 24. Picture of poster in TARDIS



Final Reflection

I changed during this process. I found myself inspired by the excellent teacher participants and student participants who genuinely offered advice on how to improve upper elementary schooling. As I reflected on my experiences and what I perceived to be the experiences of all participants, I recognized that this dissertation is about passion, about passionately being propelled into the never-ending cycle of curiosity that fuels flow experiences. As Dewey (1938) indicated, “Every experience is a moving force” (p. 38), and I felt propelled into the bounded upper elementary classroom settings where teachers were passionate about learning and passed on the mantra of believe in yourself, as Jason had demonstrated through showing a film excerpt on Star Wars icon, Yoda. Not only did these teachers model flow-like learning, they attended to the nuanced and individualized strengths and needs of students. Consequently, these upper elementary participants became hooked on learning, or as I like to think of it, they caught the flow-bug. Flow-like learning was something I experienced frequently as a young child and as a gifted resource teacher but has sometimes

eluded me as an adult, though not in recent years. I may have returned to the dissertation process challenged at times, but always excited about exploring flow-like learning. What has stayed with me most during this qualitative study was the inspirational quote Hank posted on his classroom wall: “The Greeks didn’t write an obituary. The only question asked when one man died was did he have a passion?” I leave this dissertation experience with a deeper understanding of the nature of my passionate desire to learn and contribute, and not surprisingly, I am most excited when I find myself in a classroom.

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APPENDIX A

Conditions of Flow during Scrolls Project

Student	Goals and feedback	Skills match challenge	Concentration and not distracted	Control and not self-conscious	Time	Autotelic	Joy
J-Dog*	“Shown stuff to look for” J-dog pays attention when given visuals	Jason helps me learn by providing visuals for me. Carpet which shows map of U.S. helpful	“Midwest is interesting—learned about iron from a hill in Minnesota, how it was brought to Pittsburgh and the iron was melted into steel. Never heard about it. Still do it today.”	“Likes scrolls because it is independent”		Novelty Wants to learn more about Social Studies	Enjoyed novel learning experience
Poison Ivy*	Goal: teacher gives guide-lines for scroll. “Sometimes when we forget [something] and think your scroll is messed up—Mr. B says cut that part out and tape it back together and put in [a new, fixed] part; put it back	Yes	“Absorbed”	Goals: I [decide if] want to finish the econ and history section or something like that	Bored when not working on scroll	Learning relates to future travel	"My scroll is everything. Feels good doing scroll; get to learn about all of these different states and North America, get to have fun while you learn about them because you get to draw and make a scroll out of it.”
Mr. Judge*	Yes	Yes	“Absorbed”	Yes		Cool to know what the economy is. Cool to know about states when I travel.”	“So fun to draw and look up facts about all of these dates”

Student	Goals and feedback	Skills match challenge	Concentration and not distracted	Control and not self-conscious	Time	Autotelic	Joy
Unicorn*	Yes		Get to write facts and listen to music.	Asked teacher if he could add pro and con facts to scroll. "Scrolls gives me choices and control...I picked the facts for my scroll."			I like doing scrolls.
Z-Math*	Yes	Yes	Scroll box—takes a lot of effort.			Helps me learn a lot about the country we live in."	
Lucy*	Yes	Yes	Yes			Lucy: Scroll—SE, liked all of them [regions] At beginning of the year, I was not a great drawer; NE really good....	Yes
Fretters*	Yes			Listen to music			Scrolls really fun—research on chrome book, sit next to friends, listen to music.
Desper-eaux*	Goal: four things about topics, i.e., Geography, SW—Rocky Mountains			Likes choice here"			Really like about Social Studies, different topics

Student	Goals and feedback	Skills match challenge	Concentration and not distracted	Control and not self-conscious	Time	Autotelic	Joy
Sprinkles*	Yes; feedback makes her feel confident.	Yes	“Interested”			Novelty and integrated	Fun for me [to] get interested in the scroll. Some things I would never research and had to so I learned more about a little bit of everything. Connects with our reading.
Steve G	Yes	Choose what researching different regions NW, NE, SE, SW; Pick facts— history, economy, climate, geography, government—you choose	Like [sometimes] controlling what do—	Can listen to music		Get to learn about our nation; sometimes, when other people come in, the--other people can see what to learn about nation from us	Mr. B tries to make everything as fun as possible
Rico-Sam	Yes			Yes		Yes	Enjoyed studying regions and scrolls
Jelly Bean	Yes						”Not really like Social Studies, but I do like scrolls because I can draw”

*Asterisks reflect students who elected to take a picture of their scrolls because the project excited them and/or made them proud.

APPENDIX B*Interview Guide -- Teachers*

1. Tell me a little bit about yourself.
2. How would you describe yourself as a learner?
3. What made you decide to go into teaching?
4. What do you bring to your classroom that distinguishes you from your colleagues? Your philosophy about teaching, including aims for student learning?
5. How do you run your classroom?
6. How would you describe the climate of your classroom?
7. How do you establish learning goals for your students? Learning challenges?
8. How do you deliver feedback to students?
9. Have you seen your students so engaged in their learning that you would describe them as lost in their learning? Explain?
10. How do you handle situations when you perceive a student struggling with his learning or district learning outcomes?
11. What responsibilities do you give to your students? Do they have any control over events in the classroom?
12. How do you show support to each student?
13. Is there student anxiety over standardized learning or assessment, and if so, how do you deal with that?
14. What other staff members in your building have shaped or influenced your students' learning?
15. How does the District support your aims as a teacher?
16. How does the District support student learning?
17. "What are the consistent, ongoing elements of your [classroom], school or district that you see as joyful?" (Shareski, 2017, p. 17).

APPENDIX C

Interview Guide -- Students

RLS: I just want to explain what I've been doing here; I'm interested in how you learn and what you feel about your learning.

Whatever you tell me is totally private—I won't tell anyone. If you don't want to answer any questions, you don't have to. The first thing we need to do is pick a pseudonym for you; it's a fake name. So pick a fake name. Please understand, too, that if you don't want to answer a question, we can skip it. It is your choice to participate today and you are free to stop participating at any time. Neither your teacher nor I will care.

1. Tell me about yourself. In particular, tell me what you enjoy—inside or outside of school?
2. What do you like to do at school that makes you feel good (or interested or want to do more)?
3. How does your teacher help you learn? What has your teacher found out about you that helps you learn and excites you about learning, makes you want to continue to learn?
4. What makes you pay attention to what you are learning?
5. Do you set your own goals at school?
6. What kind of feedback does your teacher give you? What's the timing of your feedback?
7. How do you think you best learn?
8. Does that make you feel more prepared and if so, why?
9. Do you ever feel "lost in your learning?" That learning is so good that you want to forget about everything else? Not worry about what your classmates think of you? Not worry if you don't get it right the first time?
10. Do you ever feel that some type of learning is so wondrous that you forget about time?
11. What makes you want to keep learning?
12. Have any other educators, perhaps the librarian, influenced your learning?
13. Are you ever anxious about school?
14. Have there ever been days when you don't care about school?
15. Do you have any advice for teachers?
16. Why is school important to you?
17. Can you describe an experience at school that you were really into doing? Explain.
18. How is this year at school alike or different than past years?