

Lesson 12- Presentation of Community Needs

Essential Question: What are the compelling needs that I have discovered in my community and how can I use the initial prototype describe that need to my peers, teachers and community?

Standards

NGSS HS. Engineering Design

Students who demonstrate understanding can:

HS-ETS1-3. Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

Common Core State Standards Connections:

ELA/Literacy – SL.11-12.4- Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.

ELA/Literacy – SL.11-12.5- Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Materials

- Presentation Essentials document
- Community Needs Overview Presentation Rubric
- Student notebooks as a resource
- Computers

Optional:

- Prezi Presentation Guide
- PhotoStory presentation guide
- PowerPoint Presentation Guide

Activities			
Activity	Name of the Activity	Photocopies	Materials
1	Overview of the project Preparation for Class - 1.3 and 1.8- Teacher Toolbox. Assigning Team rolls- 1.13 Teacher Toolbox- Roles and Responsibilities.		Student pages
2	Standards Statement (Option: Unpacking the standards Teacher toolbox 1.12- Unpacking the standards)	Presentation Essentials Community Needs Overview Presentation Rubric	PowerPoint Presentation
3	Essentials of the Presentation	↓	Community Needs Profile Essentials Presentation Rubric
4	Brainstorm Effective Presentations		PowerPoint Presentation Student Sheet
5	Planning and Creating the Presentation		

6	Reflection and Formative Assessment	Exit Slips	PowerPoint Presentation Notebook Formative Assessment Sheet
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Overview

In this lesson the students will be reflecting on what they have learned about their community and the needs that exist. They will reflect on their understanding of Service-Learning and will create a PDF document that will be hosted as a Flipsnack to help document the potential project.

The artifacts that they will be examining are:

- Culture of the school through the peer Interviews
- Community demographic sheets
- Reflective documents about special needs within the community
- Reflective document about socioeconomic factions within the community
- The initial prototype and how the concept can meet the needs of the stakeholders
- The redesigns that will be completed to improve the functionality of the prototype.

It is suggested that the students create a flipsnack which is reviewed in small groups with the teacher instead of a full class presentation; however you are the expert with your class so it will be your decision. To have a full understanding of how to create a Flipsnack, a document *1.9 Teacher Toolbox Flipsnack presentation* has been created. Click on the link <http://www.flipsnack.com/jtrusede/fu5qoim9>

Major Concepts

- Demonstrating understanding of the needs within the community.
- Organizing information.
- Demonstrate and explain the Initial Prototype
- Prototype Testing procedures
- Personal reflection on learning and presentation skills.

Objectives

Students will:

- Create and present a multimedia presentation that is well organized and appropriately give an overview of the community which will be converted into a PDF then a digital artifact of the needs of the community.
- Present a clear and compelling profile of an underserved faction of the community and how the prototype would be able to meet their needs.
- Explain the testing protocol for the initial prototype and defend redesign sketches.

Lesson Preparation

Preparation

- **Lesson Preparation:** For specific directions on preparing lesson materials, see 1.3 and 1.8 documents in the Teacher Toolbox.
- **Instructional Resource:** Make sure that you have the *PowerPoint presentation* ready for class viewing.

Procedure

Activity 1: Preparation for the Class

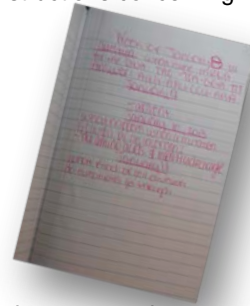
Multimedia Presentation: This lesson will have a multimedia presentation that will help to get the students thinking about the lesson and walking them through the information. Download the presentation in the folder.



Notebooks- see document 1.3 in the Teacher Toolbox for specific instructions concerning notebooking.
Line of Learning.

Reflection on community needs 12

Question: *What have you identified as a compelling need in our community and what is the evidence?*



Team Roles and Responsibilities- For more detailed information about team roles; use 1.13 Teacher Toolbox Team Roles and Responsibilities.

Activity 2: Unpacking the Standards

Class Explanation: As part of the Common Core and state English Language standards, all students are exploring the “Capacities of the Literate Individual”. These standards not only include writing and reading but they also include speaking and listening. In this first activity, the students will explore the standards dealing with speaking and listening integrated with the Engineering Design standards. They will develop a listing of the elements of the standards that they will be working with to create and deliver this presentation.

Note to Teacher: Look above to see the standards that will be addressed through this lesson. The students need to understand the focus of the lesson, so an examination of the standards is a way of addressing this lesson essential.

Here is a possible Standard Statement which incorporates the standards used in this lesson:

Students will use speaking and listening skills and technology to convey what they have learned about the demographics within their community and its impact on the needs of underserved member as represented through the initial prototype which has been tested and possibility redesigned.

Optional Lesson Component: As an additional component for this lesson, you may use Teacher toolbox 1.12- *Unpacking the standards in a Student Centered Classroom*. This gives procedures to help your students create their own standards statement

- Pass out the student sheets

Activity 3: Presentation Essentials

Note to teachers: The students will be using the document *Community Needs Profile Essentials* along with the 3D prototype and the redesign plan based on feedback from the stakeholder as a basis for the presentation for their potential Service-Learning Project. This presentation will be an overview of the information they have learned about the needs within their community which will be given to the teacher and possibly community members, in a clear concise manner. The students can create their documentation in word or powerpoint or any other media as long as it can be converted into a PDF file. This will be necessary for the document to be uploaded as a flipsnack (Teacher toolbox 1.9) If you would like to have students work in another medium, that is totally your call as the professional. As a way of measuring your student’s progress through the unit, it is suggested that the small groups present their understandings to you through an oral presentation with the flipsnack as the framework.

In this lesson the students will:

- Present needs within the community
- Demonstrate and explain the created prototype
- Explain the testing plan and the redesign of the initial prototype.

1. Engaging prior knowledge- Discuss all of the information that they have explored through this initial EPICS Unit

- Ask the students what they learned about the culture of their community through the interviews?
- What information did you gather about the needs of the community through the data and the trends that it represents?
- What information have you gathered about special needs community members?
- What information do you have about the socioeconomic needs within the community?

- What did you learn by building the prototype and gathering information from the stakeholders using the initial prototype as a communication tool?
- Are their necessary redesigns that will need to be accomplished to more adequately meet the needs of the stakeholders through the specifications that have been determined?

Remind the students that they should have complete information in their notebooks with their artifacts.

- Have the students give information that they remembered.
- Discuss the Presentation Essentials

In Groups Discussion: Use the *Lesson 12 Community Needs Essentials through the initial Prototype* as a guide for the presentation.

- Use the information and questions on the Community Needs Essential page as a guide for your presentation.
- Discuss an action plan on how each group will present the information.

1. Discussion:

- Why would these elements be important?
- How will they plan their presentation to be able to clearly explain these elements?
- Discuss the order in which they would present the information that would make the most sense to the audience?
- Discuss the distribution of duties and how to be accountable to each other for the information.

Note to teachers: Circulate among the teams as they discuss the essentials for this project and give suggestions as needed.

You may need to help them think about the steps that it would take to get a product from idea to production.

This might be a great place to get the students thinking about accessibility devices and how they can be an essential for someone who has limited mobility.

2. Whole Group: Share out: Have the groups share out the order in which the group will be presenting their information and who will have responsibilities.

Lesson 12 Community Needs and Prototype Presentation				
EPICS / HIGH				
Rubric				
Student Name: _____				
CATEGORY	4	3	2	1
Content • Reflection on the needs identified within the community. • Include information about any underserved factions. (Please refer to the Community Needs Profile Essentials for more information)	Covers topic completely and in depth. Includes properly cited sources and complete information. Encourages readers to know more.	Includes essential information with most sources properly cited. Includes enough elaboration to give readers an understanding of the topic.	Includes some essential information with few citations and few facts.	Includes little essential information and only one or two facts.
Technical Requirements • Outline of presentation • PDF • Flipsnack	Complete outline of the presentation was recorded in the notebook. Includes adequate number of slides/pages to present the content, 5 or more graphics from outside sources. Able to convert the document into a PDF file and share with teacher and peers.	Includes adequate number of slides/pages to present the content, 5 or more graphics from outside sources. Able to convert the document into a PDF file and create the flipsnack. Was able to share with teacher and peers.	Did not have enough slides to adequately express the content, fewer than 3 graphics from outside sources. Had difficulty creating the PDF and the flipsnack for review with teacher and peers.	Did not have enough slides to fully examine the topic. Few graphics from outside sources. Was not able to complete the PDF or flipsnack.
Language Arts Components and Mechanics	Grammar, spelling, punctuation, capitalization are correct. No errors in the text.	Includes 2-3 grammatical errors, misspellings, and punctuation errors.	Includes 3-4 grammatical errors, misspellings, and punctuation errors.	Includes more than 5 grammatical errors, misspellings, and punctuation errors.
Prototype, Testing and redesign	Included the goals and objectives for the prototype and success criteria. Student has included information from the stakeholders, testing results and modifications made in the redesign process.	Included some of the goals and objectives for the prototype. Student included some information from the stakeholders, testing results and modifications made in the redesign process.	Student included information about the needs of the stakeholders, the testing and modifications but did not include details about the goals and objectives of the prototype.	Lacked details about the prototype, testing and redesign which made the presentation had to follow.
Personal Reflection	Included 3 or more personal reflections about the needs within your community and how those needs might be addressed. The reflections were well developed and organized.	Included 3 or more personal reflections about the needs within your community but lacked in organization and theme development.	Included some personal reflection about the needs within your community but lacked organization and theme development.	Included little personal reflection and lacked organization and theme development.
Comments: (See back of the page)			Total Points _____	
EPICS / HIGH			Created through http://rubistar.4teachers.org	

Activity 4: Presentation Planning

Introduction: The point of this activity is for the student to have time to reflect on Service-Learning and what you have learned. You will be expected to complete a document either in powerpoint or word and convert that to a PDF document so that it could be viewed and archived as a flipsnack. Your team will also be required to present this information to your teacher to demonstrate your learning. Here are some specific guidelines that will help the students clarify the purpose of the presentation and think through the project.

Instructions:

Presentation Essentials: Below are points that you should be exploring as you are completing your presentation.

- **Presentation Purpose:** What is the purpose of the presentation? Presentations are used not only as an informational tool but also as a way of reflecting and evaluating what you have learned through the experience.
 - What do you want to achieve through the presentation?
- **Audience:**
 - Who are the people who will be listening to your presentation? Will they be classmates, teachers, community members, your stakeholders?
 - Think about how best to adapt your material to meet their needs.
- **Presentation Message:**
 - What is the one key message that you would like to convey to your audience? Think about what you have learned through this first segment of lessons.
 - What is one piece of information that you feel is the most important?
- **Create an outline document that gives structure and content:**
 - What is the structure of the presentation that will convey the important points you want to make about the needs within your community and will you keep on track?
- **Gather your information:** Because you have taken great notes throughout the lessons, all of your information should be listed in your notebook.
 - Create an outline of the information you want to include in the presentation and online artifact and where the information can be found.
- **Sketch out your slides-** decide what should be included on each slide of your presentation.
 - Make sure that the most important point is last.
- **Team members-** Decide who is to be responsible for what parts of the presentation.

Organization: Use the *Lesson 12 Community Needs Essentials through the Initial Prototype Community Needs Rubric*, and the student sheets to plan your presentation.

The image shows a collection of student materials. The primary document is a rubric for 'Lesson 12 Community Needs and Prototype Presentation' from EPICS HIGH. The rubric is organized into columns for scores 4, 3, 2, and 1. It includes categories such as Content, Technical Requirements, Language Arts Components and Mechanics, Prototype, Testing and redesign, and Personal Reflection. To the right of the rubric are several student worksheets, one of which is titled '2.7 Presentation' and contains questions like 'What are the compelling needs that I have discovered...' and 'What are you going to present your material...'. Another worksheet asks 'What are the other responsibilities...' and 'What have you learned about the culture of the community through the reviews?'. The worksheets have lined areas for student responses.

Note to Teacher: Circulate among the teams as they discuss the creation of their presentation. You are the expert with your class and know the personalities in your class and what kind of needs they present. It is essential that they keep moving through this part of the presentation planning so they will have time to work creating the presentation.

Presentation Tips: Most students feel very uncomfortable standing in front of the class to present, however it is an essential life skill to master. There is a document in the Teacher Toolbox 1.4 that gives important information about how to present an oral presentation. You may also want to discuss these tips with the students. Here is a link to *Hints for an Effective Presentation* (Teacher Toolbox 1.4) that will give students information <http://www.flipsnack.com/jtrusede/fu9s69np>

Activity 5: Creating the Presentation

Introduction: Now that you have the planning completed and know the work that is to be done, you are ready to determine the presentation medium that you would like to utilize. The suggestion for this activity is that the students use some sort of word or power point presentation so that it can be converted into a PDF format and saved as a flpsnack.

1) **Multimedia Presentation tips:** Remind students about a few tips for multimedia presentations. These were created by Mike Splane from San Jose State University and give direct tips for effective presentations. This is a review from a previous presentation but depending on the expertise of your students you may or may not want to use class time to go over these elements.

Important Slide Preparation Tips:

- Be sure to answer all of the questions in detail from your student sheet and the Community Needs essential.
- Be sure to explain the profile of your community including any special needs citizens.
- Give details about your community and underrepresented citizens such as socioeconomic status, Health and Economic status, housing issues and accessibility issues.
- Explain essential engineering and what you have seen within your community and gaps in accessibility that might be addressed through a project.
- Be sure to use graphics whenever possible which can include pictures of your prototype development and testing.
- Font size of 28-34 is recommended.
- Background should never distract from the presentation and should be consistent throughout the presentation and the document that will become your flpsnack.
- Font preference and color should be consistent throughout the presentation except for extreme effects.

The worksheet is titled "EPICS HIGH Lesson 12- Community Needs Essentials" and includes fields for Name, Date, and Period. It contains several sections with instructions and bullet points:

- Overview:** This presentation is a way for you to synthesize the information gained about the Community and the needs of its citizens and how your initial prototype along with the iteration with the stakeholder may meet the specifications for this project.
- Below you will find specific criteria that will be evaluated through your presentation.**
- Give an overview of the demographics of your community.**
 - This includes information about the community demographically and economically.
 - Include information gathered from your observations within the community.
- Give a profile of the potential community partner.**
- Include the following:**
 - Socioeconomic status within the community.
 - Health and Economic status.
 - Housing Issues.
 - Special needs and/or issues that they face on a daily basis.
- Give important data that makes these citizens underserved.**
- Prototype:** Demonstrate and explain the initial prototype and how it could meet the needs of the stakeholders as stated in the project charter. Include the following information:
 - Goals and Objectives of the Project.
 - Success Criteria.
 - Benefits of the prototype.
 - Scope and duration of the project.
- Testing Protocol:** Explain the testing procedures that were used to determine the functionality of the initial prototype.
 - What features of the prototype were tested?
 - What were your findings?
- Redesign:** From your initial testing of the prototype and the feedback from the stakeholders, what modifications will you be making to the initial prototype as it moves to the next phase of design?
- Reflect:** How could your focus group have a better standard of living through a service-learning project? Give specifics based on the needs that you have gathered through your research.

2) **Presentation:** Once the multimedia or document is created the students will be ready to convert their presentation into flpsnack.

3) **Create a Flpsnack-** Print out the flpsnack document from the Teacher Toolbox or have the students click on the link <http://www.flpsnack.com/jtrusede/fu5qoim9> . This will give the students information on how to create the flpsnack as a way of sharing their understandings with you and have a digital documentation of their learning.

Note to Teacher: Obviously the presentations will be given by the students after adequate preparation time was allowed. Be sure to discuss with the students, quality presentation procedures, which are listed on the student sheet. These are just practical guides that will help the students to focus their attention on details so that the essential knowledge about the needs of the community does not get bogged down in the presentation.

Remind the students to also look at the Community Needs essentials document and the rubric to ensure the criterion for the project is met. For information on effective presentations please look at the teacher toolbox 1.6 Presentation Essentials.

Teacher Review: As a way of improving student presentation and speaking and listening skills as discussed in the standards, it is suggested that as the students are presenting their information, which includes the needs that they have identified within their community and how the initial prototype meet that need. Remind the students to be sure to consult the rubric to be certain of criteria for evaluation.

Activity 6: Wrap-Up: Reflection and Formative Assessment

1) **Back to the Standards:**

Go back to the original class document about the standards.
Ask the students did they:

- Create and deliver a quality presentation that gave important information profiling their community and an underserved section of the community?
- Present the demographic information about their community that they had gathered and related it to a possible service-learning project?
- Present their prototype, the testing and the redesign of their initial prototype in a way that demonstrates how this design could improve the lives of the stakeholders.



2) Formative Assessment and student reflection: After the students have created and presented their presentations.

Pass out the **Presentation Reflection Wrapper**. This reflection is an essential component of learning and this document is a way for the students to express their self-efficacy related to their learning and this presentation. This document should be completed on the day that they present so that their performance is still fresh in their mind and they can give an accurate reflection.

- This will give you an idea of what they have learned in the lesson.
- Make sure that they students have their **notebooks open** with their two sheets taped in their books.

Notebook check:

As the students are filling out the slips, walk around the room and check to make sure that the student have the following information in their notebook:



- ✓ Completed #12 student sheet.
- ✓ Completed the presentation
- ✓ Have the students turn in the Presentation wrapper

3) Teacher Reflection: Look at the student's exit slips and the student notebook. The teacher reflection sheet is helpful to reflect on the day's learning. It is also helpful as an artifact for the class and how they are progressing through the learning experience.

Questions:

- ✓ Have the students expressed an understanding of a quality presentation that gives information about the needs within the community in a clear, concise manner?
- ✓ Did the students reflect on the needs of their community accurately showing empathy and concern?
- ✓ Are the students showing self-efficacy when reflecting on their own learning in the class?

Resources:

- Thank you to Mike Splane from San Jose State University for presentation tips.
- NGSS Lead States. (2013). Next Generation Science Standards: For States, By States. Washington, DC: The National Academies Press. For more information see <http://www.nap.edu/NGSS/>
- National Governors Association Center for Best Practices & Council of Chief State School Officers. (2010). *Common Core State Standards for English language arts and literacy in history/social studies, science, and technical subjects*. Washington, DC: Authors.