

An Iditarod Curriculum: the Power of Integration in Learning

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CHAPTER ONE: INTRODUCTION

As a fourth grader in 2005, I had one consistent passion: dogs. I loved to learn about dog breeds, meet dogs, and spend as much time as possible with my own dog. In February of 2005, my fourth grade teacher introduced myself and our class to the Iditarod, a yearly event in Alaska that would interest me for years to come. With engaging activities, such as building sleds from household materials and creating postcards to mushers, I fell in love with the Iditarod and its history.

The Iditarod is a sled dog race in Alaska that celebrates the importance of sled dog teams to Alaskan culture and the 1925 Serum Run that saved the town of Nome. It requires experienced mushers having teams of dogs to take them from Willow, Alaska, to Nome, Alaska. The Iditarod is about to mark its 50-year anniversary this March, along with returning to a traditional race route that will span 975 miles after substantial snowfall last year caused the rerouting of the race. The Iditarod is a rewarding race that measures the ability, resilience, relationships and teamwork between mushers and their team.

My fourth-grade self was eager to learn more about the Iditarod, and I was deeply invested in learning as much as I could. I wrote multiple postcards to mushers in the race, I read any book I could that was at my level that gave me more information on sled dogs, and I was invested in creating the best milk-carton sled I could that would go down three different types of ramps. I have a scrapbook that contains pictures of me with my Iditarod shirt on and snuggled up with a husky stuffed animal while reading *Stone Fox*. Since then, I have three postcards that were returned to me with musher's signatures and a handwritten letter from another one. The Iditarod

unit my fourth grade teacher taught has stuck with me and been one my fondest memories from elementary school.

From being that fourth grader obsessed with sled dogs to an educator, I wanted to bring that excitement to my students about the Iditarod. As a summer camp instructor, I would incorporate lessons of the Iditarod, the Serum Run, or Balto in any class I could fit it into. The campers would be thrilled to learn about the hero dogs that helped save other children and create their own sled teams. Once I had my own classroom, I slowly incorporated more lessons on the Iditarod every March. It began with simple lessons on what the Iditarod was, why sled dogs were used in Alaska over other modes of transportation, and learning about Balto and his final stretch to Nome in the Serum Run. This last year, it evolved into two weeks of activities to learn more in-depth on what goes on in training, writing letters to mushers, and learning to track on a map where mushers were along the race route.

While my lessons changed and evolved every year, one thing remained consistent: the excitement and engagement of my students. From the moment we started talking about a sled dog race, my students were hooked and ready to go. The same questions came up every year: Why do they have the Iditarod? What breeds of dogs do they use? How far do they travel? These questions led to more lessons, engagement in different subject areas, and educational opportunities around reading, math, writing, and STEM that built my students' skills. Their engagement in these activities were constant and they were always excited to do another lesson on the Iditarod.

The goal for my curriculum will be to cover two weeks of instruction that will give students an interactive learning experience to learn about the Iditarod and to strengthen their skills in different subject areas. The Iditarod is a specific event with a broad spectrum of types of

activities it can fit into. There can be literacy activities and readings around how sled dogs are trained, how mushers live and train with dogs, events leading up to the creation of the Iditarod, the history of sled dogs in Native Alaskan culture, and more. Math can be incorporated into distances traveled, equations for the weight load of a sled, and calculations of how much food the dogs need to thrive. Not to mention the possibilities with social studies, STEM activities, and art. Creating this two-week curriculum will incorporate as many of these subject areas as possible.

When I was researching online, the official Iditarod website had many resources and activity ideas for teachers. I have yet to find a curriculum that teaches the Iditarod in context of how it began and lessons that run throughout the duration of the Iditarod, so my goal will be to create lessons that can be used continuously. In addition to these resources, a simple Google or Teachers Pay Teachers search will give you vague lessons and short activities. Most of them center around word searches or short articles that have surface level comprehension questions. I couldn't find any resource online that had a solid curriculum about the Iditarod that would last for the duration of the race.

The lessons I plan to create will be taught over two to three weeks, depending on the time constraints and flexibility of the teacher's schedule. I hope to be able to create either two-45 minute lessons to teach each day that correlate with each other, or one-90 minute lesson to be taught. Scaffolds will be made if a 90-minute lesson needs to be split in half due to time restrictions. An additional reason I picked to do a two week curriculum is because the Iditarod typically starts over the first weekend of March, outside of school hours. The ceremonial start is on the first Saturday of March, with the actual start of the race the following Sunday. I plan to have three to five days before the start of the Iditarod to get students familiar with the history of it and basics of the race, such as how many dogs the musher needs, how the sled is built, and

basics of the race. The lessons before that weekend will build background knowledge for them as they do more activities and lessons the following week that incorporate the actual race.

The lessons after the start of the Iditarod will be based on real-time data and information based on the race. I plan on doing many of the math and STEM activities during that time, such as having the students pick and follow a musher and calculate how far they go each day. With the multiple checkpoints and technology the Iditarod uses, it allows students to engage in those activities and see what they're learning in their own lives. This will mean that the lessons I will create will be easy to adapt based on the year and flexible to having a variety of data.

In designing and curating this curriculum, I will present my skills and knowledge following Western Oregon University's M.S.Ed. outcomes. The outcomes are listed below:

1. Effectively use advanced content knowledge and educational technologies.
2. Analyze data and evidence to support learning and engage in change.
3. Apply learning theories and research in education in a variety of contexts.
4. Demonstrate professional growth, dispositions and leadership appropriate to their field in education (Western Oregon, 2022).

In addressing the first outcome, I incorporated my skills in research, my knowledge of the Iditarod, and various technologies to create this curriculum. While I had a deep background knowledge of the Iditarod, this project requires that I bolster that knowledge with additional information to create content and activities for students. Knowing the depth of techniques and sides to the Iditarod allows me to create lessons that relate to a wide range of subjects.

Interweaving the Iditarod with various subjects allows a deeper understanding and engagement in the subjects and allows students to commit to the lessons.

Adding in educational technology, lessons can be increasingly interactive for students to be involved with the learning process. I am a Google Level 1 Educator and have years of experience using Google Apps and creating lessons using Google Slides. In addition, the official Iditarod website allows for live tracking of the mushers once the race starts, interviews with mushers at different checkpoints, and live updates. Incorporating this technology allows for students to feel more involved with their learning and see what they're learning about in real time. In my past classes, I saw more of my students engaged in subjects such as math and writing because they could in real-time see what they were working on.

In regards to the second outcome, I researched the benefits and data on incorporating real events into curriculum and lessons. Allowing students to use their learning in real-life scenarios and see how others use skills such as math, reading, and writing in their jobs brings a sense of purpose to their learning. Bringing in a racing event that includes dogs allows students to be excited about lessons around the topic and practice skills and techniques included in their curriculum.

I intend to use different theories and research in a variety of lessons for my students. By incorporating a variety of subjects and teaching strategies, it will allow students to engage to a fuller ability in the lessons. By applying various techniques and research practices, such as interactive read alouds and word problems that are related to the subject being taught, I will be addressing the third objective and creating multiple learning opportunities for students.

To address the final standard, my curriculum will demonstrate my professional growth and leadership skills. Creating a curriculum, whether it be a week- or year-long, requires planning, dedication, forethought, and standards. I will demonstrate my professional growth through the finished product of the curriculum, as it will require much time and effort to create a

seamless and educational experience. I do plan to teach this curriculum to my students as well, and through that I can find any additional information that may be lacking in my lessons, any gaps, or adaptations that will help better the curriculum. Being able to reflect on my lessons and get feedback from other teachers and my students will show how I can adapt and take feedback to create the best lessons possible for my students.

This curriculum will be beneficial for my students and for future classes because it will address grade-level content and subjects in an interactive, engaging way. To introduce a new topic that is happening in their lives and that the students can see happen in real time will be an exciting experience. It will allow for students to participate in the various subjects in an authentic way and accomplish different Common Core State Standards. The standards that I will be focusing on in the curriculum are listed below:

- Literacy.RI.4.1: Refer to details and examples in a text when explaining what the text says explicitly and when drawing inferences from the text;
- Literacy.RI.4.2: Determine the main idea of a text and explain how it is supported by key details; summarize the text;
- Literacy.RI.4.3: Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text;
- Literacy.RI.4.5: Describe the overall structure (e.g., chronology, comparison, cause/effect, problem/solution) of events, ideas, concepts, or information in a text or part of a text;
- Literacy.RI.4.6: Compare and contrast a firsthand and secondhand account of the same event or topic; describe the differences in focus and the information provided;

- Literacy.RI.4.9: Integrate information from two texts on the same topic in order to write or speak about the subject knowledgeably;
- Literacy.W.4.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly; and
- Literacy.W.4.4: Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience (Common Core, 2022).

These standards will be featured heavily in creating the literacy and writing portions of the lessons. This will allow students to engage in their knowledge of the Iditarod while still contributing to their grade-level learning. In addition to these literacy standards, math standards will be incorporated as well. Until I create the lessons fully, I won't know the exact standards that will be focused on for math. Fourth grade math is heavy in multiplication, division, and understanding remainders, so I will make sure to create lessons that involve those themes.

With these standards and the knowledge of the Iditarod in mind, I will have an easier time establishing an end goal for the curriculum and creating lessons around fourth grade standards. I have created summer camp curriculum guides to help head instructors create lesson plans based off of core objectives and course descriptions, which will assist me in creating a targeted curriculum on the Iditarod. My goal for the end of the unit will be to have students create a project that represents their learning from the first two weeks through a project, such as creating their own book or brochure on what the Iditarod is.

A challenge I can foresee in creating this curriculum is adapting resources to be on a fourth grade level. Many of the resources on the Iditarod website that includes articles and passages are either too advanced or too low for fourth graders. I would need to adapt them to be at grade level for my students. An additional challenge that I could foresee will be if I need to

create lessons that could be pivoted to use online. Because we are still in a Covid-19 pandemic and schools across the country have had to temporarily pivot to online learning, I need to consider the potential of these lessons needing to be done online and not in-person. Another challenge would be to think of scaffolds for various students, such as English Language Learners and adapting to different skill levels of students.

CHAPTER TWO: LITERATURE REVIEW

Introduction

A key term in curriculum building and schools reviewing any new curriculum is “integration.” This could be integration of writing into science topics, or integration of science into other established reading or math curricula to allow them to flow and work seamlessly together. Being able to integrate various subjects areas to work together helps to strengthen a lesson, and allows teachers to meet more rigorous standards. Additionally, integration of technology into lessons and curriculum brings another element to allow students to engage in the topic and open the door to different modes of learning that they may not have access to otherwise.

I know from my teaching experience the benefits of giving students authentic and engaging experiences in education and their lessons. Whenever I can engage students in creative and relatable ways, I notice increased engagement and retainment of information. Last year, I taught measurements and distances to my fourth grade students. They struggled with understanding the concept of distances, specifically miles. Around this time, the Iditarod began and I introduced the topic to my class. When we began to discuss the map of where the mushers run, students were enthralled to learn about how far the sled teams travel. We used an online GPS-tool from the Iditarod website to track mushers that the students chose to follow, and as we began to see their progress, my students demonstrated increased understanding of distances. They began to understand what it meant to travel 25 miles, and how to calculate the remaining distance to the finish line. My students learned more about distances and measurement in that

week than we did from doing strictly curriculum-supplied activities. This integration engaged my students more in learning about math concepts than to simply have the curriculum on its own.

In creating my Iditarod curriculum, there were multiple facets to consider in integration. How could I integrate this real-world topic into a variety of subject areas, including math, reading, and science? In addition, how could I integrate technology that would be helpful and not detrimental to the learning of the Iditarod? My research focused around strategies for integrating various subjects together and integrating technology into learning, and what the benefits or costs were to learning in this integration.

Methodology

Before creating my curriculum focused around integration, I researched articles that are related to both curriculum integration and technology integration. In this research, my goal was to find research on how integrating curriculum to overlap with multiple themes and topics affects student learning and outcomes. My secondary goal was to discover more about the outcomes of technology integration into classrooms and lessons, to deeper understand how technology can impact student learning and access to information.

My first step was to have a concrete definition of what “integration” means in terms of this project and in terms of curriculum. Integration refers to the “action or process of combining two or more things in an effective way,” according to the Cambridge Dictionary. Relating to education, integration would mean consciously combining more than one subject area or concept together that allows students to have a holistic understanding of a topic. Throughout this paper, integration will refer to this idea of combining multiple subject areas into a curriculum.

I began researching on the Hamersly Library website from WOU. I knew going in to research these topics that they would be fairly broad in the world of education. Researching integration and technology have been more popular topics in the last ten years with the increase of technology in classrooms. Going into the database, I recognized that I would need to comb through many articles and resources to find what would best relate to my goals and topics.

I began by researching “elementary curriculum integration,” which generated thousands of hits. To help narrow down my search, I refined my results by selecting peer-reviewed journals, articles, book chapters, and newspaper articles. This narrowed down my search from millions to under one-hundred thousand. Still a daunting task to begin with, and I decided to narrow it down further by searching “elementary curriculum science integration.” I added the science key term because within the Iditarod, there are many engineering and science topics that can be covered in a curriculum. These terms brought me to just under sixty-thousand results. I began to comb through articles and opening articles in new tabs to begin to skim through and identify quality articles and sources for my purposes.

To find more information on technology integration, I tweaked my key terms from changing “science” to “technology.” This resulted in slightly over forty-thousand results. Based on the names of articles that I was picking through, I found many articles that related specifically to elementary education and results in research regarding impacts of technology on lessons and curriculum. I was able to identify multiple potential articles quickly and opened them in another tab to delve into afterwards.

After analyzing a multitude of articles, I picked fifteen to delve deeper into and created a matrix to help identify main ideas and themes. I found multiple themes related to curriculum and technology integration, and was able to narrow down specific information about each topic. The

matrix was helpful in sorting information as well, making it easier for me to sort my notes, thoughts, and observations throughout my reading of the resources.

Literature Review

Theme 1 - Curriculum integration of various subjects establishes connections between real-world scenarios and the classroom for students.

Creating a curriculum that incorporates different subject areas allows students to make concrete connections from their learning in the classroom to real-world situations. While this has been something that has been preached by educators and curriculum developers, there are many roadblocks in creating a curriculum with real-world ties that are applicable to students in their own lives. These roadblocks can include inaccessible application problems for students, lack of materials to create connections, or lack of understanding that curriculum developers have in what connects students to real-world problems. The papers I analyze delve deeper into the importance of creating authentic, connecting experiences for students to their education.

One study specifically targeted how integration can show student growth. Haan and Jadrich (1999) found through their study that students who experienced integrated learning with science were able to establish connections to real-world applications and have a higher confidence to participate in science activities (p. 335). Multiple actions were done during the activity Haan and Jadrich were analyzing that helped lead to this conclusion. For instance, the science curriculum that was created shared content overviews with the students, allowing them to establish connections in the world and challenge misconceptions that they would face otherwise (Haan, 1999, p. 334). This allows students to gain a deeper understanding of various topics and expand their view on the world. In addition, the course included having students journal their

thoughts and questions either daily or weekly. According to Haan and Jadrach (1999), it allowed teachers to see what their students' thoughts were and identify what topics of discussion to bring up in class (p. 334). These integrations of writing, science, and discussions allowed students to gain deeper understanding in scientific practices.

In another article, teachers were analyzed based on their integration and teachers responded to survey questions to give an idea on how teachers understand the power of integration and connection. In this article, the authors focused heavily on integration, describing it as a continuum in education along which curricular connections increase in students and increases learning (Douville, 2010, p. 388). The authors found that teachers understood the power of integrated instruction for their students. However, the outcomes showed that many teachers approach integration randomly, with little planning time to be able to properly integrate information and a lack of materials to bolster integration further (Douville, 2010, p. 394). While teachers see a difference in learning and retention with curriculum integration, they either lack the planning time, materials, support from their district, or understanding on how to properly integrate to allow students to show the connections to the real-world (Douville, 2010, p. 394). Teachers and those working daily with students see the positive effects of integration into their curriculum. However, with multiple roadblocks, the path to integration into classrooms can be extremely difficult.

Both of these articles demonstrate the understanding teachers have of the importance of integration. Teachers who were able to integrate subject areas together saw increased performance and understanding from their students. Additionally, they found that students were able to more easily understand the information they were presented. Integration is made difficult

by multiple roadblocks faced by educators, from lack of resources to lack of preparation time. This has been a major setback to having increased integration in schools.

In schools where administrators and teachers were all onboard with curriculum integration, there was a noticeable difference in student learning. One school in particular took on the challenge of integrating as a school community, finding it “essential to foster students’ holistic development” (Bautistaa, 2016, p. 624) and that in doing so allowed students to be prepared for challenges in their world outside of school. Bautistaa (2016) points out that while integration was implemented, more traditional teaching wasn’t completely abandoned, and all activities were created to apply prior knowledge, allow for the creation of new knowledge, and allowed room for students to experiment with new concepts in the different activities (p. 624). This engagement of students in a variety of ways allowed them to understand the information and apply it to their lives. A crucial piece to the success of this is to have a school environment be a place to help foster teacher learning and bring opportunities for teachers to learn more about how to apply implementation practices (Bautistaa, 2016, p. 625). Without this support, it becomes difficult for teachers to have the capacity to integrate curriculum in a meaningful way.

Theme 2 - Technology integration is effective when teachers have either a confidence in technology beforehand or receive technology training in specific topics.

Technology has risen as a leading force in education in the last ten years. The Covid-19 pandemic has helped accelerate the rate of technology integration in the classroom as well, forcing teachers and students to adapt to a new form of learning through devices. Classrooms are being stocked with laptops and iPads to do interventions and assignments. Software developers have boomed with new online resources and games for students to use in a variety of contexts,

such as Epic! (which makes reading more accessible as long as students have a device and internet connection) and Prodigy (a math platform that engages in standards disguised as a video game to students). Teachers across the world have had to adapt and learn to this new technology, and the research shows that teachers who have confidence in their own use of technology are increasingly likely to use technology in the classroom.

Teachers who have a high confidence in technology and have beliefs about using technology in the classroom bring that technology to their students. Miranda and Russell (2012) found that teachers who believe the technology is beneficial and view that technology is important to teaching will use technology more in their classrooms (p. 663). These teachers direct their students to use technology to answer questions and gain knowledge in how to handle technology as well. Offering professional development to teachers about how to integrate technology in the classroom can help teachers who have less confidence in technology understand its importance and help them troubleshoot roadblocks and issues they've had encountered with technology in the past (Miranda and Russell, 2012, p. 663). When teachers have a higher confidence in a skill themselves, they are more likely to practice those skills in the classroom with students.

A challenge to many teachers, a recurring theme was the lack of time, preparation, and knowledge in trying to integrate technology into lessons and the classroom. In one study, researchers were researching the impact of teacher preparation in technology that influenced their teaching over five years. Franklin and Molebash (2007) found that teachers enjoyed using technology but struggled to implement it, with one teacher stating:

“A frequent (but not bad) frustration is that I am aware of ways to integrate technology with students but there is not always enough time to plan for it and implementation can be complicated.” (p. 164)

Even with professional development, when not enough preparation time is given to teachers, there is a struggle with incorporating it into the classroom. The research also noted that teachers in this study acknowledged that their teacher preparation program has little applicability to their actual roles as a teacher, and any technology training they did get had little worthiness in their actual classrooms and teaching (Franklin and Molebash, 2007, p. 167). Lack of training to applicable situations wastes the teacher’s time and results in little impact or improvement in the classroom.

This lack of preparation influences teacher’s beliefs on education as well. Miranda and Russel’s (2012) research noted this as well: teachers who did not have a firm belief in using technology are often hindered by obstacles, such as little knowledge in how to integrate technology or a low confidence due to issues with technology in the past (p. 664). Not allowing ample time to implement technology and practices results in teachers’ decreased trust in technology, and decreased willingness to attempt to have students use it.

I can personally speak to the research as well. I personally feel very experienced using technology for a variety of uses. For example, I am Google Level One certified, have created a multitude of lessons and activities for my students to do online, and I have a strong background with troubleshooting internet difficulties. There is an age-gap between myself and many of the teachers in my school, as I am in my fourth year of teaching and many of my colleagues are at least 20 years into their teaching careers. With online learning and Google, I was constantly

inundated with questions and asked for tips daily. Because my confidence and usage of technology was high and my colleagues weren't as confident, quite a few of the tips I showed them were overwhelming. While we all adapted to teaching during Covid-19, many teachers struggled with the technology aspect because of either lack of confidence or lack of training/background into how to use the technology successfully.

Millennial teachers in education bring their tech skills into the workplace and they are quicker to note benefits of technology in the classroom. Kaloeti and Manalu (2021) noted that most of the millennial teachers mentioned that “technology made learning more engaging, easier to understand,” and helped students be actively engaged in learning activities (p. 64). Millennial teachers were also increasingly likely to work through issues in technology to somehow bring it into the classroom. These teachers have an awareness that technology is important in the classroom and encourage students to work on a limited-technology basis if there are roadblocks at the school, such as inadequate computers or online safety (Kaloeti and Manalu, 2021, p. 66-67). Their confidence and flexibility in teaching technology allowed these teachers to integrate technology into their classrooms.

Theme 3 - Collaboration and teamwork between students increased with increased integration of topics and technology.

Technology in the classroom is usually characterized by people thinking of students glued to a computer all day. One Of the recurring themes I noted is in direct opposition to that thought. Researchers found that students who used technology in their classrooms showed collaboration and communication with peers, along with gaining knowledge in how to use technology.

Students who used technology in assignments and projects showed collaboration between peers. Sahlin (2017) found that while students didn't demonstrate leadership qualities when working with technology, students did show they could collaborate and work together in groups or pairs when also working with technology (p. 575). In this particular interaction, the group of students showed that they were able to communicate effectively, divide tasks among each other equally, and acknowledge and appreciate each other's work (Sahlin, 2017, p. 575). Sahlin's report demonstrates that computer and technology use can have students work collaboratively with peers while using technology effectively.

In a world where technology is a core focus for specific jobs and skills, students are being inundated with more skills as skills are incorporating technology into the classroom. Kirschner (2004) explains that jobs increasingly want workers who are prepared to reflect on what is needed, identify possible solutions, and make informed decisions (p. 40). This thinking has influenced e-learning software to create ways to allow students to learn technological-based and collaboration skills. Allowing for this flexibility in instruction and allowing students to collaborate together on such platforms allows students to engage in challenging problems (Kirschner, 2004, p. 45). Building technological skills and working with peers to grow in their skills allows students to have a higher skill set to build off of in the future.

Another find was how technology allowed students to connect with resources outside of school. An interview with a teacher done by Franklin and Molebash (2007) found that student engagement increases when they're able to connect using technology through messaging other sixth graders in Seoul, South Korea (p. 161). This collaboration with other students allows them to create positive interactions and experiences with technology. Students also used the technology in a familiar way, demonstrating proficiency in assisting each other in the classroom

and showing that they are able to apply tech knowledge in a way that is authentic to their own lives (Franklin and Molebash, 2007, p. 163). Connecting new technological knowledge to prior knowledge and resources outside the walls of a classroom allows the students to actively engage with real-world scenarios.

Conclusion

The research above shows the benefits and roadblocks to integration and technology in the classroom. Integration of subjects can be done with ample time and thought put into resources. Technology is able to engage students more in learning and collaboration when used in a meaningful way and in a way that matches the teacher's confidence level. Taking into account this past research, my goal for my project is to integrate subjects in a meaningful way, and integrating technology in a way that can be scaffolded to a teacher's and classroom's comfort level.

Regarding integration, my curriculum will bring together multiple subject areas to each lesson to help students establish connections. The Iditarod can be studied under multiple microscopes, such as the science of how a sled is built to analyze the distances the dog teams have to travel over the Alaskan terrain. I believe this allows the Iditarod to be a prime subject to study with integration in mind because multiple subjects can overlap with each other to understand the Iditarod in a deeper context. One drawback I noted about my research was the lack of English Language Learner (ELL) support or scaffolding. I want to make it a point in my lessons to make them accessible to ELLs and to be able to scaffold up or down from the lesson to address student abilities and knowledge.

My lessons will integrate technology frequently, some lessons heavier than others. I am designing this curriculum based on how I would teach it to my students and under the

assumption that there is at least one computer and internet access for a classroom. For activities such as tracking musher's distances, researching mushers, and watching educational videos, technology will be important to implement. In addition, my curriculum will encourage student interaction and collaboration with technology. Students will have to work together with technology to complete tasks or to share information. That increased collaboration will help students strengthen their technological skills while also building rapport between each other.

This research has helped me gain a deeper understanding on the importance of integration and technology in schools. My curriculum will need to address these benefits while also attempting to bridge gaps where there may be roadblocks, such as preparation time and technology challenges. I believe that creating this curriculum will be an engaging and enjoyable unit for students to gain knowledge to apply in their own lives.

CHAPTER 3: METHODS

I work at Monroe Grade School located in Monroe, Oregon. Monroe Grade School serves students in kindergarten through eighth grade, and has 237 students enrolled. I teach one of the two fourth grade classes and I have 16 students in my classroom, with 33 students total between the fourth grade classes. Out of my 16 students, I have four students who are English Language Learners, five students who receive Title One interventions, and one student who receives speech services. This is my second full year at the school, and this class demographic is similar to my class the year before. Our school has about three to five students who are English Language Learners in each grade level, which would mean my class is in the typical range.

Creating this Iditarod curriculum was inspired by past lessons I have taught to my students about the Iditarod and the need to create a full unit to encompass my lessons. I wanted to integrate technology into the lessons, and tie in Common Core Standards into the lessons to create a validity to use the curriculum in the classroom. My number one goal was to create lessons that would engage my students in the Iditarod and be excited to learn. With that in mind, I began to draft out my plan for what to teach each day.

I knew in the end that I wanted to have a full curriculum written with detailed steps on doing the lessons, technology integration, and ties to standards. However, to begin, I planned out a draft schedule in my teacher planner day by day of what we would do in brief statements. I have taught these lessons before and knew what the curriculum map would essentially be. I would need to begin with introducing what the Iditarod was, and build up activities and information to allow my students to understand what the Iditarod was before delving into the

race. I would reference the Iditarod website as needed for specific information and data to make sure that what I discussed with the students was accurate.

Before the start of each lesson, I would think about visuals that would need to be created, resources to create, and what information was vital for students to cover about the Iditarod. For almost every lesson, I create a Google Slides presentation to introduce the information. This would allow for me to organize the information in a way that was clear for students, and also to use for the curriculum for other teachers to potentially use. I attempted to create eye-catching and simple slideshows that wouldn't bombard students with text and information. I used pictures and examples to illustrate information, and incorporated videos when appropriate to help expand on information.

I realized as I was making the Google Slides that I knew a lot of information that another teacher who would potentially use this curriculum may not know or, they may not know how to guide the discussion. I decided that the best way to assist a potential teacher with this was to add notes and potential discussion questions into applicable slides in every Google Slides show. As I made the slides for my students, I kept in mind what information I would discuss on each slide and what the potential discussion questions could be to help students to discuss the subject in greater detail. While my prime objective was to create these for my students first, I kept the curriculum in mind to help create a product that would be hopefully easier to follow and understand.

In addition to the presentations, I also created every activity and template to tailor to each lesson. I would take whatever the information was for that lesson and come up with a unique and engaging activity to help students learn more about that day's topic. I used Google Slides, resized to a standard 8.5" by 11" paper, and used various Google Slide tools to create the visuals and

layout for each one. I would write down notes to help myself in what I wanted to type in the lesson plan in the curriculum to explain it clearly to potential teachers using it. This way, it was easier for me to reference it later when I would sit down at home to type up a formal lesson plan.

As I taught the lessons, I would jot down in a notebook important information and tips to include in the lesson write up. I knew that it would take me some time to type up all the lessons and that I may not be able to complete the lessons every day, so these notes were important to help keep track of information to include. Additionally, I would ask my students for feedback throughout the lessons or see their results from the activities to gauge what their engagement and understanding level was. For instance, when learning about positions of sled dogs on a team I had students tell me that they were confused on what places dogs have on a team, especially when dog teams can have a different number of dogs. We researched additional photos of sled dog teams and discussed what positions each dog had, even if there were five dogs on one team and eleven dogs on another team. This process allowed for me to tailor the lessons better for how my students received it, and allowed me to take notes on what would be important for other teachers to know when teaching it themselves.

After teaching these lessons with my students, I began to create the formal curriculum with the lessons and a curriculum overview. I have written summer camp curriculums before and was familiar with specific points to include in a curriculum, including an overview, steps for each lesson, objectives, and scaffolds for the lessons. I wanted the curriculum to be clear and informational, but also allow a teacher to adapt and teach every lesson to whatever their preferred style may be. Curriculums should be a guide and a path to teaching about a topic and allow for activities that engage students, and realistically teachers use written curriculum as a guideline to their own “interpretation” and adapt them as needed, in most cases against what the

curriculum recommends (Shkedi, 2009, pp. 851). However, there should be enough flexibility to allow teachers to adapt lessons to how they teach and how their classroom flow works. I strived to reach a balance between those two things when creating every lesson.

I created the template of the lessons by thinking about important topics when reading a traditional lesson plan that you're expected to teach: supplies, objectives, essential questions, standards, and a protocol to teach the lesson. I decided to place the curriculum overview first to allow for a glance at the lessons coming up to allow for teachers to get an idea of how many days the curriculum would be and the flow of the lessons. This would also allow for teachers to see what they would be teaching at a glance.

When creating the lesson plan templates, I wanted the first page of every lesson to be an overview of the traditionally important parts of a lesson plan in a curriculum: objectives, lesson purpose, standards, essential questions, materials needed, and any vocabulary that may need to be covered or explained. This would allow for consistency between each lesson and, if a teacher was in a situation where they felt pressured to provide specific curriculum information due to their district or school, it would be within a quick reference on what the lesson ties to. This template was created to be easily copied and edited for every lesson.

I would start by identifying the objective and essential question for each lesson with the notes I took about each lesson. Having already taught the lessons, I knew what the main objective would be and what the flow of the lesson would be. This also made writing the lesson easier because I could refer to my notes to see how I taught the lesson, what worked well, and what I would tweak if necessary for the students. I was able to add ideas for scaffolds for students who may need assistance to do the activity or for students who would need an extra challenge based on what I needed to scaffold for my own students.

When writing the lessons, I wanted to be clear enough to allow anyone to teach the lessons, but also be flexible enough that a teacher reading it wouldn't feel that it was a scripted curriculum. I structured each lesson to have an introduction, an activity/lesson body, and a closure. This consistency helped when creating the lesson and taking my notes into a plan format because it gave a structure that was easier to follow, read, and teach.

When integrating technology, it was fairly easy to tie in technology into the lessons. Technology integration came organically through how the lessons are presented through Google Slides, using technology to complete different activities, and, the most obvious, tracking the mushers using the Iditarod website. This curriculum integrated more technology than I initially thought it would, but it was done organically and in a way that caters to the activities rather than detracting from them.

In conclusion, creating the curriculum was enjoyable for me and allowed me to reflect on my teaching practices. Doing the lessons with my students and having them engaged in all the activities validated my feelings on creating an Iditarod curriculum because it allowed me to see that my students were learning while also engaging in something they were interested in. It was enjoyable for me to think creatively on how I could incorporate technology into the lessons and also how I could create activities that would help the students engage so well. I believe that the lessons turned out strong, and that it's clear how much I enjoyed creating them and implementing them into my classroom.

CHAPTER 4: THE IDITAROD CURRICULUM

[*Linked Here*](#)

CHAPTER 5: REFLECTION

The curation of this curriculum was a joy for me to make. As evidenced in Chapter One, I absolutely love the topic of the Iditarod and was excited to bring this topic into the classroom. I had wanted to create a curriculum that would encompass the knowledge and fun that the Iditarod gives to students, while allowing flexibility for teachers to adapt the lessons as needed and scaffold for students to make the content accessible. I felt that the development of this curriculum was a practice in how as a teacher I use technology in my classroom, how integration of standards into activities can be easier than I previously thought, and the positive role of authentic experiences in student learning.

I learned about how seamlessly technology and standards can integrate with various activities. Technology integration can be a mixture of various things, such as using laptops, projectors, using Google Applications, and online activities to engage students in different topics. A general definition of technology integration is that technology is an integral part of how the classroom functions and is easily accessible for students throughout the day (De Koster, 2017). This can include using specific online applications for activities and using the internet for research. My classroom is definitely close to this definition, where students have frequent access to technology (chromebooks) along with specific expectations for using them and what they can access when.

With the technology integration in the Iditarod curriculum, I incorporated technology whenever appropriate and relevant. The majority of the lessons include Google Slides presentations I created to introduce the lessons and to engage students in various activities. This

was a simple way to integrate technology into the lessons. On a more complicated level for students, the Iditarod tracking activities (which take place for a majority of the curriculum) required students to learn how to navigate the Iditarod musher site, interpret data, and use their chromebooks daily to access information on their mushers. This required students to practice skills in navigating a web page, identifying information on a webpage, scrolling through for their musher's information, and using their Chromebooks efficiently to get tasks done.

The technology integration was done in a way to enhance learning of the Iditarod and engage students further into the Iditarod. Students were tasked with picking a musher, using information from the Iditarod musher pages to type the mushers letters, and tracking those mushers on the website to see their progress over the course of the race. This authentic use of technology allowed an enhancement to the curriculum and gave students a chance to practice their tech skills.

In addition, I learned about how curriculum development can take different forms. I had written a curriculum before for a summer day camp, where the focus was to create engaging activities around arts, sciences, social studies, outdoor, and sports topics. All of these lessons had to tie into the Common Core State Standards, or other national/state standards related to the topic. That curriculum development resulted in focusing on the standards first, then building the activities around what the standards were. This focus severely narrowed my thinking and my mindset shifted to putting the curriculum before the activities, which in many scenarios felt to me that the activities weren't as authentic and "fun" as what I would have done without that mindset.

However with the Iditarod curriculum, I came up with the activities first, created a bulleted list of what I wanted to help students learn about the Iditarod, and then created the curriculum with the standards attached. This planning felt authentic when I created the lessons

and were truly the lessons that I did with my students. When I would sit down afterwards to reflect on what we had done that day and what the students engaged in, it was easier to find the standards that related to our activities because my students authentically engaged in them. We naturally engaged in reading, writing, STEM, and critical thinking skills through the activities we did to learn about the Iditarod without forcing the standards into the lesson.

This authentic engagement in learning processes was eye-opening for me. It was intriguing for me to research more about a topic I had been familiar with since I was a fourth grader, and then to see my own students become engaged with it while still building fourth grade-level skills. I used backwards design to know that I wanted students to walk away from the unit with an understanding of what the Iditarod was, and they also came out of the unit building their skill sets in writing, communication, reading, and critical thinking. I can understand how there are various ways to build a curriculum and that corporate companies who create reading, math, and other topic-specific curriculums would focus on Common Core standards to be more appealing to states and districts, selling themselves to be companies that allow students to learn within those standards. However, learning comes primarily from authentic, relatable and in-world experiences. The fact that the Iditarod curriculum was built authentically with the students in mind and the interesting, real-world topic of the Iditarod allowed my students to engage with standards and learning without having the standards forced upon them.

Implementation of the curriculum went smoothly overall. My students were my ultimate critics, and my main source of immediate feedback for how the lessons were progressing. Their questions helped to shape future lessons and information covered, and the class' collective successes and failures with activities allowed me to reflect and adjust the lesson plans I created as needed. The largest win was the engagement of the students in all the lessons. Even if a lesson

didn't fully go as planned, my students were excited for specials at the end of the day when we do another Iditarod lesson and get to learn specific information about the Iditarod, such as dog breeds, the map, or Balto and Togo. They were also incredibly excited to track their mushers daily, and I would frequently have students asking to check their mushers progress outside of the lesson time so they could see where their musher was.

Technology integration was incredibly successful as well. Two important points to note on why this was are one, my comfort level with technology, and two, my student's frequent exposure and usage of their chromebooks throughout the whole year. Referring to Chapter Two, technology integration is the most successful when a teacher is confident in utilizing technology already inside and outside of the classroom. I consider myself extremely tech savvy, as I have had years of experience using different technology tools and am Google Educator Level One Certified, having taken a test on using Google applications and applying them to education situations.

The research I presented in Chapter Two discusses the importance of a teacher having competency and comfort with using technology to have it be successful when using it in the classroom. Using technology and other creative content allows for real-world approaches to teaching and using technology to view and learn content in various ways (Henriksen, 2016, pp. 30). This creativity using technology requires teachers to have a comfort level with technology and using it in the classroom. I knew that for my own students, integrating the use of chromebooks and the Iditarod website would be fairly easy. It did take a couple days to practice loading onto the musher standings site, but students became familiar with it quickly.

When creating my lessons, I knew not every teacher would have my comfort level with using technology or having students use chromebooks or other laptops for the same tasks. The

scaffold I came up with was to allow options for teachers to use that would require increased technology integration familiarity or decreased familiarity, offering options to print off standings instead of having students find them, for example. This scaffold would allow teachers and their classrooms to build up confidence with technology, and hopefully get to a point where increased technology integration would be possible.

Creating this curriculum allowed me to grow in my professional development through sequencing a curriculum, practicing backwards design, and identifying the importance of authentic learning experiences. Building this curriculum allowed me to practice mapping out activities for my students, and knowing what the end goal was. I wanted my students to experience and learn what the Iditarod was, and experience tracking and learning about a real-world event. I built up to this end goal by building lessons that created background knowledge on what the Iditarod was, how it started, and using that information to understand the context of the race once it began. That backwards design allowed me to sequence lessons that made logical sense to the end goal, and build activities that engaged students in learning.

I learned about the value of using interesting real-world information first, and then incorporating standards that matched the activity. In the current school climate, it's easy to get caught up in being strictly standards-based and having tunnel vision on having students meet the standards. Creating these lessons allowed me to step out of that zone and realize that authentic learning experiences will bring in the standards on their own. I kept my students and the Iditarod information in mind when creating lessons and activities, and the standards they aligned with fell into place. For instance, having students write letters to their mushers aligned with the standards below:

- CCSS.ELA-LITERACY.W.4.4: Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.
- CCSS.ELA-LITERACY.W.4.5: With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing.
- CCSS.ELA-LITERACY.W.4.6: With some guidance and support from adults, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of one page in a single sitting. (English Language Arts)

I have personally done this lesson twice, and when creating it this year I used a similar format to years past: students record information on their musher, create a rough draft, get the rough draft edited, then they create a final draft that gets mailed to the musher. Once I started looking at standards, I realized quickly that this practice directly relates to the three fourth grade standards above. While the integration wasn't my immediate focus of the lessons, I quickly found how the standards melded into our Iditarod activity.

The authentic learning experiences that came from the Iditarod curriculum allowed me to grow in my ability to create these experiences for my students. Bringing in real-world topics and events engage students in their learning and allow for immediate feedback on how we apply that information to the world around us. I want to create more experiences like this for my students to engage in. I believe it would allow for my students to apply their knowledge to different contexts and solidify their knowledge and understanding.

My goal is to continue to use this curriculum for years to come. The engagement and the feedback I have received from students about the Iditarod lessons specifically this year are encouraging enough for me to want to continue to use the lessons in future classes. As the

Iditarod adapts and changes, I would like to continue to tweak my curriculum to match those. I would potentially like to add more activities as well to engage students in the Iditarod, such as to learn more about specific famous mushers, creating their own Iditarod project, and learning more about tracking and map-making. I could also see potentially adapting this curriculum to other grade levels. I geared this toward fourth grade standards because that's when I learned about it in elementary school and the grade I am currently teaching. However, standards and activities can be adapted based on grade level and have ties between each other. I believe that I could adapt and rework the lessons to accommodate different grade levels and allow more students to learn about it.

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