

Service-Learning in Action: Technology and Innovations

SUGGESTED TIME:

Activity 1: 2 x 60 minutes, Activity 2: 2 x 60 minutes,
Activity 3: 90 minutes + Take Action

MATERIALS:

- Chart paper and markers
- Tablet or computer with Internet access
- Video camera
- Sticky notes

LEARNING GOALS:

Students will:

- Develop an understanding about the causes and impacts of world hunger
- Evaluate the currently available innovative solutions to world hunger for their effectiveness
- Raise awareness about the issue of world hunger and how innovative solutions create change
- Take action in their local communities to raise awareness about local food insecurity

Activity 1: What is world famine?

(2 x 60 minutes)

1. Show students the webpage "Sustainable Development Goal 2," sustainabledevelopment.un.org/sdg2, and write the goal on the front board or display the goal on the webpage: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture. Explain to students that this goal is to be achieved by 2030.
2. Divide students into small groups and provide them with chart paper and markers. Ask them to brainstorm what this goal aims to achieve by 2030 and what they believe is the most significant focus of the goal. Encourage them to also consider, what has already been achieved?
3. After groups have discussed and brainstormed, encourage them to share their understanding of Goal 2 and create a mind-map on the front board. Prompt students further, by asking them why food and food security are vital for all humans. Why is this an issue for many people around the world? Share with students the following facts:
 - Hunger is on the rise again globally, and undernutrition continues to affect millions of children.

- An estimated 821 million people in the world, approximately one in nine people, were un-nourished in 2017.
- Strengthening the resilience and adaptive capacity of small-scale and family farmers is critical to reversing the trend of the rise of hunger. The share of small-scale food producers in terms of all food producers in regions such as Africa, Asia and Latin American ranges from 40 to 85 percent, compared with fewer than 10 percent in Europe.

Sourced: Progress of Goal 2 in 2019,
sustainabledevelopment.un.org/sdg2

Ask students, what do these facts indicate about the progress of Goal 2? Do you think that Goal 2 will be achieved by 2030? Why or why not? What problems do you see around the world and in your own communities that will hinder this progress?

4. Place the questions below on the front board, and then show students the video "2030 – SGD 2 – Zero Hunger – Ted Talks," www.youtube.com/watch?v=YLIdS3S_AOI (6:37). Encourage students to consider the questions while watching the video:
 - Why is access to food an issue when there is enough food to feed each person in the world?
 - What are the key issues contributing to world famine?
 - What is a possible solution to ending world hunger?
5. Ask students to create the same small groups as the brainstorming activity and provide each group with the following news articles about world hunger, chart paper, markers and access to a tablet or computer with Internet access. Invite groups to read through the articles and discuss the current issues surrounding world hunger and famine using the questions below.

NEWS ARTICLES:

1. "One in Three Children Are Unnourished or Overweight. UNICEF," www.aljazeera.com/news/2019/10/young-children-undernourished-overweight-unicef-191015010631035.html
2. "Climate Changes Threatens the World Food Supply, United Nations Warns," www.nytimes.com/2019/08/08/climate/climate-change-food-supply.html
3. "Why Is Global Hunger on the Rise? UN Economists Explain a New Answer," www.devex.com/news/why-is-global-hunger-on-the-rise-un-economists-explain-a-new-answer-95271

4. "Who Are the World's Food Insecure? Identifying the Risk Factors of Food Insecurity Around the World,"
www.ers.usda.gov/amber-waves/2019/june/who-are-the-world-s-food-insecure-identifying-the-risk-factors-of-food-insecurity-around-the-world/

5. "Household Food Insecurity in Canada,"
www.proof.utoronto.ca/food-insecurity/

DISCUSSION QUESTIONS:

- What are the impacts of hunger? How does it affect people?
- What countries are impacted by hunger?
- Why is hunger rising? What are the causes of rising hunger?
- What is food insecurity? What are the causes of food insecurity?
- What are the risk factors of food insecurity around the world?
- Does hunger impact individuals in developed countries? How so?
- Is hunger an issue in your own community? How so? Who does it impact?
- What could be done to help address hunger locally?

6. After students have read the articles and discussed the questions in their groups, encourage them to raise awareness about the issue of world hunger and famine in their school and local community. Encourage groups to find a way to raise awareness that will be widespread and entertaining. Some examples are; creating a piece of art or a demonstration to bring the issue to life in an abstract and captivating way, holding a dance show, concert or skit to entertain viewers while teaching them about this important issue.

EXAMPLE ACTIONS:

- Create an Instagram page with different posts depicting the issue of world hunger. Encourage students to either find and source photographs or to take their own photographs to post to the page. In the description of each image, have them describe the issue and what the image aims to portray and discuss.
- Create a world hunger blog post. Encourage students to write a number of blog posts discussing world hunger and famine, and why they believe the issue is important. Students can also collate external content to share on the blog; ensure students source the creator of the content and discuss why they felt the content was relevant to the issue.
- Write a speech or create a presentation to share in a school assembly discussing the issue of world hunger and famine, and who it impacts. Encourage students to share case studies of individuals, families or communities that have been impacted by hunger, showcasing that this issue is a world phenomenon. Have the presentation recorded to share on the school intranet and webpage.

Activity 2: How Sustainable Agriculture Supports Food Security

(2 x 60 minutes + time needed to take action)

1. In pairs, ask students to think back to what they learned in Lesson 7: Technology and Innovations and discuss what is contributing to increasing world hunger. Why does this issue continue to increase, rather than decrease, which is the aim of United Nations Sustainable Development Goal 2? What are the impacts to world hunger and famine? Who are the most vulnerable?

2. Provide each student with a sticky note and ask them to write down one specific cause that contributes to world hunger. For example: lack of access to food. Invite students to share and write this cause on the front board. As a class, discuss what are possible solutions to these problems? Is it one large solution or many small solutions?

3. Show students the video “Esther Ndichu: Hunger isn’t a food issue. It’s a logistics issue,” www.youtube.com/watch?v=oXIMn3WGHkE (11:40).

- What is the main challenge to developing a solution for world hunger?
- Why is world hunger a logistics issue?
- How much food is wasted? How is food wasted? Why is this an issue?
- How does hunger impact a person, a family and a community?
- What solution/s are discussed in the video? Do you believe they are viable?
- How can technology be leveraged to create a solution for the “last mile problem”?

4. Ask students to form small groups of three to four students. In their groups, ask students to research and select one innovative solution to world hunger, for example: urban farming, gene-edited crops or small farming. During their research, ask groups to consider the following questions and to collate information to create an infographic to be displayed on the school’s website, social media or newsletter to raise awareness about world hunger and the lack of access to food that many individuals in their local and global community face. Students can create the infographic using an online option such as Venngage or Piktochart, PowerPoint or pen and paper.

DISCUSSION QUESTIONS:

- What is the innovation that aims to solve the issue of hunger?
 - What cause of world hunger does it aim to solve?
 - Who developed this innovation? What was the thought process behind the development?
 - Where has this solution been implemented? How effective was this solution?
 - Has there been iterations to make this solution better, to continue to solve for world hunger?
5. After students have created their infographic, have them consider how the innovation can be evolved or adapted to continue to solve for world hunger. Encourage them to research the iterations to the solution, if there have been any changes and how successful they were in creating impactful change. In their groups, invite students to create a prototype of their evolved solution and how it will continue to solve for world hunger and famine. Students can create a model, image or written piece about their prototype.

Activity 3: WE Scare Hunger

(90 minutes + time to plan and take action)

1. As students come inside the classroom, provide them with an entry slip and invite them to answer the question: Why does a developed nation, such as Canada or the United States, have food insecurity? Ask students to share their responses with the class and place their entry slips on the front board. As a class, discuss some of the most common responses. Are students surprised by the fact that a developed country such as Canada or the United States struggles with food insecurity?
2. Place the following facts around the classroom and ask students to individually read each fact and consider if the facts are true or false. Below each fact, ask students to place a check mark beside their response. After students have responded, gather the facts and discuss as a class why they believed the facts were either true or false. Share with the students that the facts were all true. How does that make them feel? Were they surprised by the realities of food insecurity in their nation?

CANADA SPECIFIC FACTS:

- Four million people in Canada experience food insecurity.
- One in eight Canadian households struggle to put food on the table.
- In 2014, the majority of food insecure households, 62.2 percent, were reliant on wages or salary from employment.
- Eight out of 10 provinces saw an increase in food bank usage in 2016.
- Sixty-two percent of children living in the North are food insecure.
- Two out of every five Northern households are food insecure.
- Food bank usage across Canada in 2020 is 3 percent higher than 2015 and 28 percent higher than it was in 2008.
- In Nunavut, 7 out of 10 Inuit preschoolers live in food insecure households.
- Food bank usage has increased in all provinces since 2008, apart from Newfoundland and Labrador.
- Two percent of food bank users are Indigenous.

Source: Statistics Canada www150.statcan.gc.ca/n1/pub/82-624-x/2015001/article/14138-eng.htm

UNITED STATES AND GLOBAL FACTS

- More than two billion people do not have regular access to safe, nutritious and sufficient food, including 8 percent of the population in North American and Europe.
- The chances of being food insecure are still approximately 10 percent higher for women than for men.
- Every year, 3.1 million children under five die due to malnutrition.
- In 2018, 37.2 million people lived in food-insecure households, meaning they are often forced to skip meals, eat fewer meals, buy cheap non-nutritious food and/or feed their children but not themselves.
- One in six children in the U.S. is food insecure.
- There are 14.3 million U.S. households suffering from food insecurity.
- Many families suffering from hunger and poverty live in areas where fresh, unprocessed, healthy food is not available or is expensive, while the food they do have access to is nutritionally deficient.

Source: Why Hunger www.whyhunger.org/just-the-facts/

3. Ask students, what are some ways that they can raise awareness and contribute back to their communities to help decrease food insecurity in their local communities?
4. Inform students that through the campaign WE Scare Hunger, they can give back to their local communities by taking action and raising awareness about food insecurity and hunger issues in their local community. As a class, discuss some of the ways students want to take action, and list these on the front board.

EXAMPLE ACTIONS:

- Host a food drive at your school and hold a competition to see which class can collect the most donations. Create a theme for the food drive and spread the word through social media. Also encourage students to consider how many people the food bank helps on a weekly or monthly basis, what food items they need most and what time of the year requires the most donations.
- Volunteer with your class or school group. Help sort, pack and store donations, and learn about the important role food banks play in your community.
- 5. After students have planned and taken action, encourage them to consider the impact that this action had on their local community. How can they encourage more people to learn about the issue of food insecurity in their local and global communities, to continue to create impact?