

Inquiry Project Plan
EDCP 331/ EDUC 450
University of British Columbia
December 2016

Class Description

The class with which we worked is a grade 3 class consisting of 24 students whose average age is 8. There is a variety of ethnicities, multicultural backgrounds and lived experiences within the group and the general dynamic amongst the students can be described as cooperative, inclusive and eager to learn!

According to the University of Ottawa “SES may be expressed in terms of income, or level of education, type of occupation, accumulated wealth or the value of a person's house, etc.” (retrieved December 4 from https://www.med.uottawa.ca/sim/data/SES_e.htm). Based on observations from the student's guided journals, we were able to gather information about the scope of parent's occupations. We recorded careers such as police officer, doctor, teacher, various trades workers and servers. Based on this, we assume the class ranges from low-mid to affluent SES. Other observations that contribute to this theory on SES include the range of house prices in the immediate neighbourhood. According to a local real estate website, homes in the immediate area range in value from \$575,000 to \$1.8 million. This is prominent evidence of mid to affluent SES within the group as the journals also indicated that the majority of students live within a nuclear or extended family dynamic. Most of the students are very interested and involved in organized sport and various extracurricular activities. Through descriptions of family vacations, playing with siblings, pets and birthday parties with friends, it is reasonable to say most of the student's are well supported and their social and emotional needs are met.

The class, as any, has a variety of learning needs. There are 4-5 students who attend an out of class learning assistance program within the school. One student is identified as an English language learner as he has recently moved to Canada from India within the last 6 months. Another student is designated on the Autism Spectrum and so has an educational assistant assigned to him in the classroom. One student identifies as a member of the Aboriginal community and so coursework surrounding Aboriginal worldviews and the First People Principles of Learning is both valuable and fragile.

Rationale for Lessons

The rationale for our lessons included exploring students' interest in stars and constellations. This design for inquiry-based approach to learning allowed the students to take

part in their own learning. When the students voiced their interest about stars, we were able to focus in on constellations, and draw connections to the BC Ministry of Education's Grade 3 Social Studies curriculum. After reading Aboriginal stories of constellations, the students created their own constellations from a series of dots on a page. They then designed their own stories pertaining to the creation of their constellations. We were able to link this to how the Aboriginal peoples developed oral histories and stories in order to explain the world around them. Enactivism was demonstrated when the students made their own constellations come to life using marshmallows and toothpicks, and presented their stories to the class using paper cups and flashlights to project their constellations.

Objectives

Our objectives include allowing students to take a hands-on approach to their own learning. They were able to explore concepts about Aboriginal oral histories and constellations through inquiry, play and creation. As teachers, we wanted to satisfy the new Social Studies curriculum, while simultaneously allowing for inquiry and enactment to be explored. We also wanted the students to have fun and be excited about the subject matter. The students were able to explore Aboriginal perspectives on stars and the use of storytelling and oral histories to make sense of the world around us.

Assessment/ Evidence of Learning

Our evidence of learning began when the students were given worksheets to create their constellations and stories. We were able to see that they understood the Aboriginal component to our lessons, and how stories were used to make sense of the natural world. They were able to play and explore their constellations further when we brought in marshmallows and toothpicks to create a 3D replica of their constellations. During our final lesson, the students poked holes on the bottom of paper cups in the format of their constellations, and using flashlights, they presented their stories to the class. These final presentations revealed a compilation of learning that took place during our four lessons.

BC Ministry of Education's Grade 3 Curriculum

We were able to satisfy a variety of objectives from the new curriculum.

Big Ideas:

- Curiosity and wonder leads to discoveries about ourselves and the world around us. (*English Language Arts*)
- Creative experiences involve interplay between exploration, inquiry and purposeful choice. (*Arts Education*)
- People from diverse cultures and societies share some common experiences and aspects of life. (*Social Studies*)
- Indigenous knowledge is passed down through oral history, traditions, and collective memory. (*Social Studies*)
- Designs grow out of natural curiosity. (*Applied Skills*)
- Visual arts are each unique languages for creating and communicating. (*Arts Education*)
- Language and story can be a source of creativity and joy. (*English Language Arts*)

Curricular Competencies:

- Use sources of information and prior knowledge (ex: personal stories and experiences) to make meaning. (*English Language Arts*)
- Make connections between ideas from a variety of sources and prior knowledge to build understanding. (*English Language Arts*)
- Use personal experience and knowledge to connect to text and make meaning. (*English Language Arts*)
- Explain why people, events, or places are significant to various individuals and groups. (*Social Studies*)
- Identify First Peoples perspectives and knowledge as sources of information.
- Questioning and predicting- Demonstrate curiosity about the natural world (*Science*)
- Explore the use of simple, available tools and technologies to extend their capabilities (*Applied Design, Skills and Technologies*)
- Explore identity, place, culture, and belonging through arts experiences. (*Arts Education*)
- Explore and appreciate aspects of First People's oral traditions. (*English Language Arts*)
- Use oral storytelling processes. (*English Language Arts*)

Content Objectives:

- Local First Peoples knowledge of local landforms. (*Science*)
- Interconnections of cultural and technological innovations of global and local indigenous peoples. (*Social Studies*)
- Oral history, traditional stories, and artifacts as evidence about past First Peoples cultures (*Social Studies*)
- Relationship between humans and their environment (*Social Studies*)

Resources

Jefferies, L. (1983). *All about stars*. Mahwah, NJ: Troll Associates.

This book asks and answers star related questions, such as, “what is a constellation,” and “why do stars twinkle?” It is located in the UBC Education Library in hardcopy. It is an easy book to read and follow, and organized well with colourful graphics. Take caution that this book is about thirty years old, so some information may be outdated.

Nicolson, C. (1998). *The stars*. Toronto, ON: Kids Can Press Ltd.

This book is an information text about stars, organized with headings and a table of contents for children to easily follow. It is located in hardcopy at the UBC Education Library. It has many coloured pictures that can attract children, as well as includes space related activities that children can make at home. Depending on the reading level of the reader, a suggestion would be to take caution with the many difficult or unfamiliar wording used. However, there is a glossary at the back of the book to help children understand the more challenging words.

Star Tracker Lite. (2016). Shen Ji Pan (Version 1.9.10) [Mobile application software].

Retrieved from <http://itunes.apple.com>

This iPhone App is a great tool to use to help students find and understand constellations. It allows the viewer to see real constellations and their locations without it

needing to be dark outside. It is available for download through the Apple store, and is accessible for all Apple products. One disadvantage is that students will have to have access to an Apple product, an iPhone or an iPad, which are often expensive or the school may not have access to this resource.

Taylor, C.J. (2006). Coyote creates the big dipper. *All the stars in the sky: Native stories from the heavens*. Toronto, ON: Tundra Books.

This story was the link we used to bring Aboriginal perspective regarding stars into the classroom. We used it as an example of how storytelling can be a source of knowledge, as well as links to the Grade 3 Social Studies curriculum. It can be found at the UBC Education Library. We tried to emphasize the one illustration for our students to focus on as the story does not have many visual pictures.

Wallace, N. (2009). *Stars! Stars! Stars!* Tarrytown, NY: Marshall Cavendish Corporation.

This book is a collaboration of narrative and informational text. It is about a little bunny, Minna, who loves watching stars and has many questions about stars. She decides to have a star party at the local Children's Museum's Star Space, where she learns about stars. The book incorporates star related activities throughout the story. It is located at the UBC Education Library. Although great for a class learning about stars, it is considerably too long in length to read as a read-aloud.

Socioeconomic Status and Health Inequalities, retrieved from https://www.med.uottawa.ca/sim/data/SES_e.htm on December 4, 2016.

This website helped us to better understand socio-economic statuses as perceived within Canada, so that we could make a fair assumption about the students with whom we were working.

Province of British Columbia (2016). *Student Success: BC's New Curriculum*. Retrieved from <https://curriculum.gov.bc.ca/curriculum-info>

We related our lesson plans to the new curriculum for the purpose of meeting grade appropriate content and and ideas.

Constellations-Lesson #1

Subject: Socials, Art, English

Grade: 3 - Ms. Mazur/ Ms. Samm

Date: November 4 2016

Overview

Explore Inquiry: "What do you already know about stars?" (An introduction and assessment of background knowledge)

-Know, Wonder, Learn

Big Ideas of BC Curriculum (students will understand)

- English Language Arts: Curiosity and wonder leads to discoveries about ourselves and the world around us.
- Arts Education: Creative experiences involve interplay between exploration, inquiry and purposeful choice.
- Social Studies: People from diverse cultures and societies share some common experiences and aspects of life.

Curricular Competencies (students will be able to)

- Use sources of information and prior knowledge (ex: personal stories and experiences) to make meaning.
- Make connections between ideas from a variety of sources and prior knowledge to build understanding.
- Use personal experience and knowledge to connect to text and make meaning.
- Explain why people, events, or places are significant to various individuals and groups.

Outline & Activities (time)

1. Introduction

2. Star Chart: Students can write down their facts and information on post-its and put on a big "brainstorm" board. Students will take an interactive approach to help other peers, understand and explore concepts of stars. If students need help or don't know a fact to write, they can look a fact up in the Information books provided.

3. Read Aloud: C.J. Taylor's *Coyote Creates the Big Dipper* in *All The Stars In the Sky*.

-Read back of book, author, and short story.

Materials Needed

-Read Aloud book "Coyote Creates the Big Dipper"

-Information books about stars to assist with star chart

-Evaluate Star Chart and can branch off from there for next week.

-Star Chart can be made from poster board, post-it notes or on chalkboard or white board.

Evaluations & Evidence of Learning

- Will gather students current knowledge about stars
- The star chart will help us to understand students funds of knowledge, how they arrive at various understandings and how they work cooperatively
- Evidence will be the star chart that we can take home and evaluate.

Lesson 2- Constellations

Subject: Socials and Science

Grade: 3 - Ms. Mazur/ Ms. Samm

Date: November 18 2016

Overview

Exploring constellations, on Ipads with StarTracker. Aboriginal perspective and ways of knowing are referred to when students are given the opportunity to create their own constellations and corresponding stories.

Objectives & Content (students will know)

- Learn scientific and Aboriginal perspectives on stars.
- Local First Peoples knowledge of local landforms
- Interconnections of cultural and technological innovations of global and local indigenous peoples.

Big Ideas of BC Curriculum (students will understand)

- Indigenous knowledge is passed down through oral history, traditions, and collective memory. (Grade 3- S.S)
- People from diverse cultures and societies share some common experiences and aspects of life.

Curricular Competencies (students will be able to)

- Questioning and predicting (Demonstrate curiosity about the natural world)
- Identify First Peoples perspectives and knowledge as sources of information

Outline & Activities (time)

1. Explore poster and students' big ideas re: constellations
2. Partner up and explore StarTracker app on Ipads (10 mins)
3. Debrief- Discuss StarTracker, constellations, Coyote Creates Big Dipper reference, and worksheets.
4. Create a constellation and a story about how it was created (Aboriginal perspective/ Storytelling) (20 mins)
5. Provide worksheet for Constellation Story
6. Collect worksheets

Materials Needed

- IPads (app: Star Tracker)
- Worksheets

Other Resources

- Coyote Creates the Big Dipper Story as reference.

Adaptations & Simplified Versions

- Worksheet has space for both written and visual work to accommodate for ELLs.

Evaluations & Evidence of Learning

- The stories the students create about constellations
- Sharing of knowledge in group discussion
- Worksheets

Constellations-Lesson #3

Subject: Socials, Art, Applied Skills

Grade: 3 - Ms. Mazur/ Ms. Samm

Date: November 25 2016

Overview

Further exploring constellations, linking Aboriginal perspective to Global views. Shift from scientific (physical properties) to finding creative ways to relate stars to own world.

Objectives & Content (students will know)

- Further exploration of scientific and Aboriginal perspectives on stars.
- Interconnections of cultural and technological innovations of global and local indigenous peoples.

Big Ideas of BC Curriculum (students will understand)

- Indigenous knowledge is passed down through oral history, traditions, and collective memory. (Grade 3- S.S)
- People from diverse cultures and societies share some common experiences and aspects of life.
- Designs grow out of natural curiosity (Grade 3, Applied Skills)

Curricular Competencies (students will be able to)

- Questioning and predicting (curiosity about the natural world)
- Identify First Peoples perspectives and knowledge as sources of information
- Make a product using known procedures or modeling of others.
- Explore the use of simple, available tools and technologies to extend their capabilities.

Outline & Activities (time)

1. Hand back worksheets/ Review
2. Make marshmallow and toothpick art from students' constellations
(enactivism creating own 3D constellation)
3. Relate creation of own story to Aboriginal oral histories of constellations and stories.

Materials Needed

- Marshmallows/ Toothpicks
- Worksheets

Other Resources

- Coyote Creates the Big Dipper Story as reference.

Adaptations & Simplified Versions

- visual and tactile learning

Evaluations & Evidence of Learning

- The Marshmallow Craft
- Completed Constellation worksheets

Constellations-Lesson #4

Subject: Socials, Art, English

Grade: 3 - Ms. Mazur/ Ms. Samm

Date: December 2 2016

Overview

Helping students connect with and take ownership of their constellation stories. Students will show enactivism by presenting their stories and meanings to their classmates using their own light projections. The students will gain insight on the tradition of oral story telling and the importance and value of Aboriginal perspectives.

Big Ideas of BC Curriculum (students will understand)

- Indigenous knowledge is passed down through oral history, traditions, and collective memory. (Grade 3- S.S)
- People from diverse cultures and societies share some common experiences and aspects of life. (Grade 3 – S.S.)
- Visual arts are each unique languages for creating and communicating (Art)
- Language and story can be a source of creativity and joy. (English)

Curricular Competencies (students will be able to)

- Make a product using known procedures or modeling of others.
- Explore the use of simple, available tools and technologies to extend their capabilities.
- Explain why people, events, or places are significant to various individuals and groups

Outline & Activities (time)

1. Have a discussion about presentation planning and etiquette (2 minute speaking limit, encourage turn taking during presentations)
2. Using constellation story booklets, recreate constellations by poking holes in the bottom of paper cups (using pens and tacks) – plan presentation (story telling)
3. Have a discussion about being a respectful and appropriate listeners and audience (the room will be DARK!)
4. Present using flashlights to project constellations onto the ceiling/wall
5. Return to class – wrap up discussion (link to Aboriginal ways of knowing) – goodbye/thanks!

Materials Needed

- Paper cups
- Pens/tacks
- Flashlight
- Dark room
- Constellation booklets

Evaluations & Evidence of Learning

- Convey their meanings through storytelling to peers
- Paper cups with strategized and planned constellation designs