Possible Futures

Facilitator Guide:
How to Prepare for This Lesson

Information Technology

Lesson 6—Ideating Prototypes

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About This Facilitator Guide

This facilitator guide provides the details to help you enable students to complete the lesson **Ideating Prototypes: Is There Always an App for That?**

Instructions for using the SCORM files in Blackboard and Canvas can be found at this [link](#). Instructions for using Flipgrid can be found in this guide.

While this lesson is designed for online learning, you will find information in this guide about In-Person Learning Adaptations to enable you to help your students who may be completing this lesson in the classroom instead of online. Callouts will provide guidance on how to adapt various activities for in-person learning.

Before You Get Started

Before you get started with this lesson, please be sure to:

- Read through the facilitator guide.
- Download SCORM. (You will only need to add SCORM once. After that, you will be set to use SCORM for any remaining lessons.)
- Review the Rise lesson.
- Prepare any resources needed for the lesson.
- Set up Flipgrid.

Flipgrid Instructions: Setting up Flipgrid

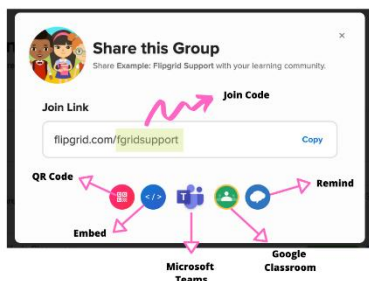Both educators and students will need to set up Flipgrid for use.

Educator Step-by-Step Guide

Set up your free educator account at Flipgrid.com and create a **Topic** for the class. Please copy and paste the heading from the facilitator guide that pairs with the Flipgrid so that the Topic aligns with student expectations. A Topic is a discussion prompt for students. Students respond to the Topic with a short video using Flipgrid's fun, social-media-style camera. Students can watch and comment on videos from peers, with the educator in complete control.

1. Create a Topic

   Topics start the conversation in Flipgrid. Just write a prompt and include anything for students to review before responding, such as videos and links.

   When you create a new Topic or Group, a Join Code is automatically created for it. To share the Join Code to your Topic or Group, log in to your educator account and select the blue Share button to access your Join Link and Code, as well as other ways to share your discussion.

   The Join Code also creates a link. Copy and paste the link in emails, texts, social media, Google Classroom, or other websites to invite your students to join! You can download/print QR codes for students to scan on the Flipgrid app. The Flipgrid app and flipgrid.com offer a QR scanner on the home page.

   The student receives the Join Code in the form of a link, a code, a QR code, or a guest username and password. The student can then enter a student username or a password.

2. Set Access and Share
   After creating the Topic, choose how students will access it. If they have email addresses, add the domain (everything after the @ symbol in their email address). If students do not have email addresses, create usernames for each student. Invite families and guests by adding a guest password.

   Share the Topic by using one of the Share buttons or copy and paste the unique Join Code wherever you connect with your community.

3. Students Respond
   After entering the Join Code, students gain access by logging in via email or username.

   Students can share their voices by recording a short video with Flipgrid's fun, simple, and powerful camera. It's packed with everything they need to tell their story, including text, emoji, inking, boards, screen recording, and the ability to upload clips!

   References:

   Educator Step-by-Step Guide
   Educators: A Teacher's Guide to Flipgrid [YouTube]
   Educator Guide to Flipgrid

Student Step-by-Step Guide
A student can create a video to submit to the educator in a few easy steps!

1. Locate the Join Information From Your Educator
   Your educator would have given you one of these ways to join the discussion:

   ● A Join Code (e.g., FGrid3567 or a591dc5d) or a QR code
   ● A Join Link (e.g., https://flipgrid.com/FGrid3567 or https://flipgrid.com/a591dc5d)
   ● If you don't have a school-provided email, then a unique username or guest password

   Flipgrid works on most web browsers and mobile devices. Microsoft Edge or Google
   Chrome is recommended for the best web experience. For easy access to
   Flipgrid, download the Flipgrid extension. On mobile devices, download the free Flipgrid
   app for iOS and Android devices.

2. Join the Discussion
   Get the educator's discussion by using the link or code provided by your educator in Step
   1.
   ● If you have a Join Link, select that link.
   ● If you have a Join Code, do either of these:
     ○ Go to your web browser and enter https://flipgrid.com. You'll see an area to
       enter a Join Code. Type the Join Code and press Enter on your keyboard.
     ○ On a mobile app, enter the code.
   ● If you have a QR code, scan the QR code with your device camera or the Flipgrid
     mobile app.

   You'll see a prompt to log in. Enter a student username or a password. If your student
   username or password is not working, be sure to double-check the case and space
   sensitivity.

   **Tip: If you're prompted to log in, choose Google if your school uses Google
   Classroom, Docs, and Drive. Choose Microsoft if your school uses Word,
   OneDrive, or Microsoft Teams.**

3. Record and Submit
   Once you've joined, you'll see your educator's Topic or discussion prompt. Follow the
   instructions and when you're ready to record, select the red Record a Response button or
   the Flipgrid logo for the camera to start.

When you're in the Flipgrid camera, you can record a video in these three easy steps:

- Tap to record: Tap the record button on the bottom to start. Add fun stickers, filters, text, and more. Tap the arrow on the bottom right to advance.

Review your video: Trim, split, rearrange, or add more. Tap the arrow on the bottom right to advance.

Submit your video: Edit your cover image and name, add a title, or attach a link. Then submit!

The Flipgrid camera offers a lot of fun and creative ways for you to share your ideas and voice! Check out all the camera features here. Learn how to import a custom video or how to include a screen recording.

References:
Getting Started: Students
Getting Started with Flipgrid - Students [YouTube]

Using Editable PDFs

Most lessons include the use of an editable PDF for students to capture responses to questions and other activities.

Guiding language is included in the lesson to help students access and use the editable PDFs where they appear.

Students who will be using Chromebooks will need to use the Print to PDF function to save their editable PDFs to their device. Here's how to do this:

1) Open the editable PDF and select Ctrl + P.
2) Open the file destination where the file will be saved to.
3) Select Save as PDF.
4) Select Print. Your document is now "printed" as a PDF file, which will save your work.

PDFs cannot be submitted via the Rise activities. If you plan to collect these documents for career planning portfolios or grading, you will need to coordinate that with your students.

To view a video on using Flipgrid and editable PDFs in the lessons, select this link.

"Ask an Expert" Interviews (Optional)

You may choose to include an "Ask an Expert" interview in this lesson.

An interview provides an opportunity for students to talk with and ask questions of experts who work in various professions to learn about their career journeys and current job roles and responsibilities and to glean valuable insights.

Additionally, interviews also provide the following benefits:

- real-world information about careers
- an awareness of the workplace habits and interpersonal skills needed to succeed in any job
- further encouragement to go to college or postsecondary training or apprenticeship and get ready for the career of their choice
- an understanding of the fact that each person's career journey is unique and that most people encounter obstacles and challenges that they must overcome to reach their goals

When selecting experts to participate in the small group interviews, look for "down to earth" people who you think are good speakers and who would be comfortable talking to young students, ages 12 to 14. An ideal ratio is one expert for every five students.

There are two options that can be used if you choose to use an "Ask an Expert" interview:

- Schedule a Zoom/Skype call with an expert in the field.
- Find an existing YouTube video of an expert to share with students.

In-Person Learning Adaptation: For in-person learning, project/share the Zoom/Skype call with an expert with your class. YouTube videos may also be projected/shared in person. You can consider facilitating further discussions on the key takeaways from the session and/or a specific topic discussed in the session.

Review the following resource for additional information:

Career and College Exploration Experiences: Planning for Success

How to Implement This Unit

For students to get the most value from this unit, please plan on implementing all lessons in this unit, in sequential order.

When it may not be possible to implement the entire unit, we recommend implementing the following lessons to support optimum student learning based on the time available:

- Recommended combinations: Choose any of the following:
  - Lesson 4 as a stand-alone lesson
  - Pairs: Lessons 2 and 3, Lessons 4 and 6, Lessons 3 and 4, and Lessons 4 and 5
  - Trios: Lessons 3 through 5 or Lessons 4 through 6
- Mini four-lesson unit: Lessons 1 and 2 and Lessons 4 and 5
- The Introduction to Information Technology unit: Lessons 1 through 3 in sequential order

Alignment of Learning Outcomes

The program learning outcomes for Possible Futures 2.0 are as follows:

A. Gain awareness of and exposure to a wide array of careers.
B. Increase self-awareness and begin to form one's potential occupational identity.
C. Develop employability skills.
D. Develop foundational technical skills as appropriate.
E. Be positioned to make more informed educational choices.
F. Transition to high school with an actionable plan for next steps.

The curriculum learning outcomes for the Information Technology unit are as follows:

1. Students learn the basics of coding and computer programming.
2. Students explore career options within the information technology industry.
3. Students identify their strengths and interests in the field of information technology.
4. Students connect their strengths and interests in the field of information technology to potential careers.
5. Students explore local labor market data and education opportunities for careers in the field of information technology.

The Arizona Career Literacy Standards for grades 5 through 8 can be found at this link.

This lesson's learning outcomes align with the program learning outcomes (PLOs), curriculum learning outcomes (CLOs), and Arizona Career Literacy Standards (CLSs) as follows:

CLOs	Lesson Learning Outcomes	PLOs	CLSs
2, 4	Identify a need that could benefit people if met through an app.	A, B	3.0, 6.0
1	Create and communicate an app concept using a story card.	A, C, D	4.0, 5.0

Tracking Completion of Lessons

If you are using SCORM Cloud or Canvas with the lessons in this unit, completion tracking options are available. If you are not using either platform, please determine if and/or how you plan to track completion of lessons by students.

Lesson 6 Components

Guiding Question

The guiding question is intended to provide a focal point for each lesson. Here is this lesson's guiding question:

- **Is There Always an App for That?**

Lesson Overview

This section provides an overview of the lesson. This lesson introduces the students to the conceptualization process of designing an app. Students look at the various pre-requisites that they should decide before they start building the actual app. Students present their ideas during the Flipgrid activity.

Vocabulary in this Lesson: Flip Card Activity

Students should use the flip card activity to familiarize themselves with key vocabulary terms and definitions for this lesson.

- **Design Thinking:** A nonlinear, iterative process used to understand users, define problems, and create innovative solutions to prototype and test
- **Ideate:** Form ideas; think
- **Prototype:** An original or first model of something from which other forms are copied or developed
- **User:** A person or thing that uses something (particularly computer programs)
- **Component:** One of the parts of something

Learning Targets

By the end of this lesson, students will be able to:

- Identify a need that could benefit people if met through an app
- Create and communicate an app concept using a story card

Process Block: What Is Design Thinking?

In this activity, the students explore a creative way of looking at problem-solving called "**design thinking.**" It is presented in a Rise course component called a process block. By clicking the arrows to the left or the right of the process block, the student can view the steps or sections as needed.

> **In-Person Learning Adaptation:** For in-person learning, the facilitator can initiate the topic by asking the students if they had any experiences with poor design thinking and then go on to explain the importance of good design thinking by revealing the steps in the process block sequentially.

Choose Your Need

In this section, the students will learn to brainstorm needs that they may like to address by creating an app.

In this activity, the students will review some apps in the app store and identify the need that a particular app is trying to fill. Once the students respond to the questions, they will be asked to begin thinking about innovating or addressing some issue through the following questions:

- What are some needs that you experience as a young person that could be solved by mobile technology?
- Or think bigger—what are some broader issues in your family, community, or the world that mobile technology could address with a well-crafted app?

If these questions seem too challenging or if the students feel stuck, they will be prompted to reimagine needs. If they can't come up with an entirely new idea, they can consider making an existing idea better by thinking about the following questions:

- What apps do you currently use?
- What annoys you most about the way these apps function?
- How would you improve them?
- How would you personalize them more?

Once the students reflect on these questions, they will record their ideas and responses in the My App Ideas Notecatcher section of the editable PDF titled **Lesson 6—Ideating Prototypes— Editable PDF.** This section ends with instructions that tell the students how to download and use the editable PDF.

Develop a Concept for Your App

The next step after identifying a need or a problem that the students would like to address is to begin fleshing out the details. Here, they are reminded that each app must "do" something and that they embody an action.

They are then provided with a mission. Here are the instructions they will see on Rise: "Your mission is to imagine, create, and market an idea for a mobile app that meets a real need of real people."

To get them started on this mission, they are prompted to think about the following questions:

- What need do you think your app can meet?
- Who are your target users, that is, your audience?
- What will your app actually do?
- How will you get paid for your app? Ads? Subscriptions? Purchases through the App and Play Stores?

Once the students are ready, they will be prompted to describe their app, its audience, and what it will do by answering a few questions in this lesson's editable PDF document by locating the section titled **What Is My Concept.**

Flipgrid Activity: Let's Talk About It—Elevator Pitch

In this section, students will use Flipgrid to post an elevator pitch about their app idea. Elevator pitches are short presentations, about a minute or two long, that are concise enough to convey the story of their app and the needs it will address.

The students will see the following instructions on Rise:
"Use your My App Ideas Notecatcher document to create an elevator pitch (not longer than 2 minutes) that describes the concept for your app and the need you want to fill."

Remind students to **include your class hashtag in the title of the post.**

Thinking About Your Future

At the end of the lesson, students will see the following statement on Rise: "You've been working on developing your own idea for an app. In this lesson, you learned a bit about design thinking, looked at some sample apps and the need they fill, and started planning your own app idea."

Before moving on to the next lesson, ask students to think about the following questions:

- Do you like coming up with ideas for apps that people might find useful or entertaining?
- Design thinking asks you to think about your end user. Have you ever had to put others' preferences ahead of your own? What was that like?

Career Pathways

At the end of each lesson, students will be reminded that it's never too soon to start exploring future career options! Encourage students to check out this resource to help them learn about

- various jobs in the software development field,
- projected growth, and
- potential earnings.

Students can access the resources at this link: Pipeline AZ Career Search.

Lesson Completion

At the end of the lesson, students will see the following message on Rise:

"In future lessons, you will learn more about creating apps. Topics will include wireframing, testing, and marketing apps."