Digital Destiny

Complete example guideline – 3 Little Pigs

This is an example of enacting Meaningful Learning by combining different working methods proposed in this module.

First try the incomplete exercise with the Three Little Pigs story and then review this guideline and compare your ideas.

Expected Outcomes – students will:

- ✓ Students are able to explore additional perspectives of an issue/problem/situation by examining other contexts through a story.
- ✓ Students learn to work with abstract notions.
- ✓ Students learn to set criteria for examining a context through a story.
- ✓ Students are able to be involved in a debate (develop competences of active listening to others and building arguments to support their opinion)
- ✓ Students are able to explore additional perspectives of an issue/problem/situation.
- ✓ Students are able to explore alternative realities.
- ✓ Students develop the attitude to always consider that alternative developments may occur in the future.
- ✓ Students learn to think critically.
- ✓ Students are able to explore additional perspectives of an issue/problem/situation.
- ✓ Students are able to explore alternative realities.
- ✓ Students develop the attitude to always consider that alternative developments may occur in the future.
- ✓ Students learn to think critically.

Material

This working method can be implemented in-person or in a blended format if you choose. It can also be implemented by combining the two approaches.

Offline	Blended
Create four large visual spaces (use board or large paper) to collect small group (or plenary) ideas, categorize/group ideas, brainstorm questions.	Create four digital spaces to collect small group ideas, categorize/group ideas, brainstorm questions. Use blended learning tools such as Padlet or Miro.

Prepare yourself!

- Find a copy of the 3 Little Pigs story.

Funded by the European Union

- Create four Visual Spaces:
  - Find an empathy map image online and use it to draw a paper map or upload it on the blended learning platform of your choice (you may find more information and idea in the toolkit at http://www.storylogicnet.eu/) or use this one . This is Visual Space 1
  - Draw a basic image of a tree on a big piece of paper or look for a Problem Tree image online and upload it on the blended learning platform of your choice. This is Visual Space 2
  - Draw three rectangular areas on the visual board and color code them. Use Red for high significance problems, Blue for medium significance problems and Green for low significance problems. This is Visual Space 3.

Create another visual space for the design thinking part (step No 8 in this method). You need to create 2 columns or circles (any shape will do). If you decide to work in a blended format, a simple Padlet board is enough. This is Visual Space 4.

Duration

You will need 165-255 minutes to complete this example. Consider dividing it into 3 working days.

Step-by-step or course

Prepare a copy of the 3 Little Pigs story to read to your students. If you find it in a digital format you may want to project, it in the class or ask the students to look at it online beforehand.

1 Storytelling
You will need about 10 minutes for this step.

Start by telling or reminding your students of the 3 Little Pigs story. This story will anchor all the examples. In this case, the story is used to introduce a problem or even a concept as you will find out later (see also Storytelling as a Concept Introduction working method).

In this step we are introducing a concept through a story without explicitly mentioning which one it is. You will find out in the end that our lesson plan focuses on UN's SDGs. So, this is an example of a story which indirectly introduces a concept to work with (Sustainability and SDGs), although at the beginning this connection is not clear at all. These usually leads to an "Aha! Moment" and leads to deep learning.

2 Empathy Map – Iteration 1
You will need about 10 minutes for this step.

Split your students in groups of 2-4 members. Assign Pig No1 to half of the groups and Pig No2 to the other half. You may let them choose, as long as all the Pigs are equally selected.

Briefly explain to the student how an Empathy Map works (refer to the "Empathy Map working method"). Use Visual Space 1.

Provide the following instructions to the groups:

Consider the assigned Pig in the story and fill in the corresponding empathy map. Give them the following instructions (the questions are examples that you may use...feel free to change them):

- Think of the Pig:
    - o What problems did it face?
    - o How thoroughly did it think of the problem? Why?
    - o Is the Pig hard-working or not?
    - o Does the Pig prefer to take things seriously or have fun?
    - o Is the Pig considering what comes next or not?

Allow 10 minutes for them to complete the task.

In this stage the students will develop their understanding of the characters in the story, their challenge/problem, and their needs.

3 Empathy Map – Iteration 2
You will need about 15 minutes for this step.

Take a short break by having a 5-minute discussion about the Wolf's attempts to capture the Pigs. This will allow your students to shift their focus on something other than their assigned Pig. Try to make the discussion fun, with a couple of jokes.

Ask the groups to return to their Empathy Maps. Give them 10 more minutes to rethink and enhance the Pain (fears, frustrations, obstacles) and Gain (wants, needs, measures of success, obstacles) sections. Use the following provoking questions as examples to support your students:

- Why was the same problem addressed differently by each Pig?
- Are there any burdens to the Pigs building options? Which ones (personal choice, other dangers, time, etc.)?
- Did the Pig consider the problem thoroughly? How? Why?

In this stage the students will continue to expand their perspectives and understand the problem presented by the story even deeper.

4 Plenary Presentations
You will need about 5-20 minutes for this step.

In plenary, every group makes a 3-minute presentation about their assigned Pig. Have the groups assigned with Pig No1 go first. After the first group, the others can

just highlight differences in their maps and explain them. Try to facilitate the discussion and focus on the Pain and Gain sections, using the same questions as in the previous step.

Repeat with the groups assigned with Pig No 3.

In this stage the students will exchange perspectives and understanding, but also take the time to "absorb" the newly acquired information.

5 Main Problem Identification
You will need about 10-30 minutes for this step.

In plenary, host a 3–5-minute brainstorming session in which students identify the main problem that the 3 Little Pigs are facing. First allow them to think about it for 2 minutes. Ask them to think of the similarities and differences of the Pigs' actions, but also needs and goals.

Following the brainstorming, ask the students to come up with the two most preferred options. You may use a voting application to reach consensus. When a clear idea is formulated, ask the students to vote if they like it or not.

In this stage the students will realize that a common problem is hidden "between the lines" of the story, which is common also in everyday life.

6 Problem Analysis Tree
You will need about 15-30 minutes for this step.

Ask the students to return to their groups and provide them access to Visual Space 2. Depending on the age and number of your students you may implement this stage in plenary or groups. Usually, plenary is better.

Briefly explain how the Problem Analysis Tree works (see the Problem Analysis Tree working method).

Provide the groups with the following instructions:

Consider the main problem that the Pigs are facing which was decided upon in the plenary and ask yourself why the problem appears. Try to think of at least 3 reasons that the problem exists.

Allow them 15 minutes to complete.

In this stage the students will explore the problem further and grasp a deeper understanding of the root causes of the problem

If your students have worked in groups, then return to plenary. every group makes a 3-minute presentation of their work on their trees. Have the groups assigned with Pig No1 go first. After the first group, the others can highlight differences in their maps and explain them orally, instead of presenting duplicate information

(depending on their age you may ask them to use a sentence such as "We have _____ marked differently because we think _____"). Try to facilitate the discussion and focus on the Pain and Gain sections.

Repeat with the groups assigned with Pig No3.

7 Problem Statement – Define Step part 1

You will need about 15 minutes for this step.

In plenary guide your students to Visual Space 3. Ask them to 1) create sentences stating the problems that the Pigs are facing, and 2) categorize them in matters of significance. See the Problem Statement working method for details.

Allow them 10-15 minutes to complete the task. You may use a voting application if needed, but it is better to ask then to reach consensus.

In this stage the students will explore the problem further and grasp a deeper understanding of it by decomposing it to its root causes (...problem persists because) and who it affects (focus on a specific user, here the pig).

8 Design Thinking – Define Step part 2

You will need about 15minutes for this step.

As you might recall, Design Thinking Process has 5 -steps. The first step is Empathize and the second is Define. In the previous steps we have used an empathy map and a problem tree to define and digest the problem. Using the previous analysis of the pigs' problems, ask the students to define/list the attributes of a house that their assigned Pig needs to build.

Guide them to Visual Space 4. They are still working in groups.

Allow them 15 minutes to complete the task.

In this stage the students will explore attributes of the problem to "translate" the problem to parameters which need to be addressed.

9 Design Thinking – Define Step part 3

You will need about 10 minutes for this step.

After understanding the problem deeply, the next step is for the students to start exploring attributes of the problem. This will conclude the define step of the Design Thinking process.

Assuming that the main problem identified is that Pigs' problem is to find shelter by building their own houses, the goal now is to put them in the mood of thinking about attributes of houses that need to be considered before building a house which fulfils the needs of the person who is going to live in it.

This is a necessary step before attempting to solve the problem.

Ask your students to think of their house and write a 5-line description. Ask them to do the same for a house of a distant friend or relative. Ask them to consider the size and the shape of the house, the safety features it incorporates, the needs it covers. Use provoking questions such as "does everybody have his/her own room?", "is there a space for all the people in the house to sit together?", "Are there other houses nearby? How close?". If the students are very young, ask them to draw the houses instead of writing about them.

Allow 15 minutes for them to complete the task.

Ask for volunteers to present their writings. Facilitate a plenary discussion about the attributes of the houses they describe and the reason for having them (e.g., do they have a tiled inclined roof or a plain straight one? Why? What material are the houses made of? Why?)

In this stage the students explore the problem from a realistic perspective by bringing in their understanding of existing solutions in real life. This is a fundamental step for Meaningful Learning, as the connection with their own life takes place here.

10 Design Thinking - Ideate part 1
You will need about 15 minutes for this step

Ask the students to return to Visual Space 4 and brainstorm, in groups, to decide how to build the house of their assigned Pig, considering the defined attributes in steps 8 and 9.

Allow them 15 minutes to complete the task.

In this stage the students will explore possible solutions to the problem, also utilizing information they bring in from their own experiences, further enhancing Meaningful Learning.

11 Design Thinking – Ideate part 2
You will need about 10 minutes for this step.

Give your students the following instructions:

Think as if you were your assigned Pig and reflect on your designed solution, especially focusing on impacts of the solution. Did the Pig's choices have an impact only on him? If not, to whom else? What kind of impact? How did that affect the others? What about the forest the Pig live in?

Take 5 more minutes and adjust the house you designed if you think they are necessary.

Use questions such as the ones provided here to facilitate the activity.

In this stage the students will exchange perspectives and understanding, but also take the time to "absorb" the newly acquired information.

12 Plenary presentations & reflection
You will need about 10-25 minutes for this step

Return to plenary and ask the groups to do a 5-minute presentation of their work through steps 10 and 11.

Facilitate a plenary discussion with comments and arguments.

Ask the students to vote for the best house idea, after deciding what is more important about the house. For example, it can be based on space, size, looks, safety…. this will reveal criteria that they can use. First ask them to decide on the most important criterion.

In this stage the students will exchange perspectives and understanding, but also take the time to "absorb" the newly acquired information.

13 Disruption
You will need about 20-30 minutes for this step

Having decided what the idea Pig house looks like, it is time to introduce a disruption (see the Disruption working method). Each disruption is connected to one of the UN's SDGs. Hold on to that information for now.

Have the students return to their groups and assign then with one of the following:

1: You have limited resources for building. (Responsible consumption & production)

2: You have limited area on which to build. (Sustainable cities & communities)

3: You have limited knowledge about how to build. (Quality education)

4: A nearby River floods twice a year. (Clean water & sanitation)

Alternatively, you may have the groups select the disruption they like more. It is not mandatory to use all of them.

Give your students the following instructions: based on this new information, revisit the design thinking steps (9 and 11 in this list) and alter the design of the house.

Allow them 20-30 minutes to complete.

In this stage the students will realize that usually problems are not solved in a unique way, but several sub-problems or connected/new problems may arise. Thus, they grasp the idea that multiple parameters need to be examined to fully understand a problem. Moreover, they will realize realistic extensions of the problem under examination, as the disruptions concern real life incidents. This is one more step towards achieving Meaningful Learning.

14 Ideal solution

You will need about 10 minutes for this step.

Return to plenary and ask the groups to do a 3-minute presentation of their work.

Facilitate a plenary discussion with comments and arguments. Coordinate the discussion to decide upon the ideal house design, based on all the arguments expressed.

In this stage the students are required to apply new knowledge to construct something concrete. This enhances reflection to fully acquire the new knowledge.

15 Consider next steps

Based on the work so far, you may build longer-term projects in which the students will be asked to create prototypes of their house designs (or the voted as ideal house design) using everyday materials. The house would be their own, positioned in their area. Alternatively, you may allow the students to decide where they would build their ideal house. In any case they need to consider sustainability criteria (refer to UN's SDGs, https://sdgs.un.org/goals, to study the goals and decide which criteria are more important).

The maquettes may be displayed and presented in an open event with parents and local authorities.

16 Going blended

In almost all steps, blended learning tools can be used for hosting the Visual Spaces and the Voting processes. This way, some of the steps may be implemented in an asynchronous manner, allowing for more reflection and inquiry time, as well as sharing the process with their families at home. This will enhance new knowledge acquisition.

Also, some, or only the final presentations of the groups can be done in a video format and shared online.

17 Parents' involvement

Parents may be involved in many of the steps enlisted here. Also, parental involvement ideas are mentioned in the Working Methods documents of this module. To provide some examples:

- Parents can be interviewed regarding their houses in order to understand their own needs, how were they addressed and if not, why.
- Parents can assist students in information seeking while inquiring (e.g. in the definition, ideation and disruption steps)
- Parents can vote and provide feedback on the solutions in a final event of presentations.

- Parents can assist students in acquiring everyday material for their constructions or even help them with that.

There are many creative ways of involving parents or extending the steps of this activity overall. For example, students can take pictures of houses from their neighborhoods and present them in the Define step. Other sustainability issues which are also connected with local culture and economy can be discussed (also involving parent acquired information).