

Fulbright Teachers for Global Classrooms

Project Based Learning Unit Plan - Template

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School Type:	9-12 Public Virtual School
Subject:	Programming
Grade Level:	9-12
Project Title:	Navigating Global Challenges: Interactive Python Storytelling

Project Concept

Driving Question	Project Summary/Big Idea
What cultural, social, or economic factors might influence the perspective of someone living through the scenario represented in the narrative?	Students will demonstrate the ability to plan and code a choose-your-own-adventure story program that addresses a global issue of their choice, such as migrants and refugees, global warming, world hunger, etc.
Subject Content and Interdisciplinary Connections	
In the foreground, computer science and programming makeup the content areas. In the background, connecting to these skills are geography, history, environmental science, cultural studies, and sociology. These connections are dependent on the student's chosen global issue.	
Global Competencies	
<u>Global Competence: Investigate the World</u> In the first lesson students will use local and global resources to identify real-world issues that are meaningful to them. They will write a brief algorithmic narrative that demonstrates multiple perspectives about the issue. This will serve as the content of their program, most likely adapted into a function.	
<u>Global Competence: Recognize Perspective</u> In the first and second lesson, students will continue to analyze their issue to include their viewpoints on the issue, as well as the perspectives of other people connected to the issue. They will be encouraged to understand the influences for these perspectives, which in turn will help plan the narrative branches of the storyline for their project.	
<u>Global Competence: Communicate Ideas</u> As part of the third and fourth lesson, students will use the Python programming language to communicate their selected issue through a choose-your-own-adventure type of storytelling program. The program should allow the user to make choices as a person who is integral to the issue. The reflection portion of the unit will allow students to play each other's game, leading to discussions on the meaning and perspective of the issue presented.	

Learning/Curriculum Standards
Florida Sunshine State Standards: • 26.02 Define appropriate user prompts for clarity and usability (e.g., user guidance for data ranges, data types). • 26.03 Design and develop programs for efficiency (e.g., less memory usage, less inputs/outputs, faster processing). • 27.03 Write programs that use selection structures. • 27.05 Write programs that use nested structures. • 27.13 Write programs that use user-defined data types. • 28.02 Write programs that perform user input and output. • 28.03 Write programs that validate user input (e.g., range checking, data formats, valid/invalid characters).
Authentic Product and Audience
<u>Authentic Product:</u> Students will create an interactive computer program using the Python programming language. The program will resemble a choose-your-own-adventure story where players can choose the actions of a character in the story. The story will address a global issue based in a SDG.. <u>Audience:</u> The computer program will be designed for general audiences, ages 12 and up.

Project Management

Project Timeframe and Milestones (how many class periods/weeks is this PBL?)
I plan to take at least seven 45-minute class periods to complete this assignment.
What will Students Need to Know and How will they Get to Know Them?
<u>Students will need to know:</u> Storytelling: - Planning - Choices Global Competencies: - Global Issues - Personal stories Students will gain this knowledge through: - A pre-session interview with a community member - Resources related to storytelling and global issues

Authentic Performance Based Assessment
Students will create a computer program in the Python programming language. The program will be assessed by the following rubric: - Program Functionality (40 points) - Content and Storytelling (30 points) - Global Competency and Ethical Considerations (20 points) - Presentation and Reflection (10 points)
Differentiation and Scaffolds
- Existing resources for programming, including videos - Feedback at different stages in the project - Provided step-by-step instructions - Choice in collaboration - Creation of coding toolbox with code snippets to help move along program - Tutoring, with specific mini-projects or section assistance, and with peer tutoring
Resources
Procedural Programming Course Resource Website: Course Website, including video tutorials. W3Schools: Help with Python Syntax UN Sustainable Development Goals Global Issues Network BBC News Country Profiles Pixar Storytelling Tips Writer's Digest Resources Storyboarding Templates

Project Kick-Off and Building Background Knowledge

Kick-Off Event and Driving Question
<u>Kick-Off Events:</u> The kick-off event will Invite a guest speaker from the Pulitzer Center to give a presentation about reporting on global issues. Students will have the opportunity to ask the speaker questions, especially about reporting and writing with empathy on serious topics. <u>Driving Questions:</u> What cultural, social, or economic factors might influence the perspective of someone living through the scenario represented in the narrative? And: "How can we use the power of interactive storytelling to raise awareness about a global issue that matters to us?"

Building Background Knowledge

To build background knowledge, students will engage in discussions related to global issues, using the local newspaper and a news aggregator as our starting point. An opening activity will be provided to help students write out what they know, want to know, and have learned about global issues.

Students will be provided with and asked to explore resources such as articles and videos to deepen their understanding of the issues they plan to address in their narratives.

A second activity will be run that will explore how stories are built. Samples of stories in different formats will be shared, including print, online and gaming models. Using Pixar's storytelling tips, students will learn the elements of a quality story ahead of the creation of their own narratives.

Project Development Outline

Project Daily Outline - Overall Objectives and Practices for Each Class or Week

Pre-Session: Students will attend a presentation from someone who has experienced a global challenge. They will ask questions and record data and be given the driving questions.

Session 1: Students will use local and global resources to identify real-world issues that are meaningful to them. They will write a brief algorithmic narrative that demonstrates multiple perspectives about the issue.

Session 2: Students will continue to analyze their issue to include their viewpoints on the issue, as well as the perspectives of other people connected to the issue; students will plan the narrative branches of the storyline for their project. Students will take time for a brief 5-minute reflection survey of their experiences so far.

Session 3 and 4: Students will use the Python programming language to create a choose-your-own-adventure program. The program should allow the user to make choices as a person who is integral to the issue. Students will post working prototypes to a collaborative website where students can receive critique and encouragement from their peers.

Session 5: Students will participate in a presentation and reflection activity that will allow students to play each other's game, leading to discussions on the meaning and perspective of the issue presented, including the specific SDG being covered..

Session 6: Students will participate in an inter-school showcase that will allow their project to be shared and critiqued by an audience outside their community.

Session 7: Students will participate in a reflection activity that aims at helping students review the overall purpose of the project and how well their objectives were achieved through their project.

Authentic Audiences

Student Connection with Authentic Audiences

Students will connect with their audience in the following ways:

- Students will present the main idea of their project to other students in class and have a question-and-answer time.
- Links to all projects will be placed in a public document and shared with students across all programming courses.
- Projects will be shared with the school newsletter and weekly update to reach an audience beyond the programming classroom.
- Options will be explored to provide students an opportunity to share their games with others outside of the school, perhaps in an inter-school activity

Student Reflection

How will students reflect on their growth and learning after the project?

Students will complete the course-standard review for reflection on coding practices, however, questions will be added to assess views on the global issue they chose. Questions will include:

Questions addressing programming practices:

- What was the purpose behind the development of your program, and how did it guide your project's goals and decisions?
- In what specific real-world scenarios can you foresee your program being particularly helpful or valuable?
- Share a problem or difficulty you encountered while developing your program. How did you go about solving it?
- If you were to work on a similar programming project in the future, is there anything specific you would do differently based on your experiences with this one?
- Think about the core features or concepts in your program. How might these be adapted and applied to different areas or situations?

Questions Assessing Global Competencies:

- Describe your experience trying to portray a character's perspective on the global issue. How did this process influence your empathy and understanding with their situation?

- Did you find it difficult to balance storytelling while also being aware of ethical concerns? Provide examples of how you approached this balance.
- Consider how storytelling can be a powerful tool for addressing global challenges. How might this influence your future actions?
- In what ways do you see yourself continuing to engage with global issues in the future, whether through storytelling, advocacy, or other methods?
- Summarize the most important lessons you've learned from this project regarding the global issue you chose. How have your views and perspectives changed as a result?

Teacher Reflection

(To be completed after the project)

What am I proud of from the project? Describe a highlight moment.

How did my students grow during the project (think about core content, global competence and personal growth)?

What would I change or improve for next time?

PBL Lesson Template

Unit:

Navigating Global Challenges:
Interactive Python Storytelling

Lesson:

Date:

11/17/2023

Session 1 - Using Resources to Identify Real World Issues	
Standards: Florida Sunshine State Standards: 29.04 Generate, evaluate, and prioritize questions that can be researched through digital resources and online tool. 29.05 Perform advanced searches to locate information and/or design a data-collection approach to gather original data. 28.01 Critically examine classical algorithms and implement an original algorithm. 29.06 Communicate and publish key ideas and details to a variety of audiences using digital tools and media-rich resources.	Learning Objective: Students will use local and global resources to identify real-world issues that are meaningful to them. They will write a brief algorithmic narrative that demonstrates multiple perspectives about the issue.
Do Now: - Using Canva's collaborative whiteboard feature, students brainstorm global issues they are aware of. - Students will choose one global issue, and will use the Internet to search for a news article about that issue. They will write three key points from the article.	
Modeling/Mini-Lesson: - Walkthrough of the UN Sustainable Development Goals - Mini-lessons on lateral reading to verify credibility of news resources - Demonstrate how to use digital tools for research - Introduce Pixar Storytelling Tips for basic concepts of storytelling and narrative structure	
Collaborative Learning: - After the research write up, students will go back to their groups and share research - If the project is a collaborative one, students will choose one of the stories and brainstorm different perspectives about the issue using the Leaves\Trunk\Trees template.	
Independent Practice: - Students complete in-depth research on their chosen issue - Begin draft of narrative flow chart\decision tree that will serve as the script for the program and includes multiple perspectives	
Facilitator Responsibilities: - Guide students in research techniques and evaluating news sources - Provide feedback to students on narrative draft - Facilitate group discussions and help ensure inclusive participation	
Exit Ticket: - A brief summary of their chosen issue and why they selected it	
Assessment:	Deliverables:

- Completed Leaves\Trunk\Trees template and issue research - First draft of narrative flow chart\decision tree	- Completed Leaves\Trunk\Trees template and issue research - First draft of narrative flow chart\decision tree - A brief summary of their chosen issue and why they selected it
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