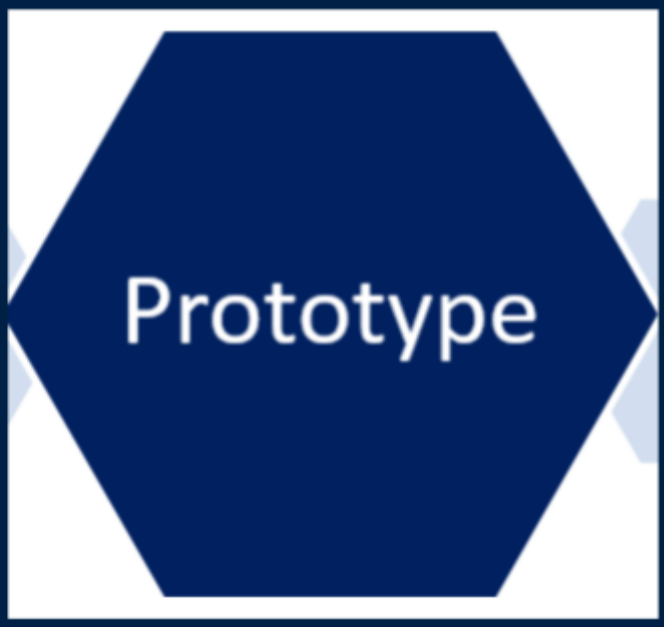
THE UNIVERSITY OF BRITISH COLUMBIA
Faculty of Education

Master of Educational Technology Program



Inclusive Prototyping

Using EDIDA frameworks to enhance design

Designed by: Tiffany Ku

Overview of the challenge

In this maker challenge, students will use Twine and the EDIDA framework to build an interactive digital story to demonstrate their understanding of prototyping for accessibility. This is a mini-lesson that is part of a larger social justice maker project (outlined in the Unit of Learning) and should be taught in sequence, after “Define and Ideate”. This specific lesson will teach students the process of prototyping and students will create an interactive story based on these three narratives: Equality, Accommodation, and Accessibility (see image below). Students will design a life-like scenario where each of the three narratives will look different depending on the approach, and students will aim to demonstrate the possible impact that each solution or “prototype” can have on a person’s life experiences. This will help scaffold their critical thinking skills and guide them to thoughtfully consider the needs of their target user(s) when prototyping their own designs in the future.

Equality, Accommodation, and Accessibility

Materials and Resources Required

Materials:

- Laptop/ Computer/ iPad
- Headphones
- Collaborative space

Website Resources (URL)	QR Code

Online Accessibility	
Twine Tutorial blog	
The benefit of designing for everyone	
Twine tutorial videos (step by step) (high-tech)	

Choose your own Adventure on Google Forms (low-tech)	
Origami fortune teller tutorial (no-tech)	
Readaloud: Free text to speech plug-in	

Inclusive Maker Challenge Instructions

1. In groups of 2 or 3, describe the message that this image is trying to convey. Think, pair, share.

2. What is another life-like scenario where Equality, Accommodation, and Accessibility would look different?
3. As a group, create a storyline with 3 narratives (Equality, Accommodation, and Accessibility). What would happen next? You may use Twine, Google forms (Choose your own adventure), or make an origami fortune teller.
4. Watch the tutorial video/ read blog instructions to learn the tech with your group before starting.
5. Make!
6. Reflection: What is the impact between equality and accessibility? (Compare the endings of the different narratives)

Guidelines:

- You must have at least 3 more sequences for each narrative, and each sequence must offer a choice (of at least 2 options)
- The scenario must be life-like. Think logically about the sequences and draw inspiration from real-life stories.

Challenge Objectives

- Students will learn a new way to demonstrate story-telling.
- Students will discuss and explore how “impact” can/should be measured.
- Students will use the EDIDA framework to guide their story-telling as well as their design process.
- Students will learn and utilize universal design.
- Students will share and communicate their learnings with each other and celebrate various perspectives through story-telling.

Critical Questions for Consideration

- *What social justice issue does your design address?*
- *What is the purpose of your design/ product?*
- *Who is your audience?*

- *How are you representing your target user in the story? Is it holistic?*
- *Which of your perspectives might differ from your target user and how does that affect your design?*
- *How will you test that your design/ product is beneficial to the target user?*

Background/ Additional Information

Universal Design is:

*'The design and composition of an environment so that it can be **accessed, understood** and **used to the greatest extent possible by all** people regardless of their **age, size, ability** or **disability**.'*

Resources for background information	QR codes
Universal Design	
5 Ways UD makes products more accessible	

Inclusive Synchronized Media Content	
The benefit of designing for everyone	
Readaloud: Free text to speech plug-in	
Impact Measurement	

Impact Measures Tool (Ec prism)	

Inclusivity Focus

Through introduction for this maker challenge, I will connect with my students and learn about their existing knowledge, cultural backgrounds, interests, and issues of concern by inviting them to reflect on their inherent biases and be able to articulate who they are. They will either write down what they have identified or share with a peer. We will talk about privilege, ability, identity, culture, and intersectionality, and my hope is that students will learn something new about themselves.

This lesson and maker challenge will help students learn a new digital storytelling skill and engage students in critical thinking. Through the prototyping process, students will also empathize with new perspectives, collaborate with their peers, practice logical reasoning, envision impact, and use their creativity to problem-solve. With these skills and knowledge, students will be able to address issues/ problems in their lives, communities, and the world.

I will include multiple narratives in my instruction by introducing stories of real people in my demonstration/ explanation for the maker challenge and model how to respectfully and empathetically relate to others by acknowledging my own biases.

No-Tech, Low-Tech, High-Tech Options

Twine tutorial videos (step by step) Twine Tutorial blog (High-tech) Students can follow this step-by-step video or blog to create their interactive story on Twine. All students will have access to laptops/ computers/ iPads.	
Choose your own Adventure on Google Forms (Low-tech) Students can follow this step-by-step blog to set up their story. All students will have access to laptops/ computers/iPads.	
Origami fortune teller (No-tech) Students can follow this YouTube video to fold the origami, then write in the possibilities and its impacts behind the two layers of “pockets”. If a student has trouble writing/ printing, some accommodations can be to draw pictures/icons instead or print small labels to stick/glue inside the fortune teller. Students will have access to laptops/ computers/ iPads.	

Assessment

Maker Challenge

	Emerging and Developing – Anecdotal	Meets Expectations	Extending – Anecdotal
Defining the creative challenge		Understands the purpose driving the innovation (who needs this and why?) and develops insight about the particular needs and interests of the target user.	
Identifying Sources of Information		In addition to using typical sources of information (i.e., articles, internet, books), finds unusual ways or places to get information including experts, community members, businesses or organizations, and cultural groups to ensure authenticity, representation, and sensitivity.	
Technical Skills		Demonstrates good technical skills, effectively using various tools and materials.	
Final Product		The final product is of good quality, meeting most of the project's objectives.	
Presenting Work		Effective storytelling, is appropriate to the topic, and shows individuality, information is clearly conveyed, accessible across a variety of multimodal forums, and is inclusive to all.	
Critical Thinking and Problem Solving			
Analyzing the Driving Question and Inquiry Process		Demonstrates deep understanding of the driving question (big idea) by identifying the detail and considerations of alternative perspectives using EDIDA frameworks, and asks follow-up and prompting questions to stimulate thinking.	
Gathering and Evaluating Information		Integrates relevant and sufficient information to address the driving question. The information is targeted and from a variety of sources. Thoroughly assesses the quality of the information, including source type, usefulness, accuracy, timeliness, inclusivity, and representative.	
Prototyping		When presented with a challenge has a maker mindset and is able to see opportunities to develop new approaches and connections to solutions. Can develop multiple approaches when the first doesn't work. Fails positively and demonstrates a growth mindset. Is able to identify problems and uses existing knowledge and new research to create original, innovative iterations through the project.	

Self-Regulation and Responsibility		Is prepared and ready to work, informed on the project, and cites evidence to probe and reflect new ideas with other makers. Consistently uses tools to effectively communicate and manage tasks. Completes tasks on time and without reminders. Uses feedback from others to improve work.	
Collaboration		Helps the team solve problems and resolve/manage conflicts. Gives useful feedback (specific, feasible, supportive) to others so that they can improve their work. How the learner critically enhanced the thinking of the group. Makes discussions effective by clearly expressing ideas, asking probing questions, making sure everyone is heard, and responding thoughtfully to new information and perspectives.	
Respect for others, spaces, and materials		Respects the space and materials in which, and with which they work. Makes authentic connections between the space, materials, resources, and land.	
Documentation		Documents work in progress using a variety of techniques, including written steps, drawings, pictures, videos, reflective stances, and connections. Is able to articulate their thinking and learning in multiple ways and connect to content.	
Communication		Shares and communicates making and documentation for an intended audience. Creates compelling content using multimodal means and communicates the design process and iterations to the finished product in effective ways.	

Adapted from Makerspace Assessment

Extensions

Some options to extend this maker challenge:

- Find/ identify a current real-world solution that only offers “equality” or “accommodation”, and advocate what it might look like if “accessibility” is achieved. This can be a policy, a physical object, digital tools, etc.

- Create a multimodal artifact (infographic, microlesson, video, comic, etc) that highlights the differences between equality, accommodation, and accessibility, and explains the impact that true accessibility can have for all peoples.
    - No-tech/ low-tech options: cardboard, poster, arts and crafts materials, etc.