TRAINING AND PILOTING GUIDE FOR YOUTH WORKERS

PLANSHIELD_ The planet´s shield. Taking the initiative to act for the environment.

ERASMUS PLUS COOPERATION PARTNERSHIP IN THE FIELD OF YOUTH
2023-1-ES02-KA220-YOU-000155891

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CONSORTIUM:

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1. INTRODUCTION OF THE GUIDE

Welcome to the practical Guide to using the Planshield board and online game.
This document is designed to help educators plan and implement practical activities to raise awareness about single-use plastics among young people.

The project was conceived in response to the challenges posed by the pandemic and the lack of professional resources for youth environmental education. It offers an integrated approach that combines theoretical and practical elements, educating through the games created.

The Guide contributes to the overall objective of the project providing youth workers and youth associations with a training and piloting plan to ensure that the project not only provides educational resources but also tests and validates them and provides an analysis of the impact of the results on the target groups. It also includes a training plan that will ensure that the games created will be introduced into their programs through the correct application of game-based learning. In this way, we ensure that the youth workers not only try out the games with their youth but that they acquire the knowledge, skills, and context necessary to introduce these games.

CONTEXT

Since December 2019, the world has been affected by a pandemic originating from COVID-19. Now that public health is the top priority, along with close monitoring of economic and social impacts, the implications of COVID-19 on the environment remain largely underestimated. Unmanaged plastic waste is of particular concern because of its implications for natural ecosystems and public health and safety. However, environmental health issues have received less and less attention from governmental agencies, the scientific community and the general public. This can be seen from the publication of several national and state agreements on the use and consumption of plastics, and the numerous publications in international peer-reviewed journals.

Numerous international agreements on plastics and plastic pollution have been established to address and reduce their impact on global economies, societies and natural environments. These include the Basel Convention and its amendment in 2019, UNCLOS (United Nations Convention on the Law of the Sea), MARPOL 73/78 (International Convention for the Prevention of Pollution from Ships), GESAMP (Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection), the UN Global Partnership on Marine Litter, the G7 Ocean Plastics Charter and the EU Plastics Strategy.

However, the COVID-19 pandemic has clearly overtaken the perceived threat of plastic pollution, leading to a sudden shift in the hierarchy of values, where health is seen as a value despite care for the environment, which shows a clear decline in its perceived importance. The withdrawal in various national and state agreements that set environmental sustainability as the cornerstone, followed by the shift in waste production and management to ensure health needs. A long-term shift in this hierarchy of values is likely to cause "damage" to environmental threats.

It is therefore imperative to rethink our environmental attitudes towards the use of plastic, encouraging sustainable behaviors, breaking old habits and adopting new ones. To achieve this, it is important to work from the base of the youth system, from the future generations, where behaviors are being created and civic attitudes are formed for life, so it is of great need to create appropriate materials, tools and instruments for youth workers to work on this issue, in a playful and non-formal way to better reach their young people and create an impact through educational activities.

OBJECTIVES

Taking the initiative to act for the environment (PLANSHIELD) aims to raise awareness about the worrying situation of single-use plastic and provide innovative educational tools for youth workers to work on this issue in their organizations.

And for this, the following objectives have been established:

- Create 3 educational resources (a board game, a multimedia game, a training plan) to address the issue of environmental sustainability, especially in relation to the danger of single-use plastics for our planet.
- To train youth workers in the application of game-based learning and gamification methodologies to teach serious subjects in an entertaining way.
- To foster the development of green skills in young people through game-based learning.
- To raise awareness among youth professionals and young people about the danger to our planet if we do not take appropriate measures to protect it;

At this point, we are in the process of the guide for the training plan for youth workers in the application of game-based learning and gamification methodologies to teach serious subjects in an entertaining way. What will lead us to fulfill the purpose of raising the awareness of young people through interactive and educational games related to the environment.

In this guide, we are going to develop the methodology used to carry out the project, game-based learning, promoting teaching through play and in an interactive way. This will be a practical guide to use the games created and to give tools to professionals who want to apply them to educate young people in a more practical and attractive way.

We are going to review the basic rules of the games and their main objectives, and we will present a list of complementary activities designed to deepen learning on recycling and environmental care.

And finally we will show the results obtained from the training with professionals and the pilot tests with youth, to measure the impact and check if the established objectives have been met and if, therefore, the material resulting from the project is a good educational tool for young people on environmental issues.

2. EDUCATIONAL COMPETENCIES

In this project we work through Game-Based Learning (GBL), not only are the elements of the game integrated into the training, but the training itself becomes the game, designing the activities to be developed so that the game and the learning are intertwined or, put another way, it is learning through games.

It incorporates some features such as the possibility of losing and provides a favorable environment to acquire, practice and improve skills, greatly helping retention and making users feel more committed to the subject, among other things because the learning process is fun and challenging.

All of this makes GBL ideal for promoting critical and strategic thinking and for teaching complex concepts, given that users' motivation will not drop if the process is too long and they will remain motivated for longer, thus being able to condense large amounts of academic content or motivate students who would not otherwise be interested. And this ability to think in a critical way boosts the capacity to retain knowledge for a longer time, so it increases the brain's capacity to memorize things.

Using educational games has also other benefits such as instant feedback, that allows students to correct errors and adjust their strategies in real time, dramatically improving their skills and understanding.

It establishes clear and specific training goals, these help students understand what is expected of them and focus their efforts on achieving these goals. And through the games

it can be modified to meet individual needs by adapting the rules according to the level of the participating people.

For this reason, it is considered the ideal methodology to work on the environmental problem caused by single-use plastics. There are different campaigns and forms of awareness, but to reach young people, a good learning method is to bring these topics closer through practical forms such as games.

So with the games they are going to learn through a challenging way how to take care of the environment and the consequences of our actions. In the two games, they will work on vocabulary and content that will allow them to know and know how to act to promote sustainable behaviors.

3. BOARD GAME RULES

- INTRODUCTION AND OBJECTIVES

The board game is an educational resource developed taking into account 3 successful educational theories (learning by doing, GBL and gamification), which encourage the active participation of young people and increase their motivation and engagement in the learning process. These learning theories have been chosen to ensure the creation of attractive and motivating educational resources for youth workers and young people. The theme of the board game is environmental awareness, focusing on the use of single plastic, its dangers and how we can create sustainable habits.

- PREPARING FOR THE GAME

The PLANSHIELD board game consists of 57 cards, 59 symbols, 8 symbols per card and only one identical symbol between each card. Will you be able to figure it out?
If you have never played or if you are playing with someone who has never played a PLANSHIELD Game, draw two cards randomly and place them face up on the table in full view of all players. Look for the identical symbol on the two cards (same shape and color, only the size may vary).
The first player to find this symbol names it and draws two new cards to be placed on the table. Repeat this operation until all the players have understood that there is always only one identical symbol between two cards.

- HOW TO PLAY

PLANSHIELD game is a series of fast-paced mini-games where all players play at the same time. In each game, you can choose to play all the minigames in order from 1 to 3, play them in a disorderly way, or always play the same mini-game - the important thing is to have fun! (well, and to do 5 rounds, adding up the points at the end to find out who the winner is). Read the rules of the selected (or randomly chosen) mini-game out loud,
so that all players can hear them before starting the round. You can also do a test to make sure that all players have understood the rules.

Whatever mini-game it is, the objective is always to be the fastest to find the identical symbol between 2 cards, say it out loud, pick up the card and place it or discard it.

The player who has won the most mini-games will be the winner of the Planshield Game. You can also change the number of rounds or set a time limit (e.g. Whoever has won the most mini-games after 20 minutes is the winner) to have even more fun with the PLANSHIELD Game. For tournaments and competitions, you can find a different scoring system at the end of these rules.

4. MULTIMEDIA GAME DESCRIPTION

- INTRODUCTION AND OBJECTIVES

The goal of the multimedia game is to help youth workers implement game-based learning activities to promote the development of their young people's green skills and raise awareness of the dangers of single-use plastic.
Through this multimedia game, we aim to provide the necessary materials to youth workers, so that they can address the issue of environmental sustainability, applying game-based learning.
The multimedia game will have the ability to simulate highly realistic immersive experiences. Regardless of physical limitations, players can obtain an optimal learning experience using digital learning games in a safe and positive environment.

- PREPARING FOR THE GAME

Before playing, there are two important things you should do:

First we must make sure that we have a computer to play. It must be taken into account that a minimum of 2-3 people are needed to play and a maximum of 5 is recommended to make it dynamic. And each participant will need a device to connect from.

And second, we must have the PLASTIC PATROL: Ocean Cleanup application downloaded and ready to play.

The goal of the game is to collect recycling points. To do this, you will have to collect plastic from the barrels distributed throughout the sea before anyone else. You will also be able to sell the plastics from the barrels collected at the Recycling Plant and gain points. Try to find the best route by managing the use of your cards or their powers, while trying to avoid the difficulties that the sea itself or your opponents put in front of you.

- HOW TO PLAY

The game consists of different components and scenarios. You can find 4 scenarios with different routes and options, and you must select one of them to start the game.

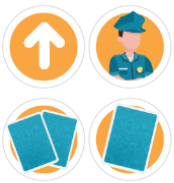
And the main components that you should know before playing are the following:

Barrels of Plastic numbered 1 to 5

Recycling Plants

Route Cards

Recycling Points



Tokens;
One Way, Coast Guard, Draw 2 cards, Draw one card

Player Pawns

PLAYING ROUTE CARDS

Play your route cards to your advantage or against your opponents (effects) by trying to get close to the barrels or the Recycling Plant.

TOUR AROUND THE OCEAN

Access barrels to earn recycling points. You also have the option to take the collected plastics to the Recycling Plant and sell them.
There are various points in the ocean that give you rewards. You may want to pass by them on your way to the containers or the Recycling Plant and get these rewards.

END OF THE GAME

In Moonlight Cave and Blue Pearl Bay maps which do not have recycling plants in the scenario ends the game when a player collects all the barrels in the ocean.
In Silver Sands Beach and Sapphire Beach maps there are two ways to end the game; either one player collecting all the barrels or reaching the full capacity of the recycling plant by delivering the required barrels. Once the requirement is met to end the game, one more round will be played in both cases and recycling points will be calculated to determine the winner.

Links to play the game:

MAC: https://apps.apple.com/us/app/plastic-patrol-ocean-cleanup/id6753791099
WINDOWS: http://damasistem.com/apps/plasticpetrol.rar
(For the windows version: You need to authorize the security to download the game).

5. TRAINING PLAN

Next, in the training Plan we offer you activities and advice to be able to work in a complementary way with the games designed in the project.

As we have been saying, games have been designed to be an educational tool, and we believe in their potential to work in classrooms.

And to get the maximum benefit, we offer you a series of activities to complement and offer a more complete job of knowledge and awareness about the effects of single-use plastic on the environment:

❖ ACTIVITY 1

Objective:
Be aware of the plastic waste on the beaches and in the sea.

Participants:
Up to 20 participants.

Description of the activity:
Offer young people an itinerary to the beach with their teachers or youth workers. This activity will allow them to see and collect plastic waste from the beach so that they become aware of all the pollution that reaches the oceans.It will be proposed as an excursion to clean a public space, also as a promotion of civility (Therefore, any natural space will be ok, especially if it is near the sea or a river to be able to relate it to the online game).

1. In groups of 3-4 people, move around the space and look for plastic remains for 20-30 minutes.
2. After collecting with the appropriate security measures or taking pictures of the waste, it will be reviewed. We will see what we have been able to collect and see and how much of that material is single-use or where they have been able to find it. (10 minutes)
3. We will reflect on how it affects the use of single-use plastics. We will remember what happens to the remains that we do not recycle and how this affects climate change. We will reflect on our daily practices and what we can do to promote responsible plastic consumption.To encourage this reflection, we will also use photographs of maritime or natural mountain spaces contaminated with plastic remains. (30 minutes)
4. Upon returning to the classroom, the online game will be played in groups of 3-4 to put it into practice and learn more about it.

At the end of all the activities we will do one last reflection on what we have learned, the things we highlighted and specific practices that we are going to change.

❖ ACTIVITY 2

Objective:
Be aware of the time it takes a waste to degrade in nature.
Promote sustainable consumption habits.
Take care of nature.

Participants:
15-20 participants.

Description of the activity:
This activity consists of burying different waste, in order to see what happens to each of them in the decomposition process. Do you think you'll be around in time to see how a plastic cap can break down?
We will bury different waste, in the garden or in pots, in order to see what happens to each of them in the decomposition process. It will help us to talk about the time each matter needs to disappear in nature.

1. We will look for a suitable space (in the garden if we have one or in a pot) to bury some of the waste we generate at breakfast, lunch or snack. We will put paper, glass, plastics, cans, organic matter and vegetable scraps... We can also experiment with other types of waste.
We take photos of each waste before burying it so we can compare its initial state with its final state. We will add a little water to the pot or the garden (humidity.)
We will mark the area, indicating with images or drawing cards the waste we have buried to warn the other groups of the work we are doing and also prevent anyone from getting hurt.
And we will let a few weeks pass and observe what has happened to the waste.

2. We will have a debate: (30 minutes)
- What happened?
- Is there any difference between the wastes?
- Which have decomposed and which have not? Why do you think this happened?
- What would happen if we threw all this waste into nature?
- Have you ever come across this kind of debris in the mountains?
- What impact does it have on the animals that live there?

❖ ACTIVITY 3

Objective:
Propose ideas to prevent food waste.
Choose a format to spread these ideas.
Stimulate creative thinking.
Promote sustainable consumption habits.

Participants:
15-20 participants.

Description of the activity:
The activity consists of proposing ideas to prevent the waste we generate on a daily basis. We will place on a table all single-use waste related to food packaging to create a real, relaxed and fun debate environment: plastic bottle, biscuit box, yogurt container, juice jugs, styrofoam tray, plastic bag, bread wrapping paper, etc.

The children, in groups, will choose one or two of these objects and think of proposals to avoid or minimize their use. The message will have to be structured based on arguing why you should avoid that particular packaging and why you should choose what they propose.

Think of an attention-grabbing format to spread the proposals: record a video, make a poster, etc. And also how you will make them known. For example, putting posters in shops and markets, videos through the school website, playground or the networks, etc.

❖ ACTIVITY 4

Objective:
To raise awareness about the harmful effects of single-use plastics and encourage creative solutions for reducing plastic waste.

Participants:
10-20 participants.

Description of the activity:
"Plastic-free challenge and creative workshop". This activity combines awareness-raising, hands-on engagement and creativity to help young people understand the environmental impact of single-use plastics while offering alternatives.

Materials:
Single-use plastics collected over a week (e.g. water bottles, plastic bags, wrappers, etc.)
Scissors, glue, paint, markers and craft supplies for upcycling
Examples of reusable alternatives (reusable water bottles, bags, bamboo straws, etc.)
Large poster or a whiteboard for group brainstorming
Projector or screen to show a short documentary/video clip about plastic pollution (optional)

Step-by-step explanation:

1. Introduction (10-15 minutes)
   Begin by discussing what single-use plastics are and how they impact the environment (oceans, wildlife, etc.). If you want you can prepare a quiz to assess participants' knowledge of plastic pollution. Include questions like "How long does a plastic bottle take to decompose?" or "What percentage of plastic is actually recycled?"

2. Plastic-free challenge (1 Week, prep for next session)
   Ask participants to collect the single-use plastics they encounter over the next week. These could include water bottles, plastic bags, food wrappers, straws, etc. They should bring their collection to the next session. Encourage them to use their phones or journals to track their plastic use for further reflection.

3. Creative upcycling workshop (1-2 hours)
    - At the beginning of the next session, have everyone sort through their collected plastics. Discuss the most common items, which could have been avoided and how these plastics might end up in the environment.
    - On a large poster (or use Jamboard if you want to ensure sustainability), have the group brainstorm reusable alternatives to single-use plastics, such as metal straws, cloth bags or reusable water bottles. Discuss the benefits of each alternative and where they can be found or purchased.
    - Using the collected plastics, challenge the group to create something useful or artistic. Allow participants to be creative and provide examples to inspire them.

4. Group reflection and action plan (30 minutes)
   Have each participant or group present their upcycled item and explain how they turned a harmful material into something positive.
   Reflection questions:
    - How did it feel to see the amount of plastic you collected in just a week?
    - What steps can we take to reduce single-use plastics in our daily lives?
    - How can we influence others in our communities to do the same?

Action Plan: Encourage participants to commit to reducing their plastic usage. They could set personal goals, like switching to reusable bags or organizing a local cleanup event.

❖ ACTIVITY 5

Objective:
Quick activity to engage youth with the issue of single-use plastics and encourage their critical thinking towards solutions

Participants:
10-20 participants.

Description of the activity:
A quick and effective activity to engage youth with the issue of single-use plastics is a "Plastic hunt and solutions brainstorm".

Steps:

1. Plastic hunt (15 minutes)
Divide the group into teams. Give each team a list of common single-use plastic items (e.g., water bottles, straws, food wrappers) and a time limit of 10 minutes to find these items around the area.
Teams should collect or take pictures of as many items from the list as possible.

2. Debrief and solutions brainstorm (15 minutes)
Bring everyone together and discuss the collected items.
Ask: "Which items were the most common? How could we avoid using these?"
Brainstorm alternatives for each item (e.g., reusable bottles, metal straws, cloth bags). Encourage participants to commit to one small change to reduce plastic use in their daily lives.

This activity combines fun with awareness and practical solutions in under 30 minutes.

❖ ACTIVITY 6

Objective:
Provide education, hands-on action and a creative solution to reduce plastic use

Participants:
10-20 participants.

Description of the activity:
"Plastic audit and reusable bag workshop"

Materials:
A variety of single-use plastic items (e.g., plastic bottles, straws, bags, food wrappers)
Markers, poster boards, and sticky notes
Old T-shirts (one per participant) for making reusable bags
Scissors

Step-by-step plan (60 minutes)

1. Plastic audit and discussion (20 minutes)
Set out different types of single-use plastic items on a table or display. Ask participants to identify how often they use these items and why they are convenient. Share quick facts about the environmental impact of single-use plastics (e.g., how long they take to decompose, effects on wildlife).
Use sticky notes or Jamboard for participants to suggest alternatives to each plastic item (e.g., reusable bottles, metal straws).

2. Reusable bag workshop (30 minutes)
Explain how old t-shirts can be transformed into reusable bags, reducing the need for plastic bags.
Step-by-step Instructions:
Cut off the sleeves and neckline of the T-shirt to make the bag's opening and handles.
Tie or sew the bottom hem of the T-shirt to close the bag.
Decorate with markers to personalize.
Hands-on activity: Let participants create their own reusable bags from old t-shirts.

3. Wrap-up and reflection (10 minutes)
Have participants share their creations and discuss one change they plan to make to reduce plastic use. As a group, commit to using reusable items and reducing single-use plastics.

❖ ACTIVITY 7

Objective:
Simulate the complexity and difficulty of alleviating the ocean of single-use plastic.

Participants:
20 participants.

Description of the activity:
This exercise intends to raise awareness of how plastic accumulates in the ocean and how challenging it is to remove it. It aims to evoke empathy for marine life, highlight the consequences of single-use plastics, and inspire commitment to reducing plastic waste.
The duration of the exercise can vary between 45 to 60 minutes, depending on the discussion and the engagement of the participants themselves.

Materials:
A large blue tarp or sheet to represent the ocean
Small pieces of plastic waste (straws, bottle caps, plastic bags, wrappers)
Tweezers or small tongs (enough for each participant, or they can take turns – the more challenging it makes to extract/pick up the waste, the better)
Disposable gloves (optional, for safety)
Trash bags for clean-up afterward
Timer (or phone stopwatch)
Flipchart or whiteboard for discussion and summary of key points (optional)

1. Preparation (10 minutes)
   Setup: Spread the blue tarp on the floor in an open space, making sure it's large enough for 20 people to stand around. Scatter the plastic waste across the tarp to simulate ocean pollution.
   Divide Roles: Divide participants into small groups of 4-5. Each group will have a chance to "clean up" the ocean in timed rounds. Explain that each group will use tools to try and remove the plastic.

2. Introduction (5 minutes)
   Explain the exercise and its objectives. Focus on paying attention to how much plastic participants are able to remove and think about the challenges. Afterward, reflect on what this experience teaches about the problem and what can be done to prevent it."

3. Simulation (20 minutes)
   Give each participant a pair of tweezers or tongs. Explain that these represent limited tools used in real-life cleanups. Some may also use gloves.
   Each group will have 3 minutes to remove as much plastic from the ocean as they can. Only pieces of plastic removed using the tools provided will count (no hands allowed for direct grabbing). Participants should work carefully but quickly, focusing on removing as many pieces as possible.

4. Reflection (10-15 minutes)
   Use some of the following questions for reflection:
   - How difficult was it to remove the plastic with the tools you had? Did you feel you were making much progress?
   - Imagine you're a sea creature living here. How would this plastic affect your environment and survival?"
   - How do you feel about the real-world ocean clean-ups compared to what we just did? What are some limitations that exist in cleaning up actual oceans?
   - Which do you think is more effective—cleaning up existing pollution or preventing plastic from entering the oceans in the first place? Why?

Summarizing and a call to action (5 minutes)
Summarize what the session was about and key points. Do the following to make a sort of a call to action upon the end of the activity:
Encourage each participant to make a small commitment to reduce single-use plastics, such as using a reusable water bottle, saying no to plastic straws, or bringing reusable bags for shopping.
Invite participants to brainstorm ways to involve their communities in reducing plastic use.

❖ ACTIVITY 8

Objective:
Simulate the effects that single plastic pollution has on the oceans and in general.

Participants:
20-30 participants (it's suitable and adaptable for smaller or larger groups, but not recommended under 10)

Description of the activity:

Preparation (5 minutes)
Prepare a piece of paper and pen and explain the exercise in detail:
Tell the participants to write down any single-use plastic that they can think of, preferably the ones they often use or they use in their daily life. Each participant gets one slot – you give the paper to the first participants and they write down one item and they then share it with the next participants who writes down one more item and so on until all participants have written down one item.

Main activity (10 – 15 minutes)

1. Now take time to read out loud every item from the list. You can take some time and comment on some of the items, explaining what they are, how much they are used, what are the effects of their use, and so on.
2. The second step takes you to the impactful part of this exercise. You will read some words again and for each word/item you read, you will scrunch/crumple the paper, symbolizing what each of these items does to our environment and what the effects of pollution are for our environment.
3. After you visualize the impact on the environment, you will start unfolding the paper, trying to make it straight again and bring it back to its original form. Of course, this will not be possible as the paper was already ruined, symbolizing that once the damage is done, it's extremely hard or even impossible to return back to the start. You relate this to pollution and explain how prevention is the only way to progress and start over, while the repairments that we need to do after our irresponsible behavior towards the environment sets us back and it does the damage that sometimes can be irreversible.

Wrap-up and discussion (5 – 10 minutes)

Use some time at the end to summarize the exercise and key points again. Allow participants to discuss and reflect:

- How did they feel during the exercise?
- Are they aware of the scale of the dangers that single-use plastics pose for our environment?
- Did this exercise make them feel different about single-use plastics than before? How?
- Discuss what you can do to generate a positive impact on the environment.

❖ ACTIVITY 9

Objective:
Exploring the life cycle of a plastic bottle to raise awareness of the effects single-use plastic waste has on our environment

Participants:
20 participants.

Description of the activity:
The activity is planned for 45–60 minutes, depending mostly on the engagement and discussion within the group.

Materials:
Printed role cards for each stage (production, usage, disposal, landfill, ocean)
Flipchart or whiteboard
Markers
Optional props (e.g., a plastic bottle, costumes, or labels for each stage)

Preparation (5 minutes)
Setting the Scene: Arrange the room with space for each group to work independently.
Role Cards: Prepare five role cards, one for each stage of the plastic bottle's journey:
1.Production: Raw material extraction and manufacturing
2.Usage: When the bottle is used by the consumer
3.Disposal: Choices the consumer makes after use (e.g., recycling, throwing it away)
4.Landfill: The bottle's journey if it is disposed of and ends up in a landfill
5.Ocean: What happens if the bottle ends up in the ocean
6.Divide participants into five groups and assign each group one stage.

Introduction (5 minutes)
Explain the objective of the activity - to understand how single-use plastic affects the environment at each stage and how our choices influence the bottle's journey. Each group will discuss and present what happens to the bottle at their assigned stage as well as why that stage matters."

Main activity 1– group work (15 – 20 minutes)

1. Group Discussion: Each group should start by discussing what happens at their assigned stage. Use the role cards to guide their discussions. For example:
    - Production: Focus on the resources required to make a plastic bottle, such as petroleum, and the environmental costs of manufacturing.
    - Usage: Discuss the typical consumer experience, how long the bottle is used, and why it's often disposed of quickly.
    - Disposal: Consider the decisions a consumer faces after using the bottle, like recycling, trashing it, or reusing it.
    - Landfill: Imagine the bottle's journey in a landfill, where it may take hundreds of years to decompose, leaching chemicals into the soil.
    - Ocean: Explore how the bottle might enter waterways, break down into microplastics, and affect marine life.

2. Script Creation: Each group should plan a short 2-3 minute skit or narrative illustrating their stage. Encourage them to be creative, perhaps acting out the bottle's perspective, the environment's reaction, or even portraying marine animals affected by plastic.

3. Practice: Give groups time to rehearse. They can use optional props or create simple signs to represent parts of the journey.

Main activity 2 – presentation (15 – 20 minutes)
Each group presents their findings. Leave room for a discussion after each presentation.

Reflection and discussion (10 minutes)
You can use some of the following reflection questions to guide the process more efficiently:

- Production: "What resources are required to make each plastic bottle? What environmental costs do we not always consider?"
- Usage: "How do you feel about the short time the bottle is used versus the impact it leaves?"
- Disposal Choices: "What are some barriers people face in choosing to recycle? How might we increase recycling or alternative use?"
- Landfill and Ocean Impact: "How did it feel seeing where the bottle ends up? What can be done to prevent plastic from reaching these places?"
- Alternatives and Prevention: "What are some ways we can avoid using single-use bottles? -How can we help others see the impact of single-use plastic?"

6. RESULTS AND CONCLUSIONS

Results of the Pilot Test:

This section presents an interpretation of the results collected throughout the pilot tests. The objective is to analyze the responses to the questionnaires completed at the end of these tests and to synthesize the findings in a way that is useful and relevant for professionals consulting the guide.

The evaluation of results has been a key component of the project's development, allowing us to obtain feedback from both youth workers and the young people who tested the games. This continuous feedback process enabled us to refine and improve the games until achieving the final version.

To this end, sessions were organized with youth workers, who subsequently implemented the games with young people from three countries: Spain, Lithuania, and Croatia. In total, 25 professionals and 104 young participants took part in the pilot tests.

Regarding the youth workers' feedback, the results were highly positive, showing strong satisfaction with the project's content. The professionals tested the games with young people aged 18 to 30 and highlighted that these activities effectively foster ecological skills and attitudes. They noted that the games were highly interactive and enjoyable, helped simplify complex concepts related to plastic reduction, and maintained strong participant engagement throughout. The games successfully transformed abstract environmental topics into accessible and memorable learning experiences.

Most professionals observed that the young participants were actively involved, enjoyed the games, and showed curiosity about both the activities and the underlying environmental themes. Overall, they expressed satisfaction with the games as educational tools for promoting environmental awareness among youth.

Among the improvement suggestions, professionals recommended translating the games into additional languages to enhance accessibility and understanding for all participants.

To assess young people's level of satisfaction and environmental knowledge, participants completed a brief pre-project questionnaire, reflecting on their awareness and behaviors related to environmental stewardship.

When asked, "How much do you know about recycling plastic?" 26,9% of the participants rated their knowledge as moderate and 27,8% considered themselves highly knowledgeable.

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The remaining 45,3% rate their knowledge as low, which reinforces the need for educational tools like PLANSHIELD to motivate and inform young people about sustainability.

Participants also reported a moderate sense of personal commitment to helping the environment, indicating that awareness levels are not yet as high as they should be given the current climate emergency. While many showed a reasonable understanding of environmental issues, there remained a notable proportion with lower awareness levels. Similarly, interest in plastic use and recycling was moderate, with some neutrality and limited motivation to deepen their learning.

These findings confirm the initial problem identified by the project: the urgent need to create engaging, age-appropriate educational resources that capture attention and foster motivation, knowledge, and positive attitudes toward recycling and sustainable plastic use.

Following the implementation of the two games — The Planet Shield (online) and PLANSHIELD (board game) — participants completed a post-test questionnaire to measure changes in knowledge and attitudes.

The vast majority reported that their understanding had improved after playing the games. The 70,2% of the answers were positive, confirming the games' value as effective educational tools. Participants expressed feeling more committed to helping the planet and more knowledgeable about recycling practices. However, some noted uncertainty about fully mastering the lessons learned, which is understandable since this was their first exposure to the games. Repeated play is likely necessary to consolidate learning outcomes.

Participants also praised the games for being easy to understand and follow. They described them as dynamic and interactive, though a few found the online version's rules slightly more complex. Typical comments included: "cool game," "really interesting," and "an easy way to learn about plastic recycling." They also expressed enthusiasm for recommending the games to friends, confirming that the project's goal of combining learning with fun was successfully achieved.

Conclusion:

The pilot phase of the PLANSHIELD project has proven to be a valuable and effective step in validating the educational potential of the developed games. The results from both youth workers and young participants demonstrate that the initiative successfully integrates fun, interaction, and learning, making complex environmental issues more approachable and engaging.

Youth workers emphasized the games' usefulness in promoting ecological skills and motivating young people in innovative ways. Meanwhile, young participants reported increased awareness and knowledge regarding plastic use and recycling, as well as greater willingness to adopt environmentally friendly behaviors.

Although some areas for improvement were identified—such as expanding translations and encouraging repeated play to reinforce learning—the overall feedback has been overwhelmingly positive. The pilot confirmed that PLANSHIELD is not only a relevant educational tool but also one with the potential to foster long-term behavioral and attitudinal change toward environmental protection.

In conclusion, PLANSHIELD has demonstrated that games can serve as powerful instruments for environmental education, offering young people opportunities to learn through experience, collaboration, and play. The project thus stands as a meaningful contribution to the fight against plastic pollution and an inspiring resource to foster youth engagement in addressing the climate emergency.