LP. 3 Food waste in the VET sector - Monitoring strategy

Target Audience

Vet Trainers

Goal (50-60 words)

The goal of this Learning Plan is to educate participants about the importance of **monitoring our waste**. Once done this step, it also aims to raise awareness of the environmental, economic, and social issues associated with food waste and encourage critical reflection on the local food waste situation - more specifically connected with their everydays environments: i.e., schools, working places, public places frequented.

Objectives (1-3 Objectives)

After completing this Module, trainees should be able to:

- Concretely address and raise awareness on the amount of food individually and/or community wasted
- Monitor and implement an audit mechanism inside the school/workplaces;

Theoretical Background (200-400 words)

A food waste audit is the process of identifying types and quantities of items in the waste stream in

order to plan appropriate waste management systems. The audit typically includes an on-site project to collect, measure and record food waste data.

Lesson Plan Details

Lesson Plan title	Food Waste Current Situation Risks
21st Century Skills	Choose the skills that will be developed in the lesson: ● Collaboration ● Communication ● Creativity ● Critical Thinking
Duration	Total: 120 minutes. Activity 1: 120 minutes
Classroom setting	Select how the class needs to be organised for the lesson: ● all together X ● in groups X ● in pairs ● Individually X (Scenario)
Required material/resources	Activity 1: ● Offline: Flipcharts, pens/markers ● Online: Access to a brainstorming platform, such as Mural, Mentimeter, etc. Scenario 1: ● Offline: Printed scenario and choices ● Online: presentation and/or document with the scenario and choices
Prerequisites	Prerequisites or prior knowledge that the learners should possess before taking the lesson: ● Knowing the theoretical background key concepts.

Additional resources	EU. (2019). Reccomandation for Actions for Food Waste Prevention, available at: https://food.ec.europa.eu/system/files/2021-05/fs_eu-actions_action_platform_key-rcmnd_en.pdf Elnakib, S. A., Quick, V., Mendez, M., Downs, S., Wackowski, O. A., & Robson, M. G. (2021). Food waste in schools: a pre-/post-test study design examining the impact of a food service training intervention to reduce food waste. International journal of environmental research and public health, 18(12), 6389. Purdue University - College of Agriculture website, Food Waste Curriculum. Available at: https://ag.purdue.edu/department/extension/nature/food-waste.html
References	Practice Greenheath website, Conduct a waste audit and track progress, accessible at: https://practicegreenhealth.org/topics/food/conduct-waste-audit-and-track-progress Wilkie, A. C., Graunke, R. E., & Cornejo, C. (2015). Food waste auditing at three Florida schools. Sustainability, 7(2), 1370-1387. Leanpath, How to conduct a food waste audit, available at: http://www.leanpath.com/wp-content/uploads/2018/10/whitepaper-waste_audit.pdf EPA - United States Enivormental Protection Agency. (2017). A Guide to Conducting Student Food Waste Audits: A Resource for Schools, available at: https://www.epa.gov/sustainable-management-food/guide-conducting-student-food-waste-audits-resource-schools

Lesson Plan for Activities & Scenarios #1 (include 1-3 activities & 1-2 scenarios)

Activity 1. Create an auditing mechanism in your daily environment

Overview: This activity consists in the creation of an auditing mechanism on food waste. What is the auditing mechanism? They are a quick way to learn which kinds of foods go uneaten by students in a certain working environment. The data gained from an audit can help school leaders and students to develop specific strategies to reduce wasted food. Most importantly, the audits identify why the students are throwing certain foods away, which can help schools develop strategies to encourage students to eat their nutritious meals.

Objectives:

- Give participants the tools and knowledge to participate in the creation of a food auditing mechanism
- Raise awareness on how food gets wasted, both in general and in participant's everyday life;
- Start a reflection on what we eat and what is thrown away, understanding the root causes.

Duration: 90 minutes

Venue: online/offline

Number of participants: up to 20 (adaptable)

Materials needed:
- Offline: Flipcharts, pens/markers
- Online: Access to a brainstorming platform, such as Mural, Mentimeter, etc.

Instructions:

Phase 1: Pre-auditing phase (this phase is not comprehended in the activity time frame)

1. **Create an Audit committee** internal to your school, working environment: we suggest involving different categories such as students, a school administrator, nutrition staff representative, one or two teachers, and a Parent Teacher Organization member. Involving teachers is important if the audit will be linked to curriculum benchmarks, such as basic maths and measurement.

2. **Roles and Responsibilities**: Define clear roles for staff responsible for waste monitoring, data collection, and reporting.

3. **Compliance Checks**: Ensure that the auditing process is compliant with relevant environmental and health regulations.

4. **Create an Audit Strategy**, a suggested structure might be the following:

a) *Set the parameters.* For example, parameters can include kitchen waste, cafeteria plate waste, patient plate waste, and catering. Include all relevant areas such as cafeterias, kitchens, and any other food service areas. Types of Waste: Identify what types of waste will be monitored (e.g., preparation waste, leftover food, uneaten plate waste).

b) *Set a time period.* Typical data collection periods are one day, three days, or seven days. Setting a longer time period gives you more accurate data. Decide on the duration and frequency of the audits, such as daily for a week each month or a specific period that provides meaningful data.

c) *Develop Data Collection Methods:*

- **Weighing Stations**: Set up weighing stations with digital scales in key locations where waste is generated (e.g., kitchen prep areas, dish return stations).
- **Waste Logs**: Create simple log sheets or digital forms to record the type and quantity of waste, reasons for waste, and time of day (you can see an example below)
- **Observation and Surveys**: Use observational methods and surveys to collect qualitative data on why waste occurs (e.g., food quality, portion sizes, student preferences).
-

  d) Calculate your totals.

You can use the following waste log to track the findings of your auditing:[1]

Category of food	Quantity	Cause of loss	Edible vs inedible	Destination
e.g., soup/stew, raw produce, dry goods, poultry	e.g., 5 pounds	e.g., overproduction, spoilage, plate waste	to determine opportunity for donation	e.g., compos landfill, donation

Phase 2: Auditing days (quantitative and qualitative measurement - 120 minutes)

a) Conduct the Baseline Audit: Start with a baseline audit to capture initial data on food waste levels. This provides a reference point for measuring progress.
   How to proceed?
   - Identify a good spot to set up tables for the audit station. Again, 2 or more audit stations may be required depending on how many students are present during a particular lunch period.
   - Involve student and or school staff in order to conduct interviews, here you can find an example of questions to pose:

 "Hello, we are taking a survey, and we would like to ask for your input. I'm going to ask you about the food items left on your tray and record what you thought about them."
Look at their tray and mark down which food items they left unfinished (drink containers too). Make sure to write down the same name that is on the label on one of the collection buckets. If unsure, ask the audit team leader.

For each item, ask the student "Can you tell us why you didn't finish your [name of food]?" and write down what they say. Only give one reason per item – his or her main reason. Try to get an answer that can help staff fix the problem. Answers like "didn't like it" or "tasted gross" are not

[1] https://practicegreenhealth.org/topics/food/conduct-waste-audit-and-track-progress

helpful answers. Instead, ask a more specific question like "What about the taste didn't you like?" in order to get a more detailed answer such as "I didn't like it because it was too cold."

Thank the students and ask them to leave their tray on the table. If there are many students lining up to be interviewed, please be brief with each student in order to get a response from as many students as possible. After each interview is complete, have them leave their tray on the table.

Data Collection: During the baseline period, weigh and record all food waste daily, noting details like the type of food, estimated value, and reason for disposal. You can decide to have different sessions in more than a day, or start with the first collection of data and weekly/monthly monitor the results.

Weigh Each Type of Waste: At each collection point, weigh the waste separately by category using the digital scale.
Record Detailed Data: Use the log sheet to record:

- **Date and Time**: When the waste was generated.
- **Type of Waste**: Specify what kind of waste it is (e.g., uneaten sandwiches, vegetable trimmings).
- **Weight**: Measure in kilograms or pounds.
- **Reason for Waste**: Note down if the waste was due to overproduction, spoilage, plate waste, etc.

Photograph High-Waste Items: Optionally, take photos of high-waste items to visually capture problematic areas for later review.

Phase 3: Post-auditing phase (this phase is not comprehended in the calculated timeline)

- Analysis of the results:

Compile the Data: Aggregate the data at the end of the audit period to understand the total waste generated by type and source.
Identify Trends: Look for patterns, such as certain days or meals that produce more waste.
Calculate Costs: If possible, estimate the cost of wasted food to highlight financial losses and drive the motivation for change.

- Presentation of the results to the Auditing committee:

Create a Summary Report: Include key data points, charts showing waste by category, and notable trends.
Highlight Key Areas of Concern: Identify major sources of waste and possible causes (e.g., overproduction, unpopular menu items).
Share Results: Present findings to the team, management, or other stakeholders to build awareness and drive engagement in waste reduction efforts.

- Taking actions

Immediate Adjustments: Based on the baseline audit, suggest quick adjustments such as menu changes, portion controls, or better inventory management practices.
Long-Term Strategies: Recommend ongoing monitoring and further audits to track progress and continuously improve.

Debriefing:
Tips for facilitators:
- Is preferable to conduct the activity offline. Make sure to provide the necessary materials based on the chosen venue.
- If there is a large number of participants, they can be divided into groups to analyse the given examples. You can ask them to choose a representative or to collectively share what they discussed before starting the debriefing part.
- Activities performed during an audit including project planning, data collection, data analysis, and conducting interviews, can be incorporated into maths and science curriculum or used towards community service hours.