

# CULTURAL VARIATIONS AND DESIGN GUIDELINES TO ATTUNE HEALTH PROGRAMS FROM SPAIN TO THE NETHERLANDS

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Attuning the TAS program to Dutch  
classrooms

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# Project Summary

This master thesis report is the result of a six-month-long graduation project for the Design for Interaction master at TU Delft. The report describes the development of the design guidelines to attune the TAS program to the Netherlands.

The main goals that guided the project were three: identify which aspects of a healthy habit program (TAS program) can be adapted to the Netherlands; understand how to design for it by creating a set of design guidelines; and how to apply the guidelines to attune the program to the Netherlands..

Healthy habit programs targeted to teenagers are crucial since it is the period in which bodies develop and finish forming. The early understanding of healthy habits is key to helping teenagers to acquire lasting healthy behaviors and classrooms provide a great context that supports the knowledge building experience.

The TAS program was evaluated in 103 Spanish classrooms, in different autonomous regions, and proved to increase healthy behaviors among teenagers, such as improving nutritional habits (increase of fruit and vegetable intake and decrease of fried food) or increasing physical activity. Therefore, the opportunity to adapt a successful healthy habit program to another European country

was identified.

The research phase of the project consisted mainly of sensitizing activities and literature research to get to know the context and domain of the project; and interviews with Dutch and Spanish parents and teenagers to understand the reality and daily life habits by comparison.

The opportunity to design a set of guidelines based on the research outcomes was identified, a set of 10 guidelines grouped in four groups: medium, content, communication and engagement. The guidelines were applied to one of the workshops of the TAS program with the aim of evaluating the effectiveness of the guidelines and the workshop itself.

The concept was evaluated with Spanish and Dutch secondary teachers and Dutch experts in the field of health programs in order to assess the validity of the concept and identify to what extent the implemented changes were culture specific.

The project was approached from a cultural framework, in which socio-cultural dimensions served as a way to find a direction for the project but also as a tool to compare and identify cultural variables between Spain and the Netherlands.



# Acknowledgements

As the end of this project is approaching, I would like to thank the people that supported me and accompanied me during this process.

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# Introduction

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## 1.1. Alícia foundation and TAS program

### 1.1.1. Alícia Foundation

This project is based on an existing program developed by Alícia Foundation, which is a research center devoted to technological innovation in cuisine, to the improvement of eating habits and to the evaluation of the food and gastronomic heritage. It is a center with a social vocation, open to everyone to promote healthy eating. It is a private, non-profit foundation created in 2003. Its Board is formed by the Generalitat de Catalunya and Catalunya - La Pedrera Foundation. With the complicity and collaboration of the best chefs and leading scientists.

Alícia Foundation has a clear mission: promote healthy eating for everyone, food being healthy, sustainable, tasty, accepted according to cultures and traditions and adapted to any life situation in which they find themselves.

The mission of the Catalan Foundation Alícia is to promote healthy eating for everyone, food being healthy, sustainable, tasty, accepted according to cultures and traditions and adapted to any life situation. The foundation is a research center focused on innovation in cuisine, and it tackles different fields as can be seen in its webpage (<https://www.alicia.cat/en/>).

One of its areas of activity is “Health and eating habits” with the aim to promote health and prevent illness by improving eating habits, creating awareness of what people in Spain eat, providing dietary behavior models and providing culinary answers to specific contexts.



**Figure 1.** Photo from the TAS program. Retrieved from <https://programatas.com>.

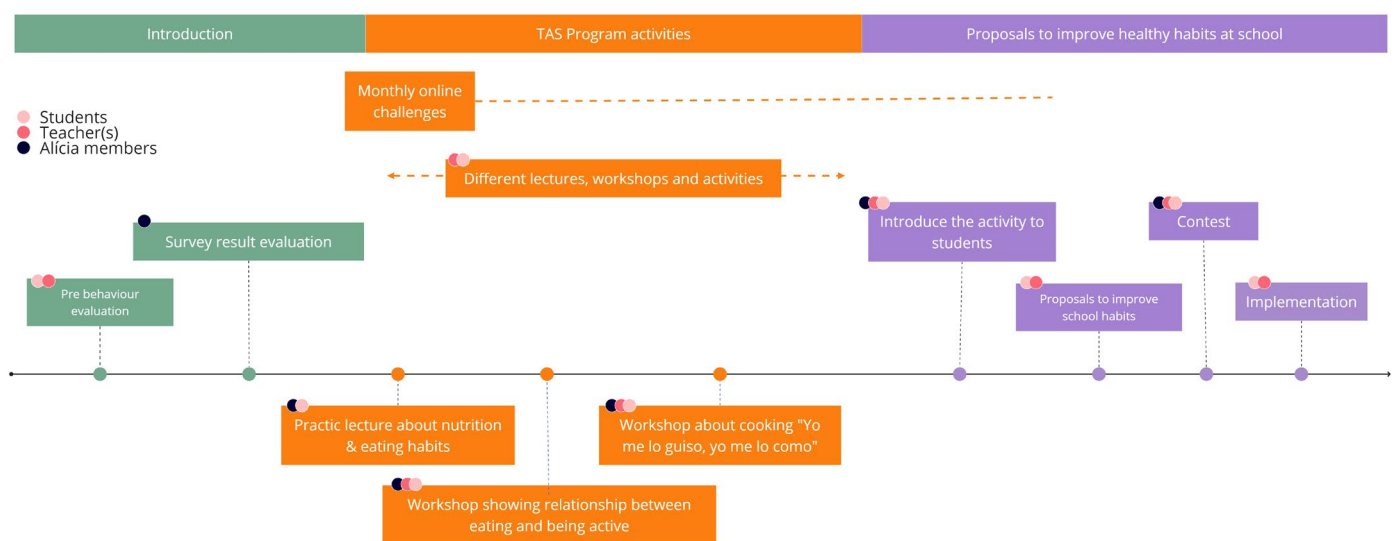
### 1.1.2. TAS Program

The TAS program (Tu y Alícia por la Salud, which means “You and Alícia for Health”) is a program developed by Fundación Alícia aimed at educational centers. The aim of this program is to improve the quality of life of adolescents and provide them with the knowledge, skills and abilities necessary to avoid future illnesses caused by bad habits.

The program is targeted to Spanish students aged 13-15 in a school context (in their educational centers).

The duration of the program depends on the format that the educational center chooses, since there are three different versions varying between the duration of a week and six months.

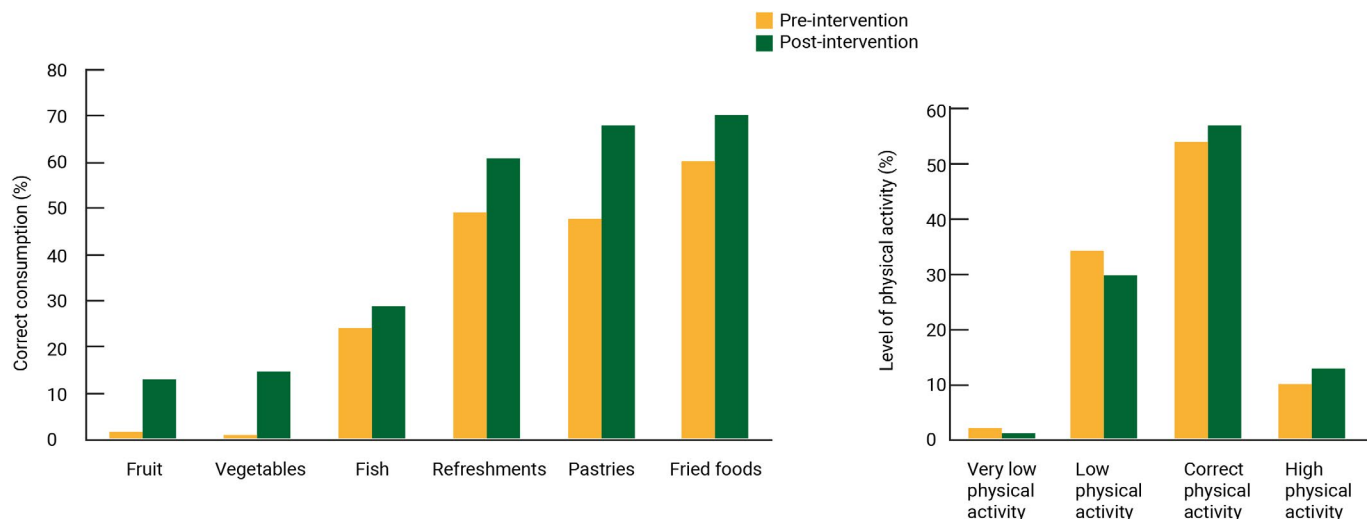
The program consists of students getting involved and developing proposals to improve the healthy habits of their class.



**Figure 2.** TAS program overview.

To do this, the program begins with a survey to identify the specific habits of the class. The results are shared with the class in the format of: what to keep the same, what to increase and what to reduce. These results are the starting point, since based on them the class decides what problem they would like to work on when presenting the proposals. Students will work in groups and finally present their proposals to the whole class and the best one will win.

On the other hand, throughout the workshop different lectures, workshops and activities will be given for adolescents to gain knowledge in the field of health. To see further information about the program see appendix A.



**Figure 3.** Comparison of food and physical activity habits before and after conducting TAS program.

This workshop was implemented in 103 classrooms in 79 secondary schools in all autonomous regions of Spain during the year 2013. Surveys about food and physical activity habits were given to the 2516 teenagers participating in the program before and after the duration of it. This allowed the evaluation of the program, by comparing students' habits. Results were positive since the behaviors improved after conducting the program (Roura et al., 2014). Nutrition habits improved since consumption of different food groups got closer to the correct consumption (see figure 3). The level of physical activity increased, being less students practicing very low and low physical activity; and more students practicing correct and high physical activity (see figure 3).

## 1.2. Problem definition

The TAS program has great potential to scale up

to other teenagers in Europe due to the positive results obtained throughout this project as previously mentioned on section 1.1. Alícia foundation and TAS program. In the same way, it is interesting to investigate and identify if it is possible and if so, how a program like this could be adapted to a different country.

However, in order to make this program global and promote health among teenagers around the world it is fundamental to consider cultural characteristics and variations. Health discourses do not have the same effect in different countries and/or cultures and since they are framed in a cultural context (Gram et al. 2010). In their study, different ways of approaching the health discourse in a food campaign were identified, depending on the country the promotion was targeted to; from avoiding talking about health (in Denmark), making an informational and emotional discourse (in Germany) or using a

more direct discourse appealing to guilt and/or duty (in France, Spain, Poland and Russia ). Different studies have been carried out, mostly in the field of IT and web design (Snelders et al., 2011; Alostath et al., 2009; Eune & Lee, 2009; Marcus & Krishnamurthi, 2009) that show that adapting to local customs enhances user trust and appreciation of the service. Therefore, research should be carried out to determine the guidelines to follow when adapting the program to different countries.

On the other hand, the program is carried out in a school context, it is also crucial to analyze how the context varies depending on the country, culture, and framework. As researched on the studies from Hofstede (1986); Maandag et al. (2007); Zurlo et al. (2020) there are many differences depending on the type of school, the teacher's role, teacher-student interaction, value orientations etc. and thus all of this must be researched.

In addition, the forms in which health information in media (websites, books, social media platforms etc.) are represented and the meaning they elicit varies among cultures. Therefore, research and design explorations are needed. In research from Gram et al. (2010) it has been proven that for the same product, different countries want the message about health articulated in different ways. Learning tasks and environments which promote learning in some cultures may be ineffective in others (Vita, 2001), which explains why teaching methods are culturally based phenomena.

### **1.3. Assignment**

This project has three objectives:

1. To identify which aspects of a nutrition-specific Spanish program (TAS program) could be adapted to another European country.
2. Understand how to design for it by creating a set of design guidelines.
3. How to apply the guidelines to attune the program to another European country.

To limit the scope of this project, four levels of culture have been distinguished:

- National.
- Generational.
- The influence of school culture.
- The influence of family cultures.

Moreover, the research will solely focus on two European countries with different food cultures (artefacts, habits, ingredients, pace of time...): Spain and the Netherlands. Regarding the generation, the study will be limited to adolescents between 13 and 15 years old.

Taking into account the objectives mentioned above, some research questions have been formulated that help specify which areas are important to analyze throughout the project. These research questions focus on understanding and comparing different cultural characteristics between Spain and the Netherlands in order to develop a set of guidelines that serve as a basis for adapting the TAS program to the Netherlands. On the other hand, the last research question tries to answer how the challenge of adapting a health program can be approached from a designer's perspective.

### 1.3.1. Research questions:

**Objective 1:** Identify which aspects of a nutrition-specific Spanish program (TAS program) could be adapted to another European country.

- RQ4.** RQ1: Health programs: How are health programs for teenagers approached in Spain and in the Netherlands? Scope, activities, context, etc.
- RQ5.** RQ2: Literacy: How much knowledge do Spanish and Dutch teenagers have about healthy habits? And how is this information represented in the media of the mentioned countries?

**Objective 2:** Understand how to design for it by creating a set of design guidelines.

- RQ6.** RQ3: Social context: What social interactions regarding health habits are there? For example eating alone/with others; eating while watching TV; going to school biking together with friends, etc.
- RQ7.** RQ4: Daily life context: Which routines do teenagers from Spain and the Netherlands follow and what differences can be observed? For example the timetables they follow, how many meals they have per day, when do they have their meals, how much exercise and which type of exercise do they practice, when do they exercise, how often do they cook at home/eat outside, etc.
- RQ8.** RQ5: School context: Which are the school dynamics in Spain and the Netherlands? Teacher's roles, educational system, methodology, pupil's participation, etc.

**Objective 3:** How to apply the guidelines to attune the program to another European country.

- RQ9.** RQ6: What is the influence of design and how design can contribute to the adaptation of a health program from one country to another?

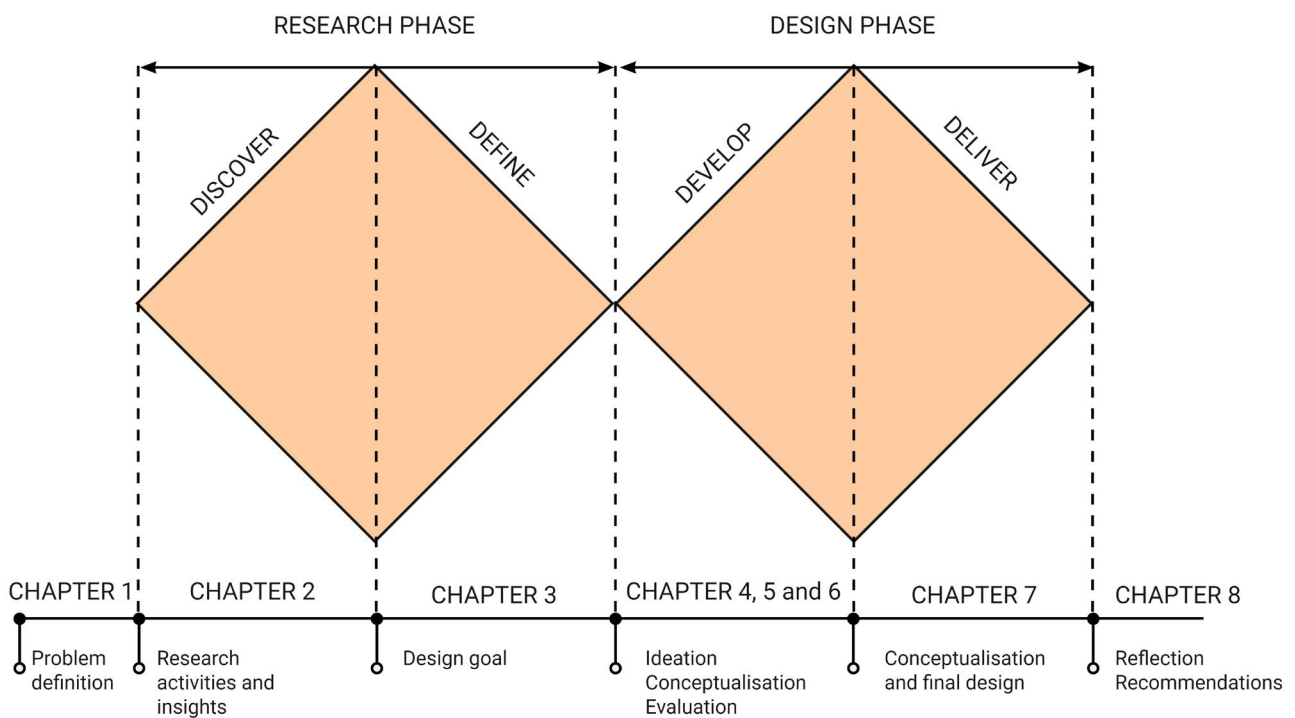
## 1.4. Approach

This project uses different design methods to help focus and develop it, but in general, this thesis follows the stages of Design thinking. Design thinking has a human-centered core (Razzouk & Shute, 2012) based on observing how people interact with their environment.

The process followed throughout this project is based on the Double Diamond approach, involving the following phases: discover, define, develop, and deliver (see figure 4). Focusing first on understanding the topic (diverge) and using the gained knowledge to define a problem statement and design goal (converge). The design goal is the starting point of the second diamond, focusing on developing ideas (diverge) and finding solutions to solve that problem

resulting in a final design (converge).

The project consists of identifying a set of design guidelines to attune a health program to other countries and cultures. Therefore, it is important to approach the project from a cultural framework. There are different theories and different cultural models and this project will use Socio-Cultural Dimensions proposed by van Boeijen (2015) as a way to structure the process: first to map out the personal assumptions and find an initial direction for the project; then to structure the main values retrieved from the research phase of the analyzed cultures; and therefore, help reaching the design guidelines to adapt a health program to other cultures.



**Figure 4.** Design approach.



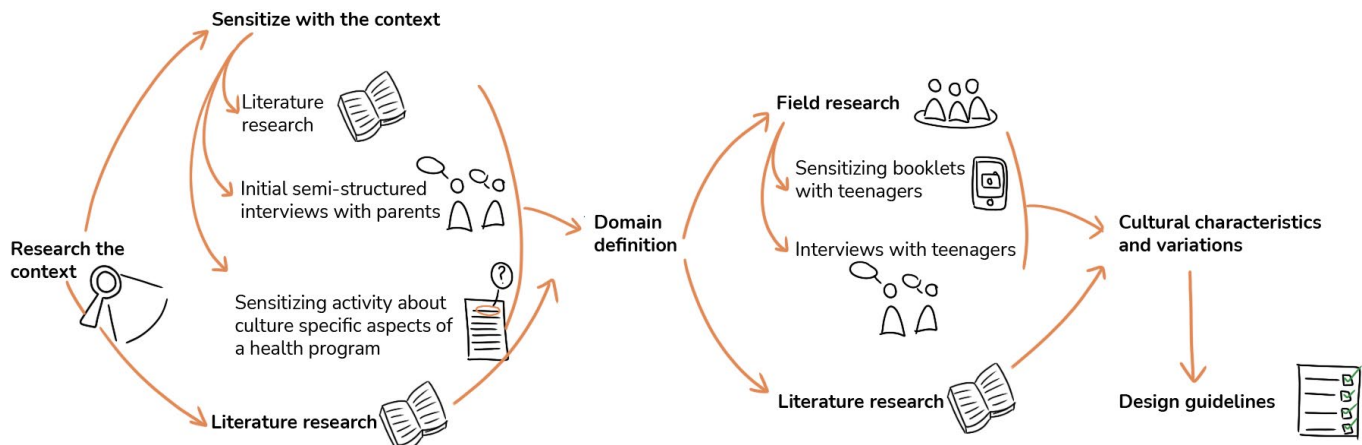
# Research

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## 2.1. Approach

The research phase involved the use of different activities with a general aim of understanding the context. In this section the main design activities are briefly described based on their goal.



**Figure 5.** Overview research activities.

### 2.1.3. Literature research

#### Goal

Literature research was conducted with two different goals: firstly to be able to sensitize with the field of teenagers and nutrition and secondly, to understand the context, provide a theoretical background and give answers to the formulated research questions.

#### Research questions

For the literature research, based on the previously defined research questions, some new ones were created more focused on defining the domain of the project.

- RQ1.** RQ1 How could cultural attunement be framed?
- RQ2.** RQ2 How do adolescents perceive nutrition?
- RQ3.** RQ3 How are current nutrition programs for adolescents approached in Spain and the Netherlands?
- RQ4.** RQ4 Which cultural characteristics affect a health program? and how do they affect the development of a health program in Spain and the Netherlands?

#### Procedure

To be able to answer the proposed research questions, literature research covering different topics was carried out. The main topics researched were the following ones, since they were considered relevant to define the domain of the project:

- Nutrition and how teenagers perceive nutrition.
- Healthy habits: A comparison has been made of how governments and/or associations approach and promote healthy habits. The objective is to be able to draw conclusions about which factors or aspects change in different cultures through comparison. The chosen countries are Spain (because it is the country of origin in which the TAS program was developed);

The Netherlands (because the redesigned proposal will be focused on that country).

- Cultural adaptation and attunement.
- Health programs in both selected countries (Spain and the Netherlands).

## Insights

Insights are further explained in the chapters 2.2 Domain and 2.3 Cultural differences and similarities.

### 2.1.1. Cultural sensitizing activity

#### Goal

identify which aspects of a health workshop are culture specific and which aspects could be changed or adapted, added or deleted to the effectiveness of the program in different Countries.

#### Method

The script of the “Yo me lo guiso, yo me lo como” (“I cook it, I eat it”) workshop was given to 7 international people for review. The participants, all design students, were aged 22-27 and they were

from: Belgium (1), The Netherlands (3), China (2) and South Korea (1).

Participants were asked to comment about anything that they found interesting, surprising, didn't understand or thought could not work in their country based on their own experience. They commented by highlighting a part of the text and adding a comment.

#### Procedure

The script of the workshop “Yo me lo guiso, yo me lo como” was translated to English and shared on a Google document to the participants. They were given 5 days to review the script and add comments on the aspects they found interesting. The emphasis was not just on the things they thought were problematic for the implementation in their countries but also on the positive or surprising aspects. A unique document was shared so they could see the comments that the others added.

After those 5 days, all the comments were retrieved and analyzed.

#### Limitations


Commented material	Comment	Cultural variation	Participant nationality	Participant gender
<p>The session is related to the sides of the pyramid that refer to food and cooking</p> 	Which pyramid? We have a pyramid regarding food influenced by Chinese medicines.	Nutrition guidelines and representation differences.	Chinese	Female
	We have "de schijf van vijf" a circle in which all needed nutrients are shown.		Dutch	Female
	In Belgium we now have the reversed pyramid.		Belgian	Female
<p>We just got home, we are very hungry and have very little time, we open the refrigerator and we feel lost... What do we eat?</p>	Describe a culture-specific situation. For Chinese teenagers, they might not have enough time to cook themselves after school. It is normally their families who cook. Maybe good start for Chinese teenagers is cook together with their parents or cook something for their parents as gratitude.	Cooking process and timetables. Who cooks? Do teenagers have time to cook? Values of food: gratitude.	Chinese	Female
<p>Do you like to cook? If not why?</p>	<p>Maybe ask why and not why not. Otherwise question sounds negative.</p>	Speaking style and tone.	Chinese	Female
			Dutch	Male

Figure 6. Selection of comments from sensitizing activity (part 1).

Commented material	Comment	Cultural variation	Participant nationality	Participant gender
The most important thing is the product we choose, and this would be best when chosen seasonal and local.	This is a belief I think. Some people could argue that bananas are tastier from a land far away than nearby (more sustainable yes, but better?)	Information trustworthiness; food availability depending on location; importance of different values, sustainability?	Dutch	Female
	This does not always apply, frozen spinach is better than fresh one that you overcook. The technique changes a lot.		Dutch	Male
We must remember that safety is very important in the kitchen.	Maybe also hygiene is important?	Important values.	Korean	Female

**Figure 7.** Selection of comments from sensitizing activity (part 2).

The script was only shared with 7 people and from 4 different countries so it is not representative of a whole cultural group or all different cultures. In the same way, the shared script was a translation of a Spanish one, so some information could have lost sense in such translation.

## Insights

Participants mainly commented on the aspects they thought could be problematic in their countries or the things and expressions they did not understand.

For example, the recipes explained, cooking methods or food types are different in every country and it was mentioned as something to change or adapt.

Representation of nutrition guidelines was also noted as cultural specific, since not all participants understood the “food pyramid” and some suggested their country’s representation.

Cultural values were pointed out, such as: gender, safety, hygiene, communication, etc.

Questions about practicalities were also noted: is it possible to cook at school? What about privacy issues with photos? Will every student’s family be able to buy the needed material? Is it easier if instead of being group work it is done individually?

A summary of the insights can be seen in figures 6 and 7 and they are further explained in chapter 2.3 Cultural characteristics and variations between Spain and the Netherlands in teenager’s lives and educational health programs. These comments served as a first contact to understand which aspects could be culture specific when developing a health habit program.

## 2.1.2. Field research

### Semi-structured interviews with parents

#### Goal

Understand the daily life of a family with teenagers at home and compare between Spanish and Dutch families.

#### Method

Four interviews were done (2 Spanish and 2 Dutch parents) and were about daily life activities such as groceries, meals, exercise and hobbies. The Spanish interviewees were two moms and the Dutch ones were a mom and a dad. Interviews were carried out online via Zoom and voice recorded. It was decided to use a semi-structured structure since the objective was to get to know the daily life of families and not looking for specific answers, so this way it is possible to leave room for different thoughts or anecdotes that will enrich the interview.

Interviewees:

I1: Spanish mom, married, with 3 children (aged 14, 19 and 25).

I2: Spanish mom, married, with 4 children (aged 9, 15, 19, 22).

I3: Dutch dad, married, with 1 child (aged 24).

I4: Dutch mom, married, with 3 children (aged 27, 25 and 25).

### Procedure

Interviews were developed in a semi-structured way, having 8 questions about the daily life of their family focusing on meals, activities, cooking process, health and school. Questions can be seen below.

- What does your family/household look like? How many children do you have?
- Can you explain a bit how meals are usually in your family? (Hours, Place, Company...)
- How is a normal day for your children? (School, extracurricular activities, etc.)
- How do you usually do the groceries at home? Who usually does them? How often?
- What does your cart usually look like?
- How do you usually cook at home? (who, when, what kind of food...)
- Do you usually think about the nutritional/health related part when shopping and/or cooking? In what sense?
- Do you know how your child(ren)'s classes tend to be? (structure, projects, talk ...)
- During the week, do your children eat at school? If so, do they take the food, cook there or buy something?
- Parents were also invited to share thoughts and experiences they thought could help understand their dynamics.

### Insights

The interviews have served to become familiar with the dynamics that families have. It is important to point out that very diverse answers have not been received to the prepared questions. This may be due to the fact that the questions were not very specific or due to only having interviewed two families from each country. Visual representation of the answers

of the four interviews can be seen in figure 8, 9, 10 and 11.

It has been observed also how each family has different dynamics regarding the cooking process (who cooks, who does the shopping, etc.).

On the contrary, similarities have been seen in the four families with regard to the involvement of young people in their nutrition, since in all the interviews the parents mention that their children do not have much interest in getting involved. The only meal that they usually prepare themselves in all families is breakfast. In Dutch families in both cases the teenagers sometimes prepare their own sandwiches for lunch. In one of the Spanish families the son does offer his help when his mother cooks, and in the other Spanish family the daughter shows an interest in baking.

Grocery shopping is usually weekly in all cases, trying to buy enough food for the whole week. But all families recognize that this is not always the case and they must go to the supermarket once again. In Spanish families normally one member of the family does the groceries, while in the Dutch ones they all do them.

When mentioning the items in their shopping cart, all families have mentioned foods such as: potatoes, rice, pasta, various vegetables, eggs, meat, fish, fruit or dairy products. The differences that have been observed in the Dutch and Spanish families are that the former have mentioned buying more sliced bread, some spread (such as hummus or peanut butter), some vegetarian product; On the other hand, the Spanish have mentioned buying loaves of bread of the day, sausage, red meat or legumes.

Further results are also mentioned in section 2.3. Cultural Characteristics and variations between Spain and the Netherlands in teenager's lives and educational health programs.

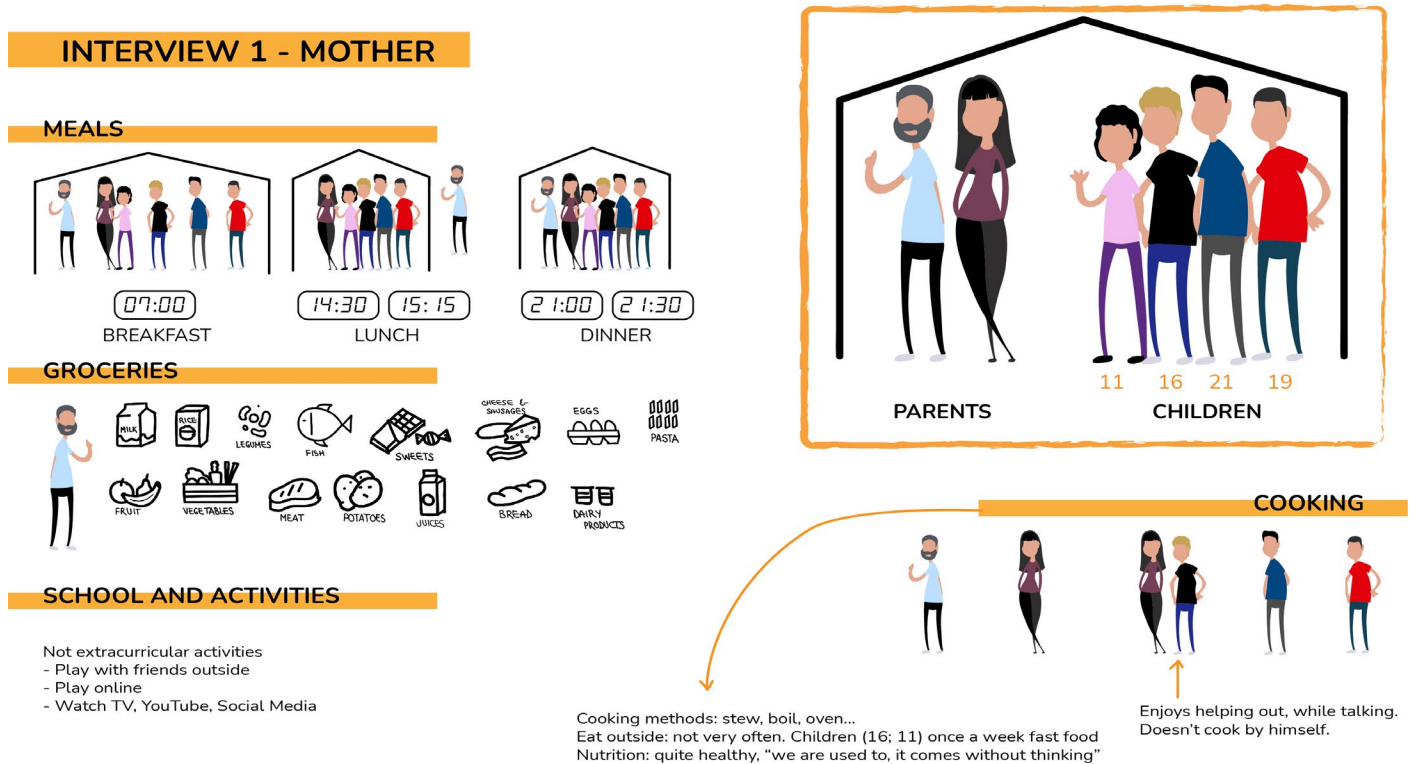


Figure 8. Interview outcome visualization Spanish family 1.

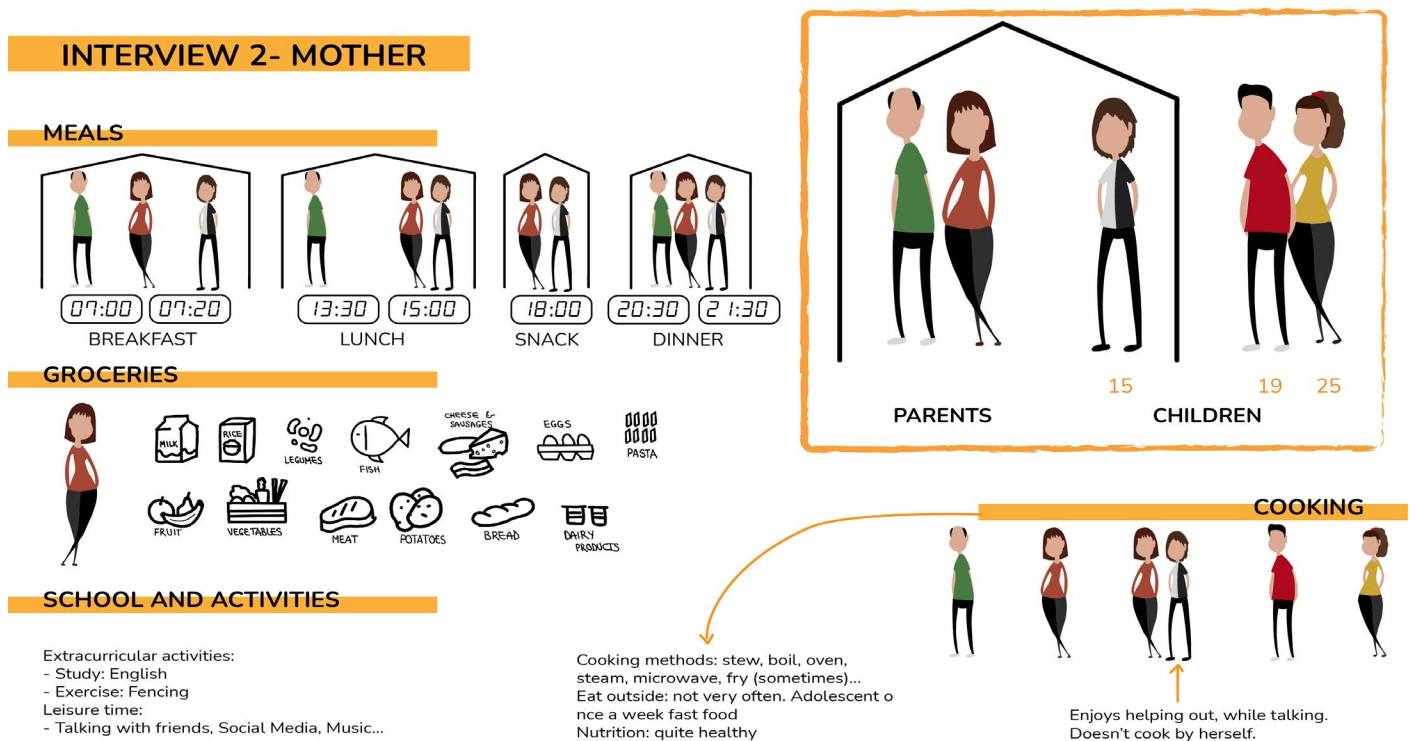


Figure 9. Interview outcome visualization Spanish family 2.

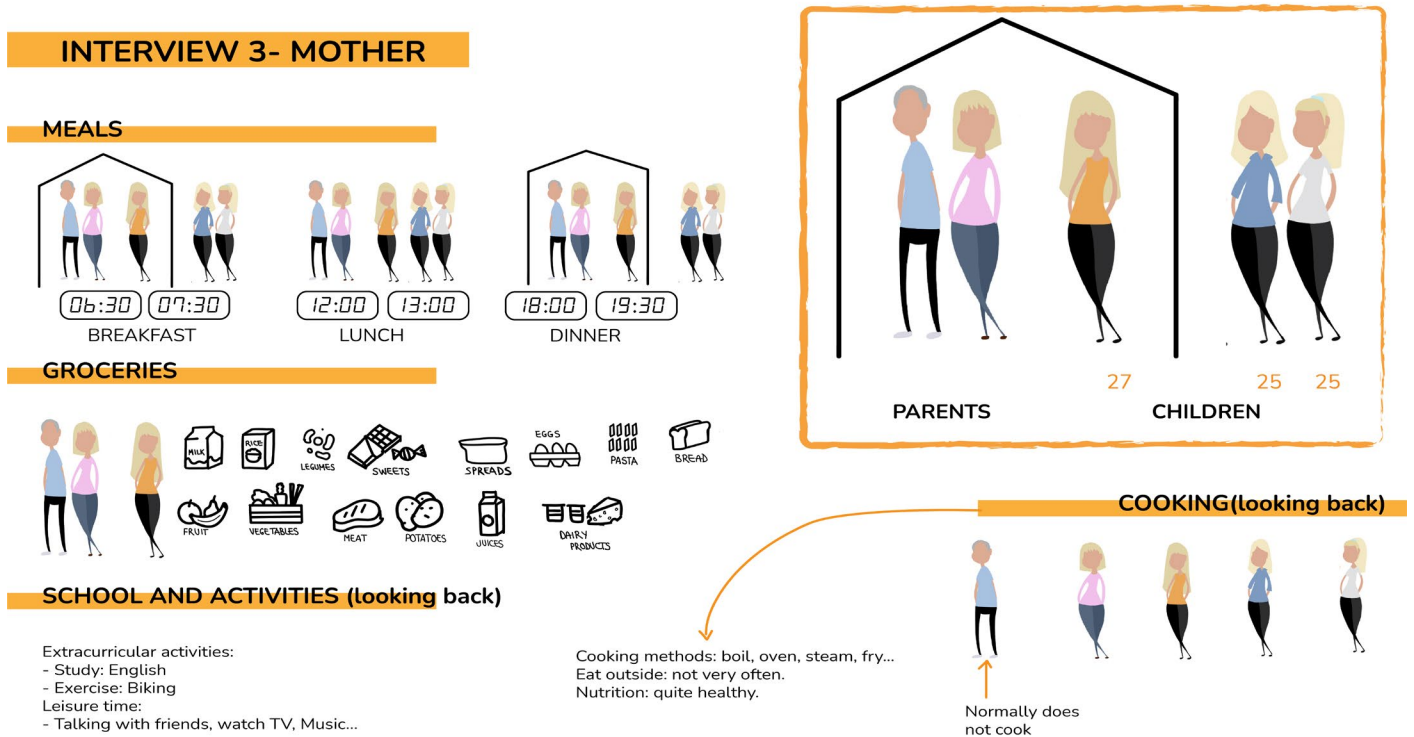


Figure 10. Interview outcome visualization Dutch family 1.

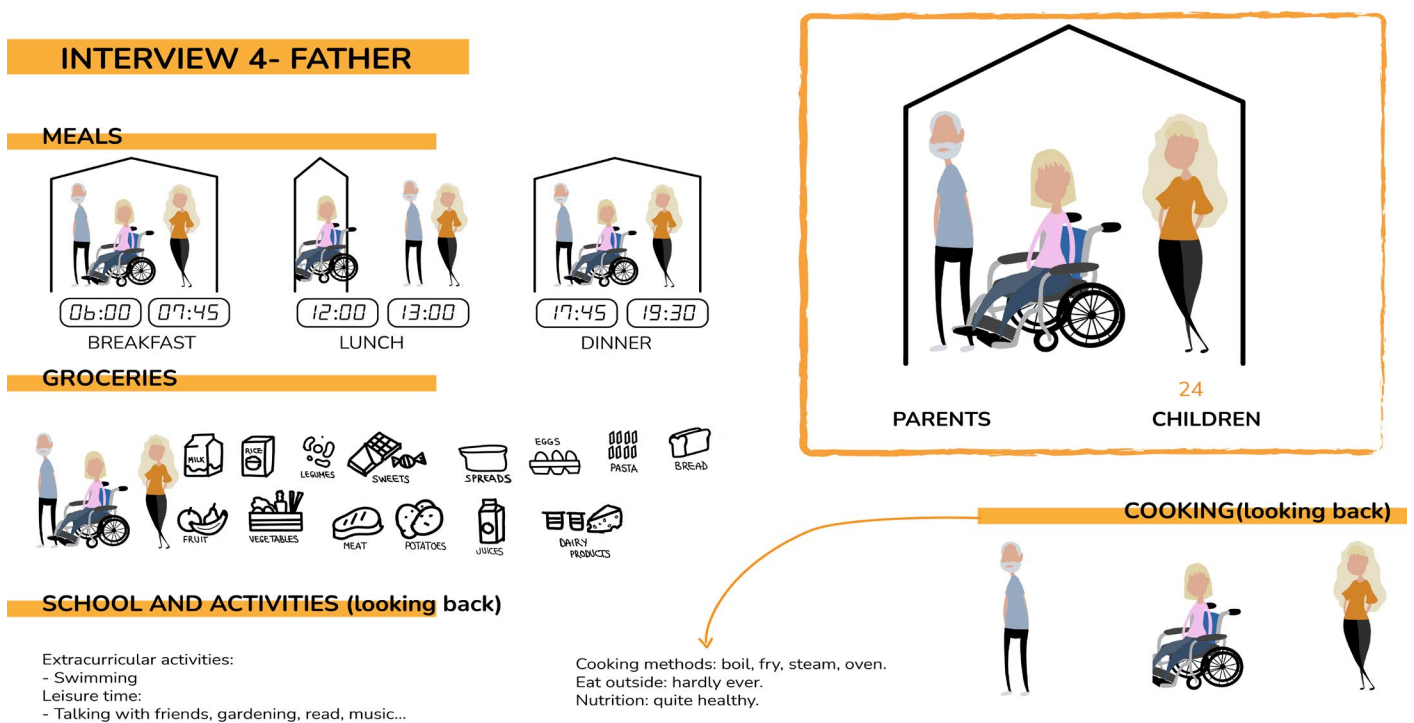


Figure 11. Interview outcome visualization Dutch family 2.

## Sensitizing Workbooks with Dutch and Spanish teenagers

### Goal

Understand teenagers' context, their daily life activities, their meals and routines and compare results between Spanish and Dutch youngsters. Get to know the knowledge they have about health and how they perceive it.

### Method

Four Spanish teenagers and three Dutch teenagers (all aged between 13 and 14) took part in this process. They were asked to fill in a workbook with photo elicitation and different questions and activities for 5 days.

The initial idea was to involve 5 participants from each country, but difficulties recruiting Dutch youngsters resulted on having 7 participants in total. On the other hand, seven Spanish participants started the process but only 4 of them finished it. Three of them dropped out, two of them due to having exams and not having time to complete it, and the third one got punished by his parents without using electronic devices. One Dutch participant also stopped filling the workbook after day 2 without giving a reason but was still involved in the future interviews.

		COUNTRY	GENDER	AGE	WORKBOOK
SPANISH TEENAGERS	PARTICIPANT 1 (P1)	Spain	Female	14 y/o	Complete
	PARTICIPANT 2 (P2)	Spain	Female	13 y/o	Complete
	PARTICIPANT 3 (P3)	Spain	Male	13 y/o	Complete
	PARTICIPANT 4 (P4)	Spain	Male	13 y/o	Dropped out the first day
	PARTICIPANT 5 (P5)	Spain	Male	14 y/o	Dropped out the first day
	PARTICIPANT 6 (P6)	Spain	Female	14 y/o	Dropped out after 2 days
	PARTICIPANT 7 (P7)	Spain	Female	14 y/o	Complete
DUTCH TEENAGERS	PARTICIPANT 8 (P8)	The Netherlands	Male	13 y/o	Complete
	PARTICIPANT 9 (P9)	The Netherlands	Male	14 y/o	Stopped after day 2
	PARTICIPANT 10 (P10)	The Netherlands	Male	14 y/o	Complete

**Figure 12.** Field study participant information.

The workbook was developed on Google slides because it was thought to be a good way to retrieve both photos and answer the proposed questions. Also, teenagers are used to working on Google slide documents and thus it would be easier for them. Some slides of the workbook can be seen below and the complete workbook in appendix B.

The workbook had different sections:

- Photo elicitation activity. It was chosen to do a photo elicitation activity for different reasons. Firstly,

to be able to see the world through the eyes of teenagers. Secondly, to understand their context and their environment. On the other hand, it was also interesting to see what they understood of being active or recharging energies.

- Different activities and questions each day to get to know teenagers' routines and evaluate their knowledge on nutrition, physical activity and the relation between them.



Figure 13. Cover of the workshop for teenagers.

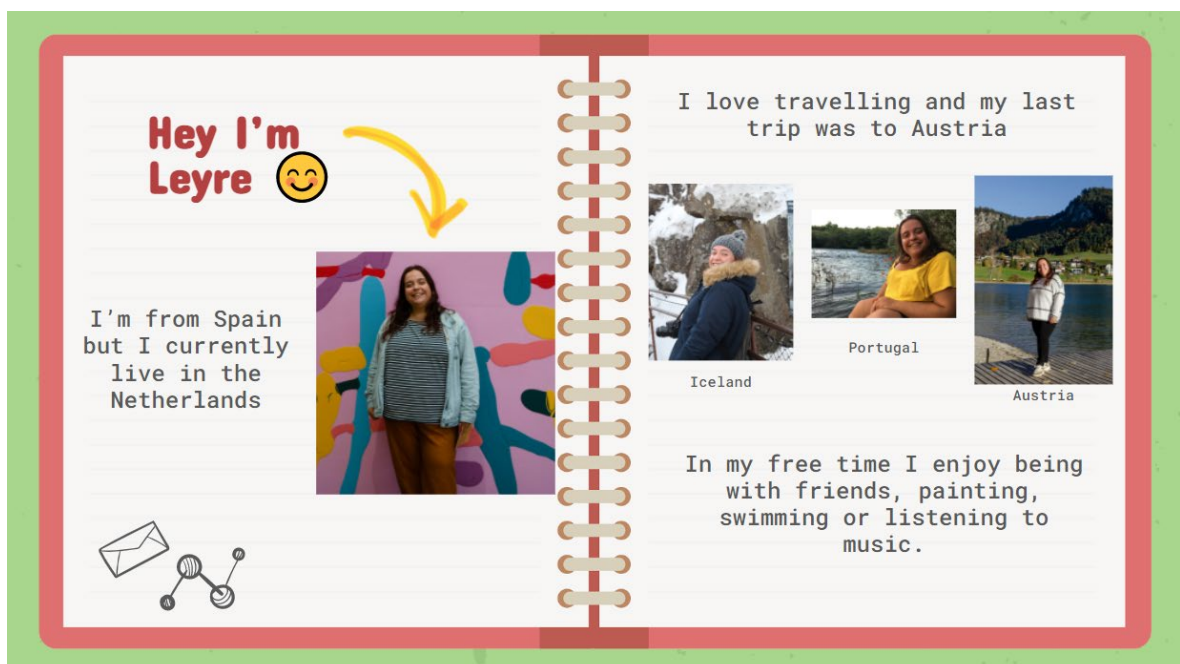
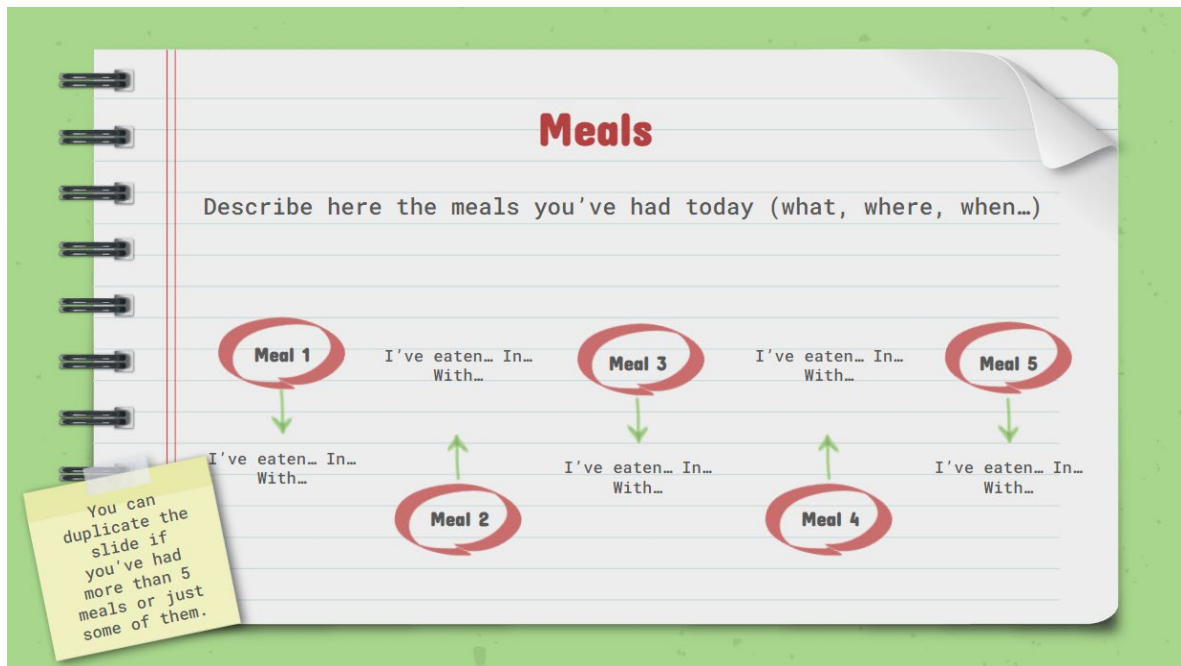
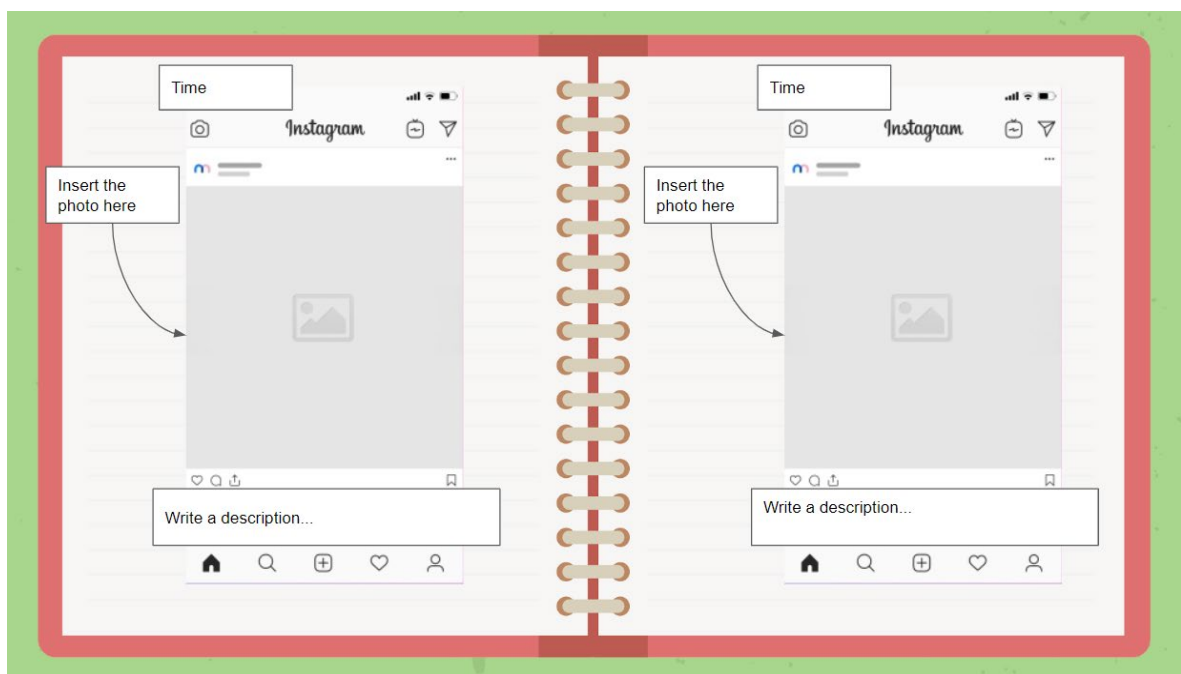


Figure 14. Introductory slide of the workshop for teenagers, personal introduction.



**Figure 15.** Activity day one workshop for teenagers, meals in a day.



**Figure 16.** Photo elicitation activity workshop for teenagers.

Which activities have you done today? And how much time did you spend on them?

Move the small rectangles and write in the same colour the activity it represents

Example

Read Sport Eat

Figure 17. Activity day two workshop for teenagers, daily activities.

## Preguntas sobre cocina

- Do you enjoy doing the groceries? Explain how it normally is.  
Write here...
- How do you cook at home (who, type of food...)?  
Write here...
- What do you enjoy the most in the kitchen? (cooking what? eating?)  
Write here...

Figure 18. Activity day three workshop for teenagers, questions about cooking.

## Procedure

Teenagers were given a week to complete the workbook and results were not analyzed until the week was over.

The workbook had different sections;

- Firstly, information and instructions were given to participants
- Afterwards activities were presented per day. Teenagers were asked to upload photos everyday and complete a different activity. Explanatory videos were implemented to help the understanding of the activities.

The activities presented where two per day:

- The first activity is a photo elicitation activity: Teenagers were asked to take a picture whenever they were being active or recharging energy. They were asked to upload the picture to the workbook in an “instagram post” format, adding the time the photo was taken, a short description and hashtags if wanted or needed.
- The second activity is different every day:
  - » Day 1: Note all the meals they have in one day (what, when and who they eat with) to identify the typical meals they have, the time they have those meals and in which context.
  - » Day 2: Visualize the activities they do in one day and how much time they spend in each of them to be able to see what a normal day looks like in their lives.
  - » Day 3: Questions about their involvement in the cooking process to measure whether they get involved and in which ways.
  - » Day 4: Questions about their physical activity to identify and compare the

physical activities between Dutch and Spanish teenagers.

- » Day 5: Questions about their knowledge of the relation between nutrition and physical activity.

Communication with teenagers was done via WhatsApp to make it easy and be able to quickly answer their questions or be able to send them reminders to complete the workbook during the 5 days.

## Limitations

Recruiting participants, mostly Dutch ones, was difficult for different reasons. Firstly, I did not have contact with anyone that was related to Dutch teenagers. Some of the teenagers were busy with exams or projects and even some that started the Workbook decided to drop out. Due to the covid-19 pandemic it was not considered an option to physically go to high schools to recruit participants.

In the same way, a participant dropped out because of being punished by their parents and not being able to use their devices.

In many of the cases, teenagers forgot to take pictures during the day and used stock photos or icons to represent the activity. This case was better than not having posts of the day but context information was lost.

Some participants (3 Spanish and 1 Dutch) did not take their phones to school (either because they are not allowed or because they do not want to) and therefore, they did not take photos during school time.

## Insights

The workbooks served as a way of sensitizing with teenager's routines in both Countries. Insights are further discussed in section 2.3. Cultural Characteristics and variations between Spain and the Netherlands in teenager's lives and educational health programs; but some of the main observations are the following ones.

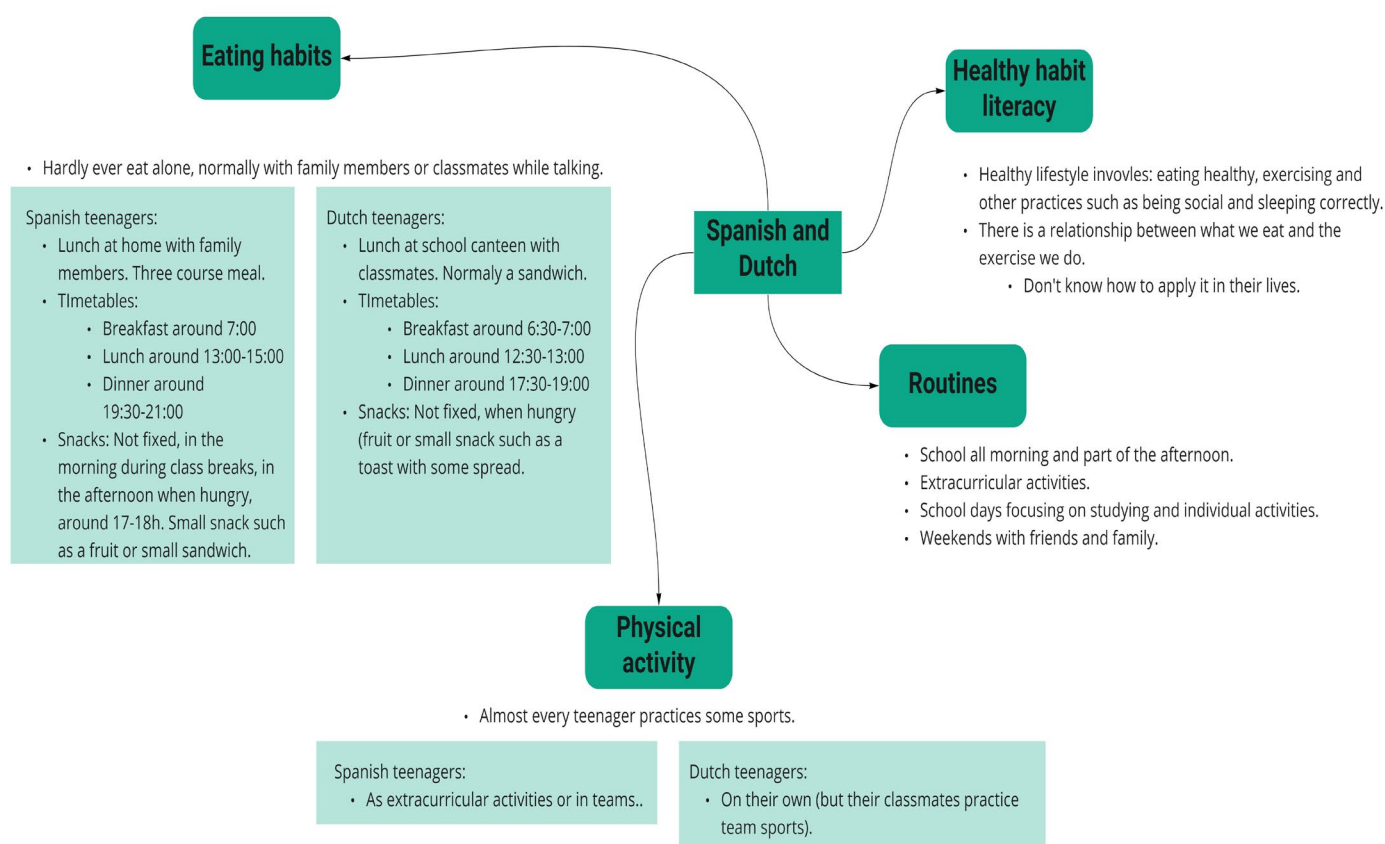
Regarding nutrition, teenagers are usually not involved in the cooking process, and participants from both countries affirm not having interest in that process. In most cases, participants have their meals together with their family members or classmates. Spanish participants have lunch at home and Dutch ones at the school canteen. A difference in the meal types has been observed between both countries (see section 2.3.).

Participants from both countries practice some sports, but 3 out of 4 Spanish participants do so on a regular basis and just 1 of the 3 Dutch teenagers. On the other hand, just one of the Spanish participants shows one picture of walking to different places and all the Dutch participants show either walking or biking to different locations.

Most of the photos shared by participants are school related; studying, doing homework, at school, etc. During the free time, most photos are in a social context (spending time with friends) or in an online context (playing video games) in both countries. A Dutch participant shows that he does different types of TikTok challenges on a regular basis both alone and together with friends and classmates. A Spanish participant also uses TikTok but the examples posted on the workbook just involve dancing challenges.

Routines during weekdays involve going to school, doing homework and studying and having different after school activities or hobbies such as sports, reading, listening to music or playing an instrument.

When asked about healthy habits and the relationship between nutrition and physical exercise, they all have similar answers. They mention the importance of having a healthy lifestyle and even if they agree that there is a relationship between nutrition and physical activity just one Spanish teenager mentions that takes that into account in his daily life.



**Figure 19.** Summary diagram workbook insights.

## **Interviews with teenagers**

After the participants completed the booklet, individual video calls were scheduled to discuss and clarify their answers and delve into some topics. This way, it would be possible to get not only data but also motivations and reflections.

### **Goal**

To clarify the insights gotten via the workbook and complete the answers that were given. Apart from that, to get further understanding on the motivations beneath the answers given.

### **Method**

Participants were the same as the ones taking part in the booklet activity (see above). Interviews were done using Zoom meetings to be able to share the screen to show their booklets when asking about them and some slides when asking about other topics which will be explained later on. Interviews took around 20-30 minutes.

### **Procedure**

Interviews had three different parts:

Firstly, asking about the questions or activities not covered in the booklet or the ones that were not clear. Secondly, teenagers were asked different questions to dig deeper into the answers they gave in the booklet, aiming to understand the underlying motivations. The questions were open and helped by using Miro and adding digital post-its with the answers during the interview to make it more dynamic. The fields that were asked were the following (all the questions can be seen in appendix B):

- Family structure (what does the family structure look like, ages, occupation, etc.).
- School dynamics (what do classes look like, how do teachers give their lessons, is it individual work or group work, does every subject have an exam, etc.).
- Motivations to do sports (who chooses which sport to do, how many sports do they practice and why, etc.).
- Motivations to eat (why do they eat when they eat, why do they eat what they eat, etc.).
- Top 3 activities on a perfect day.
- Favorite activity or hobby.
- Similarities and differences in their routine compared to their friends or classmates.
- If they wanted to give a present to a friend, which food would they give.
- What do they associate food with (values).

Lastly, slides were made showing general habits that teenagers have in each of the countries, the Netherlands and Spain (see slides in appendix B). The aim was to validate if the statements were true in their environment and if they understood the context of those statements (see appendix B for the statements and the slides). This approach was chosen since conducting a first interview asking about personal habits was not very insightful; the participant was not giving much information and it was assumed that she was trying to give socially desirable answers instead of her reality. Therefore it was thought that sharing the general habits

for Dutch and Spanish teenagers retrieved from literature and asking about their perspective about them (thinking of themselves, their classmates, friends, etc) could be a better approach.

## Insights

Interviews helped in understanding the motivations and thoughts behind teenagers' habits and choices. Insights are further explained in section 2.3. Cultural Characteristics and variations between Spain and the Netherlands in teenager's lives and educational health programs; divided into different topics (typical meals, routines, movement and physical exercise, motivations, family culture and class dynamics).

One of the main insights that helped find a design direction was that Dutch teenagers mentioned the use of different devices, mainly their smartphones in many activities throughout the day. They mentioned being social in an online context, learning by themselves watching online tutorials, group challenges in platforms such as TikTok, using their smartphones as an agenda, etc.

Some of the quotes from the interviews are the following:

"Yes I feel I know the basics of a healthy lifestyle but is like when covid started in China, we didn't really care right? So I don't really feel I should put energy on trying to be healthy right now." - Spanish teenager,

"Normally lessons are quite boring, the teacher talks and we listen... after that it is difficult to pay attention and ask questions sometimes" - Spanish teenager,

"In my class we use the phone to check things quickly, in an educational way but also for fun. I also use it at home to check for tutorials when I don't know how to do the homework." - Dutch teenager,

"My friends and I are social online, just talking or playing video games together"- Spanish teenager,

"Yes, I think that now we are maybe even more social online than in person."- Dutch teenager,

"We do eat fast food and drink sugary drinks, mainly when we meet with friends because is cheaper and we like it" - Spanish teenager,

"Many of my friends eat fast food quite often and drink energy drinks." - Dutch teenager,

"I like sports and I like trying new things but I'm not sure all my classmates practice sports..." - Dutch teenager,

"Yes I think that most of us participate in class... There are the ones that always talk and some that are more shy, but depending on the activity I will say that we don't have problems speaking up"- Dutch teenager,

## 2.2. Cultural framework

This section describes the cultural framework and approach taken in this project. Being the aim to understand the role culture plays in encouraging teenagers to follow healthy habits.

### 2.2.1. Culture

Culture has been defined in different ways throughout history and it can be viewed from different perspectives.

Bates and Plog (1976) defined culture as: "The system of shared beliefs, values, customs, behaviors, and artifacts that the members of a society use to cope with their world and with one another, and that are transmitted from generation to generation through learning"

Geert Hofstede (1980) defined it as: "The collective programming of the mind that distinguishes the members of one group or category of people from other".

When analyzing a culture there are different important aspects to consider (van Boeijen & Zijlstra, 2020). Firstly, culture is a dynamic process and therefore, analyzing a culture reveals the current situation. Secondly, culture needs to be examined in a context, regarding a specific place and time. Also, culture is composed of various individuals who form a cultural group, even if every individual does not necessarily represent the characteristics of that cultural group.

Cultural analysis can be done at different levels; on a national level or based on generations, hobbies, region, profession, etc (van Boeijen & Zijlstra, 2020). Individuals can belong to various groups and sub-cultures and in each one there is a "material culture" that has both utilitarian functions but also a social meaning.

### 2.2.2. Cultural attunement and cultural dimensions

Cultural attunement must be in tune with the existing cultural values to be able to achieve an optimal result and avoid mismatches (van Boeijen & Zijlstra, 2020). This way the result will be effective and it will not create discrepancies with the cultural group it is targeted to.

There are different models that have been used to understand the value systems, attitudes and experiences of the targeted group cultures. These cultural models (Hall (1976), Hofstede (1980) and Trompenaars et al. (1998), House et al. (2004), etc.) are based on survey and observation techniques that result on a set of parameters

These cultural models are composed of a set of cultural variables grouped in cultural dimensions that serve to typify culture by comparing the similarities and differences between cultural groups and represent what people consider to be important in social interactions.

As mentioned, diverse cultural models have been proposed but those present diverse barriers for designers. In her study van Boeijen (2015) has identified that existing cultural models limit designer's view (with the use of scores); are not always applicable to the targeted group; and cannot explain cultural practices. Moreover, the used terminology is not in tune with the pragmatic reality of designers. Therefore, Van Boeijen (2015) has created a set of socio-cultural dimensions (figure 20) based on existing cultural models and theories. It is important to note that the dimensions are relative and only meaningful when used in comparison. The mentioned dimensions serve for the designers to sensitise with possible cultural differences and explain and structure cultural findings.

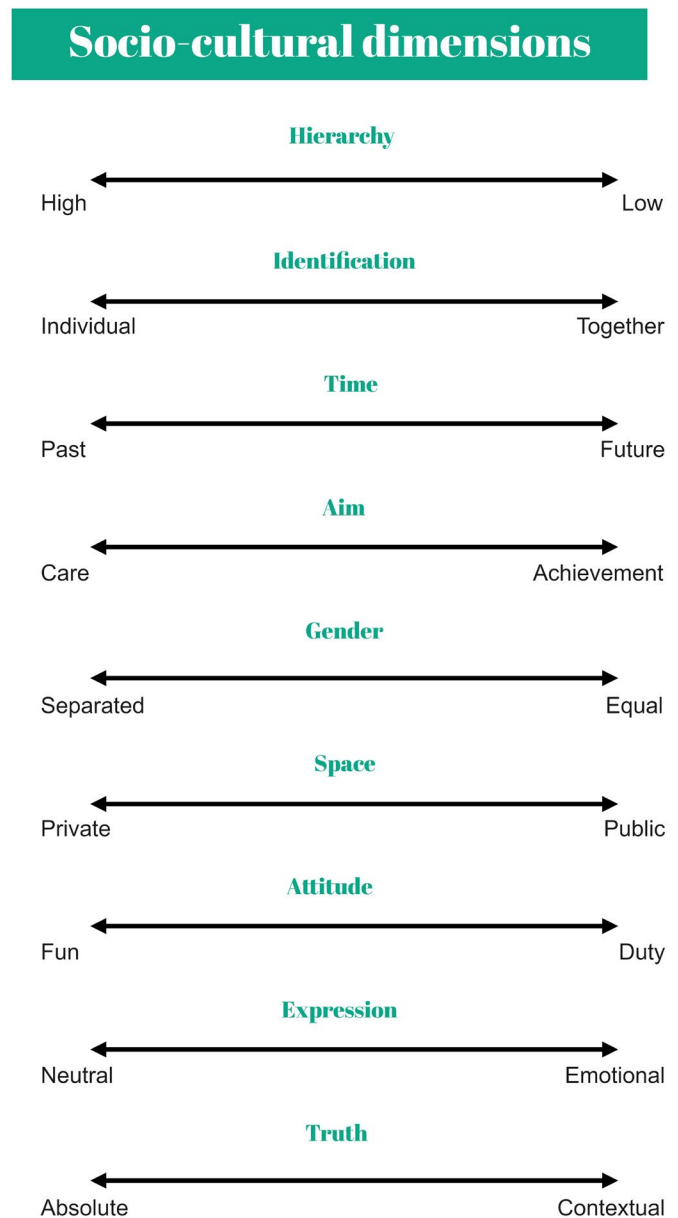
## Descriptions of the dimensions proposed

### by van Boeijen (2015)

- Hierarchy: has to do with how power is divided within a group and the extent to which the group accepts power.
- Identification: stands for the preferred extent of individual freedom and the tightness of the connection within the group.
- Time: can be approached and experienced in different ways. Some cultures value their past, and other cultures focus on the future.
- Aim refers to the values a group seeks to live by. In particular, the aim of life can be focused on caring for each other or achieving success.
- Gender: refers to the fact that, in some cultures, gender roles are strictly divided. Men must act in a certain way and women in another.
- Space: has to do with how we cope with personal space. In some cultures, private and professional lives are closely linked, whereas, in other cultures, people compartmentalize different aspects of their lives.
- Attitude: refers to how much importance is attached to life with duties and rules. Some cultures prefer to have clear rules to follow, while others prefer ambiguity and like to improvise.
- Expression: stands for the fact that some cultures believe that controlling emotions is more efficient, while other cultures perceive not expressing yourself to be unnatural and cold.
- Truth: has to do with how people communicate. People used to high context communication are less direct and pay more attention to the context of the words

than their literal meaning. People who are used to low context communication tend to interpret what has been communicated as absolute truth.

The ones we do not know yet: there might be some dimensions we still do not know of.



**Figure 20.** Cultural dimensions proposed by van Boeijen.

## Summary

Culture can be defined as “the system of shared beliefs, values, customs, behaviors and artifacts that the members of a society use to cope with their world and with one another, and that are transmitted from generation to generation through learning”. In this project it is important to analyze culture from different perspectives and levels such as nationality, age, food culture, family culture or school culture since these are the ones that influence the context most.

When adapting a service from one culture to another, such as the TAS program, this must be attuned to some extent to the targeted culture group; although some unfamiliar examples are not necessarily problematic could also be innovative. Culture can also be analyzed from an etic (outsider) or emic (insider) point of view (van Boeijen & Zijlstra, 2020); in this case, the study is approached from an etic point of view, by analyzing the cultural dimensions from both cultural groups and comparing the differences and similarities.

As one of the goals of this phase is to identify cultural characteristics and variations between Spain and the Netherlands, this approach has been chosen, using the method of socio-cultural dimensions to map cultural values of each country and reach conclusions through comparison.

Some of the cultural dimensions that are assumed to be important to analyze in the context of this project are hierarchy, gender and truth.

Talking about hierarchy, when I first came to study in the Netherlands and sent an email to one of my professors to clarify some aspects that I did not understand correctly, I was surprised that he just answered “Come by my office whenever you can and we will discuss it. I felt reluctant to do so: “can I just appear there?”, “what if he is busy?”, “maybe he has an appointment”, “what do I say when I go there?”; were some of the thoughts I had. I was used to setting an appointment (with time and place) before meeting teachers and professors, but after some

time, I can see that in the Netherlands they tend to be closer to students and more approachable.

As far as gender is concerned, I have grown up in a society in which not all women work outside home, and when I first asked some of my Dutch friends “What does your mom do?” They were surprised that I even mentioned the possibility of not working outside home.

Truth is one of the values in which differences between Spain and the Netherlands shocked me the most. I still remember the first time I worked on a project with some Dutch students and when I showed them some initial ideas one of them just said “Those are not good, make more for tomorrow”. I could not believe that he just said “What is wrong with them?”, “Could you explain your opinion?”, “Why are you so rude?”, “Can you say it in a more polite way?”; were some of my thoughts at that moment. After some days, I decided to talk to him and explain that I felt bad when he told me that, but he did not even remember saying that. He clarified that he just thinks that being honest makes work more efficient, mostly in group work. After almost three years in the Netherlands, now my Spanish friends are the ones telling me to stop being so direct, I guess I got influenced by the Dutch low context of communication.

When thinking about a health program, the mentioned dimensions are considered to be relevant. Hierarchy can influence class dynamics; how students participate, interaction between the mediator and the students, do students believe what is told or do they share opinions and discuss?

Gender can influence the content of the program, since there could be differences in who works outside home, who cooks, which sports or activities students do (depending on gender difference or equality).

Truth could influence the communication of the workshop, how information is transmitted to students, how students are expected to react, etc.

### 2.2.3. Teenagers and health

Adolescence is a very important stage of life from a health perspective, since it is when structure and characteristics of the body finish structuring (Aragon et al, 2008). According to WHO Obesity is one of the greatest public health challenges of the 21st century and it is already responsible for 2-8% of health costs and 10-13% of deaths in different parts of the European Region (WHO, n.d.).

However, studies show a lack of concern for healthy eating from youngsters (Neumark et al., 1999). A study conducted with 141 adolescents in Minnesota (Croll et al., 2001), shows that teenagers have the knowledge about the importance of healthy eating but little concern for it during adolescence.

Adolescents identified different barriers to a healthy eating behavior being the main ones: time limitation, lack the ability to apply their knowledge into practice (since they are not involved in the process) and lack of sense of urgency.

In another study (Adams, 1997) teenagers identified that the most important factors influencing food choices are: food's appeal, convenience, time involved in eating it, preparation, clean up and availability. Teenagers also proposed different ways to overcome the barriers to adapt a healthy eating behavior:

- Define healthy eating and fitness for adolescents in a realistic way.
- Simplify and clarify the message.
- Reframe the message to fit the target group, adolescents.
- Promote skill-based interventions together with the message.
- Strengthen environmental support for youth fitness and nutrition.

More ways to encourage adolescents to adopt a healthy life are to encourage teenagers to participate in the process; translating nutrient advice into food choices; increase self-efficacy to choose healthy foods; and family involvement.(Gracey et al., 1996)

### Summary

Although adolescence is a stage in which it is crucial to maintain healthy habits, few adolescents are really

aware and apply it in their lives. It is important to take into account the barriers that adolescents encounter when it comes to having a healthy lifestyle and try to make the process easier.

### 2.2.4. Health programs

Different programs that promote healthy habits have been analyzed both in Spain and in the Netherlands with the aim of understanding the approach they use and identify similarities and differences. The goal of the comparison is to identify some guidelines regarding the approach that should be used when adapting the TAS program for Dutch adolescents. The aim is also to identify different aspects, topics and approaches that are now only carried out in one country, and that could be interesting to apply in others.

	TAS PROGRAM	STAY HEALTHY	FORMA JOVEN	WEET WAT JE EET	LEKKER FIT!
COUNTRY	Spain	Spain	Andalusia (Spain)	The Netherlands	The Netherlands
APPROACH	<ul style="list-style-type: none"> <li>- Teenager participation and involvement.</li> <li>- Class based.</li> <li>- Main goal: student proposal to improve healthy habits.</li> <li>- Different activities and workshops are presented.</li> <li>- Schools can choose the format and how to apply it.</li> </ul>	<ul style="list-style-type: none"> <li>- Created in collaboration between educational psychologists, teenagers and teachers.</li> <li>- Methodology: activate the knowledge; research and generate a critical attitude; apply healthy habits and involve students in the process.</li> </ul>	<ul style="list-style-type: none"> <li>- Mainly aimed at secondary schools but also to other centres.</li> <li>- Mediators: experts from different fields and young mediators.</li> </ul>	<ul style="list-style-type: none"> <li>- Online program for VMBO, HAVO, VWO and MBO.</li> <li>- Teachers can choose how to apply it in their classes.</li> <li>- Main goal: promote healthy, safe and sustainable nutrition for Dutch children and teenagers.</li> </ul>	<ul style="list-style-type: none"> <li>- Targeted to schools and neighborhoods.</li> <li>- Main goal: transmit the importance of making healthy choices and explain those healthy choices.</li> <li>- The mediator can choose how to apply it.</li> </ul>
MEDIUM	<ul style="list-style-type: none"> <li>- Offline and online activity combination</li> <li>- In class and at home.</li> </ul>	<ul style="list-style-type: none"> <li>- Offline and online activity combination.</li> <li>- Teachers can choose how to apply it.</li> </ul>	Information transmission and online resources (from third parties).	Online program	Online and offline activities, divided depending on the target group.
TOPICS	<ul style="list-style-type: none"> <li>- Nutrition</li> <li>- Physical activity</li> </ul>	<ul style="list-style-type: none"> <li>- Nutrition</li> <li>- Sleep</li> <li>- Physical activity</li> <li>- Covid-19</li> <li>- Technological addiction</li> <li>- Substance addiction</li> <li>- Mental health</li> </ul>	<ul style="list-style-type: none"> <li>- Physical activity</li> <li>- Nutrition</li> <li>- Education and road safety</li> </ul>	<ul style="list-style-type: none"> <li>- Nutrition</li> </ul>	<ul style="list-style-type: none"> <li>- Nutrition</li> <li>- Movement</li> <li>- Relaxation.</li> </ul>

**Figure 21.** Comparison between the analyzed health programs.

The analyzed programs are in Spain: The TAS program, Stay Healthy and Forma Joven; and in the Netherlands: Weet wat je eet (Know what you eat) from Voedingscentrum; and Lekker fit!.

The mentioned 5 programs have been analyzed and more details can be seen on appendix A. The main insights can be visualized on figure 21 where the approach, the medium and the topics that each program presents can be seen.

### Summary

After analyzing the aforementioned Spanish and Dutch health programs, a difference in the approach that has been identified is that the Spanish have a program that focuses on health habits and involves nutrition, physical activity and in some cases more aspects such as sleep or technological addiction. The Dutch on the other hand, although they also offer different approaches including nutrition, physical activity or relaxation; are not designed as a single program that presents the different topics, but as specific programs adapted to the needs of the school in which they will be taught.

Each program has a different approach. The TAS program focuses on healthy habits in nutrition and physical activity, and the relationship between the two. The Stay Healthy program involves more topics within healthy habits. Forma Joven also focuses on nutrition and physical activity, and incorporates education and road safety. Weet wat je eet focuses mostly on healthy habits in nutrition. In some of the classes reference is made to the relationship it has with physical activity (energy balance) but it is not developed in depth. Lekker Fit! also works in three areas (nutrition, physical activity and relaxation) but these are designed as individual programs. In addition, the material is divided into age groups.

Regarding the format of the workshops, they all present a hybrid format between offline and online. Some are primarily offline like the TAS program, and others mostly online like Stay Healthy. Similarly, by having online materials, everyone has an online platform where the materials can be downloaded

for free after registering or subscribing. The Stay Healthy program presents online resources and it is the teachers who decide how to use these materials. Therefore, they can decide whether to keep it primarily online by making use of the resources found on the online platform; or on the contrary, go along with the syllabus of an offline subject in class.

All the programs analyzed present theoretical parts and practical activities. In some cases, such as the TAS program or the Weet wat je eet, the balance between theory and practice is quite equal. The Forma Joven program is based mainly on the transmission of information and different activities and resources from other associations or organizations are proposed.

The practical exercises serve to put into practice the knowledge acquired and test whether the concepts have been properly understood.

Sustainability is an aspect that is taken into account more in Dutch society and therefore it is the Dutch

workshops that mention the importance of taking the environment into account when talking about health habits. Although it is noteworthy that the Stay Healthy program is currently working on this topic and will soon have material available on it.

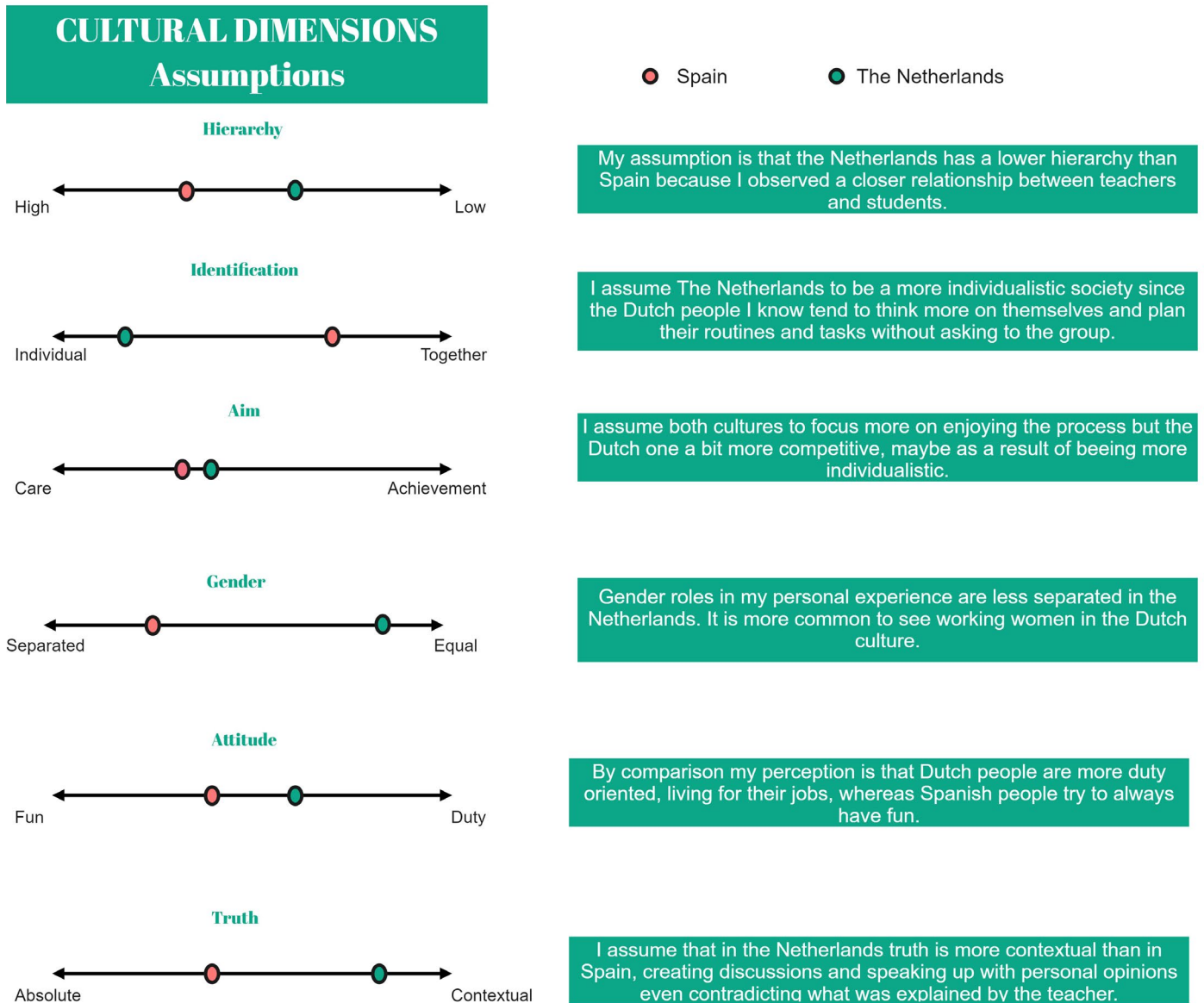
### 2.2.5. Discussion

This chapter explains the domain of the project with the aim of understanding all the elements that influence the context.

As mentioned in the first chapter, there are many cultural values and orientations that affect and need to be taken into account when designing a healthy habit program for a specific target group such as Dutch teenagers aged 13-15. Therefore it is important to identify, understand and analyze those factors in a cultural framework.

One interesting approach to map the values that affect the design process is to use socio-cultural dimensions (see the subsection Cultural framework). This approach is interesting when comparing different countries since it maps out the cultural groups value orientations and it is possible to compare how close or how separate each cultural group is in a visual way.

Before starting the research phase, the value orientations that have been thought to be more important for the process of this project and the ones that are believed to be significantly more different, have been mapped out. These were established for Dutch and Spanish cultures based on personal assumptions from



**Figure 22.** Cultural dimensions comparison between Spain and the Netherlands based on personal assumptions.

experiences lived in both cultures. (previously mentioned). The aim was firstly to be aware of the assumptions I had and do not be fixated on those assumptions; and secondly as a starting point for the research phase and identify the topics that are needed to investigate (see figure 22).

## 2.3. Cultural characteristics and variations between Spain and the Netherlands in teenager's lives and educational health programs

### 2.3.1. Approach

It has been thought that through comparison of the different cultures some interesting insights could be found both to find a design direction and to identify which aspects are culture specific when developing a health program. The aspects that have been analyzed and compared are: nutrition recommendations,

typical meals, movement and physical exercise, motivations, family culture and class dynamics. This chapter is based on the information retrieved from the research conducted(as introduced in chapter x): literature research, interviews conducted with Dutch and Spanish parents and information gathered through the activities with Dutch and Spanish teenager participants.

### 2.3.2. Nutrition recommendations and representation

The health recommendations have been studied, in order to analyze which guidelines are proposed in each of the countries and to find interesting aspects by comparison.

#### Spain:

In Spain, most citizens follow a Mediterranean diet which is rich in plant foods (cereals, fruits, vegetables, legumes, tree nuts, seeds and olives), olive oil, high to moderate intakes of fish and seafood , moderate consumption of eggs, poultry and dairy products, cheese and yogurts; low consumption of red meat and a moderate intake of alcohol, mainly during meals (Bach-Faig et al., 2011).

Being the principles of the Mediterranean diet that Ancel Keys advocated in 1959 (Varela Moreiras, 2014):

1. Maintain the proper weight.
2. Reduce your consumption of saturated fat.
3. Preferably use vegetable oils and keep the caloric intake of fats below 30%.
4. Consume vegetables, fruits, and low-fat dairy.
5. Do not abuse salt or refined sugar.
6. Regular physical exercise.
7. Avoid tobacco, alcohol, and similar substances.
8. Visit the doctor regularly and avoid worrying excessively.

In the same way, focusing more on specific health recommendations, according to the NAOS Program carried out by the Spanish Agency for Food Safety and Nutrition (AESAN), the NAOS pyramid has been created that recommends (see figure 23):

- Occasionally: Intake of fried foods, sweets and soft drinks; sedentary activities.
- Several times a week: Intake of fish, meat, legumes, nuts, sausage ... Do some sports.
- Daily: Intake of vegetables, fruit, vegetables, cereals, dairy and olive oil. Keep active.
- Drink water

## Pirámide Naos

### Alimentación:

#### Ocasionalmente

Hay productos que sólo deberían tomarse de forma ocasional, como bollos, dulces, refrescos, "chucherías" o patatas fritas y similares.

#### Varias veces a la semana

Pescados blancos y azules, legumbres, huevos, carnes, embutidos, frutos secos, son alimentos importantes y pueden combinarse con otros, debiendo consumirse varias veces a la semana, aunque no todos los días.

#### A diario

Alimentos como las frutas, verduras y hortalizas, cereales, productos lácteos, pan y aceite de oliva, deben ser la base de la dieta y consumirse a diario. También el arroz y la pasta pueden alternarse.



#### Agua

El agua es fundamental en la nutrición, y deben beberse al menos entre 1 y 2 litros diarios de agua.

### Actividad física:

#### Ocasionalmente

Dedicar poco tiempo a actividades sedentarias como ver la televisión, jugar con videojuegos o utilizar el ordenador.

#### Varias veces a la semana

Practicar varias veces a la semana algún deporte o ejercicio físico como la gimnasia, la natación, el tenis, el atletismo o los deportes de equipo.

#### A diario

Realizar todos los días durante al menos 30 minutos alguna actividad física moderada como caminar, ir al trabajo o al colegio andando, sacar a pasear al perro o subir las escaleras a pie en vez de utilizar el ascensor.

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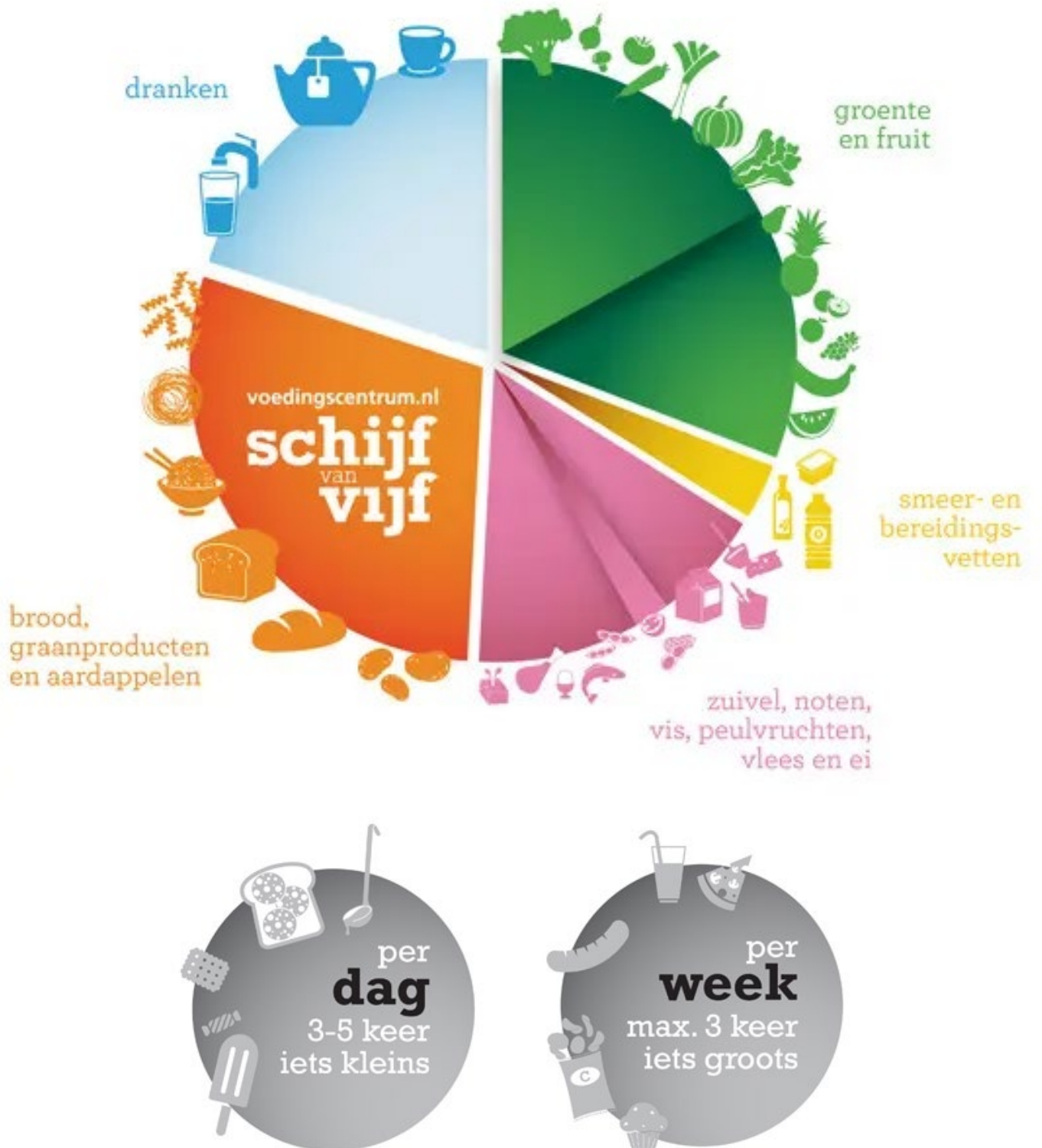
**aecosan**  
agencia española  
de consumo,  
seguridad alimentaria y nutrición

Figure 23. Naos Pyramid healthy habit guidelines. Retrieved from <https://www.aesan.gob.es/>.

### The Netherlands:

In the Netherlands, the nutritional recommendations are based on the so-called “Wheel of five” proposed by the Health Council of the Netherlands and on the Dutch dietary guidelines 2015.

It is proposed to take vegetables and fruits often; cereals, bread and potatoes; drink water, tea and coffee; dairy, fish, eggs, nuts and legumes; and margarines or vegetable oils.



**Figure 24.** Wheel of five, nutrition healthy guidelines. Retrieved from <https://www.voedingscentrum.nl/>.

The presented model is “the wheel of five” (figure 24) in which different food groups are divided depending on their supposed consumption.

The 2015 Dutch dietary guidelines propose a shift towards the consumption of plant-based foods. Other specific suggestions that are raised are:

- Replacing refined cereal products with brown or wholemeal bread or other whole-grain products.
- Eating more legumes and nuts.
- Moderating meat consumption.
- Eat a bit more fish.
- Revision of drinking patterns, drink less sugar sweetened beverages.

### Summary

After analyzing the health recommendations proposed in both countries, it is observed that overall, they both make a commitment to greater consumption of fruits and vegetables and reduce foods high in fat and/or sugars.

Similarly, a visualisation is used to convey information and illustrate the proportion in which each type of food should be consumed. In the Netherlands, the plate method is used, indicating the space of the plate that a food group occupies as the proportion in which that food type should be eaten in comparison to the other types. In Spain, on the other hand, although there are different agencies and/or nutritionists who also use the plate method, the NAOS program chooses to make use of a pyramid.

Comparing the illustrations of the different countries, it could be said that they both seem quite similar, giving more space to vegetables and fruits, following grains, cereals and carbohydrates; leaving less place for meat, fish, dairy products, eggs... And finally, foods high in fat and/or sugar. The Spanish version

has more detailed visualization and incorporates nutrition and physical exercise while the Dutch one is more abstract and only involves nutrition.

It is also noticeable how the Spanish sometimes mention the amount of times that each food must be consumed in a day, and in some cases it is left to the interpretation of each citizen (by using words like often, sometimes). The Netherlands adopts this last approach, in which it proposes to eat some foods more often than others, maintain intake or reduce consumption.

In both cases, there are some food types proposed to eat daily and some others weekly.

The color codes are quite similar in both countries.

It is important to analyze the nutrition guidelines of each country since when incorporating them into the health program, they must be in accordance with those recommended by the government of the country in which the program is taught.

### 2.3.3. Typical meals

Based on the information retrieved from different blogs and the photo elicitation activity conducted by Dutch and Spanish participants, it was possible to get an idea of the typical meals teenagers have in both countries (as seen in figure 25) and the time in which they have those.

#### Spanish

##### Breakfast

Milk with cereals and some fruit



##### Lunch

Pasta, meat, fruit, bread and water



##### Dinner

Salad, fish bread water and yogurt



#### Dutch

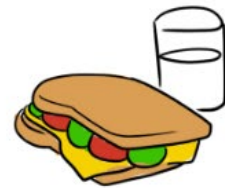
##### Breakfast

Bread with chocolate and cheese, milk



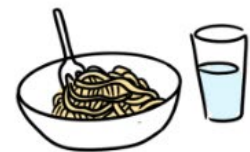
##### Lunch

Sandwich and milk or juice



##### Dinner

Pasta with vegetables and meat, water



**Figure 25.** Representation of typical meals based on literature research and workbooks.

There is a big difference in the meals eaten in both countries since although in both countries there is an awareness of the importance of having a good breakfast, in Spain lunch is the most important and biggest meal of the day and in the Netherlands lunch is usually light, consisting of a sandwich and sometimes soup.

The composition of the meals is also different, since in Spain it is quite common to have 3 dishes: a starter that can be vegetables, legumes, or some cereal; a main, meat or fish; and a dessert that can be fruit or a dairy product. At dinner, this structure can be the same but lighter, or with just a main course and dessert. In the Netherlands, as previously mentioned, the meal is usually a sandwich or sandwich and soup; and dinner usually consists of some elaborate or combined dish such as some cereal (pasta, rice, etc.) with vegetables and some source of protein.

Breakfast is also different since, although some Spanish participants in the workbook mention that their parents are beginning to adopt healthier breakfast habits such as oatmeal cereals and incorporating fruit, it is still quite common to eat toasts with jam, cereals or sugary cookies with chocolate milk or coffee. In Dutch society it is more common to have oatmeal for breakfast or bread with some spread (cheese or chocolate) and tea or coffee, etc.

All the participants mention that it is common to eat accompanied, either by the family or by classmates (in the case of the Dutch eating in the school canteen) while chatting. They rarely have to eat alone and in such cases they concentrate on eating and occasionally look at their mobile.

Spanish teenagers also mentioned that during weekends it is common to have a more special lunch

with more members of the family (grandparents, cousins, etc.) and going to bars before lunch and having an appetizer.

Going out to eat was only mentioned for special occasions by participants of both nationalities; going for a hamburger or pizza with friends; and rarely going to a more expensive restaurant with the family.

#### 2.3.4. Routines

Based on the information retrieved from different blogs, the workbooks and the interviews, the routines of Dutch and Spanish teenagers have been compared.

Teenagers spend between 5-6 hours a day on School (from Monday to Friday) and have some breaks in between classes. Dutch participants mentioned that breaks are usually dedicated to eating some snacks or lunch. Spanish participants on the contrary, mentioned that before they also viewed it in that way but now not all of them eat something during the breaks and consider them to be a “fun moment to relax and be with friends”.

Where they spend the breaks is also different in both countries. The Dutch participants mention being in the school canteen while they eat, and the Spanish, on the other hand, take the opportunity to be outdoors.

Lunch is perceived in a different way for Dutch and Spanish teenagers. The former, have normally a lighter lunch consisting of a sandwich they brought from home (they also have the possibility to buy it at the canteen but that option is considered “exceptional”). Spanish teenagers, on the other hand, view lunch as the most important meal and all the participants had lunch at home with their family, even if in previous years they used to have lunch at school. School lunch used to be cooked at school in some cases and catering service in others, but always provided by the school.

Commuting to school varies between public transport, walking there or parents driving them to school in both countries. In Spain also some

participants had transport provided by school and some Dutch participants biked to school.

Teenagers are said to spend their free time working on school work (homework and studying) mostly during the week and sometimes during weekends (mostly in exam period). They also spend time on extracurricular activities; mostly sports (like gymnastics, fencing, climbing...) and arts or music (theater, drawing, playing an instrument). Some Spanish participants also mentioned going to language lessons (English).

In both countries, adolescents valued their time with friends the most. Considering being social as the most important thing during their free time. Spanish participants mentioned that there is a difference between weekdays and weekends, since during weekdays the social aspect is mostly present at school and extracurricular activities and on the weekends they meet their friends “for fun”. One of the Dutch participants on the other hand, mentioned also meeting friends during weekdays.

Online socializing was also mentioned as an important and increasing aspect in their lives. All the participants mentioned being social in an online way: studying while talking on WhatsApp and sending pictures, studying while doing a video call, having a video call or a normal call during weekdays, talking through a voice channel in Discord with classmates, playing videogames with friends, etc. Youngsters attribute the increase in these activities to the fact that society is increasingly online, none of them mentions that an important factor could be having become accustomed to this type of activities due to the covid-19 pandemic. Even so, it is believed that this factor may have influenced the lives of young people.

The most mentioned social networks by teenagers have been Discord and TikTok. The first mostly to maintain said social contact as previously mentioned. The second, on the other hand, has been mentioned in different ways. Some participants have commented on spending a lot of time scrolling through the app watching cute animal videos, funny

videos or creative videos. Others have mentioned participating in TikTok challenges both individually and with friends and classmates “for fun.” In the same way, a participant has mentioned that she really enjoys the proposed dances and dance challenges with friends and mentions that many Saturday afternoons are dedicated to recording themselves dancing (even if they don’t always upload it to TikTok).

Even if participants from both nationalities indicate the increase of online activities, the Dutch teenagers are the ones who make more emphasis on this topic. Since they mention the use of devices in different activities throughout their routine. For example, they claim to use phones in the school environment, as an online agenda and write down their homework; as a calculator or dictionary; as entertainment between lessons; to learn a specific topic by themselves or look for tutorials on something that has not been clear in class, etc. Other contexts mentioned by participants of both nationalities are the social sphere (WhatsApp, Instagram, Discord, etc.); entertainment (TikTok, Instagram, YouTube, different video games, etc.); or more routine (as an alarm clock, to check the highschool platform, etc.).

All the adolescents mention that the weekends are usually to be with friends, be with the family and school work if necessary. They do not identify any specific activity that they carry out during the weekends, simply being with friends or family “doing anything”.

### **2.3.5. Movement and physical exercise**

Regarding movement and physical exercise, the health guidelines of both countries are similar since they recommend that adolescents perform moderately intense activities between 30-60min and muscle and bone-strengthening activities 2-3 times a week. The literature research carried out shows that in both countries as adolescents grow older, their physical activity decreases, more drastically in Spain. When asking the adolescent participants about this, the Dutch mentioned that in their environment it is common to exercise 2 days a week for around one-two hours each day (although 2 of the 3 participants did not do so). In the case of the Spanish participants, 4 of the 5 participants exercise more than 2 days a week but believe that it is not common, and that many of their peers do not comply.

### 2.3.6. Motivations

It is important to understand the motivations behind the diet and physical exercise that adolescents do. Thanks to the interviews carried out with the participants after filling in the booklet (see Interviews with teenagers under section 2.1) it has been possible to investigate these aspects.

Regarding nutrition, all adolescents admit to eating what they like since the person who cooks at home (father or mother) knows what foods they do not like and avoid cooking said food, or if that is the case, something different is prepared for him or her, or sometimes it is the adolescent who prepares something else. The Spanish teenagers do comment on remembering that being younger they did feel forced by their parents to try new things even if they were clear that they did not like it.

Meal times are depending on their schedules. All adolescents refer to the day's activities when explaining when they eat.

*"Breakfast before going to class"- Dutch and Spanish teenagers.*

*"A snack on the school break"- Dutch and Spanish teenagers.*

*"Lunch on the school break" - Dutch and Spanish teenagers.*

*"Lunch when I get home" - Dutch and Spanish teenagers.*

*"Dinner when my parents call me" - Dutch and Spanish teenagers.*

Speaking of physical activity, Spanish adolescents who do some sport mention that they started doing these sports because they were curious or it caught

their attention and since they enjoyed doing it they have continued. The three adolescents who play sports affirm that they really enjoy the social part of practicing sports and one of them admits that she feels a great passion for the sport she practices.

The Dutch teenager who practices sport on a regular basis comments that he does it on his own and because he enjoys it and likes it. The other two Dutch teenagers comment that they play sports from time to time but not regularly.

*"I like to skate and in this weather it's not always possible" - Dutch teenager*

*"I don't always find time to do sports, but when I do I enjoy it"- Dutch teenager*

When asking adolescents about the importance they give to maintaining a healthy lifestyle, Dutch adolescents score higher (6, 7 and 8 out of ten) while Spanish adolescents (5, 5 and 6 out of ten). But in both cases, they mention being aware that it is something very important but that in their day to day they have other priorities (academic performance or friends). This is supported by literature in different studies (Montero et al., 2006; Croll et al., 2001). Youngsters have the knowledge about the importance of having a healthy lifestyle but do not practice it or do not see the urge of following such lifestyle.

### 2.3.7. Family culture

Family culture plays an important factor in adolescent habits and in the roles and dynamics that adolescents are accustomed to. Different blogs have been analyzed to understand family culture in both the Netherlands and Spain, and in the interviews with the adolescents specific questions have been asked to validate the information and to dig deeper into it.

In Dutch families, parents are the heads of the family and the ones to determine the rules (Afs-Usa, n.d.). On the other hand, the fact that teenagers

and children disagree and discuss with their parents is considered positive since it is important that they have their own opinions and speak up. Spanish teenagers on the other hand mentioned that discussions and arguments are not considered positive.

*“I may end up being punished, not being able to use my phone for a week”- Spanish teenager*

Curiosity and independence are also considered important values that parents want for their children; two of the Dutch teenagers interviewed have stated that they are always willing to learn a new thing or try out a new hobby. When asked about being independent the three dutch interviewees referred to going to any place by themselves (by bike or public transport), deciding which activities they want to do after school and in general making their own decisions (even if asking for their parents opinion and permission). In the case of Spanish participants, they found it more difficult to identify examples of their independence but they related to carrying out more activities without their parents.

During the interviews, teenagers were asked about what they valued the most and which activity was their favorite one and both Spanish and Dutch teenagers agreed that being social and having good friends was the most important thing, spending time with them doing any activity.

Dutch families usually do family activities on weekends (Afs-Usa, n.d.) and teenagers have commented that they can relate to it but when they were younger. The three adolescents mention that now they tend to hang out with friends more, but they do usually have a meal or some activity less frequently together as a family. They consider themselves very active but two of the interviewees mentioned that maybe the increase of time spent playing video games or in front of screens may not be considered as being that active. Spanish teenagers mentioned that family activities during weekends have decreased as they get older but it is

very common to have family meals with more family members (grandparents, cousins, uncles and aunts, etc) during weekends. On the other hand they also mentioned spending most of the time with friends but also resting and playing online with friends during weekends.

It is common in Dutch families for both parents to work outside the home (Aspects of Culture - The Netherlands, n.d.) and that was the case of two of the three teenagers that were interviewed. As far as Spain is concerned, traditionally it is the mother who manages the household and the father the one who works outside home (Afs-Usa, n.d.) even if roles are modernizing. During the interviews, this was mentioned by the teenagers, since in two families both parents worked outside home and in the other two only the father. In the families where the mother stayed home, one teenager mentioned that the situation changes depending on the circumstances, the mother has also worked outside and normally staying home is due to needing to take care of a newborn baby or the financial situation. In fact, responsibilities relating to children still remain largely as women's task (Cultural Atlas, n.d.).

All the Spanish participants answered that in their household it is the mother the one that usually cooks, whereas in the Dutch context two affirmed their parents sharing the cooking task.

### 2.3.8. Education and class dynamics

Education is different in both countries due to the National educational system. In Spain, after finishing school, all students start high school and although in each year they have to select an optional subject, they all take the same core subjects together. In the Netherlands, on the other hand, after finishing school, depending on their achievement levels within primary education will determine what type of secondary education they will pursue. There are four levels of education (Scheerens et al., 2011): Pre-vocational education (VMBO); senior general secondary education (HAVO); pre-university education (VWO).

In the Netherlands, schools differ from each other

depending on their denomination or ideological perspective (Scheerens et al., 2011) due to the freedom of education. Thus, being able to determine what to teach and how to teach it based on the standard set by the Ministry of Education, Culture and Science. The main school types that can be found in the Netherlands are public, private and international schools.

In Spain there are three main types of schools, public, private and charter schools. During each of the four years of secondary school, students need to make choices between different electives, which will guide them to a different branch of upper secondary education (the types of higher education LOMCE are three (Morales, 2020): sciences; humanities and social sciences; arts). Therefore, all students follow the same core education and depending on the school, classes are organized by electives or students from different branches are brought together in the same class.

During the interviews, participants were asked about class dynamics and both Spanish and Dutch teenagers mentioned that lessons are usually quite practical, and many group projects are carried out. The way of mentioning it, on the other hand, was a bit different since Dutch participants talked about practical lessons (learning by doing) and group projects as the “normal way of teaching”; since the Netherlands has a more student-centred approach (Rienties & Tempelaar, 2013). Spanish participants mentioned that “teachers try to make it more practical” and saying that “a normal lesson is more like a lecture, we just listen and ask questions”. The new educational curriculum in Spain is focused on more problem based learning and focusing on students’ achievement to do things instead of memorizing for exams; and this way also reduces the number of school drop-out ratio (Zafra, 2021).

Regarding conversations, discussions and debates in class, something similar happened during the interviews. All the participants underline the importance of debating and interacting in class, but the Spanish see it as an innovation in the educational

system or as something out of the norm. Since they consider that the “normal thing is to participate to ask things that have not been clear”. Aligning with my own experience in classes in both countries, and showcasing that the Dutch education system encourages the sharing of different and even “wrong” opinions and answers to facilitate a conversation on the subject.

When asking the participants about their personal relationship with the teaching staff, in both countries they mention that it depends on the teacher. But all the participants state that they would feel comfortable talking about some topic or personal problem with one of the teachers, since they feel they trust at least one of their teachers.

*“I would definitely talk to some of my teachers if I have problems” - Dutch teenager*

## 2.4. Discussion

The objective of the research was to answer the previously stated research questions (see section 2.1. Approach) with the aim of developing a set of guidelines that serve as a basis for adapting the current TAS program to Dutch adolescent classrooms.

After having carried out all the activities previously mentioned in the research chapter, it has been considered useful to try to capture the values of the two countries in the cultural dimensions explained in the 2.2 Domain section. These dimensions will be used in the next phase of ideation to develop a design goal and design guidelines based on the insights retrieved.

### 2.4.1. Cultural dimensions

At the beginning of the research phase, some assumptions were made about the culture dimensions that were thought to be important and why. After concluding the research phase, I went individually through these socio-cultural dimensions and reflected upon their importance when adapting the TAS program to the Dutch culture and the design opportunities that they present.

#### Hierarchy

In my experience in both Spanish and Dutch classrooms, I have observed that Spain has a higher hierarchy than the Netherlands and this observation is supported by literature (Hofstede's cultural dimensions (power distance index and individualism versus collectivism) and in the Culture Map (Meyer 2014)).

Hierarchy is an important dimension to have in mind when adapting the program since it affects the different class dynamics in each country and culture: the interaction between students and teachers, students being independent or waiting to be told what to do, etc.

#### Identification

When comparing Spanish and Dutch cultures, a difference is identified being the Spanish one more collective and the Dutch more individualistic (with a high score in Hofstede's dimensions, 80).

In my experience in Dutch classrooms, students are invited to reflect by giving room to different opinions because it is thought to help a more meaningful discussion. Whereas in Spanish classrooms, more specific questions are asked looking for a specific answer. This was supported by the interviews with Spanish and Dutch teenagers as mentioned in the previous section. The program should take this into account and incorporate activities that students are used to.

#### Time

When talking about how time is experienced, no significant differences have been found between the studied two cultures and it has not been thought to be relevant for this project. On the other hand, when studying how teenagers perceive nutrition and health, it was found that they would prefer to have immediate results or at least be aware of the immediate benefits that having a healthy life produces. Future oriented results as knowing that "is good for them" or that "they could avoid having certain illnesses in the future" is not an important argument for them because as teenagers they have other priorities. This was also mentioned by participants in the workbooks and during the interviews, they mention being aware of the importance of following a healthy lifestyle, but have other priorities such as exams or finding time to be with friends.

#### Aim

Being goal oriented and having a bit of competition works for some and in some contexts whereas cooperation, interaction and fun may be preferred in others.

The TAS program focuses on achievement since

students are asked to complete different activities and it presents a competition at the end which just one group will win in each school.

No significant differences have been found between the Spanish and Dutch cultures. Being Dutch culture more individualistic as previously mentioned, this could be something to reflect about when redesigning the program.

### Gender

How gender roles are represented throughout the program is important. If we talk about cooking, is it always a mother or a grandmother or is it also a father or a brother? (a similar example was found in the script of the workshop “yo me lo guiso, yo me lo como”). Gender roles are more strictly divided in Spanish culture than in Dutch culture and thus it is an important dimension that must be taken into account when adapting the program to the Netherlands.

Although, on the other hand, it should be mentioned that not many examples of this difference in gender roles have been found throughout the program.

### Attitude

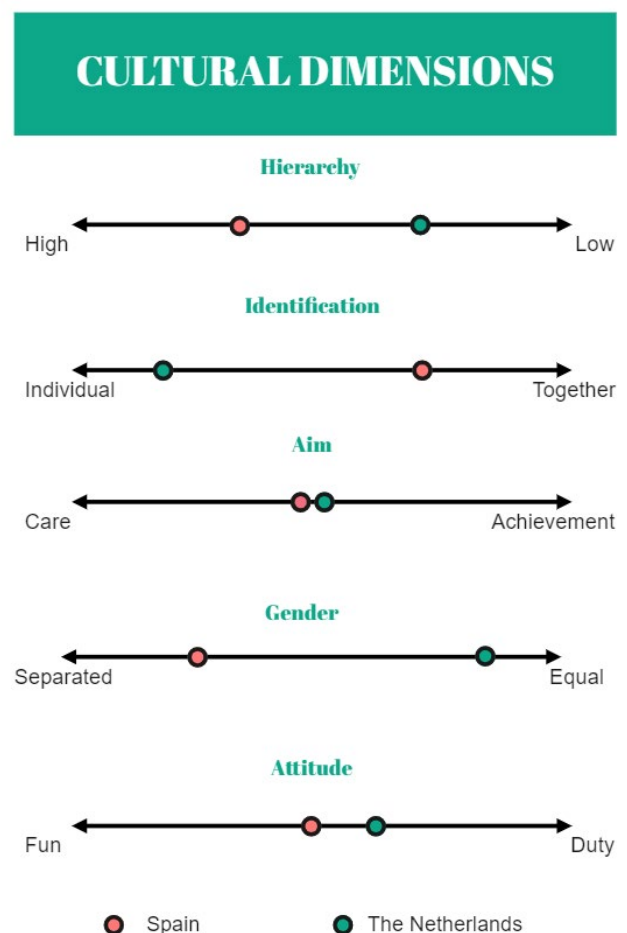
Talking about attitude, a good example is the fact of letting children play with food. Some people may think that it is good for children to have fun and experiment in the process of eating; while others may think that it is too much fun for children. Differences in opinions can be found within a country because of differences in family culture. In the comparison between Spain and the Netherlands a small difference can be perceived which could be due to the higher hierarchy attitude towards learning existing in Spain. Examples found in the TAS program are: teachers having a structured script or asking direct questions to students and looking for specific questions.

### Conclusion

As mentioned above, the insights retrieved in the research phase have been mapped out in the cultural dimensions (see above) aiming to arrive at a design focus. On the other hand, it is important to note

that not all the insights have been captured in these dimensions, since there is information that could be valuable when designing the concept but cannot be integrated in the cultural dimensions. Examples of these are the differences in meal types, nutritional guideline representation, etc. These insights will be revisited later in the process.

The gathered insights will serve to develop a design focus and an initial set of design guidelines which are presented in the next chapter and mark the beginning of the ideation phase.



**Figure 26.** Socio-cultural dimension comparison visualization between Spain and the Netherlands .



# Design focus

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### 3.1. Design goal

There are two design goals: The first goal is the development of a set of guidelines that allow anyone to attune the TAS program to the Netherlands by following those guidelines. Secondly, the aim is to apply the guidelines to adapt and redesign a workshop of the TAS program, a healthy habits program targeted to Spanish teenagers aged 13-15, to the Dutch classrooms.

### 3.2. Design guidelines to attune a health program from Spain to the Netherlands

Therefore, the first step is to achieve a set of guidelines that serve to adapt the TAS program to Dutch adolescent classrooms.

Based on previous research, an initial proposal of the set of design guidelines has been developed. These guidelines will serve as a checklist to analyze the current content of the program and decide which aspects will be kept, which ones will need some changes or adaptation and finally, which aspects should not be kept. The guidelines are divided into 4 groups: medium, content, communication and engagement (see appendix C for a more detailed table of the guidelines).

#### 3.2.1. Initial proposal of design guidelines:

##### 1. Medium

1. 1. Adapt the program to youngsters' lifestyle by implementing online activities on the devices they use and are familiar with.

A study conducted in Nicosia (Greece) demonstrated that 72% of the respondents use the smartphone for educational purposes and 41% admitted downloading educational apps (Morphitou, 2014). During the research, Dutch participants also mentioned using smartphones in class, both for educational purposes and for fun. Teenagers admitted being used to learning by themselves via the phone, by watching tutorials, checking information online, etc. Thus, adapting to their lifestyles and ways of learning could lead to a better experience and more engagement from teenagers.

##### 2. Content

2. 1. Language: The content should be understandable and therefore communicated in the language of the country.

Education and language are inseparable components of each other. During the interviews with teenagers all of them preferred education in their own language, even if some of them already had some subject in other languages (such as English). They mentioned feeling more in control and relaxed if the lesson is taught in their mother tongue.

2. 2. The information should be country specific. When giving information or specific data, this should be from the country the workshop is being taught for teenagers to be able to relate to their reality.

Student motivation is important in education since it will make them more likely to seek out challenges, take

risks, persist in the face of difficulty, and demonstrate higher levels of achievement (Bhoje, 2015). Participants mentioned that getting information from other countries and cultures is interesting and even fun but does not make them feel motivated to act upon it.

2. 3. The pictorial examples used to illustrate the theory should resonate with the world youngsters already know. They should be part of their cultural environment or literature world.

There is no education when ideas and knowledge are not translated into emotion, interest, and volition (Dewey, 1933). Recognisable examples are understood and can lead to reflections.

### 3. Communication

3. 1. Health guidelines must be transmitted in accordance with the way in which they are communicated in the country and/or to the target group to avoid confusion and/or contradictory information. When teenagers are given information about healthy habits in class, at home, on TV or at the doctor they all should be in accordance.

After analyzing health guidelines in the Netherlands and Spain, some differences have been observed. Adapting to the way the guidelines are transmitted in the country will avoid mismatches and confusion among teenagers.

3. 2. The representation of a healthy lifestyle is visualized in the leading infographic that the country is using. An example could be the way nutritional guidelines are visualized, since in Spain a pyramid is used and in the Netherlands "the wheel of five".

3. 3. Trustworthiness: provided information must come from sources that youngsters recognise and trust. Source must be clear.

Whereas Spanish teenagers mentioned that they believed to always be trustworthy the information

given at school; Dutch participants did not agree, and admitted to expressing their doubts and discussing in class. Which could be due to the higher hierarchy in Spain (see section 2.4. Discussion) and thus believing that teachers, as a symbol of authority, are right and truthful and no discussion should be created. Therefore, content should be adapted, so that the relevant data is transmitted in a truthful way.

3. 4. Communication of information should be adapted to the medium of use. Depending on the device the information is given in different formats (blackboard, laptop, smartphone) and should be adapted.

During the comparison of health materials (health programs, health guidelines) it has been observed that different formats were developed depending on use. Materials were interactive, visual, mainly text, formal, colorful, etc. according to the intended use (such as informational leaflets, online quizzes or games, presentations or posters). It is relevant to think of the intended use when creating materials.

### 4. Engagement

4. 1. The materials should be in accordance with that culture's class dynamics: In the case of the Netherlands, materials used in class should encourage student participation, discussion and creative thoughts.

Active and collaborative learning benefits engagement of students in class (Zepke & Leach, 2010) and Dutch participants have admitted to prefer active lessons to lectures. In the same way, as previously mentioned, the Netherlands has a lower hierarchy and it is more common for students to participate and share their thoughts.

### 3.3. Conclusion

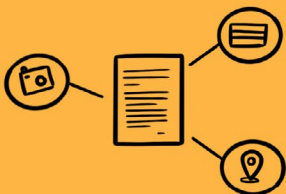
The previous chapter introduced the research phase and the insights gathered. These were used to define the design goal presented in this chapter and the development of the initial proposal of the design guidelines. In the following chapter, the ideation phase will be explained.

#### 1. MEDIUM



1.1. Adapt the program to **youngsters' lifestyle** by implementing online activities on the devices they use and are familiar with.

#### 2. CONTENT

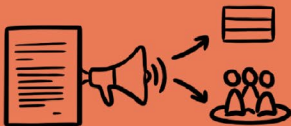


2.1. **Language:** The content should be understandable and therefore communicated in the language of the country.

2.2. The information should be **country specific**. When giving information or specific data, this should be from the country the workshop is being taught for teenagers to be able to **relate to their reality**.

2.3. The **pictorial examples** used to illustrate the theory should resonate with the world youngsters already know. They should be part of their cultural environment or literature world.

#### 3. COMMUNICATION



3.1. **Health guidelines** must be transmitted in accordance with the way in which they are **communicated** in the country and/or to the target group to avoid confusion and/or contradictory information.

3.2. The representation of a healthy lifestyle is visualized in the **leading infographic** that the country is using.

3.3. **Trustworthiness:** provided information must come from sources that youngsters recognise and trust. Source must be clear.

3.4. Communication of information should be **adapted to the medium of use**. Depending on the device the information is given in different formats (blackboard, laptop, smartphone) and should be adapted.

#### 4. ENGAGEMENT



4.1. The materials should be in accordance with that culture's **class dynamics**: In the case of the Netherlands, materials used in class should encourage student participation, discussion and creative thoughts.

Figure 27. Design guideline overview visualization.





# Ideation

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## 4.1. Approach

### Method

Firstly, an initial ideation brainstorm based on the previously conducted research to identify possible design directions that could add value to the program in the Netherlands. The next step was to decide on which parts of the TAS program to focus on when ideating so that this project was feasible. Once one design direction has been selected, the materials of the TAS program have been analyzed with the design guidelines as a checklist and the content has been categorized in three different groups: what to maintain, what to change or adapt, and what to eliminate. Finally, another brainstorm session was conducted together with Dutch colleagues to get all ideas and thoughts about how to transmit the same information of the selected workshop in different and engaging ways.

## 4.2. Initial ideation

To begin the ideation phase, a brainstorm was first carried out with the aim of finding a design direction. This brainstorm has been based on the insights of the research phase. The session led to a first activity, to do a first exercise in which two extremes are considered. As the most repeated and significant insight from the user research was the use of smartphones in education (both in class and outside), this aspect was considered as the changing aspect. First concepts were developed based on: how would the TAS program be like if everything was online or if everything was offline. This exercise has served to reflect on what aspects of the program need to be offline; the role of the instructor and the need for it in the different parts of the program; and as a creative exercise on how to transform some parts of the project to an online format. Some of those reflections can be seen in appendix C.

Therefore, the need for a hybrid format was concluded, since online activities could increase engagement and

make the workshop more fun for students, but the need of a facilitator was identified. So the workshop will consist of class activities, discussions, games, and challenges are carried out; but online activities that favor student engagement are also incorporated.

On the other hand, it has been decided to select a part of the program to redesign based on the previously developed design guidelines and draw conclusions after evaluating said redesign. Due to time limitations it is not possible to analyze and redesign the whole program and all the materials.

### 4.2.1. Parts of the TAS program to focus on

The redesign will focus on specific activities and workshops carried out during the program. It has been considered convenient to select activities that are developed in all the formats of the program (as explained below). In the same way, having analyzed the reports provided by Alícia of the results obtained during 2012 when the TAS program was applied in different Spanish schools, as the workshops taught by Alícia were two: “Buscando el equilibrio” (“Looking for balance”) and “Yo me lo guiso, yo me lo como” (“I cook it, I eat it”) the decision was to start with the redesign of the first one. The decision was made based on the content and materials of the workshop, since it presents diverse activities, visual materials (slides) and an initial introduction of the next workshop (“I cook it, I eat it”).

This decision was made after the TAS program was evaluated in depth and considered that due to time constraints and for the highest quality of the result, it is necessary to choose a part of the program to focus on for its redesign. Since it is a program that contains several sections and different activities, it could be very interesting to focus on every detail but it is not considered feasible for the duration of this project.

Therefore, the general structure of the program will remain the same as in the TAS program. The beginning of the program will consist of evaluating

the students' habits through surveys and providing them with the results of their class in the format of: what habits to maintain, which ones to reduce and which ones to increase. These results will serve to decide as a class which problem to focus on and develop concepts in groups to improve the selected aspect. Finalizing the program with the presentations of the concepts developed in groups to the whole class.

The TAS program can be developed in three different formats: as an optional subject throughout a quarter, as a transversal quarterly option or as an express option during a week. Due to focusing the redesign on the sessions that occur throughout the program, these three options would continue to be an option since the redesign of the activities or workshops does not affect the duration of the program as a whole.

#### **4.2.2. Evaluation of the program materials using the guidelines**

After developing the design guidelines, all the contents, workshops, scripts, etc. used in the TAS program have been evaluated one by one. In this way, three categories have been identified: aspects that must be redesigned, the ones that can be kept and, on the other hand, opportunities that can add value to the redesign (see appendix C). These aspects were reached based on observations of the current program.

Focusing on each one of the examples is not feasible since it would require too much time. On the other hand, as it has been decided to redesign the workshop "Buscando el equilibrio" ("Looking for balance") some of the changes and/or opportunities may not apply. Nevertheless it is important to identify the design opportunities that may add value to the TAS program as a whole, since the final goal is to develop a set of guidelines that allows the attunement of the full program to the NEtherlands. For that, a list of points of discussion was created, in which opportunities that are believed to be important to take into account when redesigning the program

have been summarized and grouped.

#### **4.2.3. Points of discussion**

Hereby the points of discussion are presented and clustered in the following topics: The activities proposed in the program, the content and the way of communicating, and the class dynamics.

##### **Activities**

Throughout the program diverse activities are proposed to students with different objectives (such as sensitizing them or helping them understand concepts). The kind of exercises or activities that are chosen could be interesting touchpoints for redesign but further research should be carried out since it has not been deeply analyzed in this project. It could be interesting to use a familiar game together with the narrative of the exercise, so that when the kids play the game in the future, they remember what they learned during the session. This principle has been used in the current program and an example is in the workshop "Buscando el equilibrio" ("Looking for balance") a narrative is added to the game "kill the rabbits" to reflect about the food strategy, in this case, exercise or activity needed before to be able to eat (by hunting) and the one needed now.

##### **Content and way of communicating**

The language style is also very important and how teachers approach topics and/or when they give feedback to students. In my personal experience in sessions with Dutch teachers, I have noticed that the language style emphasizes the positive part. For example, if the teacher asks "do you like to cook" and he/she continues with "if you don't" you are stressing the negative side instead because the discussion becomes about the negative aspects of cooking (example from the script of the workshop "Yo me lo guiso, yo me lo como"). If the teacher would ask "do you like to cook" and continue with, "and why?" The conversation will focus on the positive aspects of cooking. This could be a universal mechanism useful for every country which has been identified as a specific difference for the Netherlands during this

study.

There are expressions that must be adapted when translating them into another language, or they even lose their meaning. In Spain, stew dishes are called “chup chup” because of the sound they make when cooking them, but in other languages or other cultures this may not make any sense. Or for example when stating that eating colorful food is healthy (script “Yo me lo guiso, yo me lo como”), depending on the typical meals of the culture this may not be true. Therefore, it is important to identify such expressions.

The way of communicating is different in each culture and it is important to take it into account in cross-cultural communication, and different examples could be found such as giving feedback to students; as Meyer (2014) states, being unaware of the differences may lead to misunderstanding, needless conflict and ultimate failure.

On the other hand, information must be specific and be clear both when presenting topics or asking students questions for the best results in the workshops. Some examples found in the workshop script “Yo me lo guiso, yo me lo como” are the following:

To identify the food preferences of adolescents, it is important to detail the hypothetical scenario, since the preferences may depend on the place, time, activity, etc.

When saying that “as you already know, nutrition is very important and we must participate more at different times” doubts may arise as to why this is that way. Another example could be when it is said that “the more knowledge we have about a food, the more we will like it, and this is the first step to a good diet”.

### **Class dynamics**

On the other hand, the dynamics of class and the role of teachers is different depending on the culture of the country. In my experience in classes with Spanish and Dutch teachers, I have felt that in

Spain you can see a more marked hierarchy than in the Dutch. This observation is also supported by literature in Hofstede’s cultural dimensions (power distance index and individualism versus collectivism) and in the Culture Map (Meyer, 2014) where the Netherlands has a more egalitarian leading compared to Spain and is a more individualistic culture. Therefore, the approach must be adapted to the context. An example identified in the workshop script “Yo me lo guiso, yo me lo como” is when reflecting and commenting on the photographs of a previous exercise carried out by the students, it is mentioned that the teacher must show the photos and comment on them. An adaptation for the Dutch culture could be that instead of teachers commenting and giving the answers, students are invited to reflect and comment together about the raised question(s) giving room for different opinions (which is typical for low hierarchy and individualistic cultures).

## **4.3. Conclusion**

Due to time constraints and feasibility of the project, it has been decided to focus on a specific workshop of the TAS program, “Looking for Balance” to redesign it. On the other hand, the materials used in the TAS program provided by Alícia have been analyzed using the design guidelines and design opportunities have been identified. The most interesting opportunities have been summarized in points of discussion in order to take them into account when redesigning the workshop mentioned above and later in the process.

In the same way, due to the mention of the Dutch participants in the field research of the use of smartphones in their daily lives and the familiarization with said device and the applications used in it, it was considered interesting to implement the use of the smartphone during the workshop.

In the next chapter, the design guidelines and the points of discussion will be applied in the redesign of the “Looking for Balance” program.





# Conceptualisation

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## 5.1. Approach

As previously mentioned, for redesigning the workshop, the design guidelines developed from the cultural analysis have been followed and the material from the workshop “Buscando el equilibrio” (“Looking for Balance”) has been analyzed. In this way, the following aspects have been identified: what can be kept in the workshop, what must be adapted and what can be eliminated (see appendix C).

## 5.2. Looking for balance redesign

The slides used in the “Looking for balance” workshop have been redesigned.

For this, the current design has been evaluated with the developed design guidelines. From this evaluation, a table was created (appendix C) identifying which aspects of the workshop need to be changed, which ones can add value if changed, and which one can either stay in the same way or be deleted. After that, as mentioned in the previous chapter, a brainstorm session was done to ideate about how the redesign could be.

Two versions of the redesign have been carried out:

- One in which only what was necessary has been changed when analyzing the workshop with the design guidelines.
- The other presented some more changes that are believed to add value to Dutch classrooms.

The difference between both redesigns is that in the first one no electronic device is used, and on the other hand, in the second one the students’ smartphones are used.

Overall, some changes have been done to the whole workshop.

- The style and design of the slides have been changed since the original design was considered outdated, not only for the Dutch context but also for the Spanish one. More colors have been incorporated that help make the workshop more eye-catching and also help the understanding of the information.
- The workshop has been clearly divided into three sections (balance, healthy habits and conclusion). The three sections have been distinguished by colors, using yellow for the first one, green for the second one and orange for the last one.
- The language of the workshop has been changed to English, due to the lack of knowledge of Dutch language. The use of English language does not affect the possibility to evaluate the concept with Dutch experts. In the final design, the language should be the mother tongue of the adolescents participating in the workshop, in this case, Dutch.
- Some slides have been reorganised to make it more clear, and some slides have also been added to the redesign (as it can be seen in the following figures).
- The content of the workshop has been considered as “something to keep” following the guidelines (see appendix C) so there are little changes to it.

In this section, the second redesigned concept will be presented, in comparison with the current design. The first redesign, does not include the online activities and can be seen in appendix C.

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**BALANCE**



**HEALTHY  
HABITS**



**CONCLUSION**

**Figure 28.** Redesign proposal: incorporation of table of content slide, dividing the content in 3 groups with different colors.

**programa** **tas** **tú y alicia por la salud**

**LOOKING FOR BALANCE**

Mediterranean diet

Recognisable sports?

Mediterranean diet

**tas** program you and alicia for health

**LÔÔKING FOR BALANCE**

**GUIDELINE 2.1.**

Language: change the language to the target group's language, in this case the first concept will be in English but the goal is to translate it to Dutch language.

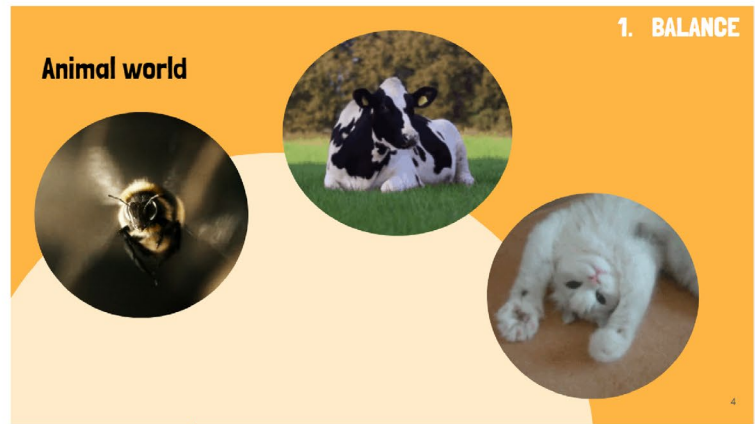
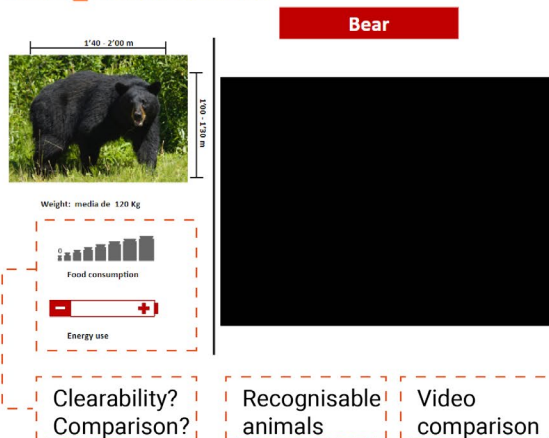
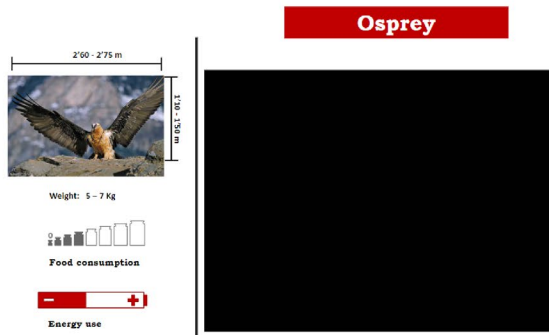
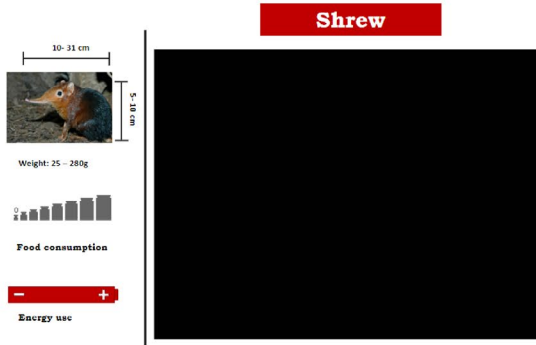
**GUIDELINE 2.3.**

Use of pictorial examples that are part of the target group's context and culture: food types (fries, soups, sandwiches, pasta...) and diverse people.

**GUIDELINE 3.4.**

Use of visuals, gif images, lively colours.

**Figure 29.** Redesign proposal of slide 1 according to design guidelines.

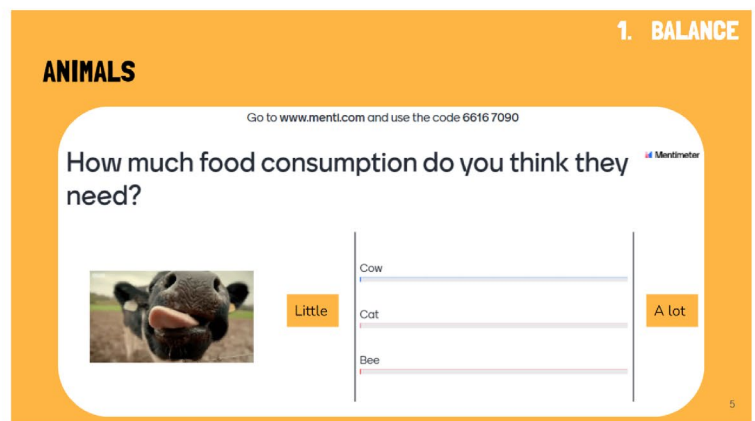


**GUIDELINE 2.3.**

Use of pictorial examples that are part of the target group's context and culture: recognisable animals (bee, cow and cat).

**GUIDELINE 3.4.**

Use of gif images, lively colours.



**GUIDELINE 1.1.**

Voting via an online tool to engage students and create a solution after watching the results update on screen.

**GUIDELINE 2.3.**

Use of pictorial examples that are part of the target group's context and culture: cow gif image.

**GUIDELINE 3.4.**

Use of gif images and interactive resources.

**GUIDELINE 4.1.**

Create a discussion in class after watching results. Using questions such as: Why do you think that?

**Figure 30.** Redesign proposal of slide 2, 3 and 4 according to design guidelines.



Recognisable animals



**GUIDELINE 2.3.**

Use of pictorial examples that are part of the target group's context and culture: recognisable animals (bee, cow and cat).

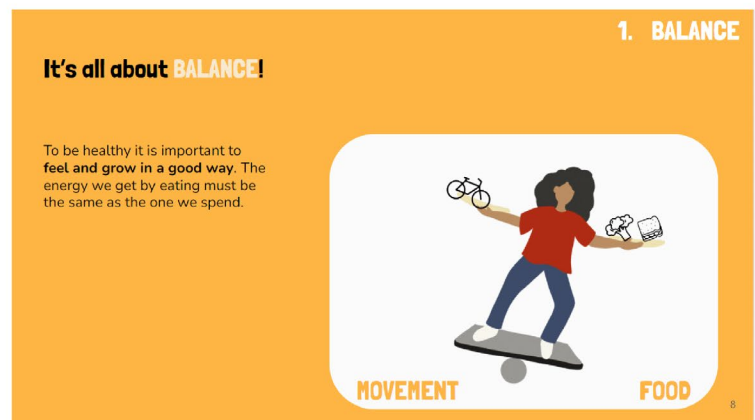
**GUIDELINE 3.4.**

Use of visuals, gif images, lively colours.

**Figure 31.** Redesign proposal of slide 5 according to design guidelines.



Pictorial examples: recognisable food examples, sports...



**GUIDELINE 2.3.**

Use of pictorial examples that are part of the target group's context and culture: recognisable food and sports.

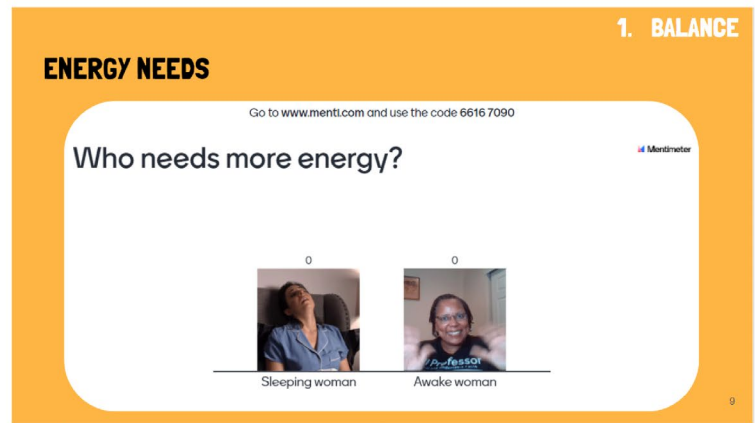
**GUIDELINE 3.4.**

Use of an animation, lively colours.

**Figure 32.** Redesign proposal of slide 6 according to design guidelines.



Pictorial examples: recognisable sports, representation of the society in the photos, stock photos.



**GUIDELINE 1.1.**

Online game to reflect about their habits and routines.

**GUIDELINE 2.3.**

Use of pictorial examples that are part of the target group's context and culture: diversity in Dutch society.

**GUIDELINE 3.4.**

Use of gif images.

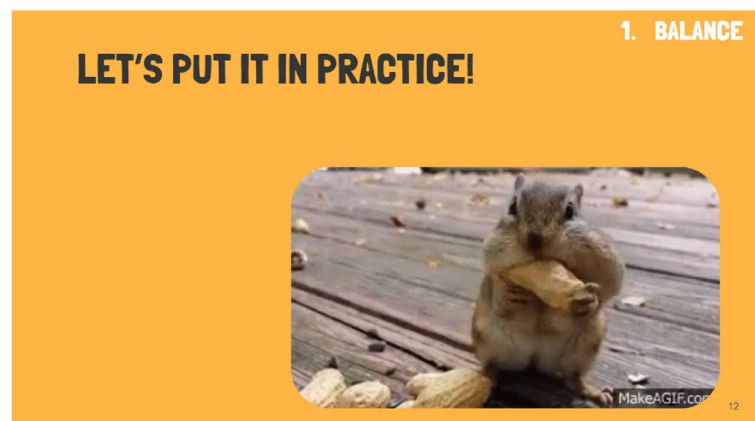
**GUIDELINE 4.1.**

Vote via an online tool and create a discussion based on the result.

**Figure 33.** Redesign proposal of slide 7 according to design guidelines.

programa **tas** tú y alicia por la salud

**Ahora lo  
pondremos en  
práctica!!!**



**GUIDELINE 2.3.**

Use of pictorial examples that are part of the target group's context and culture: recognisable animal.

**GUIDELINE 3.4.**

Use of a gif image, lively colours.

**Figure 34.** Redesign proposal of slide 8 according to design guidelines.

## HEALTHY HABITS

### 2. HEALTHY HABITS

**Why?**

It is very important to keep a healthy lifestyle. You could avoid having diverse diseases in the future such as diabetes, cardiovascular diseases...



14

Incorporation of 2 new slides to introduce the “healthy habits” chapter. Discussion about WHY are healthy habits and examples.

From research: teenagers have the knowledge about health guidelines but do not feel the urgency to follow them

## HEALTHY HABITS

### 2. HEALTHY HABITS

**Why?**

- 😊 Better mood
- 🛌 Improve sleep quality
- 🧘 Reduce anxiety
- 🔋 Consistent energy throughout the day
- 👥 Socialise
- 🧠 Better academic performance, deeper focus
- 💪 Muscular fitness
- 🧘 Self care, learn how to listen to your body



15

**GUIDELINE 3.4.**

Use of emojis, lively colours.

Incorporation of a new slide to introduce the “healthy habits” chapter. Discussion about WHAT are healthy habits and examples.

From research: teenagers are aware of behaviors to have a healthy lifestyle (stress, social life, use of screens or sleep quality).

## HEALTHY HABITS

### 2. HEALTHY HABITS

Go to [www.menti.com](https://www.menti.com) and use the code 6616 7090

What is important to have a healthy lifestyle?



16

**GUIDELINE 1.1.**

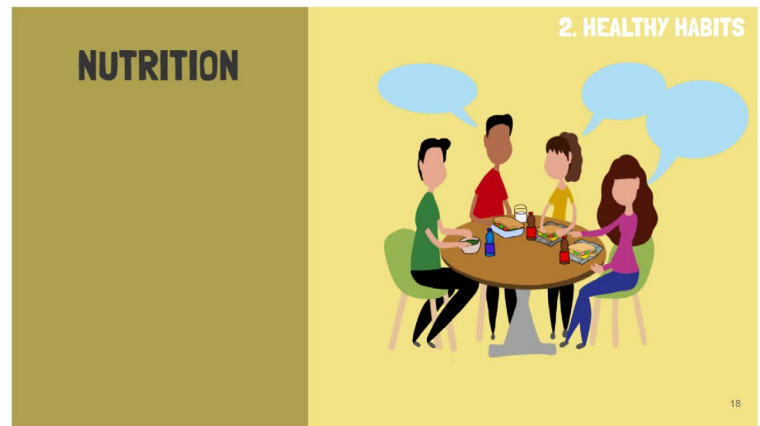
Online game to reflect about their habits and routines.

**GUIDELINE 4.1.**

Participate via an online tool and create a discussion based on the result.

**Figure 35.** Redesign proposal: Incorporation of three slides to introduce healthy habits.

¿Qué tenemos que comer?



**GUIDELINE 2.3.**

Use of pictorial examples that are part of the target group's context and culture: recognisable food, drinks and eating habits.

**Figure 36.** Redesign proposal of slide 9 according to design guidelines.

Incorporation of an activity to make students reflect about nutritional guidelines before giving the information.

**Activity to think about nutrition**

Game in which they need to drag the different food groups into the wheel of five. They should think about which food groups we should eat more or less often.



**GUIDELINE 1.1.**

Online game to reflect about their habits and routines.

**GUIDELINE 3.2.**

Representation of health guidelines in accordance to the Dutch guidelines: the wheel of five.

**GUIDELINE 3.4.**

Game by dragging food groups to the wheel of five.

**GUIDELINE 4.1.**

Game on smartphone to reflect and then discuss results in class.

**Los grupos de alimentos**



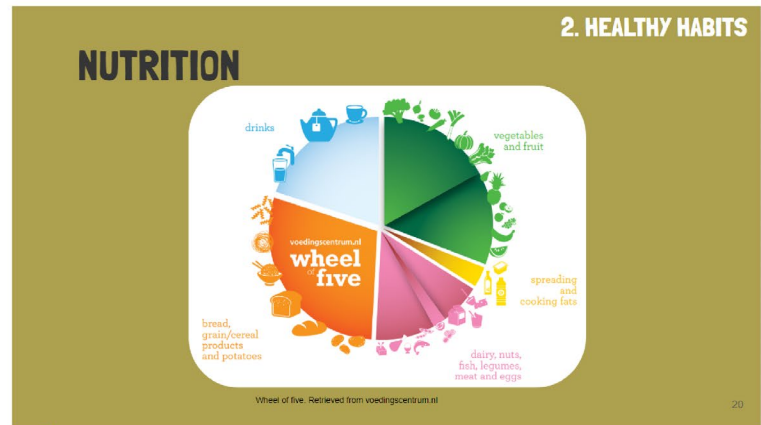
**Figure 37.** Redesign proposal of slide 10: incorporation of online activity.



Recognisable food

Nutritional guidelines in the Netherlands?

Food pyramid?



#### GUIDELINE 3.2.

Representation of health guidelines in accordance to the Dutch guidelines: the wheel of five.

#### GUIDELINE 3.3.

Trustworthiness: information retrieved from the Voedingscentrum; source below the image.



#### GUIDELINE 2.2.

Information country specific, health guidelines from the Netherlands.

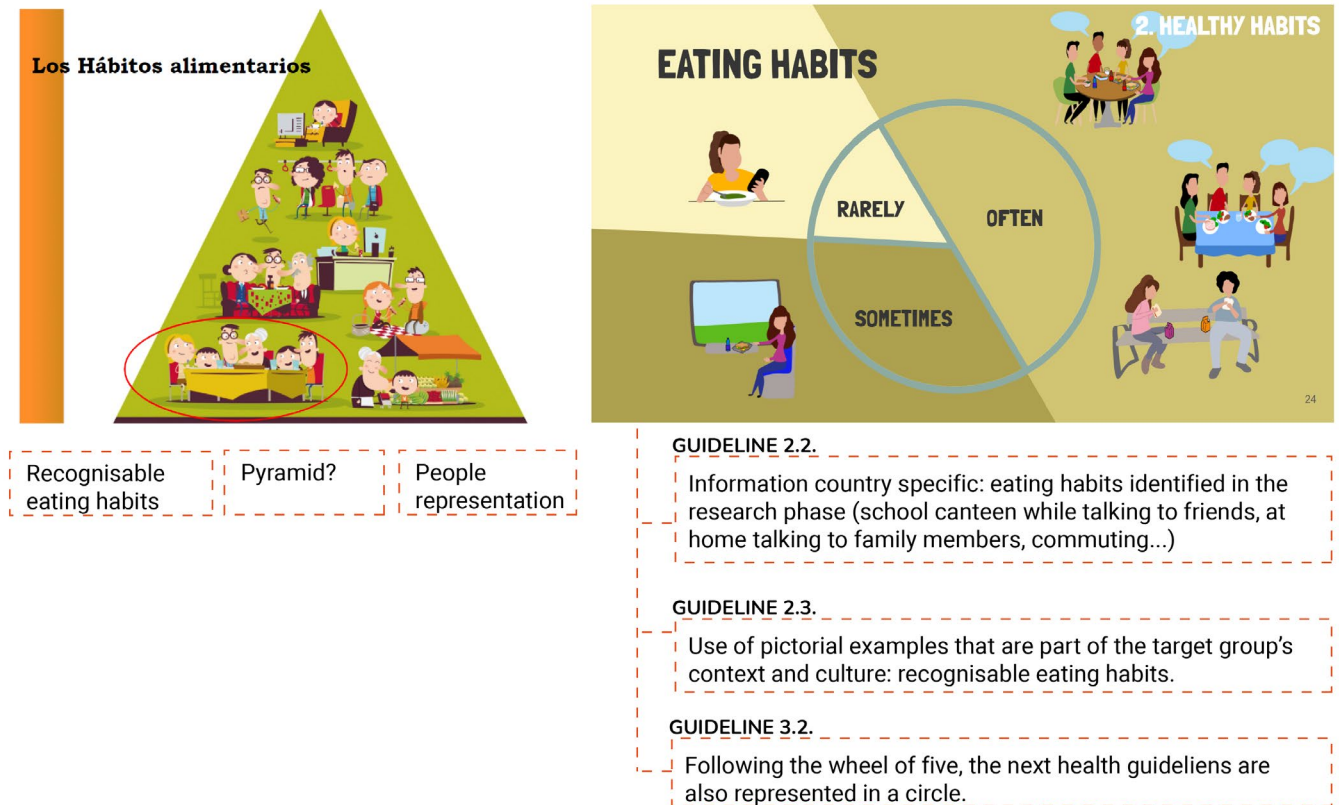
#### GUIDELINE 3.1.

Health guidelines communicated in the same way they are communicated in the country (lots of, less, more, daily, weekly...).

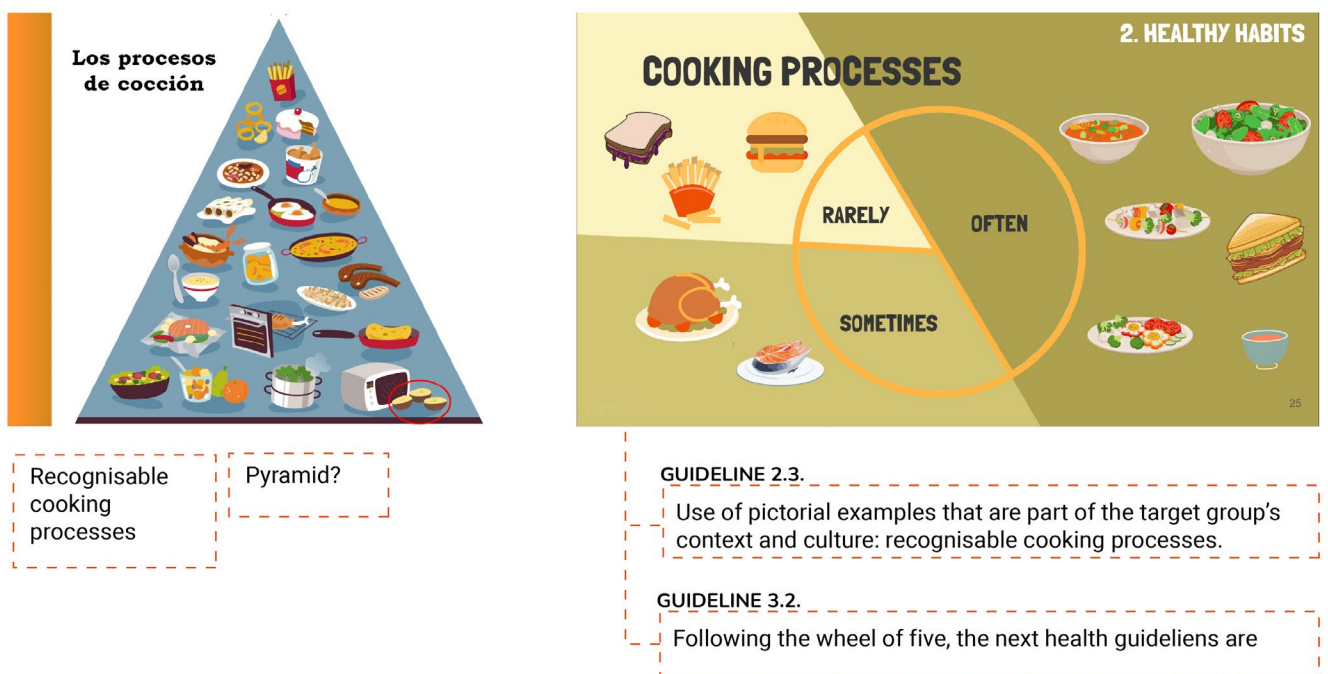
#### GUIDELINE 3.2.

Representation of health guidelines in accordance to the Dutch guidelines: the wheel of five.

**Figure 38.** Redesign proposal of slide 11 according to design guidelines and incorporation of one slide to further explain nutrition guidelines.

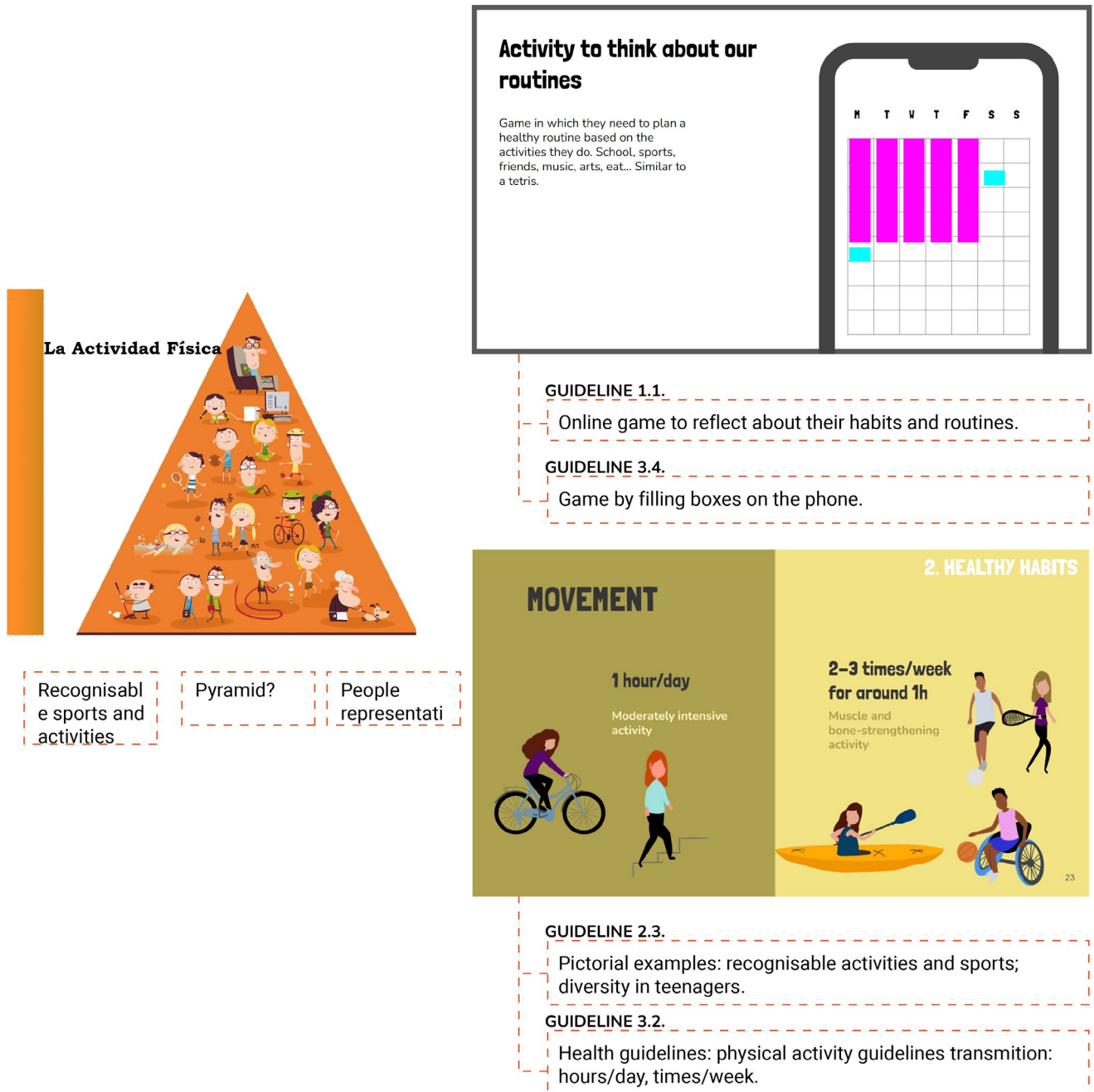


**Figure 39.** Redesign proposal of slide 12: incorporation of online activity.



**Figure 40.** Redesign proposal of slide 14: incorporation of online activity.

The redesign presents a slightly different order, since instead of going from eating habits to physical activity guidelines and after that focus on cooking processes, it groups first the three that are involving nutrition and then physical activity.



**Figure 41.** Redesign proposal of slide 13: incorporation of online activity.

At this point, the order slightly changes again, since it was considered more interesting to conclude the workshop first and then make the connection to the next workshop (I cook it I eat it).

Furthermore, a slide for questions and reflection was added. Students can upload before, during or after the workshop their thoughts to an online platform in the format of: what they learnt, what shocked them, what they will try to incorporate to their behavior and what they consider difficult to try. After seeing the individual and anonymous thoughts, a conversation is created in class by asking questions such as “Why do you think many of you consider difficult to eat more fruits?”.

programa **tas** tú y alicia por la salud

### COME SANO Y MUÉVETE!!!

Hacer de 4-5 comidas al día.

Comienza el día siempre desayunando.

No hay alimentos buenos ni malos.

Muévete entre 30 y 60 minutos al día, a una intensidad moderada

Practica el deporte que mejor se adapte a tus circunstancias y gustos

Same guidelines for the Netherlands?

**3. CONCLUSION**

## MAIN GUIDELINES

**1 BREAKFAST**  
Start the day by having a good breakfast.

**2 MOVEMENT**  
Move around 1 hour/day and exercise 2-3/week  
Do sports that you enjoy.

**3 FOOD**  
There are no good or bad food.

**4 MEALS**  
Have 4-5 meals/day, maximum 7.

**5 SUSTAINABLE**  
Choose sustainable options.

#### GUIDELINE 2.2.

Information country specific: most important healthy habits for teenagers from the research phase.

**Figure 42.** Redesign proposal of slide 16: incorporation of online activity.

Incorporation of a new slide to ask questions and reflect about the workshop.

**3. CONCLUSION**

## QUESTIONS & REFLECTION

I learned that...

It shocked me that...

I will try to incorporate to my life...

It's going to be difficult to try...

#### GUIDELINE 1.1.

Upload questions and reflections to online platform.

#### GUIDELINE 3.4.

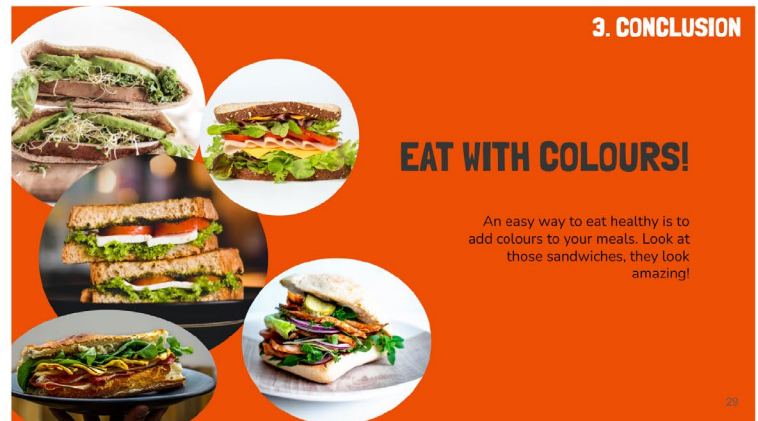
Use images, post-its, etc. to add questions or reflections.

#### GUIDELINE 4.1.

Add individual questions and reflections online and then reflect about them in class. “Why so many people think it can be difficult to ... ?

**Figure 43.** Redesign proposal: incorporation of a questions and reflection slide.

Since an introduction to the next workshop is made in one of the slides, a small narrative has been created following the design guidelines. Firstly, sandwiches will be used as an example in this case as Dutch teenagers mostly have sandwiches for lunch (as seen in the research). Therefore, it will not be necessary to see a cook make recipes, but instead a little talk about food will be needed, how a food can be used in different ways (for example chickpeas, cooked, in hummus, etc.), information about which foods are more suitable before and/or after exercising, etc. Therefore, images shown in the following figure are colorful sandwiches.



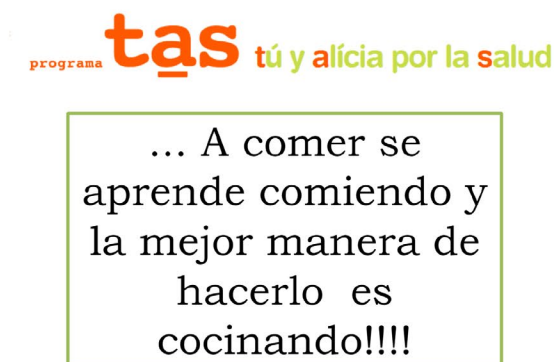
#### GUIDELINE 2.2.

Information country specific: what do Dutch teenagers eat for lunch?

#### GUIDELINE 2.3.

Use of pictorial examples that are part of the target group's context and culture: recognisable lunch: sandwich.

**Figure 44.** Redesign proposal of slide 15: incorporation of online activity.



**Figure 45.** Redesign proposal of slide 17: incorporation of online activity.



# Concept evaluation

6.1. Discussion and limitations . . . . .	82
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This section introduces the concept evaluation, the procedure of the test and the insights are presented. The insights gathered through this evaluation determined the final design and the next steps for the project.

## Goal

The user test has two main goals.

- To assess whether the workshop redesign is suitable in Dutch classrooms.
- Identify if the changes made are cultural specific or if the redesign is also suitable in Spanish classrooms.

## Method

The participants of the user test have been:

Main reason to evaluate the concept and guidelines with the selected participants:

- Dutch teachers: Evaluate to what extent the redesigned workshop would be suitable in Dutch classrooms; get recommendations and thoughts on how to improve the workshop; and evaluate the guidelines, which aspects do they take into account

when creating materials for class.

- Spanish teachers: Identify to what extent the changes made to the redesign are cultural. Would the redesign still work in Spanish classrooms? What aspects should be adapted? Furthermore, evaluation of the guidelines, which aspects do they take into account when creating materials for class.
- Dutch policy officers that are involved in Dutch health programs: Identify what aspects are similar to the ones used in Dutch programs; which aspects could be valuable to incorporate; which aspects do not work in Dutch classrooms; and what is important to have in mind when creating a health program for the Netherlands.

Participants have been recruited in different ways, Spanish teachers through personal contact with them via email; Dutch teachers via LinkedIn, and acquaintances contacted via WhatsApp and email; and Dutch policy officers contacted through my mentor and by email. When recruiting the participants, an explanation of the project and the interview was given.

		COUNTRY	GENDER	SCHOOL TYPE	SUBJECT(S)	EXPERIENCE
SPANISH TEACHERS	TEACHER 1 (T1)	Spain	Female	Public school	Different subjects, mainly Basque	3 years
	TEACHER 2 (T2)	Spain	Male	Charter school	Social sciences in English	20 years
	TEACHER 3 (T3)	Spain	Female	Public school	Different subjects, mainly Spanish	6 years
DUTCH TEACHERS	TEACHER 4 (T4)	The Netherlands	Male	MAVO/HAVO	Mathematics	4-5 years
	TEACHER 5 (T5)	The Netherlands	Male	HAVO	Spanish	5 years
		COUNTRY	GENDER	HEALTH PROGRAM		
DUTCH EXPERTS	POLICY OFFICER 1	The Netherlands	Male	Lekker Fit!		
	POLICY OFFICER 2	The Netherlands	Male	Lekker Fit!		

Figure 46. Concept evaluation participant information.

Online interviews were scheduled (20-30 minutes) in which the two redesigns were shown to Dutch experts and to Spanish teachers also the current workshop was shown. The design guidelines were also explained together with an example of their application. Experts were encouraged to share their thoughts on both the redesign and the guidelines.

Interviews were conducted via Zoom meetings, voice recorded and notes were taken on a notebook.

### Procedure

Interviews had different sections:

First, a small introduction on the project, and the goal of the interview.

Secondly, some questions were asked to the interviewee (name, subject they teach, school type, age of students to whom they teach and the years of experience as a teacher).

After that, the redesigns of the workshop were shown and explained; participants were told to interrupt if wanted (to share their thoughts and opinion) but also asked directly for their opinion after every section. Once a redesign was explained it was asked:

- In your opinion do you think this workshop and these slides would be suitable in your class? Why? Or why not?

After showing both redesigns (appendix C) and in the Spanish case also the current design, it was asked:

- Which option do you think would work best in your experience? Why?

Later, the design guidelines were explained and examples of the redesign were given. Experts were asked to share their opinion and thoughts.

- What do you think about these guidelines? When creating your class materials do you think about these aspects? Do you think there are more things to take into account?

Finally, experts were asked for further thoughts or any suggestions.

### Insights

#### Use of technological devices during the workshop

When asking about their preferences on the slides, all Spanish teachers mentioned that the first redesign (no use of smartphones) is the easiest one to implement in Spanish classrooms. Either because they consider it more normal to have a discussion in class or because they think that the use of smartphones in class could be a big step in some schools since the use of this kind of devices is currently forbidden. Nevertheless, one of the teachers (T2) mentioned that in his experience teaching in the US incorporating interactive platforms by using the smartphones is a very good way to keep students focused and interested in the class. Therefore, even if he thinks that the first redesign would maybe be easier to implement, his favorite one is the second one. Spanish teachers did prefer the redesigns to the current design of the workshop due to the style and design of the slides (considering that the current one looks old) and the ways of interaction (making students reflect before giving them the information, using online platforms, etc.). In fact, this has been one of the most determining aspects for teachers when commenting on whether the format is adequate in their experience. Having evaluated the two redesigns (one in which everything is offline and the other in which there are parts online), the Dutch teachers have not only found no problems in the use of devices, but have also identified the added value of said aspect. In the case of Spanish teachers, on the other hand, although they realized that it can improve the attention and engagement of students, they consider that it can be problematic in the classroom.

"The use of the smartphones is also about balance, so maybe would not incorporate it in class" - Teacher in Spain.

The Dutch teachers preferred the second redesign, one (T4) mentioned that using interactive platforms such as Menti.com or Kahoot really worked in his

experience. In fact, he mentions that more online and offline activities could be implemented, making the workshop even more practical. For example, to teach healthy habits of physical activity, go to the gym with them and teach them the exercises that adapt to teenagers' circumstances and characteristics.

### Workshop structure and effectiveness

When asked about to what extent the workshop and the slides could work in their opinion, the five teachers answered that they thought the workshop could work in the classes they teach. They all mentioned that they liked the workshop, they thought it was interesting and important for teenagers to have something similar since in their opinion teenagers do not get enough (or any) information about healthy habits. They valued that the redesign is clear, simple, intuitive and visual. As mentioned before, one of the Dutch teachers (T4) mentioned that the workshop could be even more practical, by leaving the classroom and going to the gym to explain the importance of physical activity.

"I would just take them to the gym with me and show them which exercises are appropriated for them" - Dutch teacher,

One of the Spanish teachers (T3) mentioned that workshops need to be different from normal lessons, so that students are focused and even have a fun time. Thus, all teachers liked the fact of having practical activities, movement, theory and reflection time. A Spanish teacher (T3) mentioned that she thought it logical that the workshop did not need many changes to adapt it to Spain (from the Dutch redesign) since the concept of balance is the same in both countries, and thus, mostly focusing on changing the pictorial examples would be enough. In fact, that was the only aspect of the redesign the three Spanish teachers thought important to change, the pictorial examples, making them specific from the Spanish culture (sport types, food type, health guideline visualization, etc.). A Spanish teacher that teaches in the Netherlands (T5) commented that in

his experience teaching in both countries teenager act similarly in both countries.

"Teenagers are teenagers everywhere, they have almost the same needs and thoughts. I assumed that Dutch students would be more polite but it does not have to be like that" - Teacher in the Netherlands,

Teachers also thought that even if most of the examples should be recognisable by students to be able to understand, some examples could also be from different cultures (both the ones that also exist in their context and the ones that do not) could be shown to make students reflect and become more creative. Maybe by adding a section or another workshop about international foods. Dutch teachers emphasize this part since Dutch food has always been influenced by other cuisines (Verriet, n.d.).

### Class dynamics and student participation

Dutch teachers agreed that participation of students and creating discussions in class is a useful resource but it depends on the classroom. Some students are very talkative and participate in class, but in some cases asking questions could make the workshop longer since they do not want to participate. This is why they thought it useful to first answer by using online platforms and then commenting on the results. They also suggested making students reflect in groups and then share their conclusions, or write down in a paper their opinion by groups and then read it to the class. Those suggestions were also given by Spanish teachers (T2 and T3).

"Student participation will really depend on the class, but there are different strategies to encourage it"- Teachers in the Netherlands and in Spain,

Spanish teachers also suggested incorporating debates and polemics about the topics that are introduced. T3 mentioned that there are some

topics in which Spain is working on slower than the Netherlands (such as the awareness of the importance of reducing meat and fish consumption) but it is still important to mention it, so the approach could be different. It could be in the format of debates or commenting on statements of politicians (the president of Spain when there was a discussion about the importance of reducing meat consumption said "If there is a good steak..."; or when it was debated that alcoholic beverages should not be included in the menu price, some cardiologists were in favor of wine consumption "a glass of wine a day is good"). Starting to raise awareness about topics that are still not established in Spain.

### Workshop facilitator

Four of the five teachers, except a Dutch teacher (T4), thought it important that the workshop is taught by an external expert. They indicated that students like novelty and that it is more attractive. T4 thought that it is nice that teachers give this kind of workshops because they know them and they trust them. In his case, he has already started sharing some information about healthy habits focusing on his own experience, showing pictures of how his body changed due to healthy habits.

*"Students are more engaged when there is novelty, they would be more focused if an external expert gives the workshop"- Teachers in the Netherlands and Spain,*

### Preferred aspects or the redesign

Regarding the design of the slides, the aspect that teachers liked the most is the fact that "it adapts to their world" (T1, T2, T3, T5) by using interactive platforms, gif images and a lot of visuals. The concept of balance was also liked by all the teachers and the experts, "it is a term that is important in every aspect of their life". T3 also commented that the slides are suitable for dyslexic students or students with reading or understanding difficulties. The practical activities were also liked "it makes it more

fun" and "they help understand the concepts in a fun way". The activity about creating healthy routines was liked by Dutch teachers and participants since "it is difficult to plan at that age".

*"The design adapts to their live, their world, their reality"- Teacher in the Netherlands*

### Design guidelines

When commenting on the design guidelines, these have been considered appropriate by all teachers and experts. Only two Spanish teachers (T1 and T3) have commented that students at that age do not understand very well the veracity of the documents and their sources (guideline 3.3) and that, in reality, they trust that the information given to them in class is true. But with regard to the other guidelines, they have admitted to following a similar process when creating their materials for class and do not believe they take more aspects into account. But, if they believe it is important to take these guidelines into account, carefully and in a good way.

*"I think that the guidelines are appropriate, I usually think about these aspects when creating school material"- Teachers in the Netherlands and in Spain,*

### Dutch experts from health programs

The Dutch experts highly valued the fact that the workshop focuses on the relationship between nutrition and physical activity. They considered the activities carried out adequate and very useful for understanding the concepts. They also mentioned that in their experience, the workshops on healthy habits should be taught by external professionals and not by teachers. Since, according to them, teachers are not very interested in workshops that are not their subject; it usually takes a lot of time for them, and if that is the case, in the end they don't do it or they do it badly. Which is interesting because none of the teachers mentioned something like that.

They preferred an external expert but to make it better for students, since as most of them said “teachers could give the workshop perfectly”. Similarly, a Dutch teacher was very critical and commented that if he gave the workshop he would not use the Wheel of Five and would use his own system. This is another reason for using external experts, since if each teacher explains each topic from a different perspective or in a different way, truthfulness and accuracy would be lost.

*“Workshops in the Netherlands focus either on nutrition or physical activity, it would be nice to combine both with the concept of balance” - Dutch policy officer,*

*“If it takes too much time for them, teachers are not interested in giving workshops”- Dutch policy officer,*

Dutch experts also suggested incorporating activities that are present in existing Dutch health programs (Lekker fit or the ones from the Voedingscentrum). They mentioned it could be interesting to talk to nutrition centers in the Netherlands, such as the Voedingscentrum to discuss how this workshop could be implemented in the ones they already have.

### 6.1. Discussion and limitations

The aim of the evaluation was to determine to what extent the workshop and the slides can be suitable in both Dutch classrooms and whether the changes made are culturally specific or more global.

Overall it has been observed that not many cultural changes were observed. Every teacher and expert mentioned that they could see this workshop working in their experience. The main changes were about pictorial examples which were indeed the main changes from the current design to the Dutch redesign. But in terms of structure, design, content and communication, feedback was similar from Spanish and Dutch experts. As the Spanish teacher

teaching in the Netherlands mentioned “Teenagers are teenagers everywhere, they have almost the same needs and thoughts. I assumed that Dutch students would be more polite but it does not have to be like that”.

On the other hand, when implementing the workshop in classes, it has been seen that the offline redesign (with the necessary changes) has been considered adequate for Spanish teachers. The redesign with online parts, on the other hand, for the Dutch teachers. Although it is noteworthy that Spanish teachers have identified the added value of this type of practice but have considered that it could be conflictive since in some educational centers devices are prohibited, some parents are not in favor of the use of mobile phones, etc. But they believe that little by little it will be possible to adapt, or depending on the school, other devices such as chromebooks or laptops could be used.

This makes us reflect on the necessary changes when adapting a health program from Spain to the Netherlands. Since it has been seen that the only changes that have been necessary by the teachers are those that make the students understand the information and make them feel identified. But, teachers have also found it interesting to have examples from other cultures to make them reflect and understand other realities. Or also in the case of incorporating cultures that are present in the context of the workshop so that everyone feels included.

But also, it is believed that as the workshop has been shown once to teachers and they have not used it in class, some changes may have been missed. When teachers use it with students, more aspects could be identified. On the other hand, the guidelines have only been applied to one workshop and this is the one that has been shown to the teachers. By evaluating different workshops, with different contents and approaches, other aspects could also come to light.

Some of the changes implemented in the redesign, to adapt it to the Dutch culture, have made Spanish teachers reflect. Spain is somewhat behind on issues such as sustainability, and that is why

Spanish teachers have considered that talking about reducing the consumption of meat or fish can create controversy in class. But it has been interesting that even so they have considered that these types of themes that are not yet established in Spain could be maintained, changing the approach a little. Since, “we must learn and take advantage of the knowledge of countries that are more advanced.”

Another point of attention during evaluation was that most of the experts were more drawn to the content and mostly shared their thoughts about it instead of about how this is communicated or visualized. A clear example of this is that the Spanish teachers, initially, did not comment on the specific pictorial examples (sandwiches as lunch) or the Dutch health guidelines (wheel of five). When asked more specifically, their comments were “of course, changing those details”, “yes, I guess that would have to be changed”, “well yes, but it is understood”. Therefore, it has been more complicated to identify which changes are culturally specific. In addition, when asked to what extent the redesigned workshop would work in their classrooms, all the teachers responded that they considered it appropriate to give a workshop of this style and that they would use the proposed slides. Teachers from both countries valued that the slides were clear, visual, colorful, and ultimately, suitable for adolescents.

Although the perception was a bit negative due to the feeling of not having changed the workshop enough, the evaluation has shown that this is not the case. The fact that the Dutch experts viewed the approach and the activities carried out in the workshop in a positive way shows that the fact of not having changed the activities (since considering the design guidelines it was not seen as necessary) has been a right decision.

A limitation due to a time constraint is having evaluated the concept with only 5 teachers and 2 experts. The ideal case would have been to have tested the concept in class with groups of students and teachers present. In this way, the reaction of the adolescents to the workshop and the material could

have been observed.

The conclusion of the evaluation in general has been that the identified guidelines were adequate and require small changes. Emphasis has been placed on the need to apply the guidelines correctly and carefully when creating or adapting materials for the classes, and in this case the workshop. That is why the following chapter presents the final design that includes the guidelines with the aforementioned changes and examples of how to apply these guidelines. The examples will be those presented in section 5.2 Looking for balance redesign, which have been validated by the teachers and examples and tips on how to apply the guidelines throughout the entire program are also presented.

From the evaluation sessions with teachers and experts from both nationalities, it has been concluded that the guidelines bring cultural differences together. Teachers considered the proposed guidelines as relevant regardless of their nationality. The emphasis was placed on the process of applying them, since they stressed that what is more important and therefore deserves more attention and time is the creation of materials. As mentioned before, the redesigned workshop, Looking for Balance, does not present many changes, but it is not ruled out that another type of workshop or activity needs more significant changes.



# Final design

7.1. Design guidelines to attune the TAS program to the Dutch classrooms and how to apply them . . . . .	86
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The previous chapters introduced the preliminary design guidelines proposed to attune the existing TAS program to the Dutch classrooms and an application of those guidelines to the workshop “Looking for Balance”. Furthermore, the evaluation of both were presented and the main takeaways served to detail the final design, which will be presented in this chapter.

## 7.1. Design guidelines to attune the TAS program to the Dutch classrooms and how to apply them

### 1. Medium

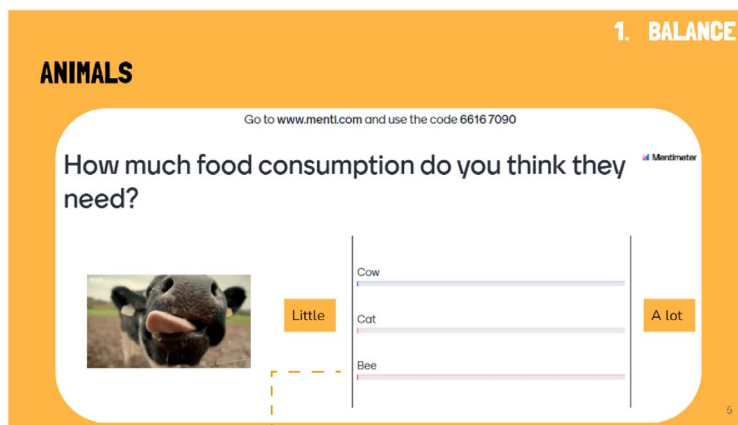
1.1. Adapt the program to youngsters’ lifestyle by implementing online activities on the devices they use and are familiar with.

The use of electronic devices has increased in practically all areas, and implementing the use of them in class according to teachers increases student engagement as seen during the interviews with teachers and teenagers. By having to interact with devices, students are more attentive and feel that the class is more interactive. This measure has been considered positive both in Spain and in the Netherlands, although in Spain to a lesser extent and being more cautious. Regarding what type of device to use, in Spain many schools use laptops and therefore these would be the ones used. In the Netherlands on the other hand, it would depend on the type of school but smartphones seem to be the best option (in some schools laptops or tablets would also work).

Slide explanation: Students vote how much food each animal will need in comparison to the others. They do this via menti.com. All results appear automatically on the slide (anonymously). Based on that a discussion is created by asking questions such as: Why do you think X animal needs more food? What makes you think that? This reflection will help understand food strategies that are explained after this slide.

#### POINTS OF ACTION:

- Interactive material
- Engagement of students
- Participation of students
- Individual opinion
  - Anonymously online
  - Discussion in class



#### GUIDELINE 1.1

Use of applications such as menti.com or kahoot to make it interactive for students by using their phones to vote.

#### GUIDELINE 4.1

Following class dynamics in the Netherlands: making students reflect before giving information, making them share their opinions and discussing in class with classmates.

Results will display on the blackboard and a discussion will be created in class to comment the results. Students have the chance to share their opinion in an anonymous way online and after seeing the results have a discussion in class.

Figure 47. Application proposal of the guideline 1.1.

## 2. Content

### 2.1. Create the content in the language of the target group to make it understandable.

The program must be taught in the language used in the school, so it must be translated. In the Netherlands the program must be taught in Dutch and in English (in international schools).

### 2.2. Add information that is country specific to make it relatable and real for students.

During the program, information on different topics is presented such as health recommendations, typical unhealthy habits, interesting examples from society, etc.

If the information is from the context of the target group, in this case, from the Netherlands, and the examples are specific to schools and adolescents; they will feel identified or will be able to relate to it. A clear example of this is when saying that it is important to eat breakfast every day and that there are a large number of adolescents who do not do it; This data is true for both Dutch and Spanish adolescents, but if the workshop is given in another country, it would have to be investigated. Examples are shown below.

Slide explanation: Summary of the most important health guidelines for Dutch teenagers as a conclusion.



**Figure 48.** Application proposal of the guideline 2.2.

2.3. Implement topics and values that are relevant in the country and/or society. Take those values into account when creating materials (visuals, slides, scripts, etc.).

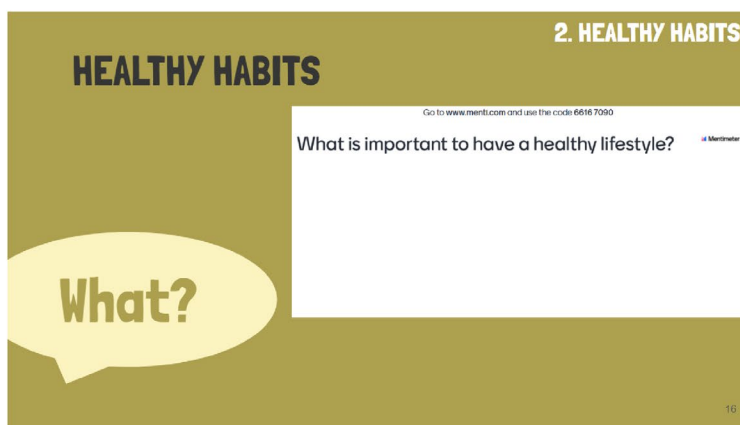
It is necessary to analyze the country in which the program is going to be taught to identify the issues and values considered important in relation to healthy habits. In the Netherlands, for example, great importance is attached to sustainability in food choices; the importance of mental health in adolescents; or the use of screens. Depending on the country or culture, these topics may vary; in Spain, for example, it would also be necessary to talk about eating disorders.

Moreover, values such as hygiene, safety, gender, diversity, inclusion, etc. must be taken into account when creating the content. Some examples are shown below.

Slide explanation: Make students reflect about what are healthy habits before sharing information with them. The workshop only focuses on nutrition and physical activity but it is important to take the time to reflect about other habits that could be relevant for Dutch teenagers.

#### TIPS TO IMPLEMENT THE GUIDELINE THROUGHOUT THE PROGRAM:

- Specific workshop about sustainability and the effect it has on healthy habits.
- Specific workshop about the characteristic of different food groups and nutrients.
- Importance of biking and/or walking.
- Practical activity about movement in daily activities.



#### GUIDELINE 2.3

Ask students about what they consider important to have a healthy lifestyle. Discuss the topics that come up.

Slide explanation: Summary of the most important health guidelines for Dutch teenagers as a conclusion.

#### TIPS

Other important values than need to be implemented or taken into account:

- Gender
- Freedom
- Independence
- Safety
- Hygiene



#### GUIDELINE 2.3

Sustainability is an important value in Dutch society and impacts healthy habits.

Figure 49. Application proposal of the guideline 2.3.

2.4. Use pictorial examples that resonate with the world youngsters already know. They should be part of their cultural environment or literature world.

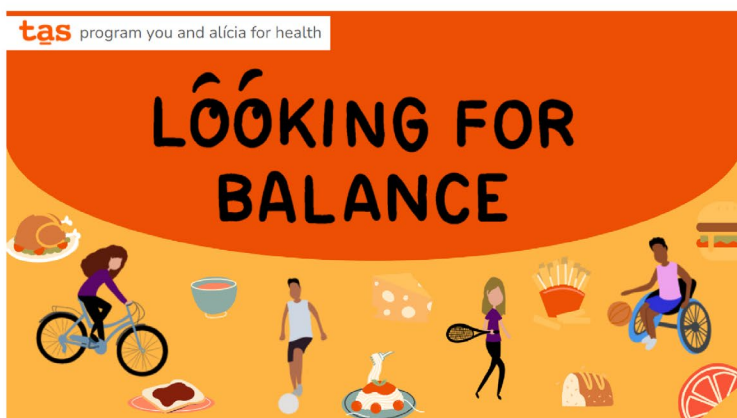
This guideline follows the previous one (2.3.) since the topics and examples must resonate with the reality of the target group and therefore, the pictorial examples used also.

Examples of foods, sports practiced by adolescents, animals, representation of young people, etc. resonating with the reality in which they live or the literature world will make it easier to understand the information. This way, they will perceive the information as real, they will understand it, and be able to feel identified. On the other hand, there are some cases in which it is enriching to include examples from other cultures and realities to encourage teenagers to think, get more creative or to get to know different cultures (in the case of the Netherlands it is important since diversity and inclusion are important values). Therefore, when applying this guideline it is necessary to reflect about to what extent relating to the shown examples helps understanding and awareness; and when it can be helpful to use none (or less) recognisable examples that makes teenagers get creative, think, reflect and in some cases make the workshop more fun for them. Examples are shown below.

Slide explanation: Workshop cover showing teenagers exercising and typical meals.

**TIPS TO IMPLEMENT THE GUIDELINE THROUGHTOUT THE PROGRAM:**

- Representation of reality: diversity, gender, food and meal types, landscapes, sports, etc.



**GUIDELINE 3.3**

Incorporate gifs.

**GUIDELINE 2.4**

Representation of pictorial examples:  
- Diversity when representing people.  
- Typical food types and meals.

Slide explanation: Gif images of animals for a later reflection on food strategies.



**GUIDELINE 3.3**

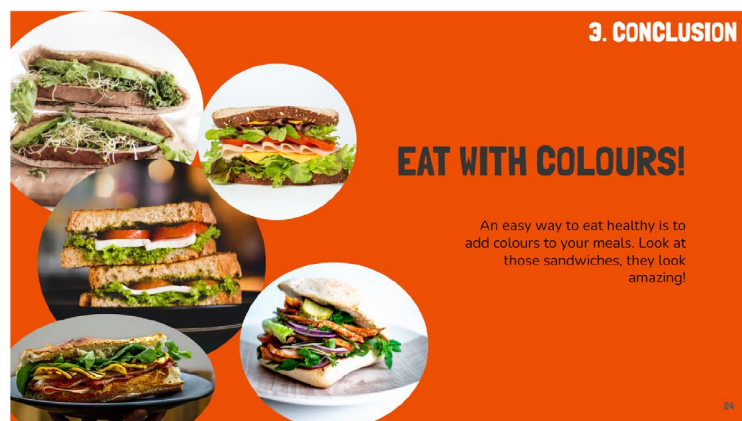
Incorporate gifs.

**GUIDELINE 2.4**

Recognisable animals for Dutch teenagers:  
- Bee  
- Cow  
- Cat

**Figure 50.** Application proposal of the guideline 2.4. (part 1)

Slide explanation: Connection with next workshop "I cook it, I eat it" and tip to make meals healthy by making them colorful.



#### GUIDELINE 2.4

Lunch is commonly a sandwich in the Netherlands so meal representation in accordance.

#### GUIDELINE 2.2

Next workshop, which is about cooking lunch: cooking different types of sandwiches.

Figure 51. Application proposal of the guideline 2.4. (part 2)

### 3. Communication

3.1. Transmit health guidelines in accordance to the way in which health guidelines are communicated in the country and/or to the target group to avoid confusion.

There are different ways in which adolescents will receive health guidelines, such as at the doctor, television commercials, in class, advertising campaigns or workshops. The fact that the information is transmitted in the same format means that there is no confusion and that adolescents do not receive conflicting information.

This information is given in different formats in each country or associations within the country in some cases. The recommended intake of each food in grams, by units or in relation to other foods; physical activity recommendations with more specific data or more ambiguous guidelines, etc. Examples are shown below.

Slide explanation: Movement and physical activity recommendations.

#### TIPS TO IMPLEMENT THE GUIDELINE THROUGHOUT THE PROGRAM:

Check how are guidelines transmitted in the country:

- Nutrient recommendations: in grams, in percentages, comparison between each other, plate method, using adverbs of frequency, counting calories...
- Sport recommendation: defining sport types, time of sport needed, calories burnt, using adverbs of frequency, by age...



#### GUIDELINE 3.1

Movement and physical activity recommendations as suggested by the Dutch Government:

- Hour/day
- Times/week
- Differentiation between movement and muscle and bone-strengthening activities

Figure 52. Application proposal of the guideline 3.1. (part 1)

Slide explanation: Nutrition recommendations.



#### GUIDELINE 3.1

Nutrition recommendations as suggested by the Dutch Government:

- Food group intake in comparison to other groups
- Daily and weekly suggestions
- Main suggestions about food groups
- Use of frequency adverbs
- Swap food groups (less, more)

**Figure 53.** Application proposal of the guideline 3.1. (part 2)

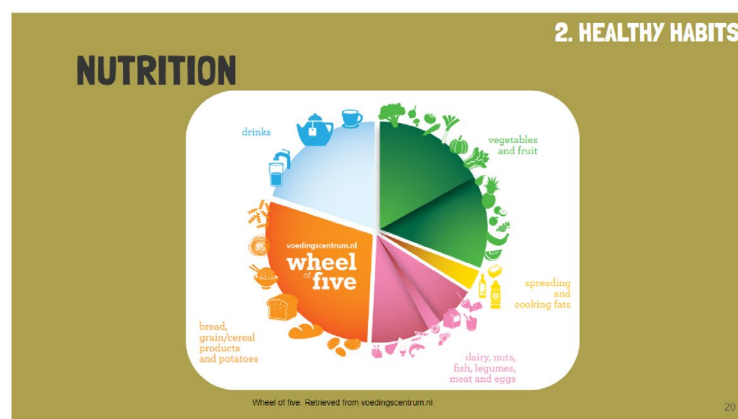
3.2. Visualize health guidelines and habits in the leading infographic that the country is using to avoid confusion and make it recognisable.

This guideline is linked to the previous one (3.1.) since not only the format of the health guidelines but also their representation must be in accordance with the country's leading infographic. In the case of nutritional recommendations, in Spain, depending on the agency or association, different formats are usually used, such as the pyramid, a circle or the plate method. Although the Spanish Agency for Food Safety and Nutrition (AESAN) mostly uses the pyramid. In the Netherlands, on the other hand, the tool used is the wheel of five (from the Voedingscentrum). Examples are shown below.

Slide explanation: Nutrition recommendation visualization: The wheel of five.

#### TIPS TO IMPLEMENT THE GUIDELINE THROUGHOUT THE PROGRAM:

- How are health guidelines represented in the country?
- Nutrition guidelines: pyramid, plate method, circle, etc.
  - Physical activity guidelines: illustrations, data, tables, etc.
  - Other health guidelines (sleep, screen consumption, stress, etc) representation: illustrations, hours/day, data, graphs, etc.



#### GUIDELINE 3.2

- Use the visualization of health guidelines used in the country:
- Wheel of five in the Netherlands

**Figure 54.** Application proposal of the guideline 3.2.

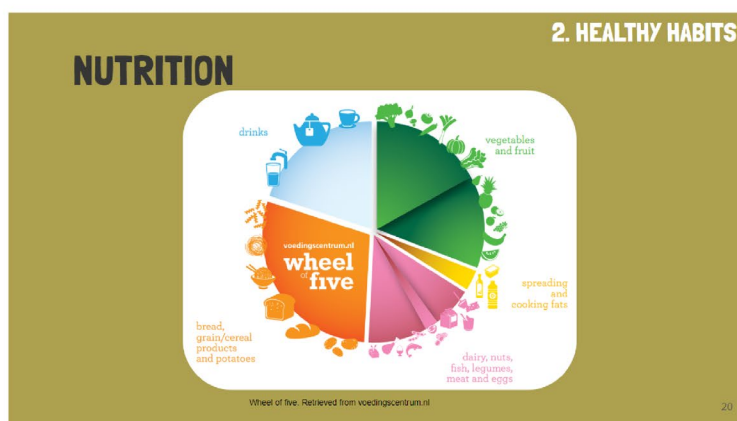
### 3.3. Provide information in a way that is trustworthy for the target group (sources, background, etc.).

The information imparted throughout the program must be true and reliable, but it is also important that it is transmitted in this way to adolescents. Students should recognise the content as trustworthy information. In some cases like in Spain, this aspect may be less important since information sources are not understood (without explanation) and students believe what teachers explain to be true (as seen in the interviews with Spanish teenagers and teachers). In the Netherlands, on the other hand, students are critical and express their opinions, even if they are disagreeing with the explanation. In those cases, it is important to transmit veridic information in a trustworthy way but reflecting on to what extent a discussion on a specific topic is desired. Application in figure 54.

Slide explanation: Nutrition recommendation visualization: The wheel of five.

#### TIPS TO IMPLEMENT THE GUIDELINE THROUGHTOUT THE PROGRAM:

Information from specialised institutions, scientific papers or the government.



#### GUIDELINE 3.3

Nutrition specific guidelines from an important institution (in this case the Voedingscentrum), include the source

**Figure 55.** Application proposal of the guideline 3.3.

### 3.4. Adapt message and the content to the target group and their needs (nationality, age, needs, school type, etc.).

Literature research has shown that teenagers have the knowledge about healthy habits but do not feel the need or urgency to include them in their behavior (see chapter 2. Research). User research validated this affirmation with both Spanish and Dutch teenagers, since they have other priorities such as exams or meeting with friends. Therefore, the message should be adapted to the target group, to encourage them to follow a healthy lifestyle. Moreover, there are different aspects that are needed to consider when creating contents for a health program targeted to a specific user group. The school type could influence the language (international schools) or culture diversity and representation of that diversity; the age could influence the vocabulary or the visuals used throughout the program, etc. Application in figure 55.

Slide explanation: Nutrition recommendation visualization: The wheel of five.

#### TIPS TO IMPLEMENT THE GUIDELINE THROUGHOUT THE PROGRAM:

- Adapt the message to Dutch teenagers, based on their needs. Implement topics that are relevant for them, such as mental health, screen consumption or the importance of socialisation.
- Use resources from platforms they are used to: voice channels (from Discord), video challenges (from TikTok)...



#### GUIDELINE 3.4

Immediate benefits of following a healthy lifestyle to understand the priority and urgency of adapting healthy behaviours at their age.

#### GUIDELINE 4.1

Make students reflect about their experiences, discuss the most common feelings.

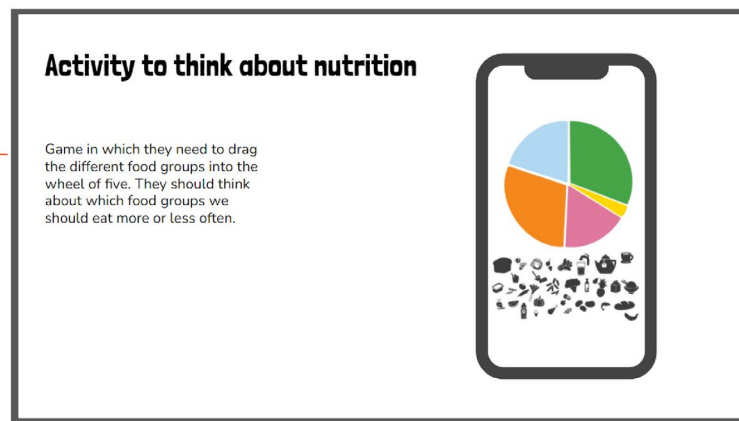
Slide explanation: Activity before introducing nutrition guidelines, drag the different food groups to the wheel of five.

#### GUIDELINE 3.1

Visualize health guidelines in accordance with the leading infographic, in this case, the wheel of five.

#### GUIDELINE 2.4

Visualize food groups that are recognised by the target group, Dutch adolescents.



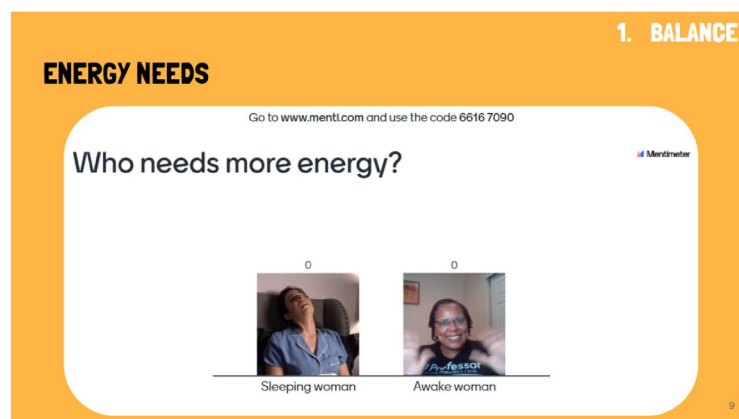
#### GUIDELINE 3.4

Implement some online games that make students reflect in a fun way.

#### GUIDELINE 1.1

Implement some online games to engage students.

Slide explanation: Interactive activity to understand energy needs by voting on menti.com.



#### GUIDELINE 3.4

Teenagers are used to gif images and to vote online (mostly on instagram).

#### GUIDELINE 1.1

Implement some hybrid activities to engage students. Vote online and discuss in class.

Figure 56. Application proposal of the guideline 3.4.

## 4. Engagement

### 4.1. Adapt the program to the current class dynamics.

The program should be in accordance with the class dynamics that students are used to: interaction of students, balance between theoretical and practical activities, question styles (open questions or direct questions), individual or group work, etc.).

Slide explanation: Nutrition recommendation visualization: The wheel of five.

#### TIPS TO IMPLEMENT THE GUIDELINE THROUGHTOUT THE PROGRAM:

- Implement group work during workshops.
- Make them reflect in small groups before participating.
- Take students out of school centre, go to the gym, a professional kitchen, healthy restaurants, etc.



#### GUIDELINE 3.4

Immediate benefits of following a healthy lifestyle to understand the priority and urgency of adapting healthy behaviours at their age.

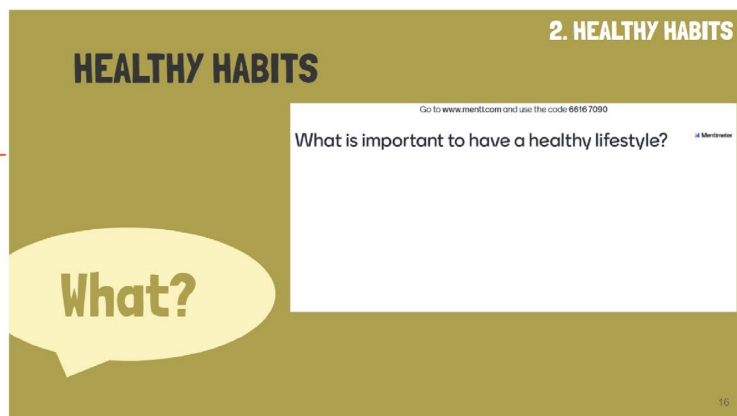
#### GUIDELINE 4.1

Make students reflect about their experiences, discuss the most common feelings.

Slide explanation: Ask students about healthy habits to comment on them, since only nutrition and physical activity will be further explained.

#### GUIDELINE 4.1

Make students share their personal opinion and create a discussion in class based on that.








#### GUIDELINE 3.4

Implement some online games that make students share their personal opinion.

#### GUIDELINE 1.1

Implement some online games to engage students.

Figure 57. Application proposal of the guideline 4.1.

		SPAIN	THE NETHERLANDS
<b>1. MEDIUM</b> 	1.1. Adapt the program to <b>youngsters' lifestyle</b> by implementing online activities on the devices they use and are familiar with.	No use of devices or use of laptops. 	Use of smartphones. 
<b>2. CONTENT</b> 	2.1. <b>Language:</b> The content should be understandable and therefore communicated in the language of the country.  2.2. The information should be <b>country specific</b> . When giving information or specific data, this should be from the country the workshop is being taught for teenagers to be able to <b>relate to their reality</b> .  2.3. The <b>pictorial examples</b> used to illustrate the theory should resonate with the world youngsters already know. They should be part of their cultural environment or literature world.	Spanish language (or co-official languages depending on school type).  Information based on Spanish teenagers' habits.  Typical meals, sports, people...	Dutch language (or English depending on school type).  Information based on Dutch teenagers' habits.  
<b>3. COMMUNICATION</b> 	3.1. <b>Health guidelines</b> must be transmitted in accordance with the way in which they are <b>communicated</b> in the country and/or to the target group to avoid confusion and/or contradictory information.  3.2. The representation of a healthy lifestyle is visualized in the <b>leading infographic</b> that the country is using.  3.3. <b>Trustworthiness:</b> provided information must come from sources that youngsters recognise and trust. Source must be clear.  3.4. Communication of information should be <b>adapted to the medium of use</b> . Depending on the device the information is given in different formats (blackboard, laptop, smartphone) and should be adapted.	Pieces of fruit/day, times a week, hours/day, comparison between food groups...  Students believe what is told by the teacher to be true. No need for sources.  Adapt message: slides, leaflet, laptop. Check style, structure, content.	  Students speak up and give personal opinions. Sources such as scientific papers or important institutions.  Adapt message: slides, leaflet, laptop. Check style, structure, content.
<b>4. ENGAGEMENT</b> 	4.1. The materials should be in accordance with that culture's <b>class dynamics</b> : In the case of the Netherlands, materials used in class should encourage student participation, discussion and creative thoughts.	Workshop structure, student participation, direct questions, group work...	Workshop structure, student participation, discussion and reflection, group work, think before giving information...

**Figure 58.** Design guidelines overview visualization



# **Discussion and recommendations**

The goal of this project was to design a set of guidelines that allow attuning the current TAS program to the Netherlands.

Based on the user tests, the goal seems to be achieved. Dutch teachers liked the workshop and could imagine it being taught in their classrooms; and could relate to the design guidelines when creating materials for class. Part of the goal could not be tested since the workshop has not been tested in classrooms so students' reaction, participation and engagement was not evaluated. Therefore, the concept should be tested in the real context: an external expert teaching the workshop to the class, to be able to reach further conclusions.

Moreover, the decision to apply the guidelines on one workshop due to time restrictions makes the evaluation more limited, since only activities, content, visuals, etc. from that workshop are tested. The TAS program contains much more material and in case of using the design guidelines to redesign them, some aspects may not entirely fit.

The qualitative research mainly consisted of user interviews and user validation; and the decision was made to use acquaintances for the recruitment of participants. Doing the project during a pandemic and within the limited time frame of a master thesis graduation, this recruitment was challenging. The aim was to have more (in quantity) and more diverse participants.

Furthermore, the limiting variety of interviewees makes it not representative of the whole society or from the analyzed cultures. For further research it could be valuable to research in contexts with different cultural backgrounds, economic status, educational level, etc. This way a more complete picture could be achieved.

Another limitation is that during user interviews, researching health habits, participants tend to give socially desirable answers, such as not admitting having less healthy habits. Some techniques were used to avoid this but it could have influenced the outcomes of the results of the interviews and

evaluations.

Based on this project and the research conducted it is believed that it is important to attune a health program targeted to teenagers to their culture. Nevertheless it is important to reflect about to what extent the cultural attunement should be done, since it has been proved that incorporating less recognisable examples and/or from different cultures or countries can also be beneficial in encouraging students to reflect and be more creative.

For future work on this project, it would be very valuable to talk to important Dutch health institutions. The aim was to talk to the Voedingscentrum to be able to on the one hand get their thoughts and suggestions about the redesigned workshop; and on the other hand, evaluate to what extent and how the workshop could be implemented in the Dutch context. Due to time limitations this was finally not possible and it is believed it could add value to the project, by thinking on the implementation of the program in the Dutch context.



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# Appendix

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# Appendix A | Literature Research

## 1. TAS Program

The TAS program (Tu y Alícia por la Salud, which means “You and Alícia for Health”) is a program developed by Fundación Alícia aimed at educational centers. The aim of this program is to improve the quality of life of adolescents and provide them with the knowledge, skills and abilities necessary to avoid future illnesses caused by bad habits. The program is targeted to Spanish students aged 13-15 in a school context (in their educational centers).

The program started because Spanish teenagers do not follow healthy habits (Programa TAS, n.d.). Talking about nutrition, 98% of teenagers have a lower fruit and vegetable intake than the recommended one; 23% never eat legumes; 78% do not eat enough dairy products; 68% do not reach the recommended fish intake; and 20% do not eat eggs in the whole week. As far as physical activity is concerned, 50% of adolescents follow the recommendations from WHO; 75% spend less than one hour playing outdoors; 20% do not use their leisure time in an adequate way; and 20% spend weekends in activities that do not require significant physical activity.

To fulfill their aim they work on five different fields:

1. Teaching how to cook as a good tool to promote healthy eating, capable of generating behavioral changes.
2. Promote active leisure as a vehicle to increase physical activity.
3. Turn students into active participants who offer proposals and solutions for improvement.
4. Take advantage of their influence in the center on the little ones and turn them into a reference of correct behavior and habits to follow.
5. Provide secondary schools and their teachers, in a free and simple way, with everything they need to be able to apply the program in their schools.

The TAS program consists of different activities that are carried out both in the classroom (theoretical, work and practical sessions) and outside of it in the form of challenges and homework for students.

The idea that guides the process of the program is that if adolescents are involved in the design solutions, it will be easier for them to internalize them and implement them. As well as being a role model for the rest of their classmates and for the little ones of the school.

Therefore, one of the most important tasks is the improvement proposal students do in groups to improve their own habits.

The TAS program presents three different modalities to adapt to the needs of schools.

- An express version in which the program is condensed into 1 week of work. All subjects are worked together transversally, without separating the content by subjects.
- A transversal quarterly version: The content of the program is divided and worked from different subjects during normal school hours. To practice all the contents from all educational perspectives.

- As an elective: It takes place over a trimester or a four-month period. During this period, a total of 30 one-hour sessions are devoted to the program.

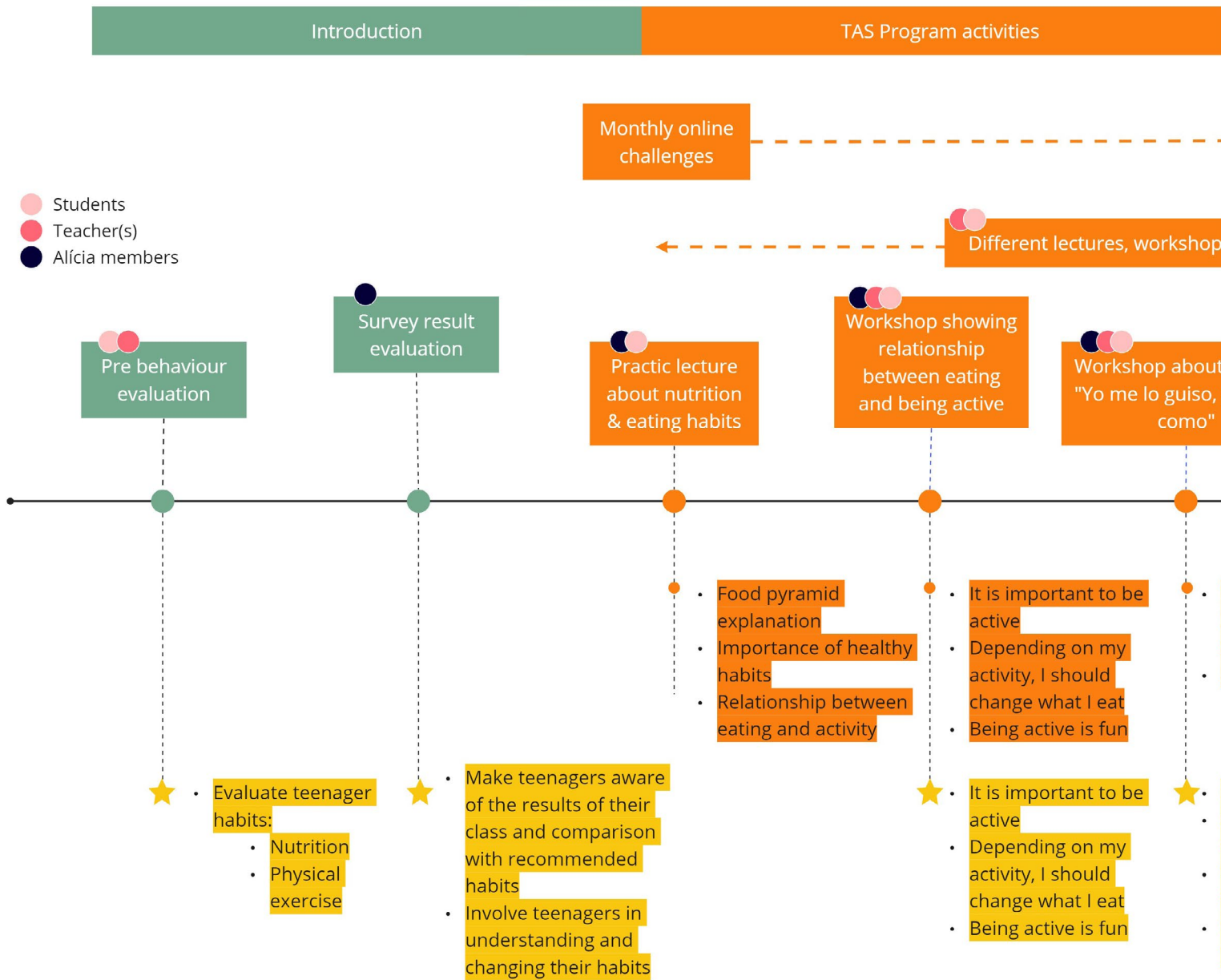
The process of the program is the following:

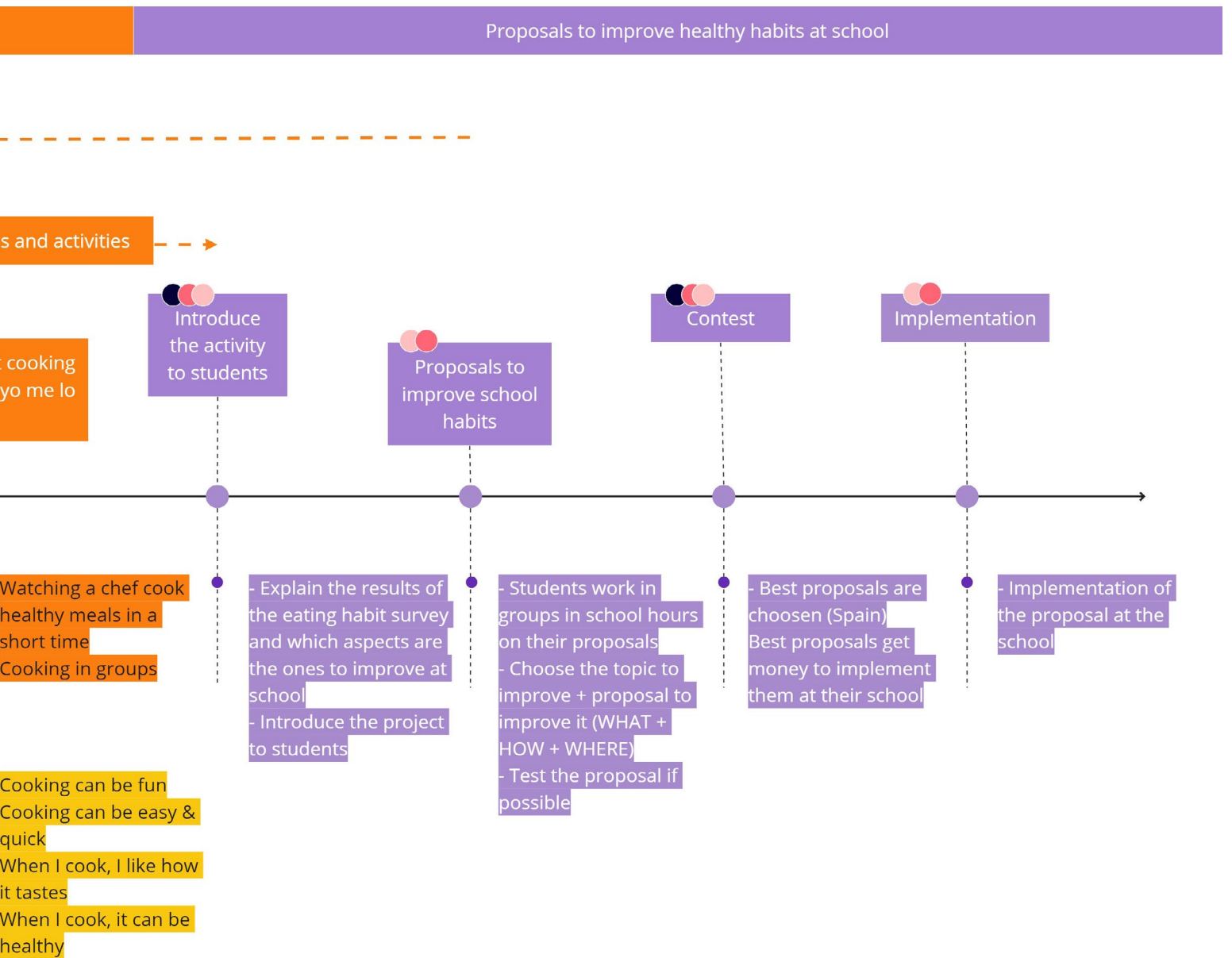
- Firstly students fill in a survey about their habits, results are analyzed and results show what they are doing well, and which habits they will need to improve (per classroom).
- Based on the results of the survey, students design an improvement proposal for the habits they need to improve.
- They implement the proposal in their educational centers, they evaluate the results and everything is reported in a report.

During the program, the adolescents carry out different activities (in class and at home) to acquire the knowledge that will help them carry out their design proposal. The activities vary between theoretical lectures, workshops, and practical activities such as cooking or exercising.

- A theoretical session is an explanatory session, even though there is also a lot of participation by students. Many of the Program's activities have a theoretical part that serves to introduce knowledge, which is then put into practice in later sessions.
- A practical session is a session in which the students participate in a very active way, either doing physical exercise or handling food.
- A work session is one in which the students, normally in groups, think, discuss, write, etc. It is an autonomous work by the students, always with the supervision of the teacher and linked to the contents of the Program. Most of the work sessions of the Program correspond to the work of the improvement proposal students need to work on.

These activities are proposed in the program itinerary and the educational centers must follow the itinerary depending on the TAS program format they are carrying out.





## 2. Health programs

### TAS program

The TAS program is a program developed by Fundación Alícia aimed at Spanish educational centers. The aim of this program is to improve the quality of life of adolescents, aged 13-15, and provide them with the knowledge, skills and abilities necessary to avoid future illnesses caused by bad habits. It focuses on a set of lectures, workshops and activities that provides students with knowledge about healthy habits involving nutrition and physical activity. Practical activities help students understand how the knowledge can be put in practice in an easy and fun way.

A main project is also conducted throughout the program that focuses on involving teenagers in finding the best solution to incorporate healthy habits to their lifestyle in their classrooms.

Some activities proposed throughout the workshop:

- Main project: choose a class habit that should be improved and work in groups to develop a creative solution.
- Lectures about healthy nutritional and physical habits; do we move enough?; looking for balance; being active; planning their diet etc.
- Workshops: healthy cooking workshop; etc.
- Activities: mapping their habits; healthy breakfast for everyone; dancing; etc.

### Stay Healthy

Stay Healthy is a health program developed by Fundación Quirónsalud that promotes healthy habits among Spanish teenagers involving nutrition, sleep, physical activity and Covid-19 aimed at educational centers. The program has been developed by educational psychologists and more than 1000 teenagers and teachers have also been involved in the process.

It is an interactive and digital program adapted to teenagers' lifestyles and based on scientific information. The program aims to be a fun and innovative option that teachers can use together with their lessons.

The methodology is based on three steps: Activate the knowledge; Research and generate a critical attitude; Apply the healthy habits and involve students in the process.

The proposed topics are the following:

- Nutrition
  - » Eating disorders, healthy and unhealthy diets, nutrition myths and healthy nutrition habits.
- Sleep
  - » Sleep phases, influence of technology in sleeping process and sleep hygiene habits.
- Physical activity
  - » Difference between sports, physical exercise and physical activity, sedentarism and healthy physical habits

- Covid-19
  - » Prevention and hygiene measures, symptoms, protocol and questions.
- Technological addiction
  - » Addiction and the application to technology, consequences of addictions and guidelines for a healthy use of technologies.
- Substance addiction
  - » Questions, guidelines and suggestions, prevention measures, the internet and the substance consumption; and legal consequences.
- Mental health
  - » Concept and basic information, the importance of mental health in adolescence, guidelines and suggestions and questions.

They are currently working on a new point of action: Health and the environment.

### **Forma Joven**

Forma Joven is a health strategy aimed at promoting healthy environments and behaviors among young people in Andalusia (Spain).

This program is mostly aimed at secondary education schools, but also at other increasingly varied environments such as universities, child protection centers, juvenile reform centers, youth houses and Information Points.

In this Program, in addition to the role played by professionals from different sectors, it is played by young mediators, who are in charge of sending information about healthy habits and risk prevention to the young people in their environment.

This program is based on providing information about healthy habits in different fields:

- Physical activity: Promote physical activity in the lifestyle of the students and increase the physical activity in both the educational center and the free time of students.
- Nutrition: Promote the consumption of fruits and vegetables and the adoption of healthy nutritional habits among teenagers.
- Education and road safety: information on road safety that favors responsible action on public roads as a pedestrian, when using bicycles or motorbikes; or driving cars.

This program mainly focuses on the transmission of information but also presents some resources (from different organizations) to help teachers on the development of the intervention. Some examples of the resources are: a checklist to evaluate students habits; Online games; hiking route suggestions; workshops; etc.

### **Weet wat je eet**

Weet wat je eet (Know what you eat) is an online program developed by the Voedingscentrum for VMBO, HAVO, VWO and MBO. It is a free online program consisting of 10 lessons. The format of the lessons are

information blocks, videos, interactive activities and challenges. It is possible for teachers to develop some practical activities too, stimulating teenagers to work further on the subject of nutrition.

The goal of the program is to promote healthy, safe and sustainable nutrition for Dutch children and teenagers. It is aimed at Dutch educational centers.

The proposed 10 lessons are the following:

- Do you eat healthy?

Students are asked to complete a food diary to become aware of their own nutrition. A summary of their nutrition is given, energy intake, proteins, fats, saturated fats, carbohydrates, fiber and salt. How to eat healthy

Nutrition information is shared with students, based on the wheel of five. Students are taught the difference between food and nutrients and the need of nutrients their bodies have.

- Keep your energy in balance

The goal of this lesson is to learn how to keep or get a healthy weight. For this, students are explained different aspects: the relation between energy consumption, energy intake and energy balance; the energy different nutrients provide; What a kilocalorie means (kcal); why it is important to have a healthy weight; Calculate their own body mass index (BMI) and understand it; tips to avoid obesity; why it is important to do physical activity; identify how the environment plays a role in being overweight.

- Have fun with fruits and vegetables

In this lesson students learn about the importance of eating fruits and vegetables to be able to obtain important nutrients.

Some information provided during this lesson: fruit and vegetable recommendations; why it is important to eat both vegetables and fruits; frozen vegetables are as healthy as fresh ones; learn which vegetables and fruits are in each season.

- Provide enough construction and fuels

This lesson is based on providing students information about carbohydrates, proteins and fats and how these serve as construction material and fuel to provide our bodies with energy.

- Don't eat too much

Students are taught to be careful with sugar, salt and added fat intake. Relating to the wheel of five, why some food groups are represented and some others are not. Understanding why it is important to divide the eating and drinking moments into different meals but maximum 7.

- Prevent foodborne infections

This lesson is about food safety, and focuses on how to have safe nutrition and how to treat foodborne infections.

- Choose sustainable

Students are explained which are the sustainable options and the influence of food choices in nature, climate, animals and humans.

- Read labels

There is much information about food groups and students are explained some basics about labels: how to read information from labels; understand what are the E numbers and why many food types have them; identify the quality brands and their meaning; etc.

- Hijack the kitchen

Finally, students are given information about how to cook and are asked to recreate three recipes following a video tutorial. This way, they will learn how to follow a recipe, how to buy ingredients following a recipe, how to cook following a recipe and some cooking processes.

### **Lekker Fit!**

Lekker fit is a program created by the City of Rotterdam that aims to teach children what healthy behavior is and why it is important to make healthy choices. They have two approaches, one for schools and one for neighborhoods.

The program focuses on three main axes:

- Nutrition: Based on the wheel of five and incorporating 4 extra nutritional tips (drink more water; eat more fruits and vegetables; eat more wholemeal products; and eat less sugar). The main points of action are the following ones: water; vegetables and fruits; treats; lunch; cooking; and healthy canteens.
- Movement: Encourage children to be active and practice sports on a regular basis. The points or actions are: movement in pre-schools; Movement in primary school; active school days; after school activities; playing outdoors.
- Relaxation: The importance of being relaxed as an addition to having a healthy lifestyle. The main points of action are: sleep; screen time; positive environment; socio-emotional abilities; and stress.

The program is based on the transmission of information and proposal of activities depending on the target group (educational or neighborhood, and age group) and the chosen topic (nutrition, movement or relaxation).

Different resources are offered: posters, activities, games, information resources, etc.

## Appendix B | Field Research

### 3. Sensitizing activity comments

- Introduction information: (maybe add more information about the class settings? Is it a class in a middle school/high school? Or an extra-curricular class outside of school? How many students in one class? In which city the class will take place? etc...) - CHINA



This session is related to the sides of the pyramid that refer to food and cooking (What do you eat? and How do you cook?), and will be used to teach students that cooking can be very easy and fun and at the same time one of the best ways to eat well, varied and in a healthy way. The class will also be organized for the next cooking activity.

- Which pyramid? We have a pyramid regarding food influenced by Chinese medicines.- CHINA
- We have “de schijf van vijf” a circle in which all needed nutrients are shown - THE NETHERLANDS
- In Belgium we now have the reversed pyramid. - BELGIUM

#### **Part 1: introduction to cooking by the teacher**

The teacher begins the activity by describing a situation: (Teacher) We just got home, We are very hungry and have very little time, we open the refrigerator and we feel lost... What do we do to eat? (Wait for the students to answer, to see what options they give).

- I might recommend describing a culture-specific situation. For instance, for Chinese teenagers, they might not have enough time to cook by themselves after school (normally after 8 pm). It is normally their families who cook/prepare for them. Maybe a good start for Chinese teenagers is to cook together with their parents or cook something for their parents as gratitude

To reflect and introduce the session, the teacher asks a series of questions. Here are some examples, but the teacher can ask the questions he or she considers most adequate.

(Teacher)

- Do you like to cook? If not, why?
- If you don't do it is it because you don't have the time? because you don't know how? because you feel lazy?
- What do you like to eat the most? and the least?
- Do you go to do the groceries? Do you like it?

- Possible question could also be, If you have to make a quick meal, what would it be? (just an idea, no clue if it makes sense ;) ) - THE NETHERLANDS
- Also ask if so, why? Or else, the questions sound generally too negative. - THE NETHERLANDS

- I guess there are not many Dutch kids not cooking at the age of 13-14 because they don't have time. It sounds like these questions are ment for people a bit older than them I think, if I speak for Dutch people. I did cook once a week but I guess that was on an older age. - THE NETHERLANDS

*As you know, food is very important, and we must participate more at different times. Cooking begins with the selection of ingredients. The more knowledge we have of the products, the more we will like them, and this is the beginning of the path to a good diet. With this activity, we want to emphasize that cooking in a short time should not be synonymous with eating poorly and unhealthy.*

- Unclear regarding important to what, and participate more in what? - CHINA
- I don't understand this sentence. I have knowledge about when to put coriander in a which meal, but I don't like coriander. - THE NETHERLANDS
- Me neither - BELGIUM

*- The most important thing is the product we choose, and this to be the best possible, must be seasonal and local.*

- This does not always apply, frozen spinach is better than fresh one that you overcook. Technique changes a lot. - BELGIUM
- This is a belief I think. Some people could argue that bananas are most tasty from a land far away than a land nearby. (i think it is best for the environment but not per se best for your meal). - THE NETHERLANDS

*- Finally, we must remember that safety is very important in the kitchen.*

- Maybe also hygiene is important? - KOREA

- *Stir fry, Braise, Dressing, air fry...*
- *Boil: consists of cooking a food by immersion in a boiling liquid (generally in water or broth). Fat is not needed, but it is a way of cooking that causes the loss of a good part of the nutrients, vitamins and minerals that, due to the action from the heat, remain in the liquid in which it has been boiled. That is why it is common to use the broth resulting from this process to make soups and porridge, for example. What things would you cook boiled? (Vegetables, meat in a broth, hard-boiled eggs ...)*

- I would add some more used techniques in Chinese cooking traditions - CHINA
- Same for Dutch - THE NETHERLANDS
- In the netherlands people boil vegetables or potatoes and throw the water away afterwards. If they have left overs some put it in the blender an add water to make soup from it. - THE NETHERLANDS
- I never heard about dutch people using steam for fish. Is potatoes also possible? If so, this could be a better example for dutch people - THE NETHERLANDS

- *Fry: frying consists of immersing food in a hot fat, at a very high temperature. This cooking method causes the food to absorb some of this fat, becoming a much more caloric meal and also (sometimes) more indigestible for many people. The best oil for frying is olive oil, because it resists high temperatures better than other fats. Using oil that cannot resist high temperatures could produce carcinogen, raising the risk of getting cancers. What things would you cook fried? (Eggplant, chicken, Breadings, churros, potatoes, croquettes ...).*

- are you sure about this? I thought olive oil had a low smoke point and therefore is bad for frying above like 200°C - BELGIUM
- I believe you, but I learned that for high temperatures you should not use olive oil but sunflower oil instead - THE NETHERLANDS
- Using oil that cannot resist high temperatures could produce carcinogen, raising the risk of getting cancers.- CHINA

*cooking in a liquid or moist medium. Generally, they are said to be preparations of "Chup chup", that is, prepared over a very low heat. It is, for example, stews that*

- If this is told to Chinese teenagers, I suggest to add where this saying is from. - CHINA
- Same for Dutch teens - THE NETHERLANDS

*grandmothers or mothers make and that are delicious.*

- ? parents and grandparents to make it more neutral? - BELGIUM
- Same - THE NETHERLANDS

Food and Cooking method examples: all participants added other examples (potato, rice, steam, not use oven or grill, etc.

Of all the recipes in the video, there are some that are designed to be cooked with heat. in the oven or in the microwave, and others that do not need any of these to prepare. If the

- We normally don't eat warm for lunch, so maybe the structure could be different? - THE NETHERLANDS

school has the necessary utensils, the teacher can choose the recipes he wants to make in class, but if he/she does not have them, he/she can choose the recipes that do not need heat and let the students make the others at home.

- I don't think it is realistic to let students cook in school considering the big number of students. To make it more realistic, maybe groups of students can make vlogs for their cooking at home and share it with other groups. To make the vlogs more interesting, maybe the recipes they cook are learnt from their families instead of from the same cook. - THE NETHERLANDS

teacher must emphasize the importance of not forgetting what each one has to bring because, without food and utensils, the cooking workshop cannot be carried out. Students can write it down in the agenda or, if they want, they can delegate a person in charge per group who is in charge of reminding others what to bring.

- This might be a bit of a threshold, some students might not have the financial freedom to buy these or know where. - BELGIUM

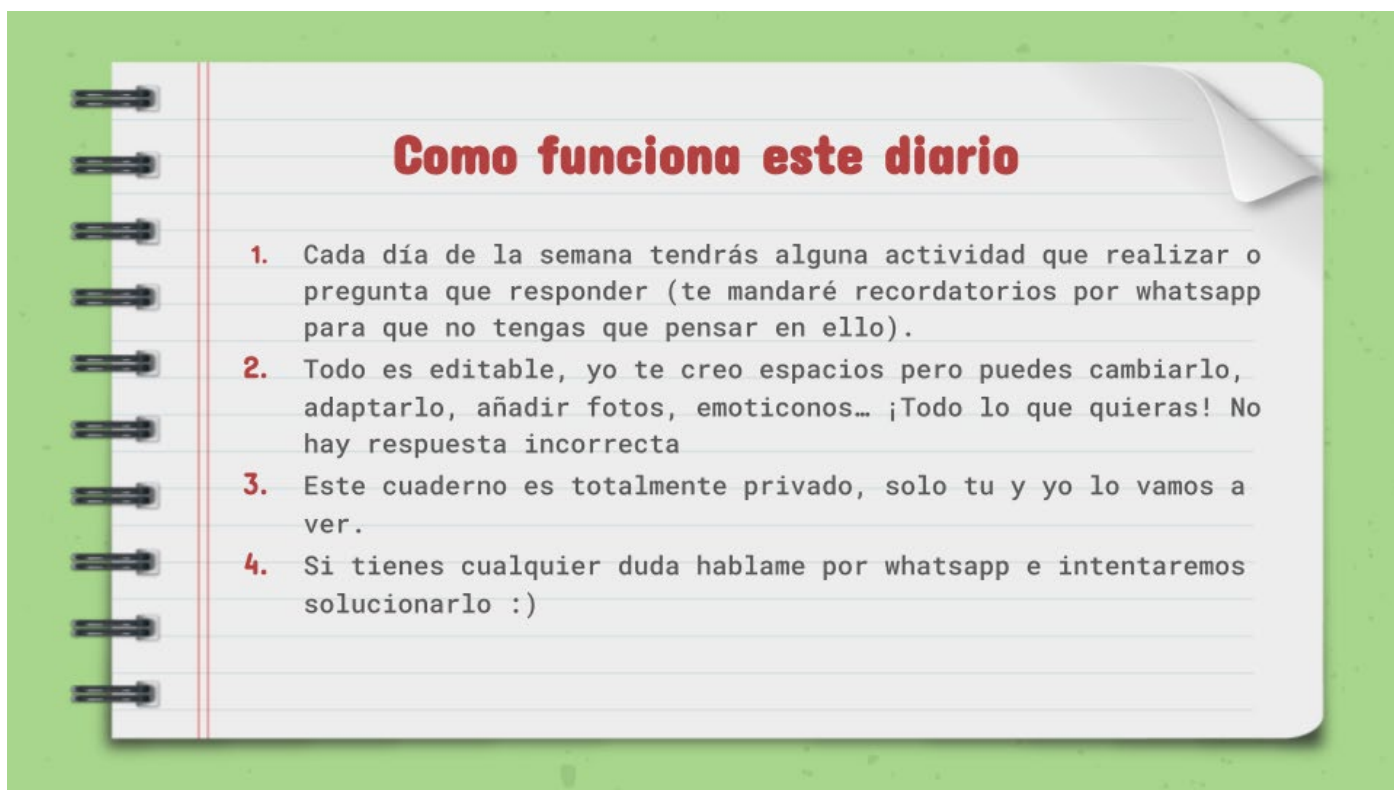
### **CHALLENGE OF THE WEEK: LET'S GET BACK THE TRADITION**

- be aware some students might find this embarrassing if their parents don't really cook - BELGIUM

Cooking activity:

- this kind of cooking workshop might be more achievable for small classes(less than 20 students) outside of school or some kind of interest class in some Chinese schools - CHINA
- I'm missing your safety point, what about knife handling and so on? - BELGIUM
- for classrooms that can safely prepare adequate utensils(wok, stove, range hood, water sink), this is good. For most classrooms which cannot provide enough of them, maybe the activity can be divided into 2 parts, one in class, one at home. In class, students prepare ingredients, i.e. clean&wash, cut into pieces, seasoning, cook rice, etc. Teachers can also introduce some tips about 'meal prep' including how to prepare different food, how to store them... Right after finishing preparation at class, every group can go to someone's home and finish the rest of cooking, i.e. stir frying, steaming, stewing, etc. Groups can record the process with vlogs or they can meet online together with teacher. - CHINA
- It can be an option for students to bring what they cooked/prepared at home to school as lunch or dinner and share their meals together with classmates. Because Chinese students used to have lunch and dinner with each other at school, so it would be a nice idea if they can share what they cooked (even with teacher:)) - CHINA

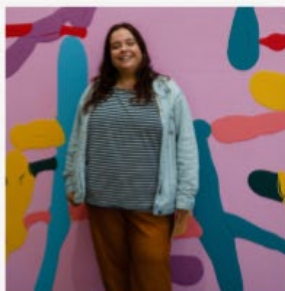
#### 4. Sensitizing workbook - Spanish



**Hola soy  
Leyre** 😊



Soy de Pamplona  
pero ahora vivo  
en Holanda  
porque estudio  
aquí



Me encanta viajar y el último  
viaje que he hecho ha sido a  
Austria



Islandia



Portugal

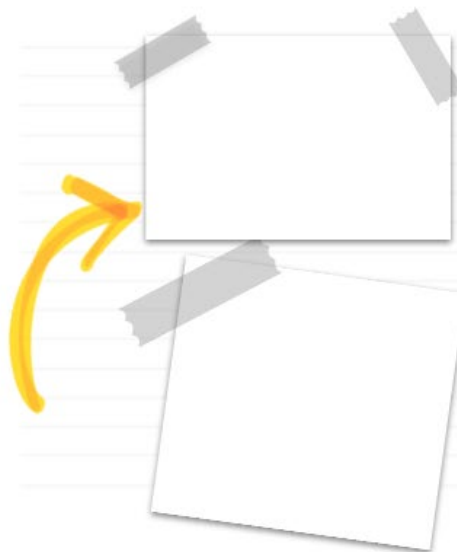


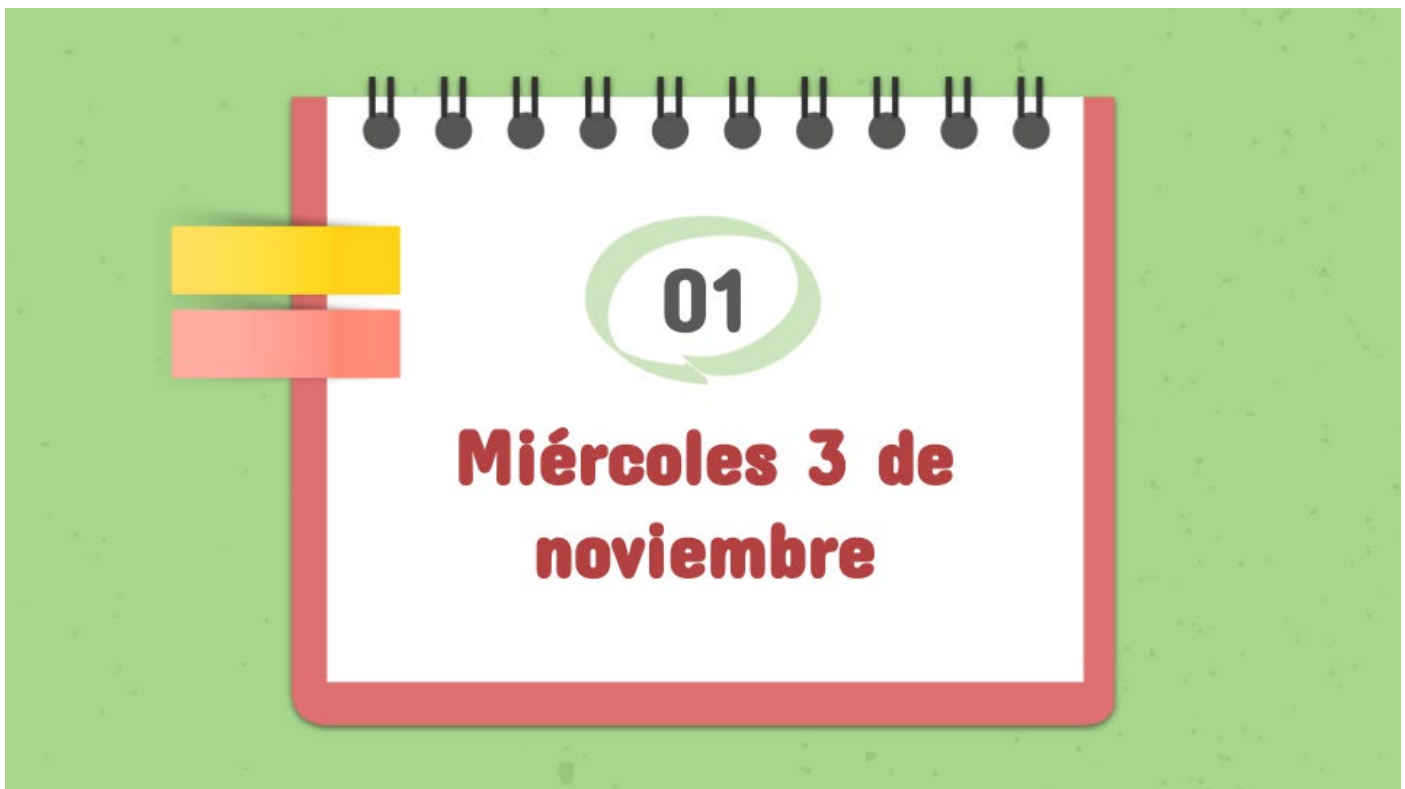
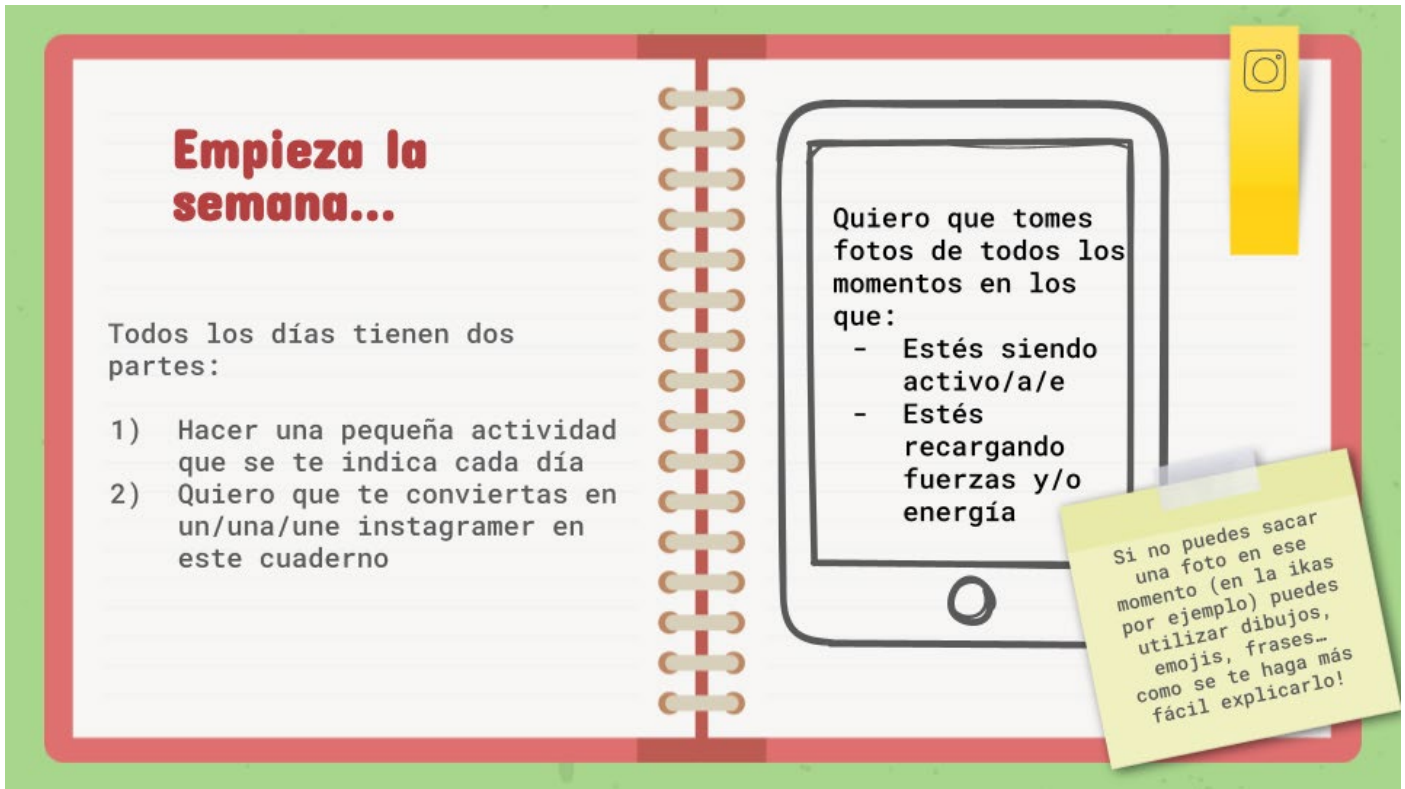
Austria

En mi tiempo libre me gusta  
estar con mis amigos, pintar,  
escuchar música o ver series.

**Ahora tu**

Escribe lo que quieras sobre  
ti, utilizando fotos,  
emoticonos, texto, dibujos...  
lo que mejor te represente o  
más fácil te parezca.





## Comidas de hoy

Describe aquí todas las comidas que has tenido hoy (qué has comido y/o bebido, a qué hora, dónde...

<b>Comida 1</b>	He comido... En... Con...	<b>Comida 3</b>	He comido... En... Con...	<b>Comida 5</b>
↓		↓		↓
He comido...	↑	He comido... En... Con...	↑	He comido... En... Con...
En... Con...	<b>Comida 2</b>		<b>Comida 4</b>	

Escribe la hora de la foto aquí

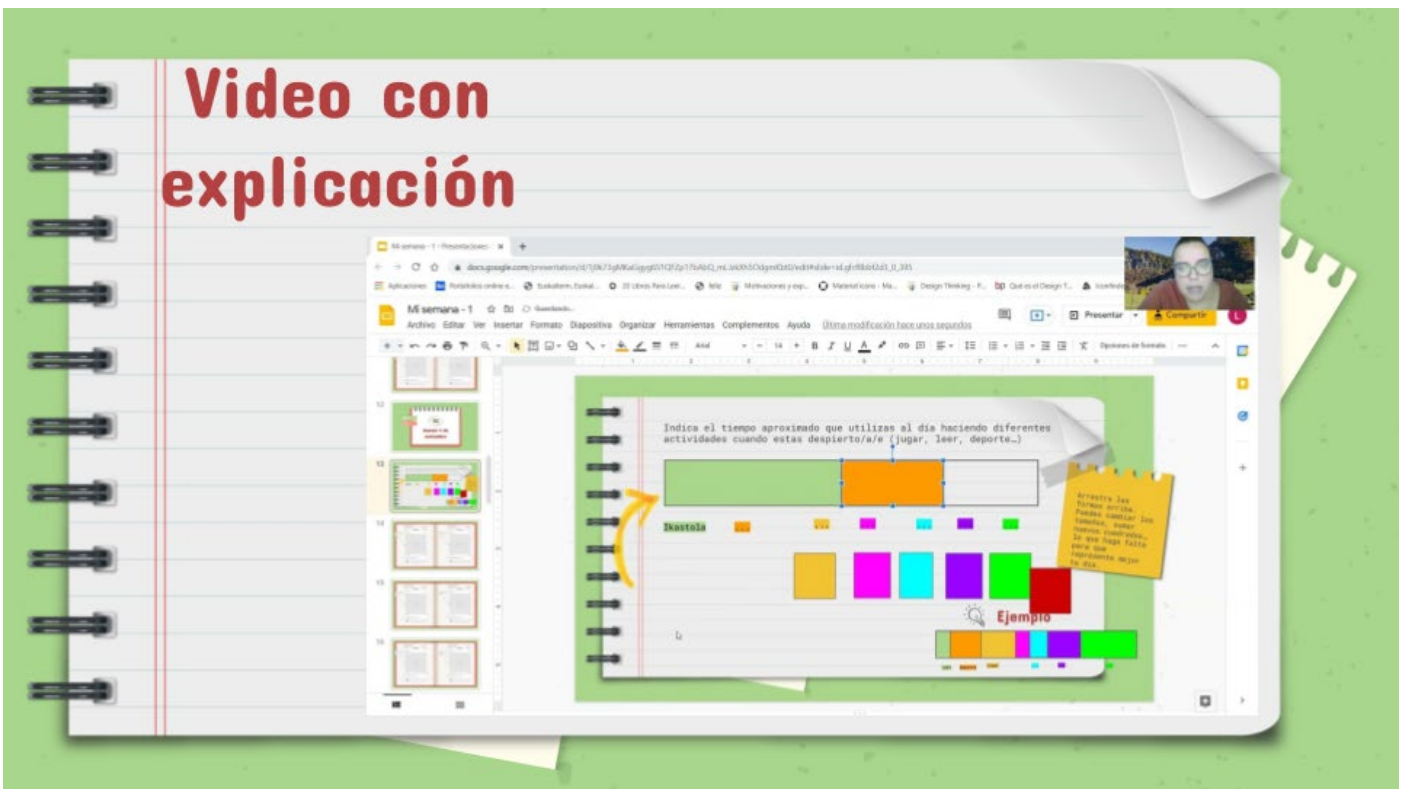
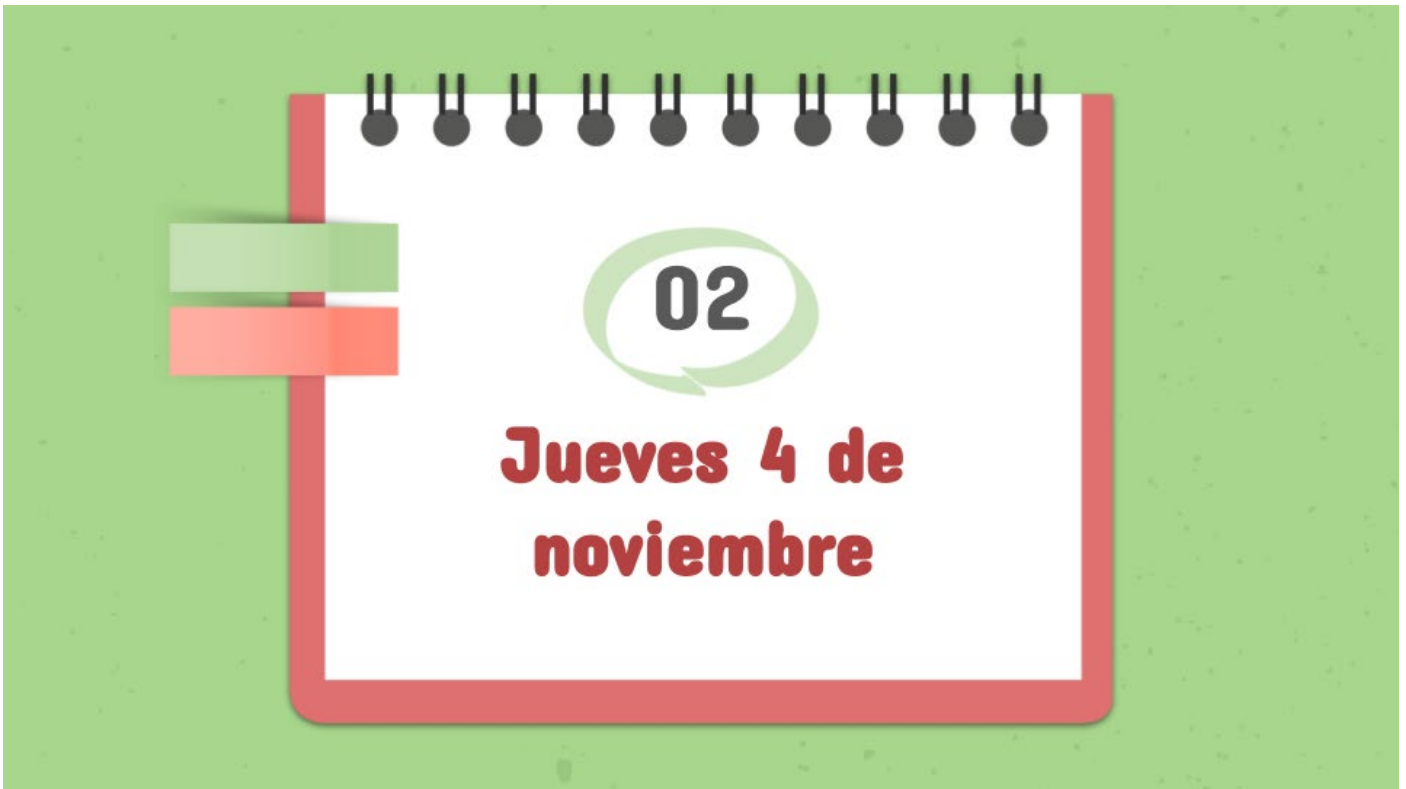
Pega una foto aquí

Escribe aquí la descripción...

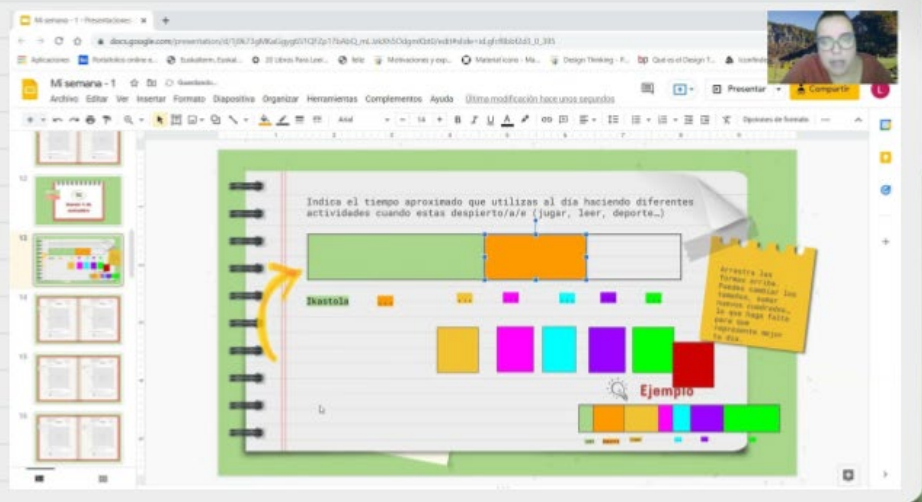
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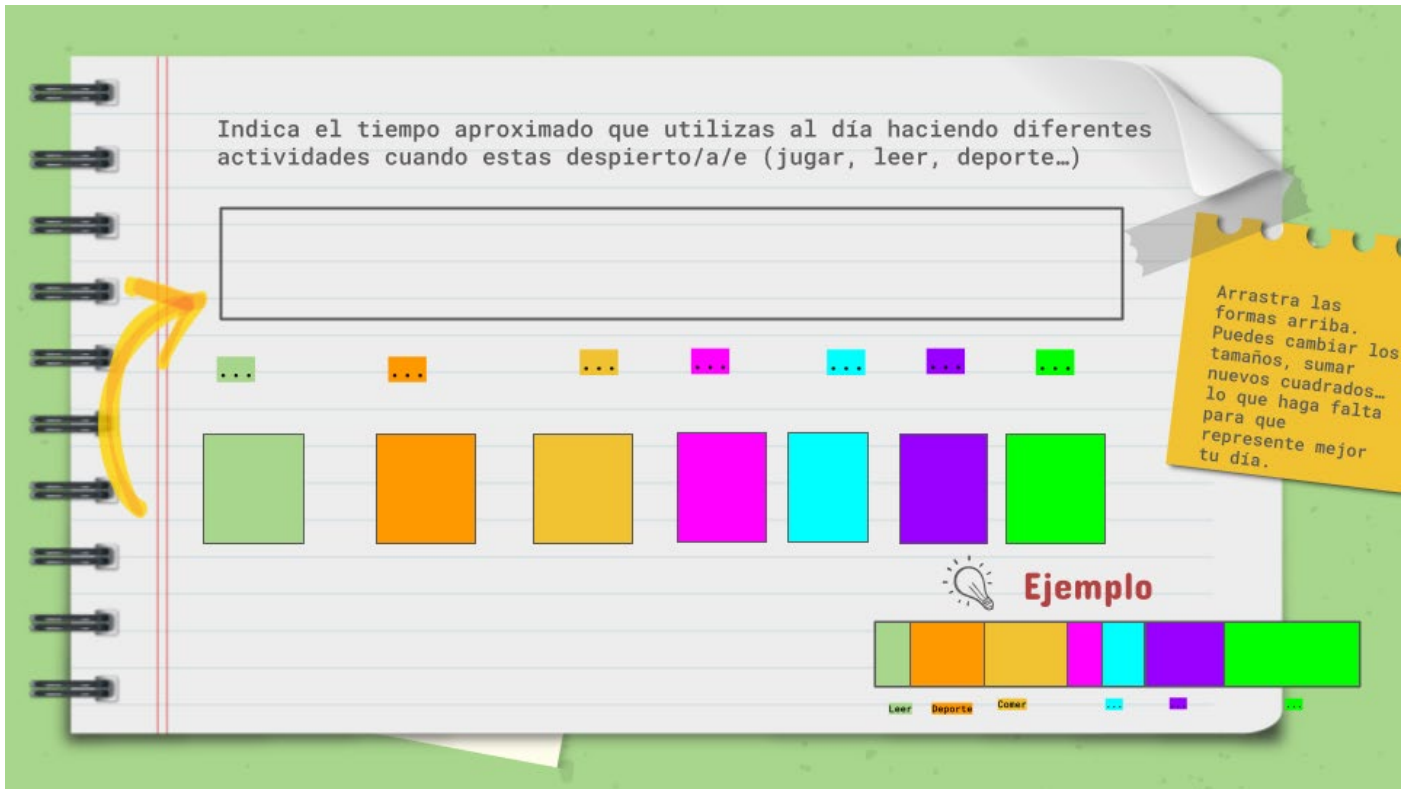
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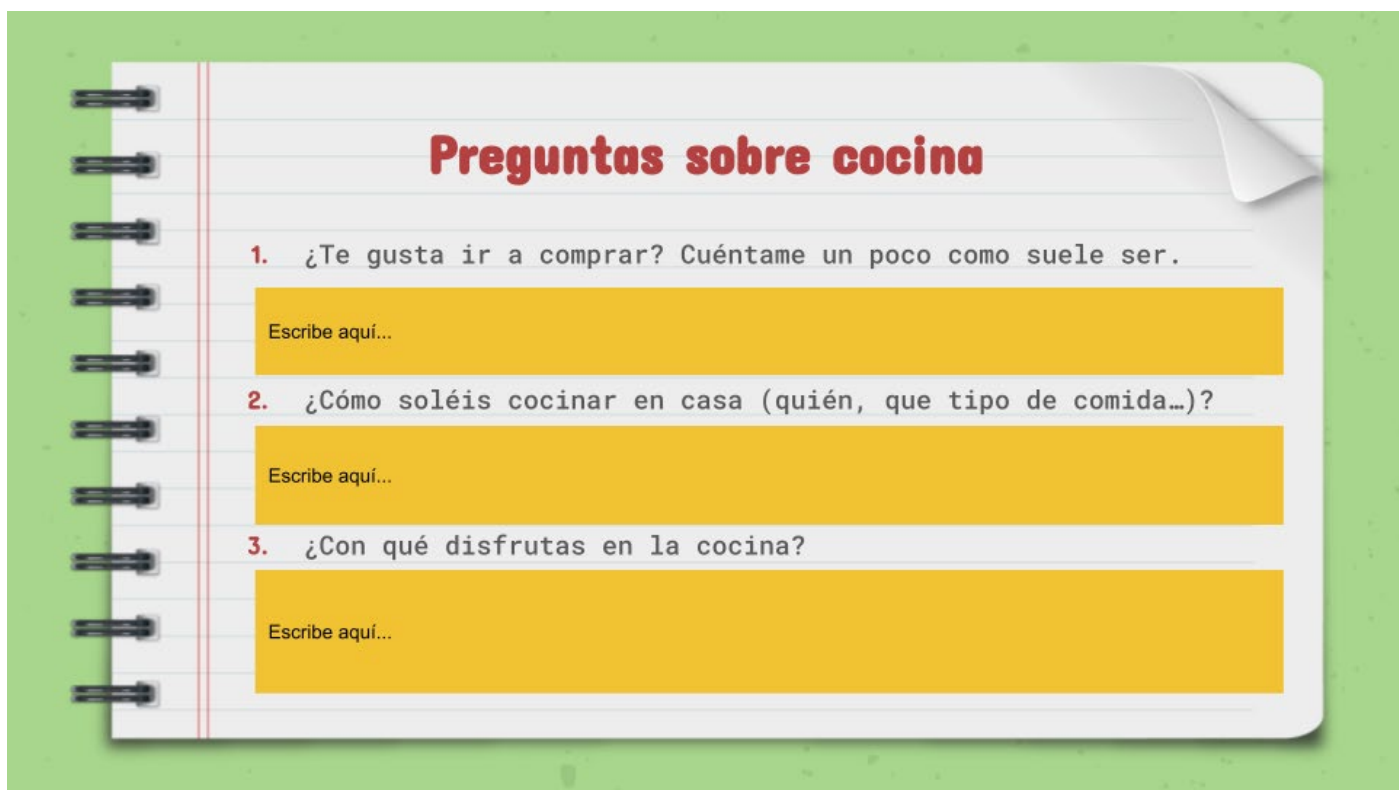
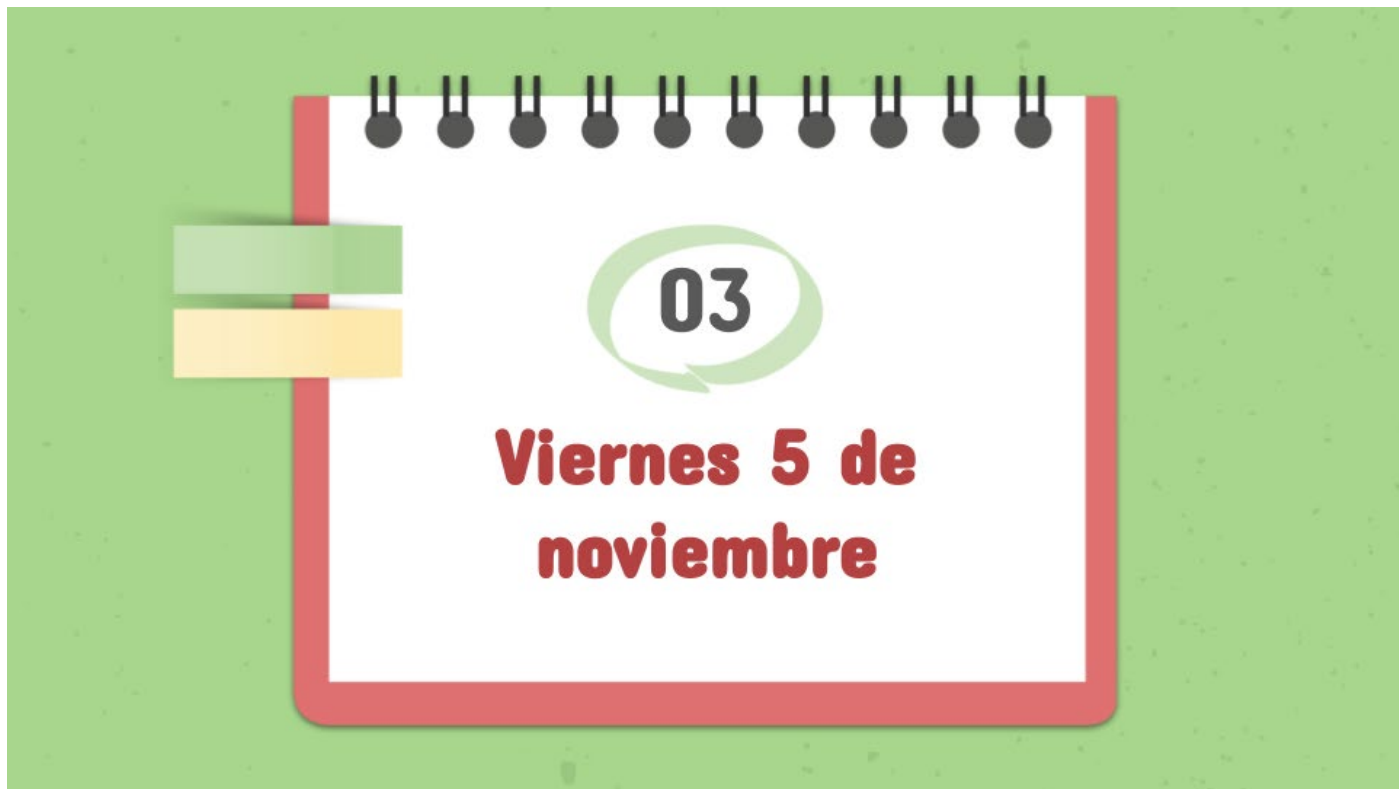
Escribe aquí la descripción...

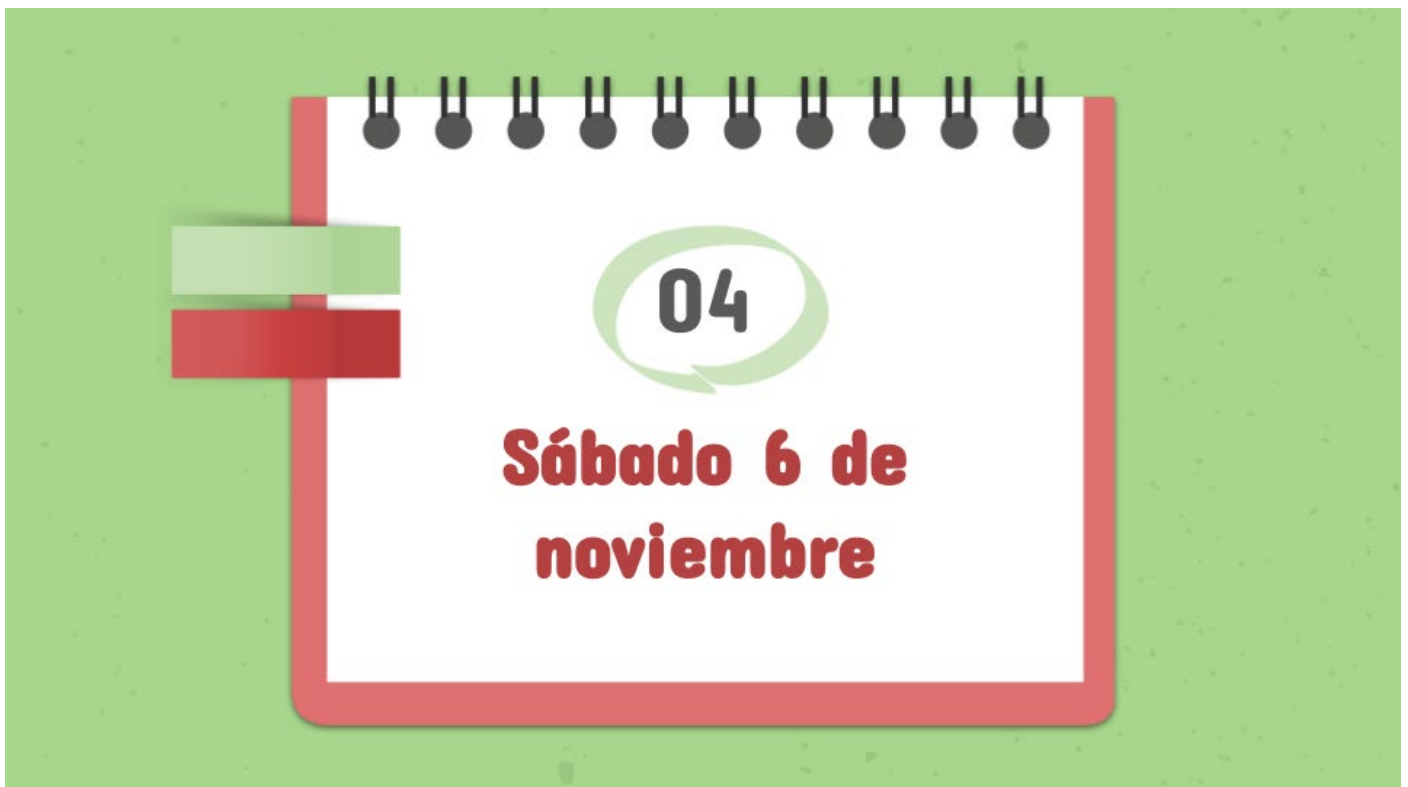


## Video con explicación









## Preguntas sobre hobbies

1. ¿Qué te gusta hacer en tu tiempo libre?  
Escribe aquí...
2. ¿Tienes actividades extraescolares? ¿Cuáles?  
Escribe aquí...
3. ¿Qué sueles hacer los fines de semana?  
Escribe aquí...

Escribe la hora de la foto aquí

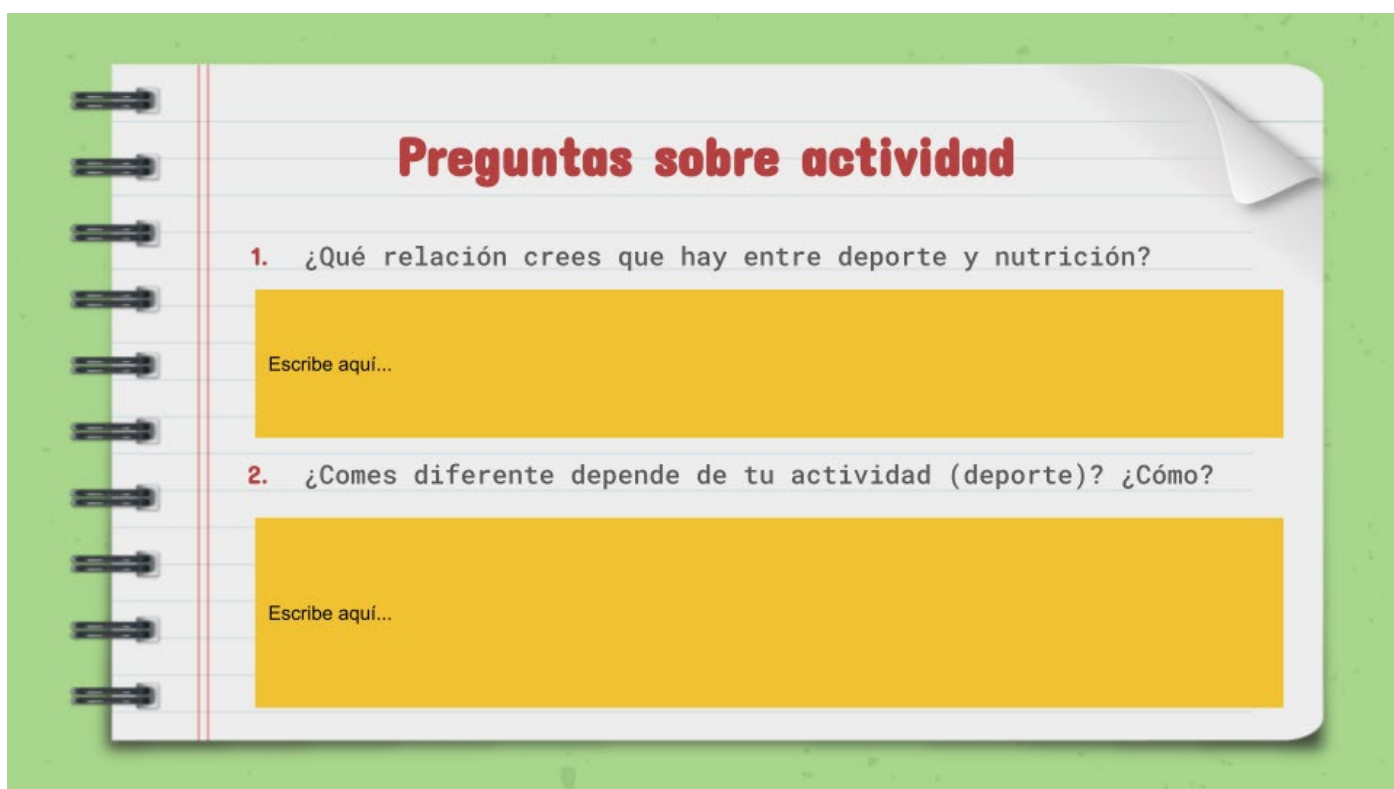
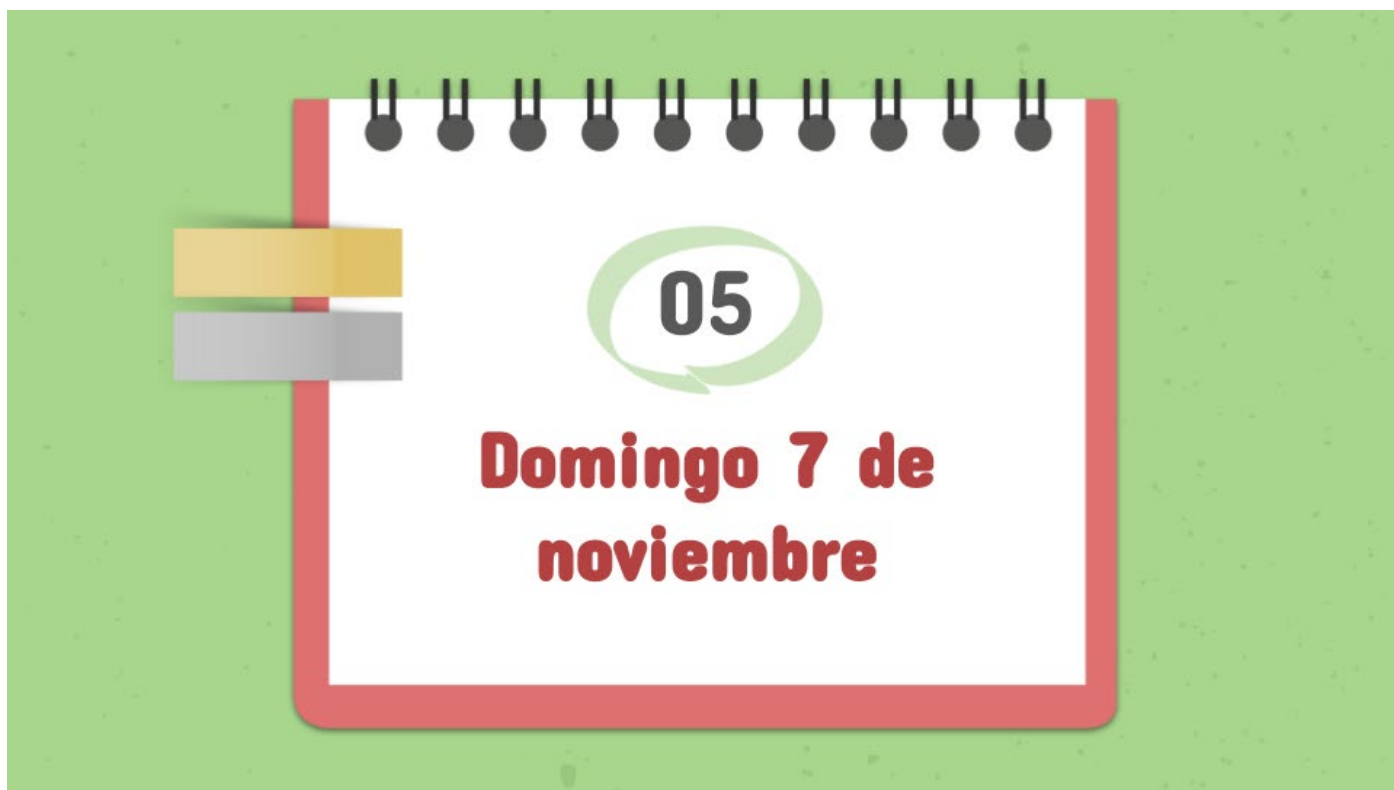
Pega una foto aquí

Escribe aquí la descripción...

Escribe la hora de la foto aquí

Pega una foto aquí

Escribe aquí la descripción...

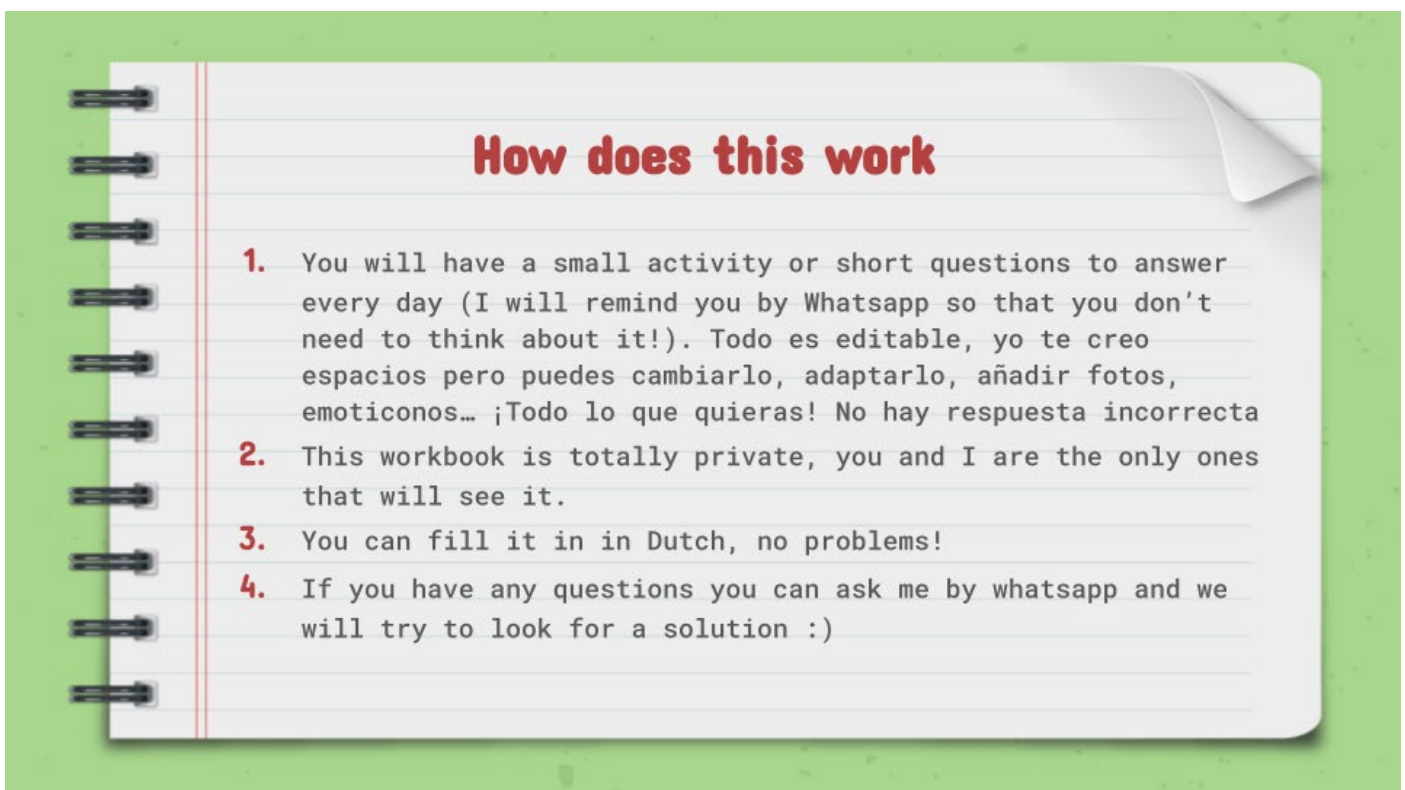


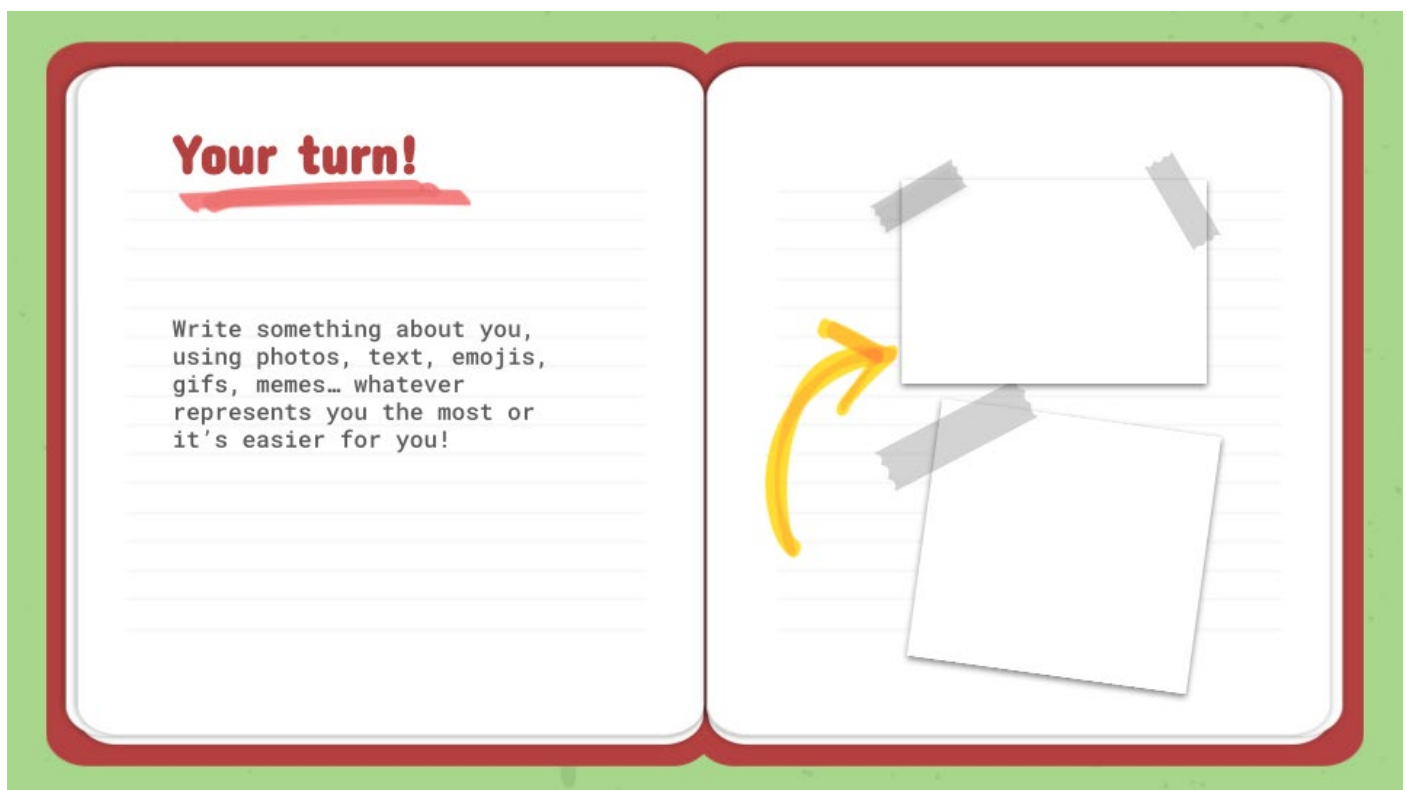
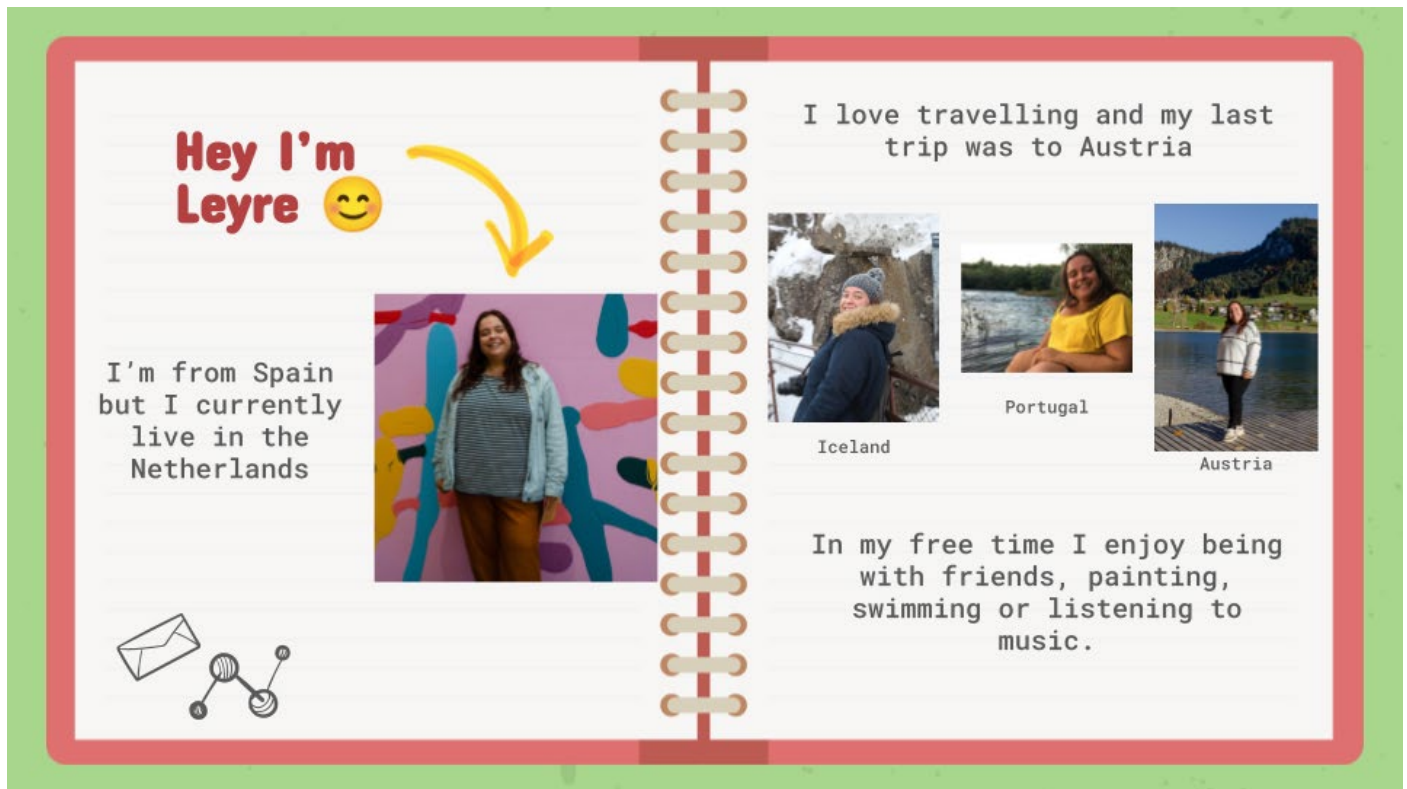
**¡Muchas  
gracias!**

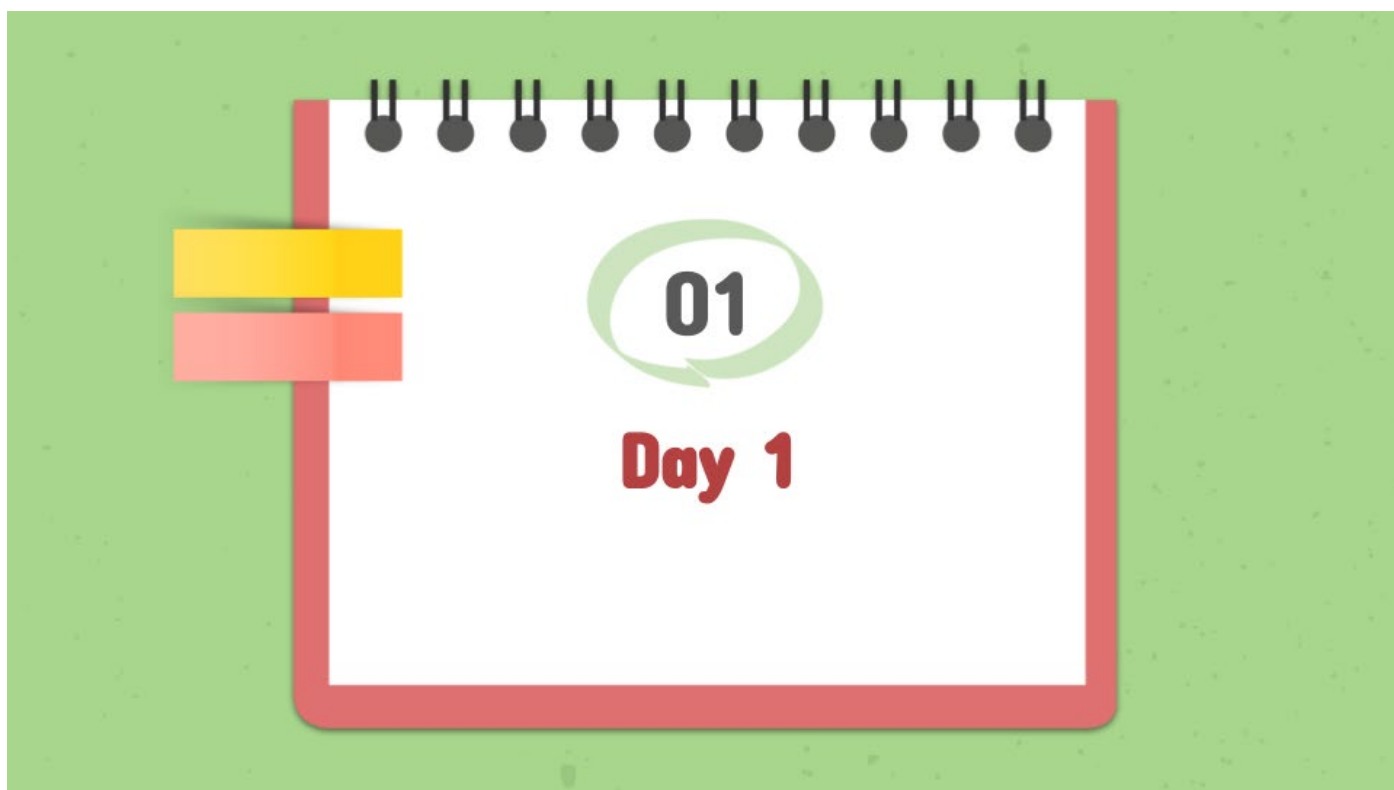
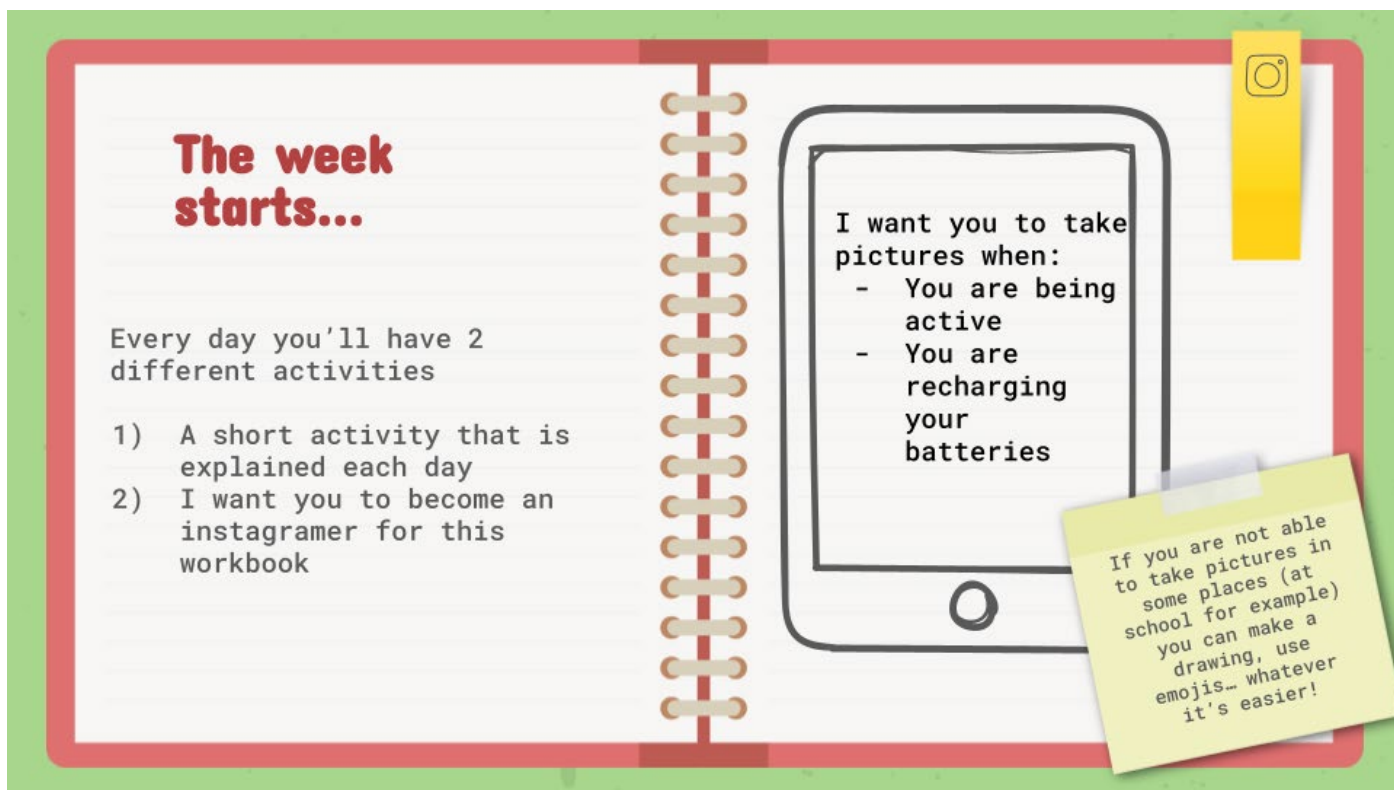
Esto ha sido  
todo, si tienes  
algún  
comentario más,  
háblame por  
whatsapp :)

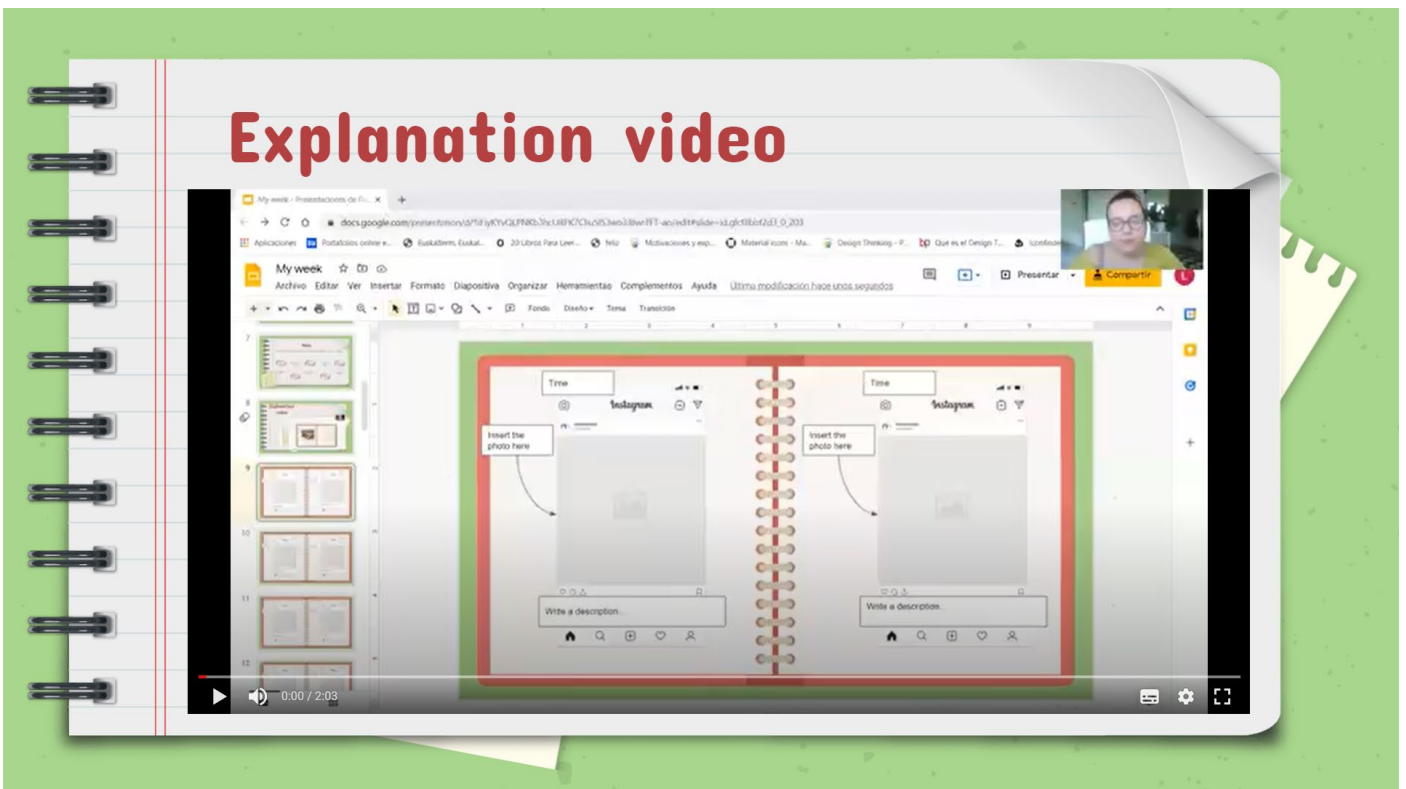
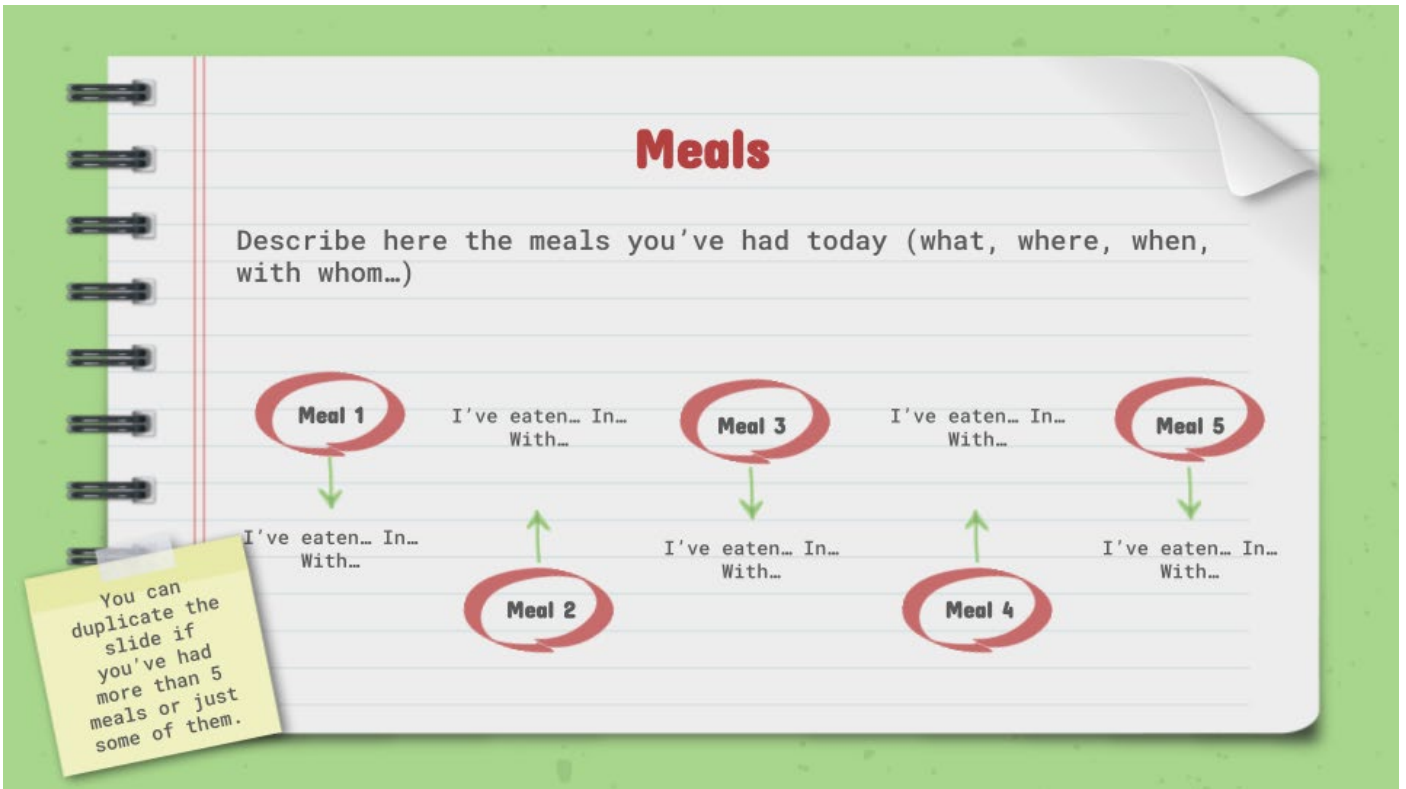


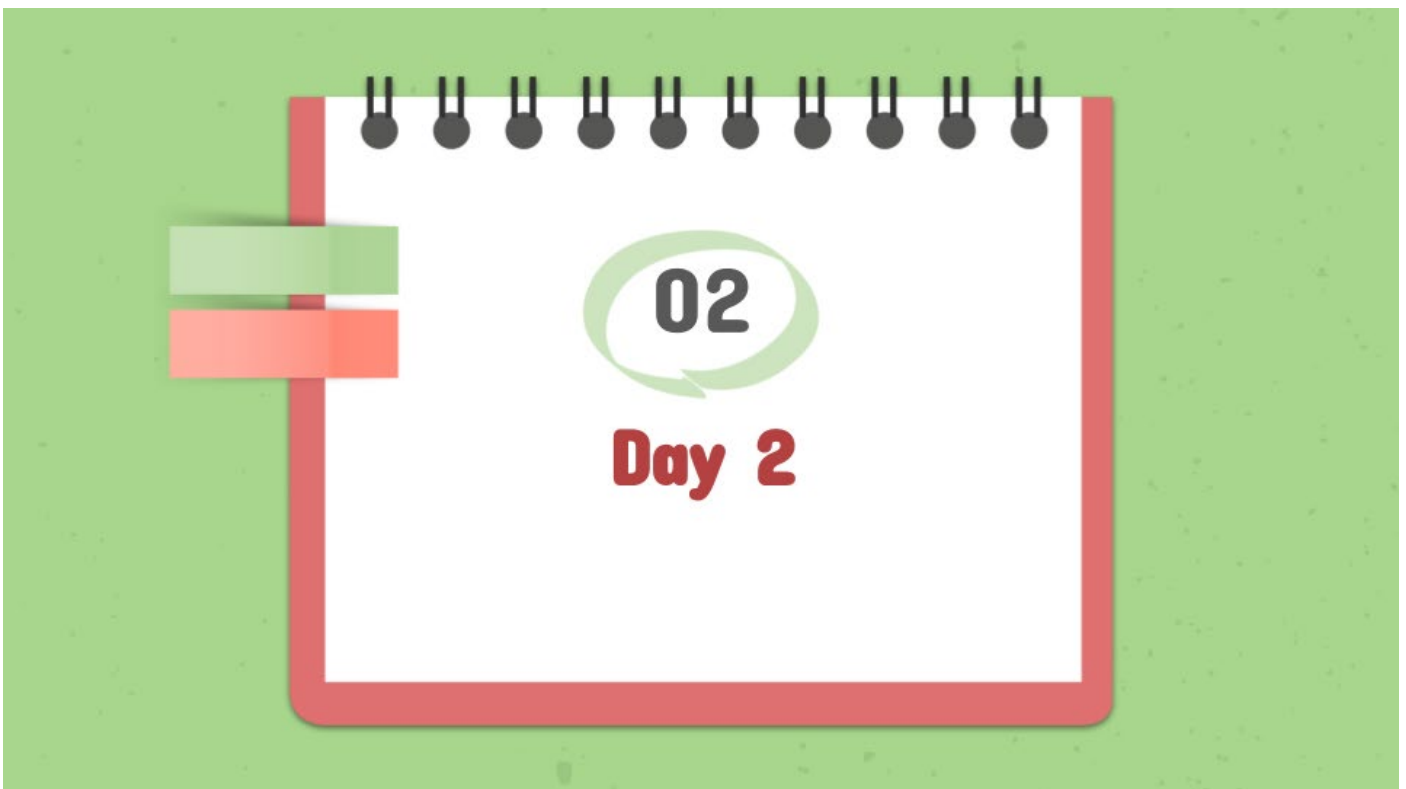
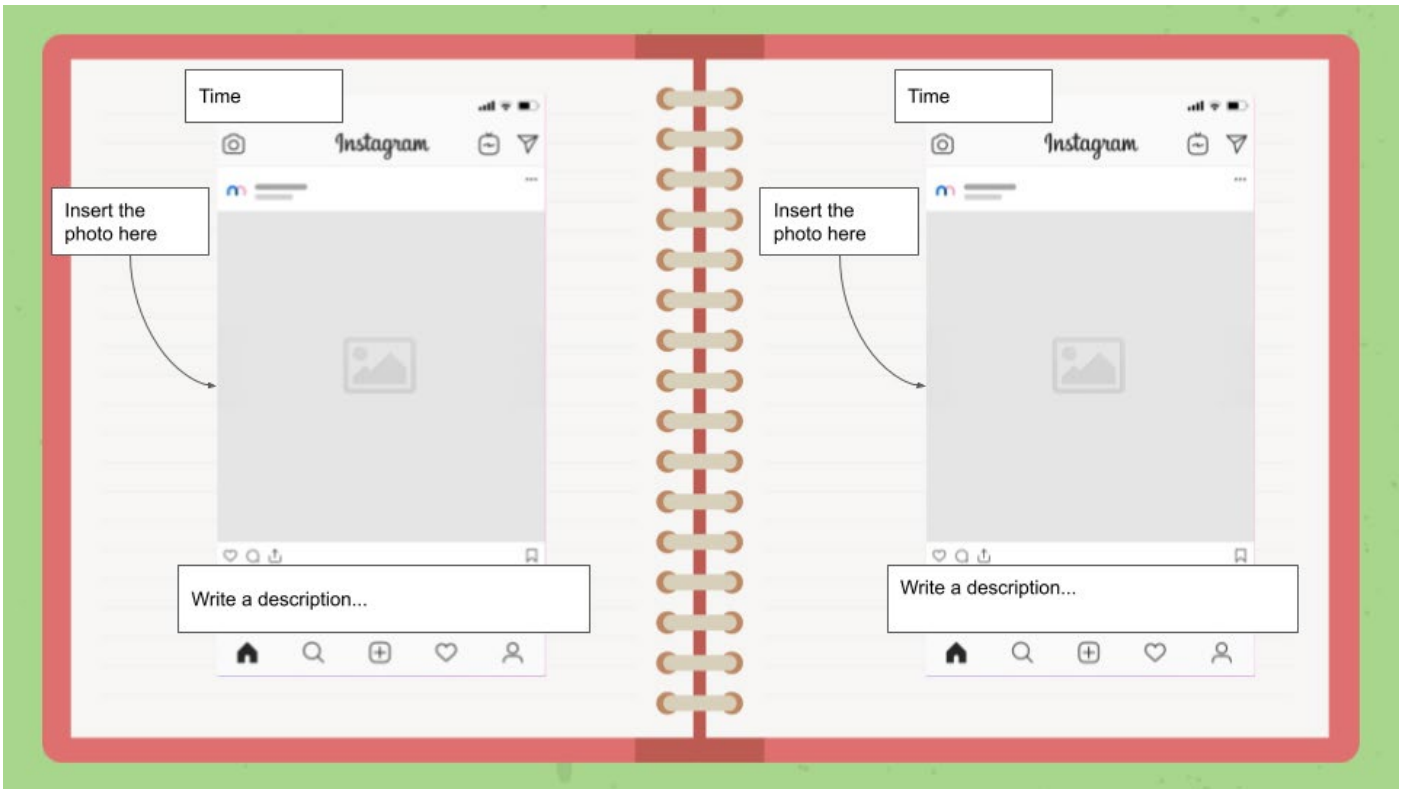
## 5. Sensitizing workbook - English



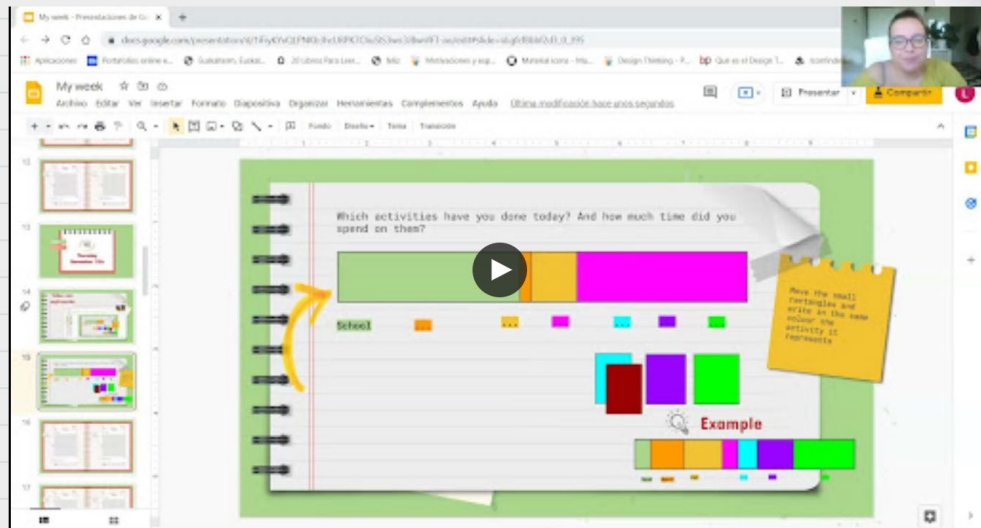








## Explanation video



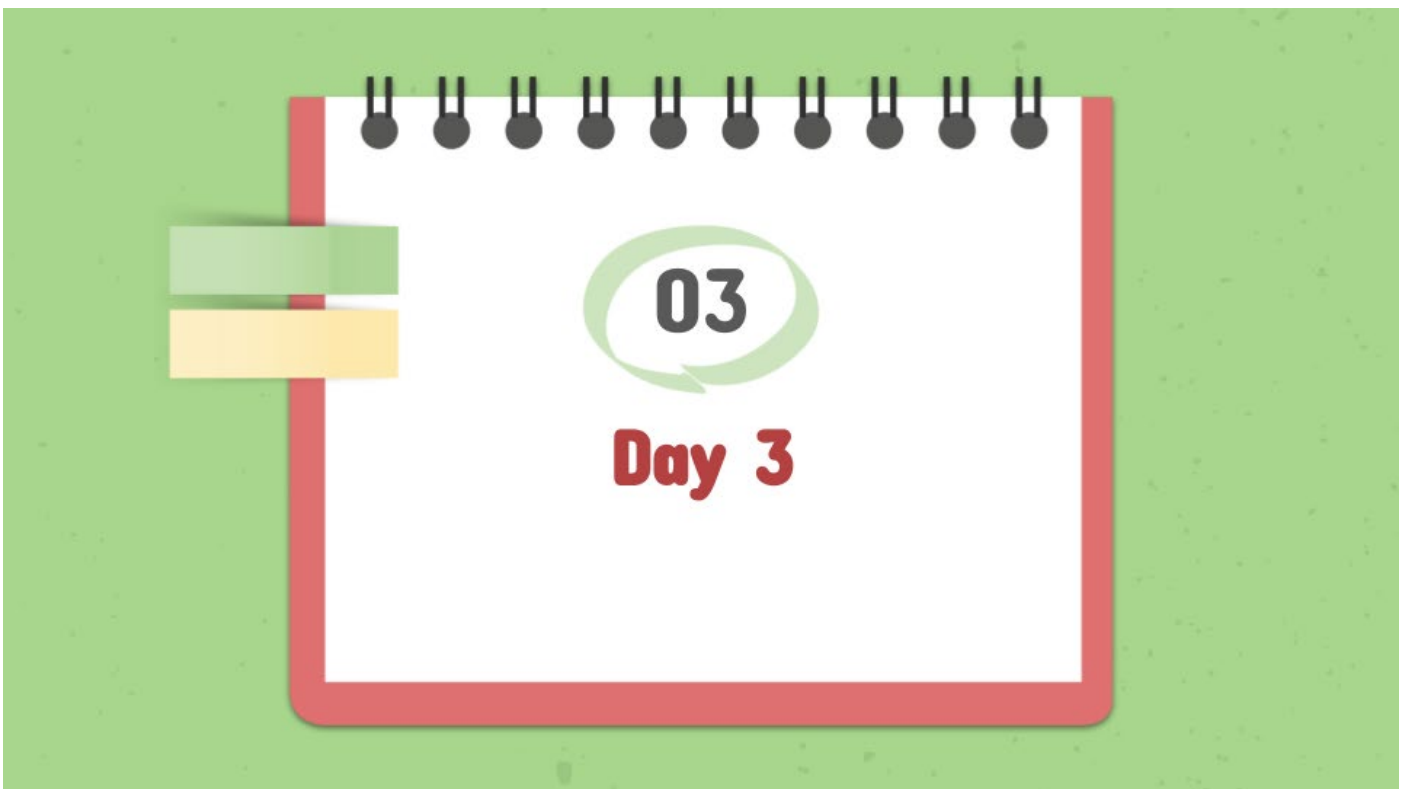
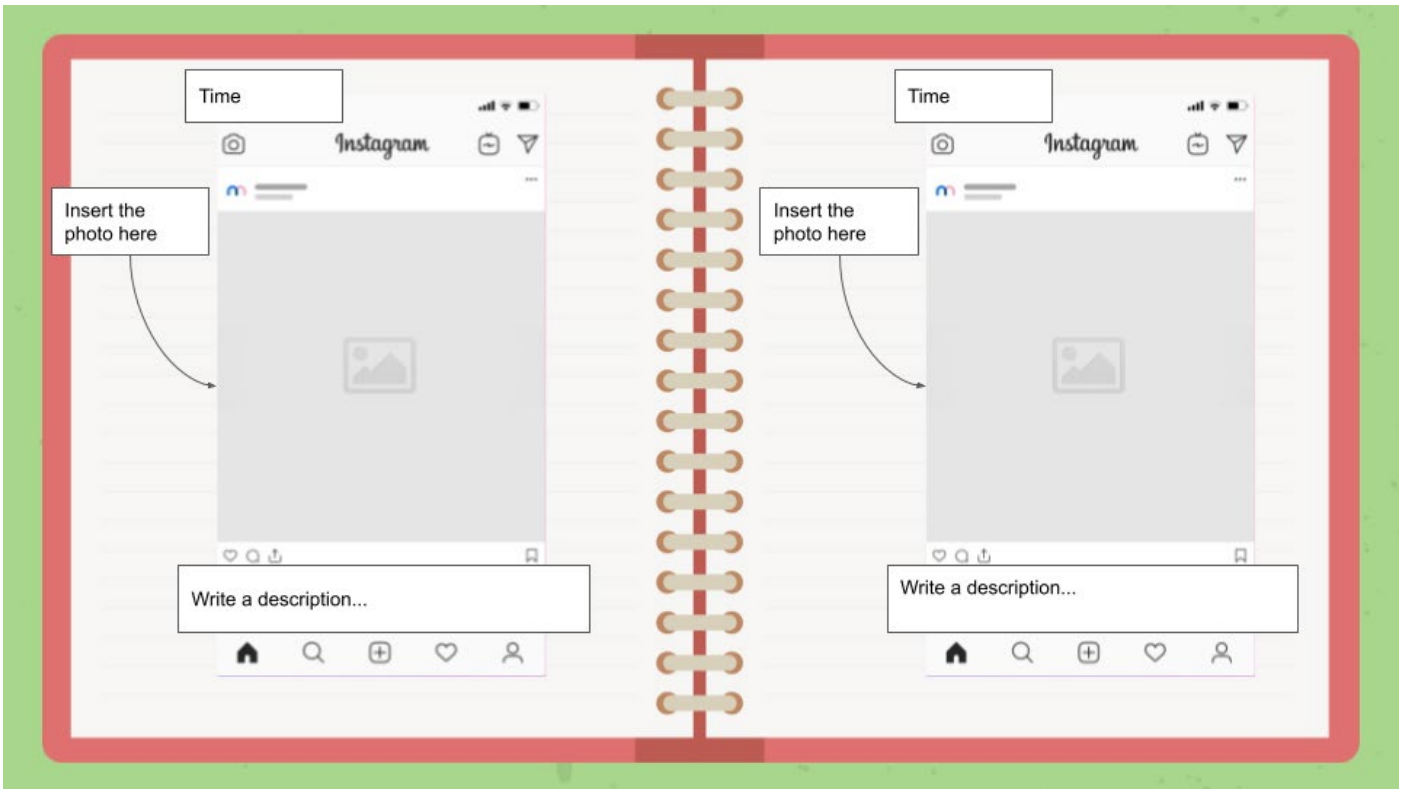
Which activities have you done today? And how much time did you spend on them?



**Example**



Move the small rectangles and write in the same colour the activity it represents



## Questions about food

1. Do you enjoy doing the groceries? Explain how it normally is in your house.  
Write here...
2. How do you cook at home (who, type of food...)?  
Write here...
3. What do you enjoy the most in the kitchen? (cooking what? Eating what?)  
Write here...

Time

Instagram

Insert the photo here

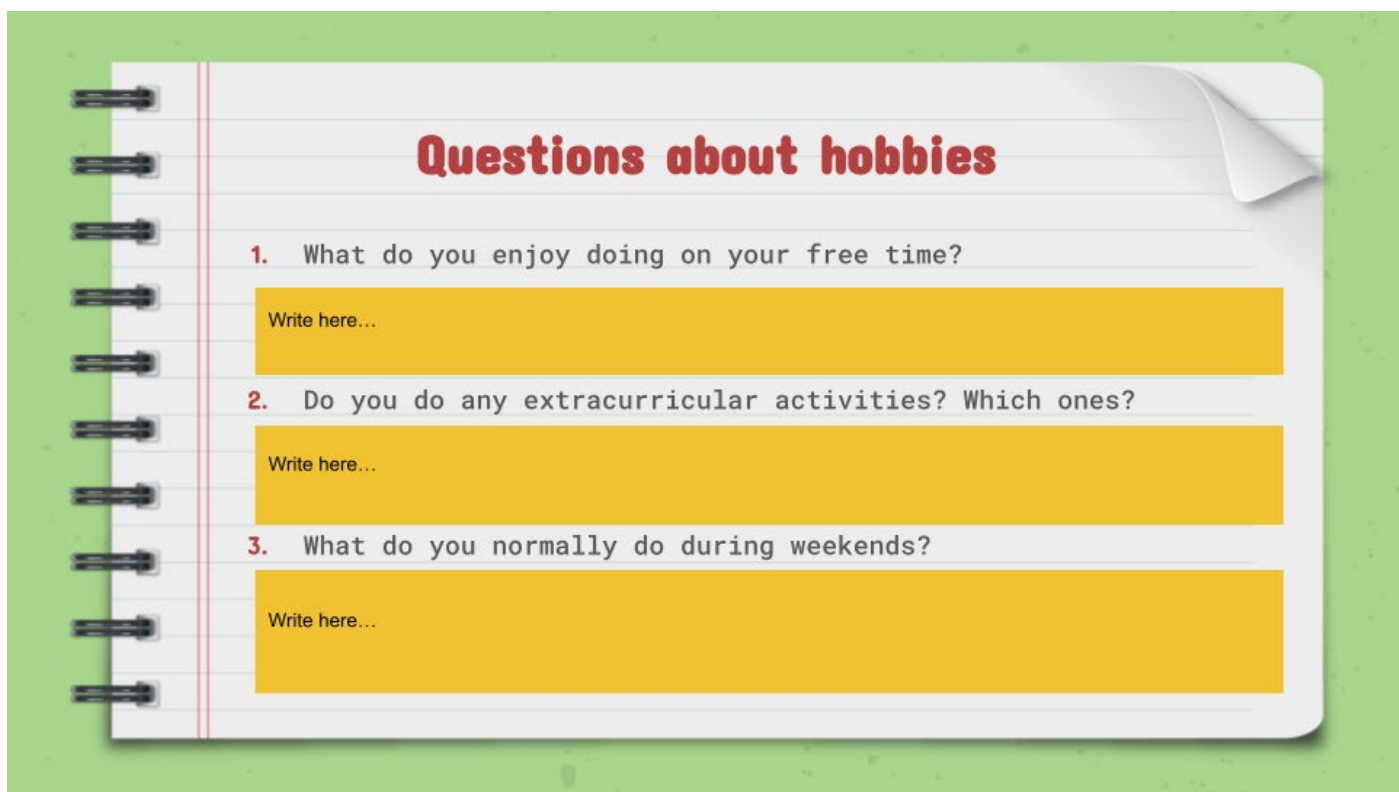
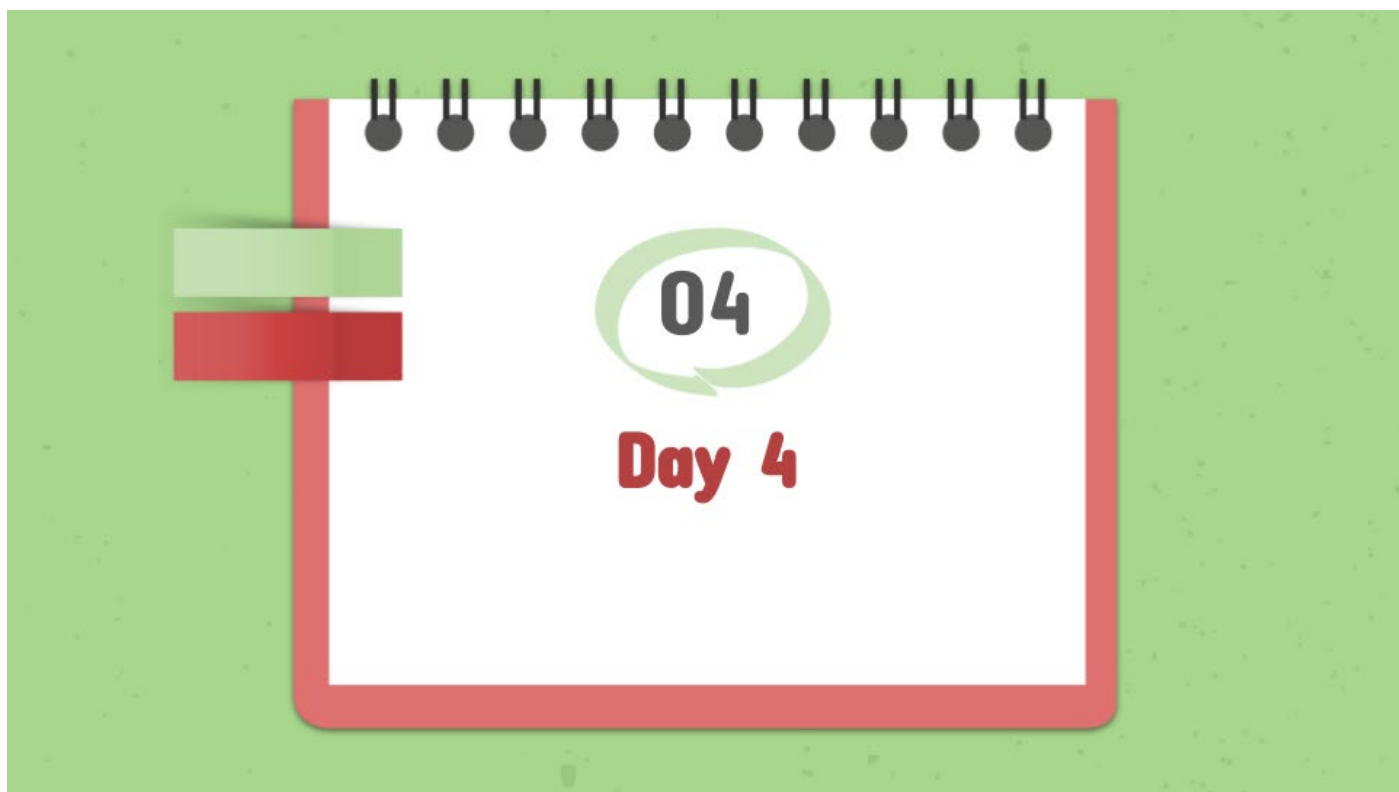
Write a description...

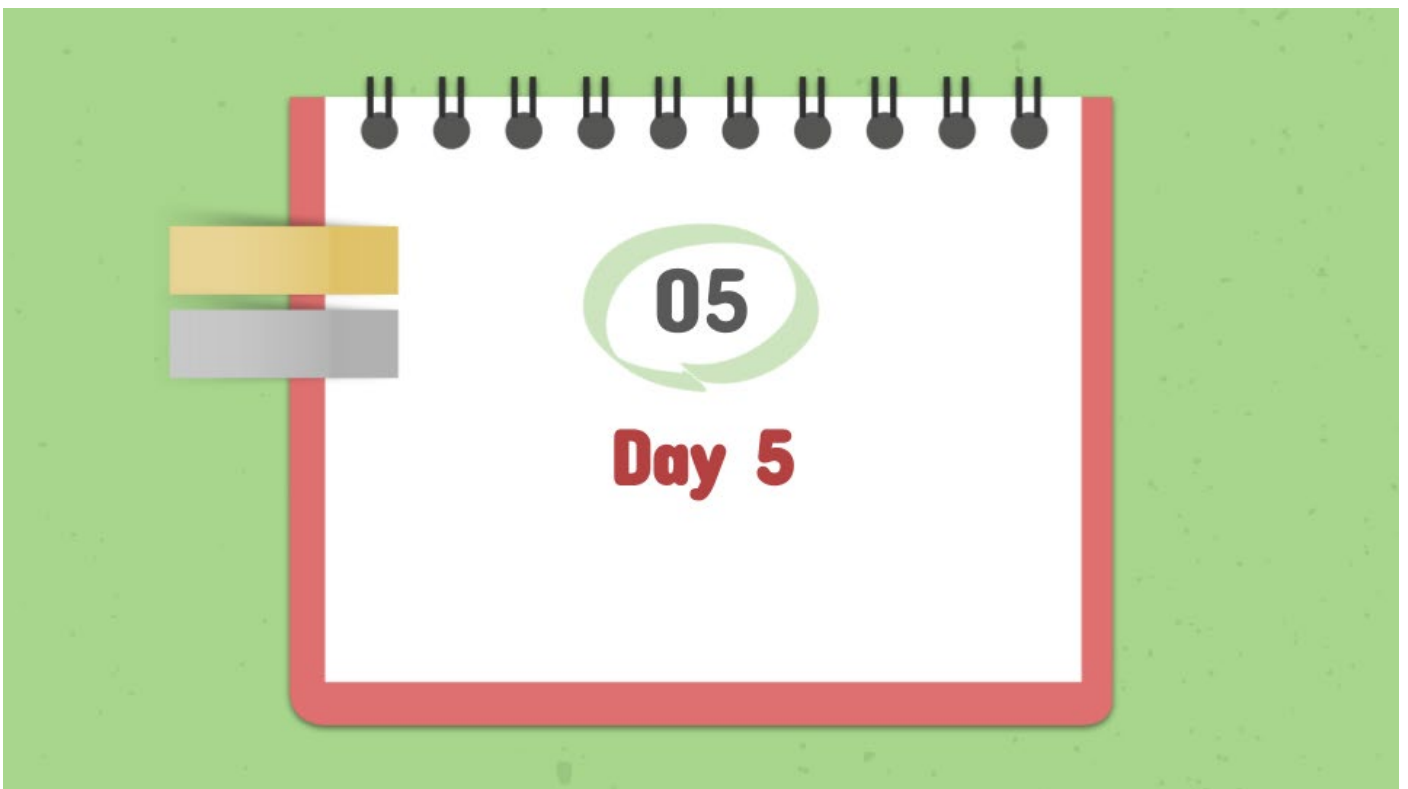
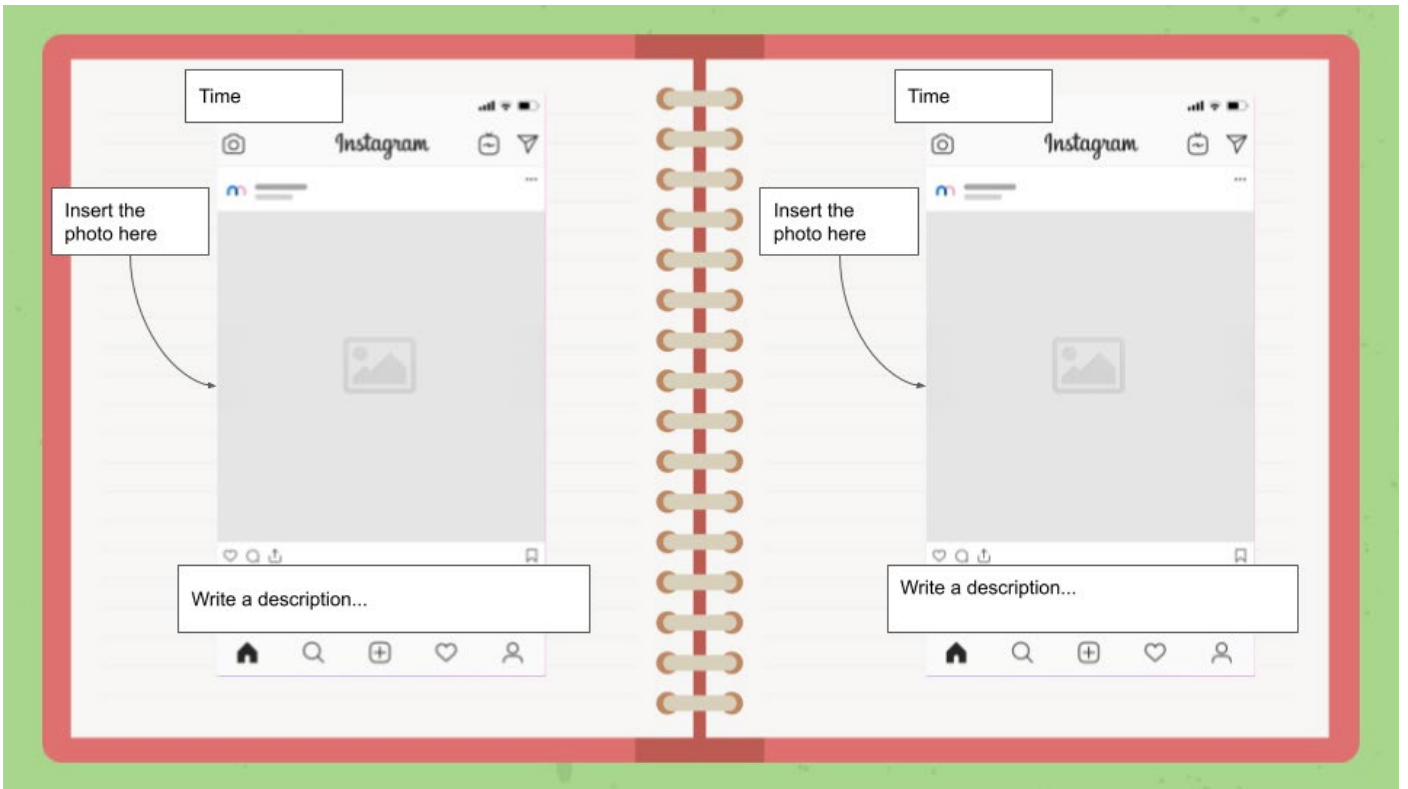
Time

Instagram

Insert the photo here

Write a description...





## Questions about being active

1. What relationship do you think there is between food and sport?
2. Do you eat differently depending on your physical exercise?

Time

Instagram

Insert the photo here

Write a description...

Time

Instagram

Insert the photo here

Write a description...



## 6. Interview questions

### SPANISH

¡Hola buenas!

El objetivo de esta entrevista es comentar un poco el cuaderno que rellenaste durante cinco días. Primero de todo me gustaría agradecerte por haber tomado el tiempo para hacerlo.

- ¿Te costó mucho rellenarlo? ¿qué partes? ¿Qué partes te han gustado más?

#### Parte 1 - Comidas durante la semana

- ¿Quién decide lo que comes? en caso de que no te guste, ¿que sueles hacer?
- ¿Cuándo comes? He visto en los horarios que sueles comer (FIX), ¿por qué en ese horario?
- A qué tipo de situaciones asocias tu el hecho de comer comida para llevar, pizza, hamburguesa, y ese tipo de comidas?
- No se han mencionado muchos snacks o comidas pequeñas como puede ser un cacho de pan o una fruta. ¿Sueles picar entre comidas? ¿Qué suele ser lo que comes en esos casos?

#### Parte 2 - Actividades en un día

- He visto que en tu día a día pasas el mayor tiempo del día estudiando, como es lógico por tus estudios. Si pudieses elegir, y sin pensar en tus estudios cuáles serían las actividades que te gustaría que fuesen las que más tiempo ocupan en tu día. Haz un ranking del 1 al 3.

#### Parte 3 - Preguntas

- En qué forma dirías que te implicas en tu nutrición? Te pregunté si te gustaba ir a hacer las compras o si cocinabas pero ¿se te ocurre algún otro ejemplo? Puede ser algo como pedir lo que quieres que se compre por ejemplo.
- No se han mencionado mucho las bebidas que consumes. ¿Sueles beber algo durante las comidas o durante el día en general? ¿Qué bebidas sueles tomar a parte del agua? (leche, zumos, refrescos...) Y sabrías decirme más o menos ¿con qué frecuencia suelen ser?

#### Parte 4 - Instagram

- ¿Crees que tu día a día es similar al de tus compañeros/amigos?
- ¿En lo relativo a la alimentación? y ¿en el tiempo libre? ¿En qué se parece o en qué es distinto?
- Colegio
- Como esperaba, no podías sacar fotos en el colegio pero me podrías comentar un poco ¿Cómo es una mañana normal en el instituto/colegio? (Horas, patios...)
- ¿Cómo es la relación con los profesores? ¿Tienes la confianza como para comentarles dudas o problemas que puedas tener?

- ¿Suelen intentar los profesores que participéis en clase? o incluso crear un tipo de debate? trabajos en grupo?

#### Nutrición

- ¿Cómo definirías tu una vida saludable?
- ¿Qué crees que es importante para tener una vida saludable?
- ¿Cómo de importante crees que es para alguien de tu edad preocuparse por esto?
- Del 1 al 10 cuanto te preocupas
- Extra
- Si quisieses hacer feliz a algún/alguna amigo/a regalándote algo de comida o cocinando algo, ¿qué sería?
- ¿Qué es con lo que más disfrutas? Puede ser cualquier cosa, y ¿por qué?

## ENGLISH

Hello!

The objective of this interview is to comment a little on the notebook that you filled out during five days. First of all I would like to thank you for taking the time to do so.

- What parts did you like the most?

### Part 1 - Meals during the week

- Who decides what comes next? in case you don't like it, what do you usually do?
- When is it coming? I have seen at the times that you usually eat (FIX), why at that time?
- What kinds of situations do you associate eating take out food, pizza, hamburger, and that kind of food?
- Not many snacks or small meals such as a piece of bread or fruit have been mentioned. Do you usually snack between meals? What do you usually eat in those cases?

### Part 2 - Activities in one day

- I have seen that in your day to day you spend most of the day studying, as is logical for your studies. If you could choose, and without thinking about your studies, it will look for the activities that you would like to be the ones that occupy the most time in your day. Make a ranking from 1 to 3.

### Part 3 - Questions

- In what way would you say you are involved in your nutrition? I asked you if you liked to go shopping or if you cooked, but can you think of any other examples? It can be something like asking what you want to buy for example.
- The drinks you consume have not been mentioned much. Do you usually drink something during meals or during the day in general? What drinks do you usually drink apart from water? (milk, juices, soft drinks ...) And could you tell me more or less how often they tend to be?

### Part 4 - Instagram

- Do you think that your day to day is similar to that of your colleagues / friends?
- In relation to food? And in free time? How is it alike or how is it different?
- School
- As I expected, you couldn't take pictures at school but could you tell me a bit, How is a normal morning at highschool/ school? (Hours, patios ...)
- How is the relationship with the teachers? Do you have the confidence to comment on questions or problems you may have?
- Do teachers usually try to get you to participate in class? or even create a kind of debate? group work?

## Nutrition

- How would you define a healthy life? What do you think is important to have a healthy life?
- How important do you think it is for someone your age to worry about this?
- From 1 to 10 how much do you care
- Extra
- If you wanted to make a friend happy by giving you some food or cooking something, what would it be?
- What do you enjoy the most? It can be anything, and why?

## 7. Interview slides - Spanish

Familia

Colegio

¿Qué es una vida saludable? ¿Qué implica?

Motivaciones - comida / deporte

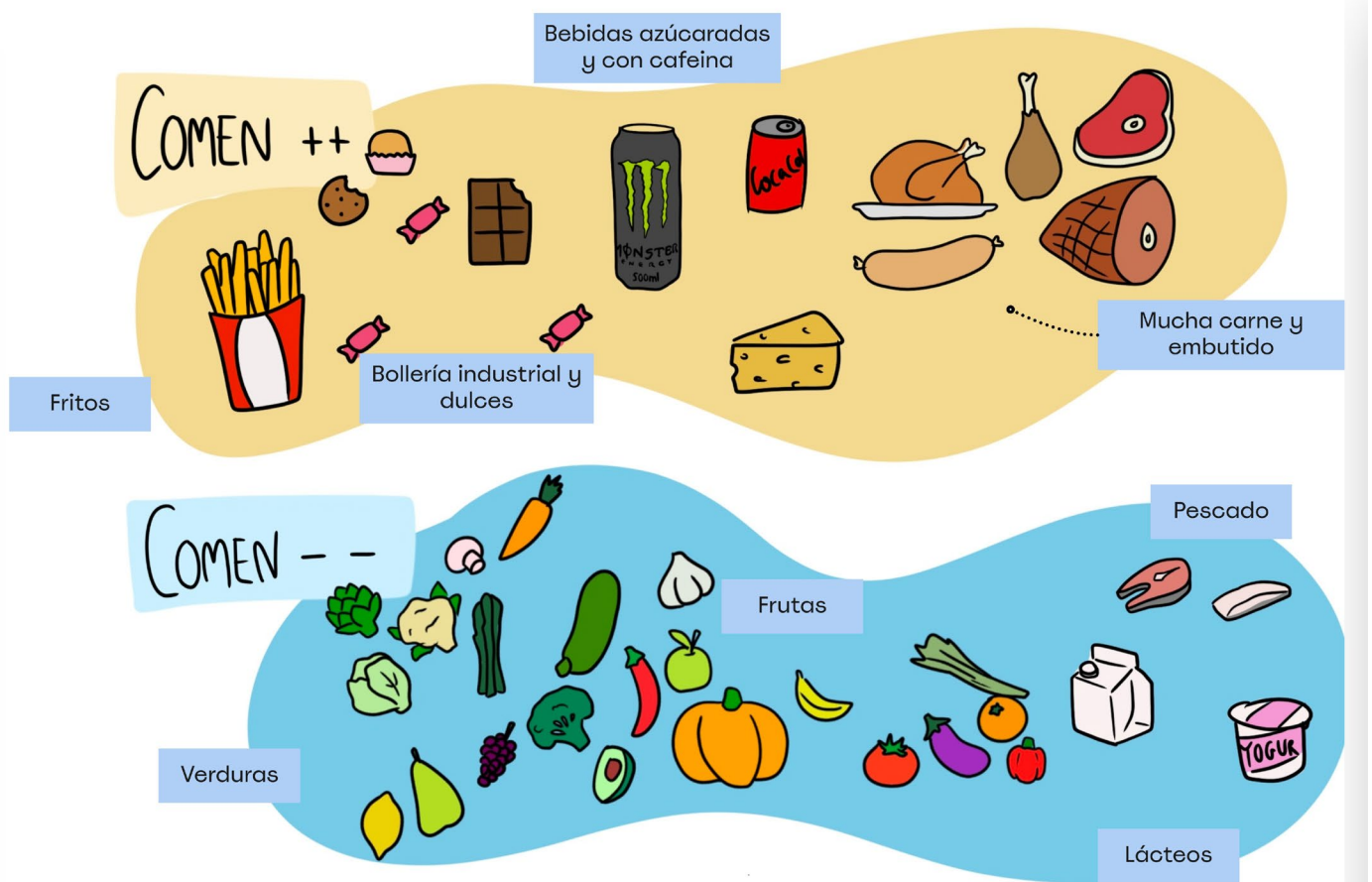
Top 3 actividades para tu día ideal

¿Qué es lo que más disfrutas? ¿Por qué?

Similitudes/diferencias con tus amigos/compañeros

Regalo

Comida

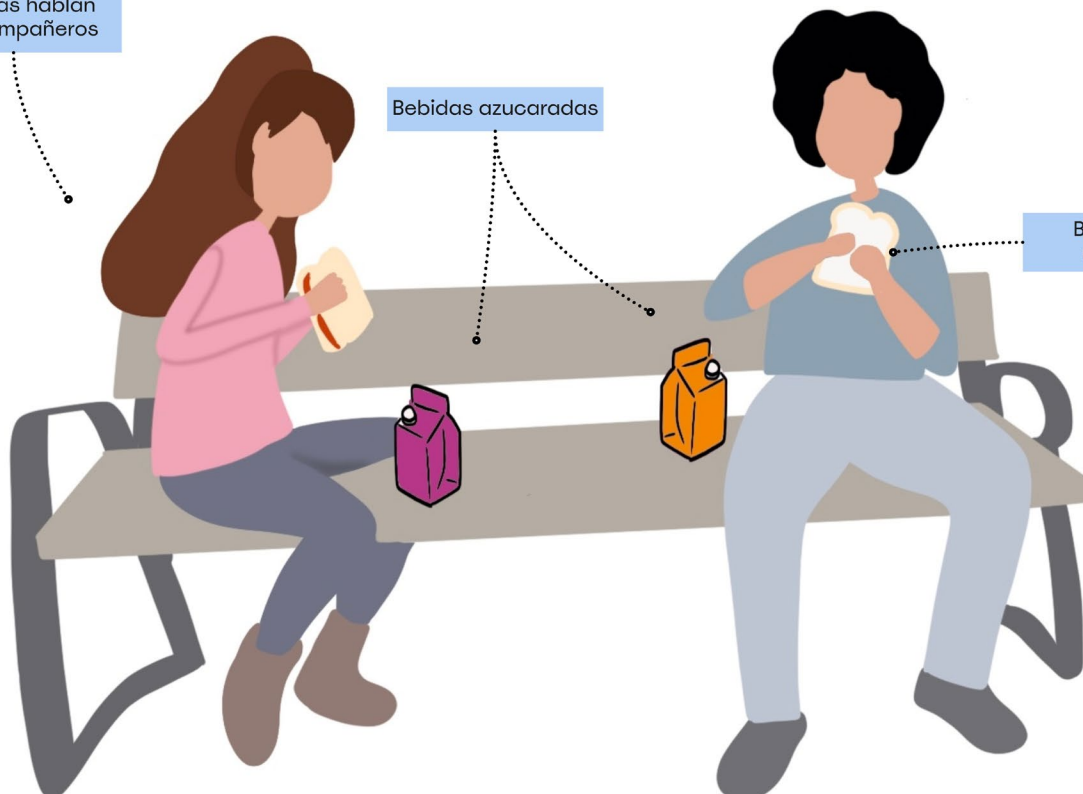


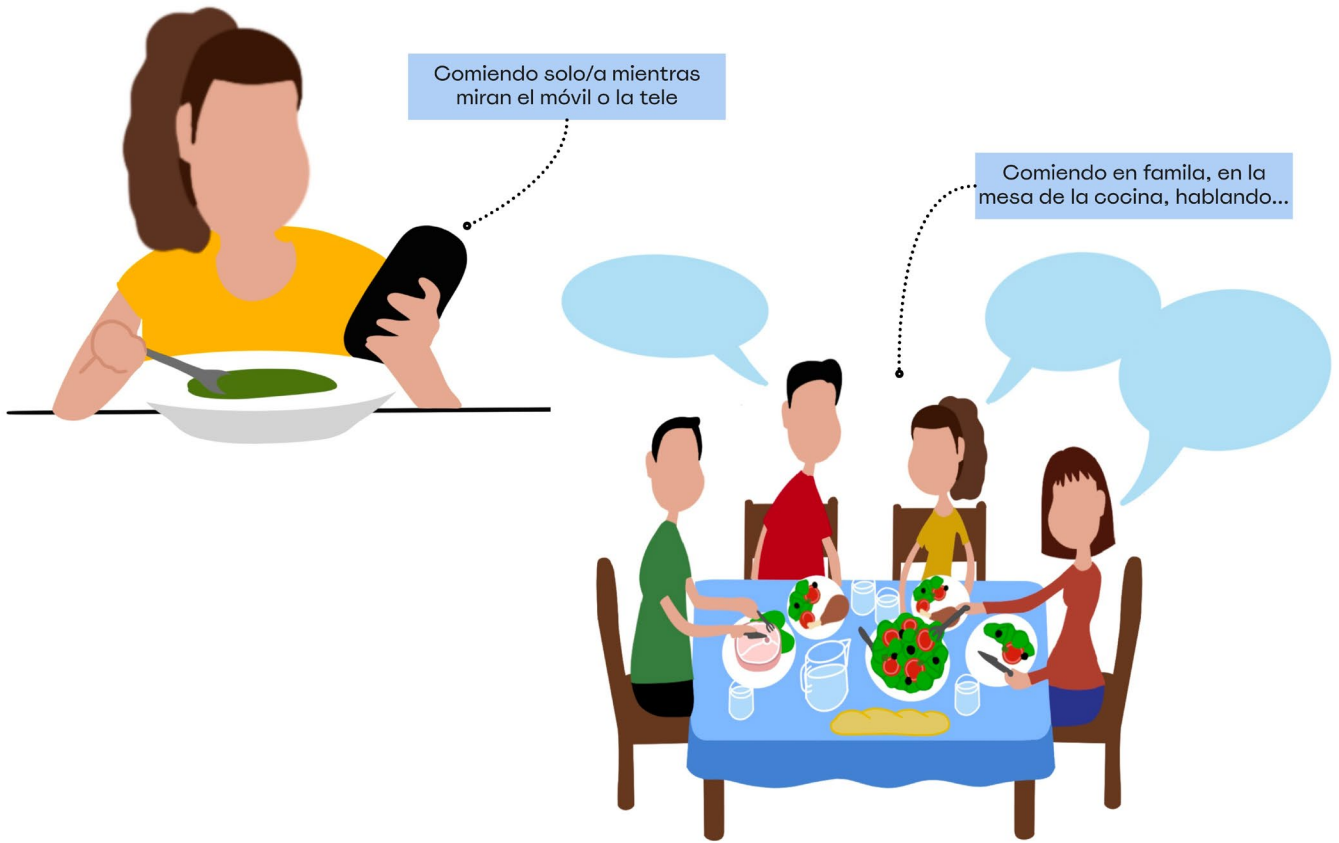


Sentados o quietos mientras hablan con compañeros

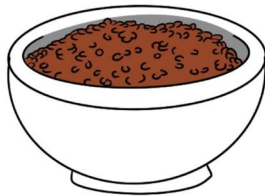
Bebidas azucaradas

Bocatas de embutido

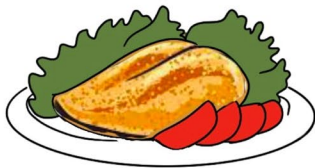




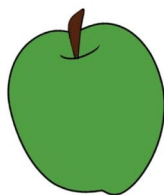
1.



2.



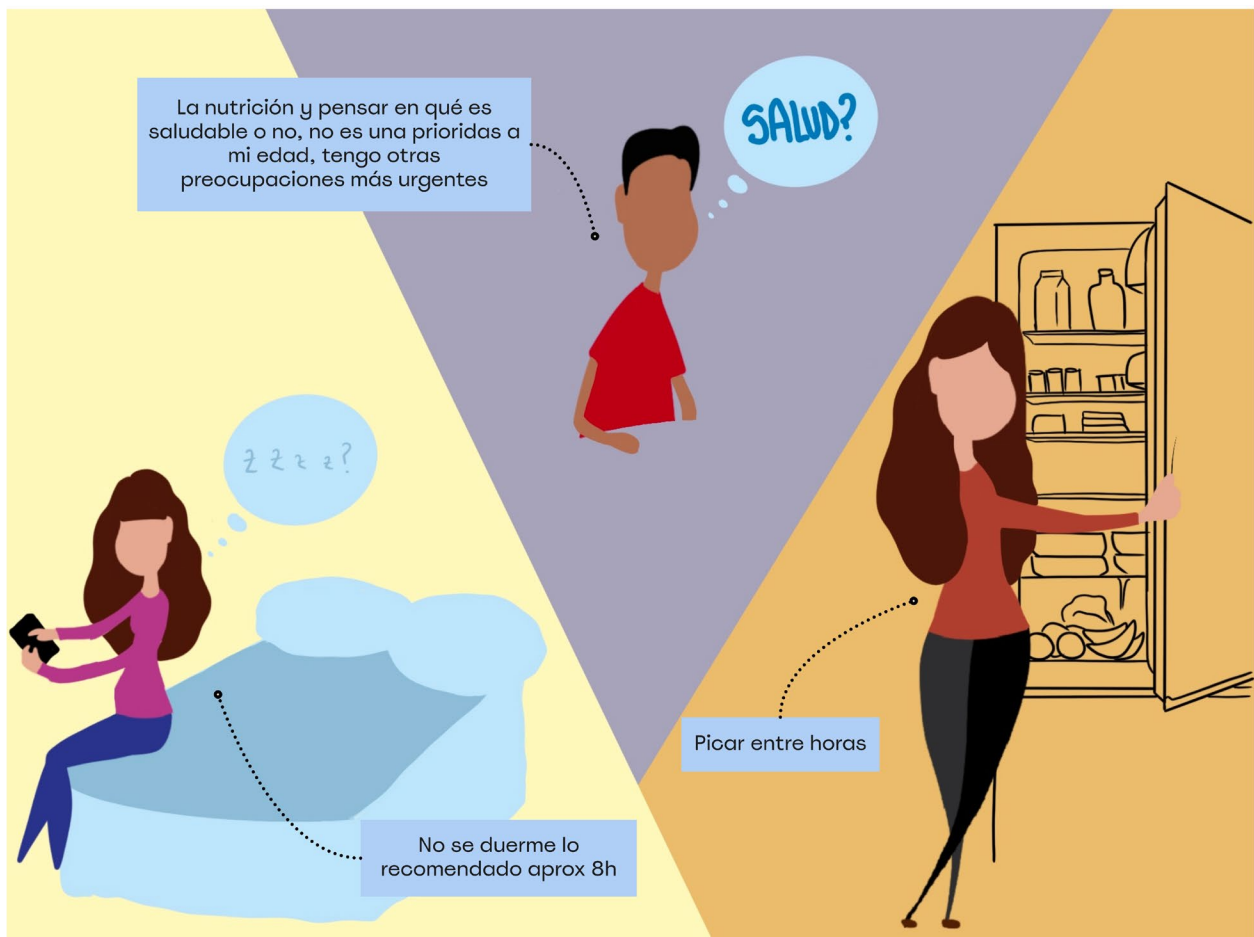
3.



Tiempo libre jugando a videojuegos, con el móvil, en casa en el sofá...



Cenas con los amigos el fin de semana comiendo pizzas, hamburguesas, bebidas azucaradas u/o alcohólicas



**Hablar** **Amigos**  
**Familia** **Rico**  
**Parón** **Energía**  
**Celebración**

Figure 59.

Food values mentioned by Spanish teenagers during interviews.

## 8. Interview slides - Spanish

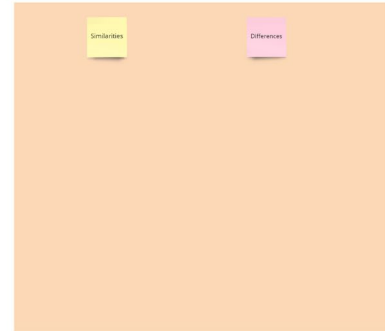
### Family



### Motivations: food & sports



### Similarities and Differences with friends



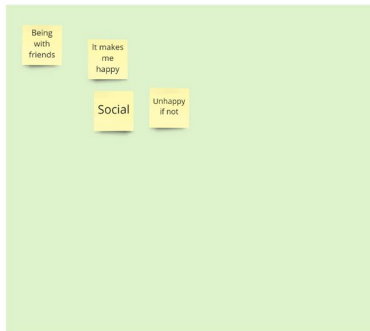
### School



### Top 3 activities of your dreamed day



### What do you love the most? why?



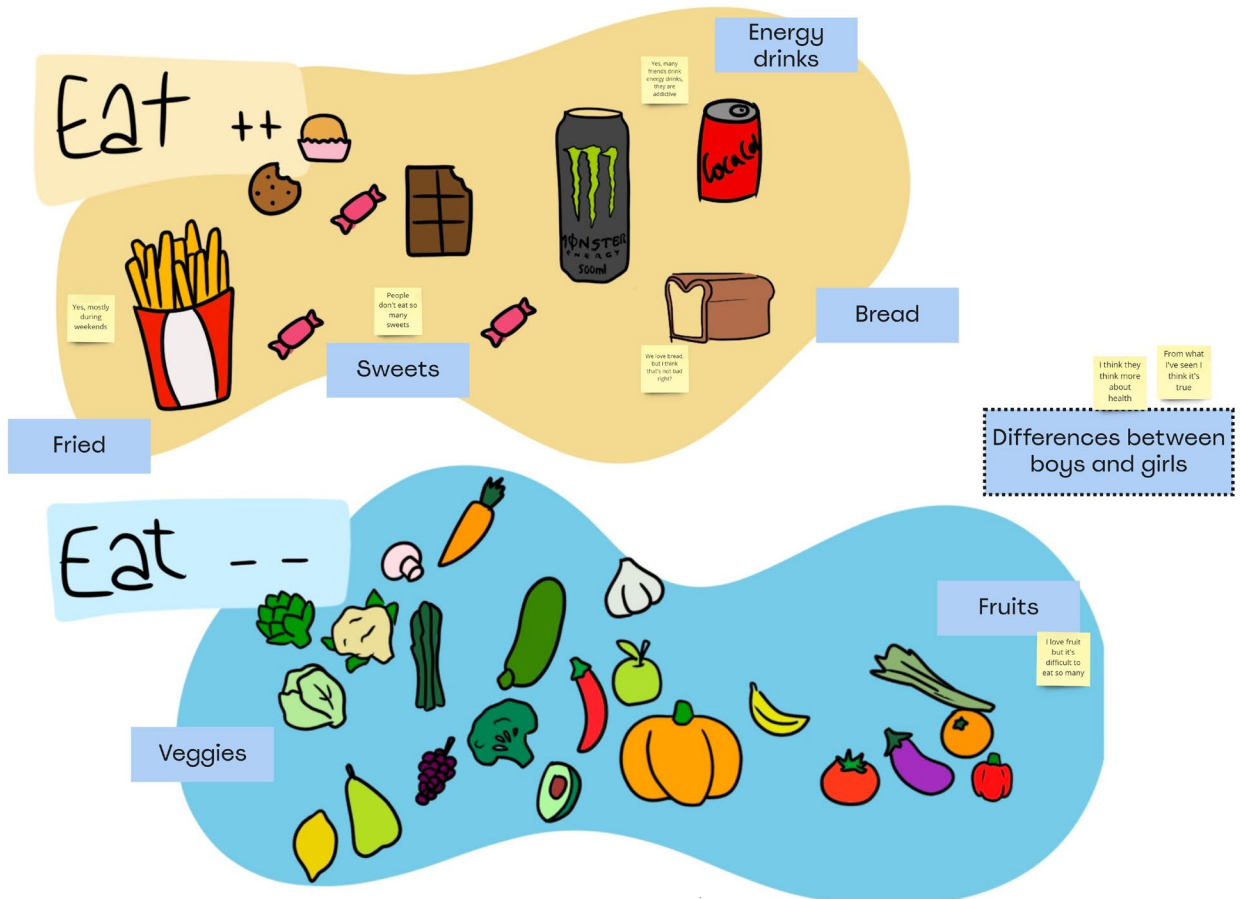
### Present

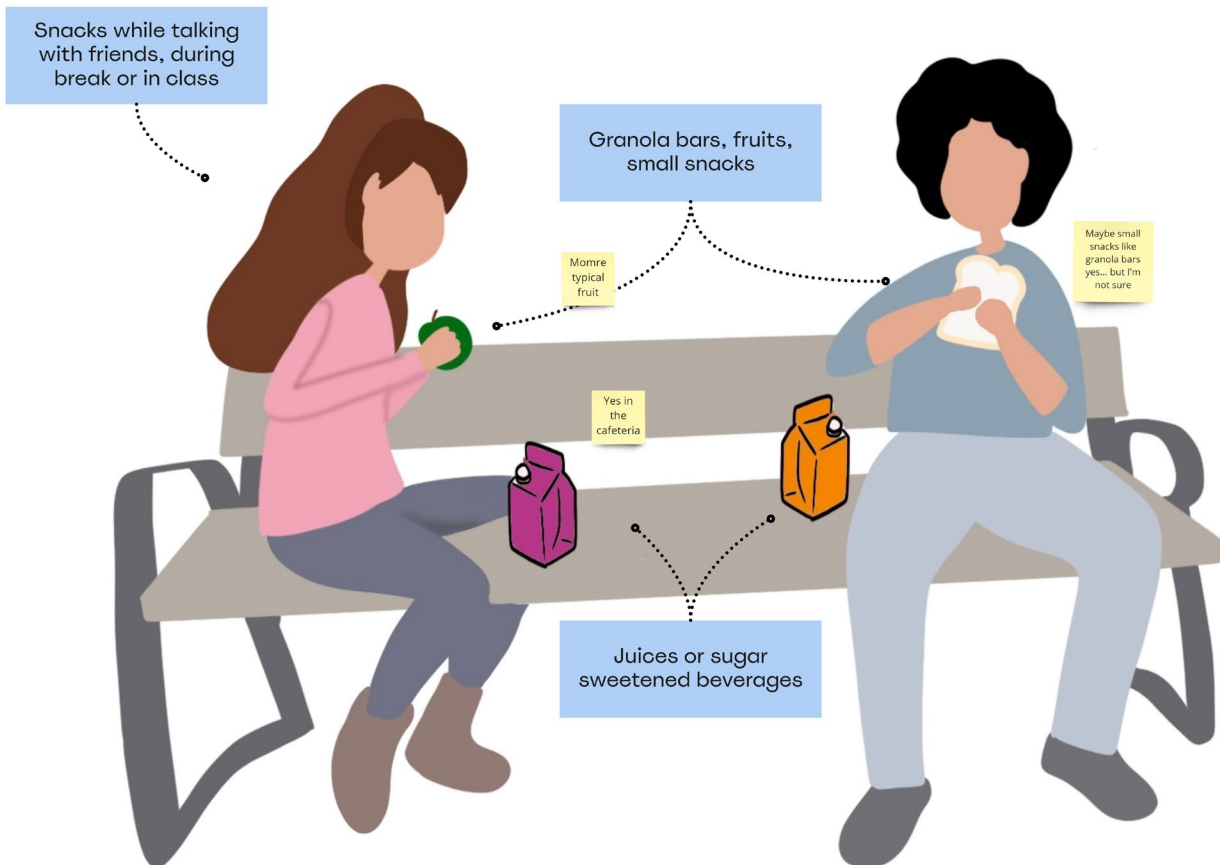
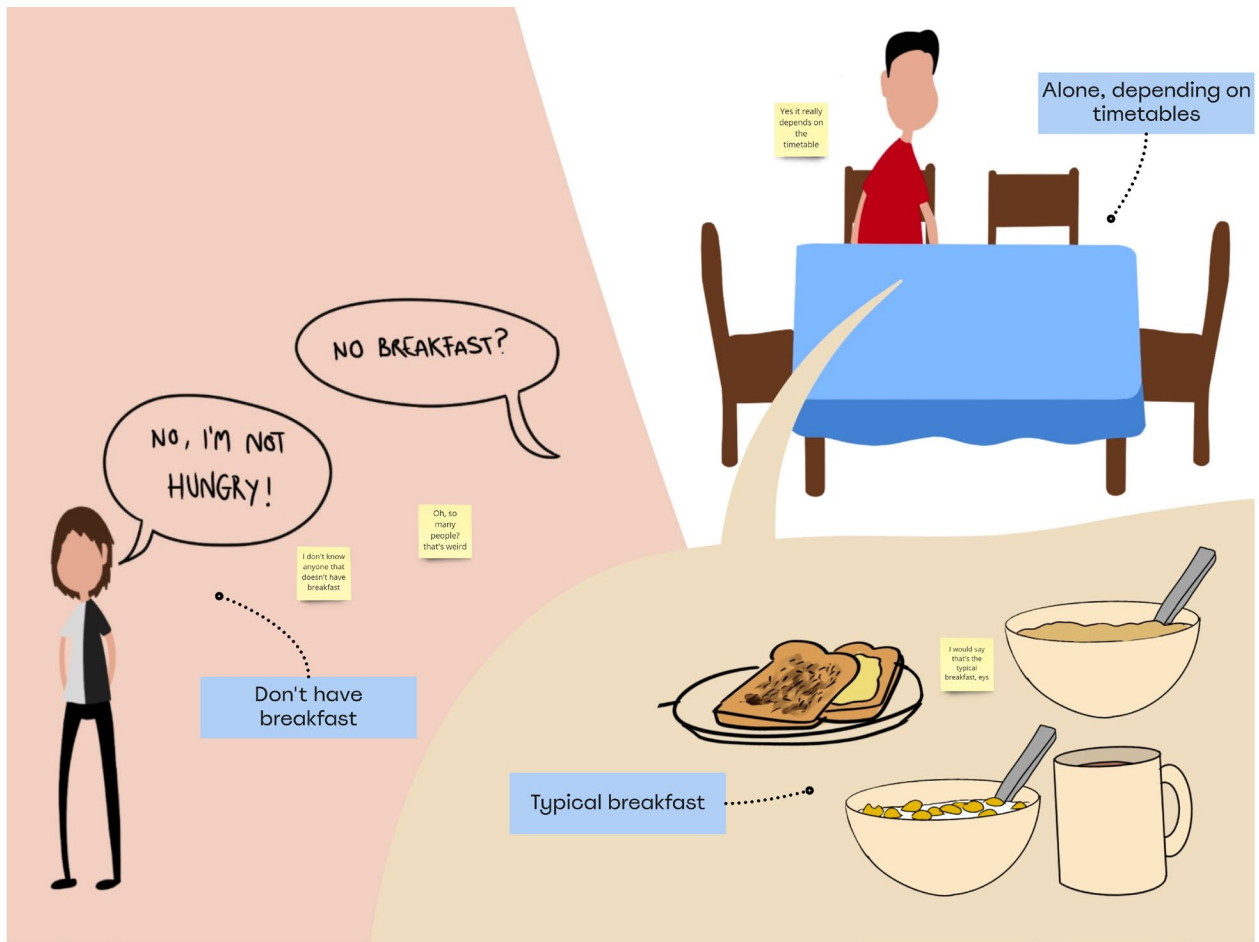


### What's a healthy life? what does it imply?



### Food - What does it come to your mind?





## Appendix

School canteen,  
Healthy?  
Unhealthy?

Sometimes go to  
supermarket next to  
school and buy  
something... unhealthy



In my school the  
break is not so  
long so we don't  
have time to go  
to supermarket



Vending machine,  
tempting...

some canteens  
are unhealthy and  
some are healthy  
(I changed school  
and I've seen  
both)

Most people  
bring  
sandwich  
from home

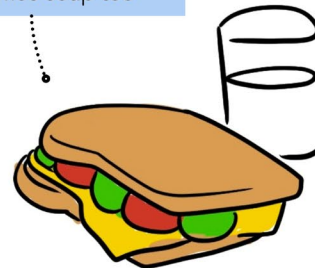
Sandwich  
both but  
normally  
teens

Bring sandwiches from  
home, bread with  
cheese, humus...



Yes, this  
is the  
case...

Sandwich for lunch,  
sometimes soup too

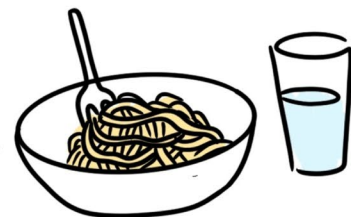


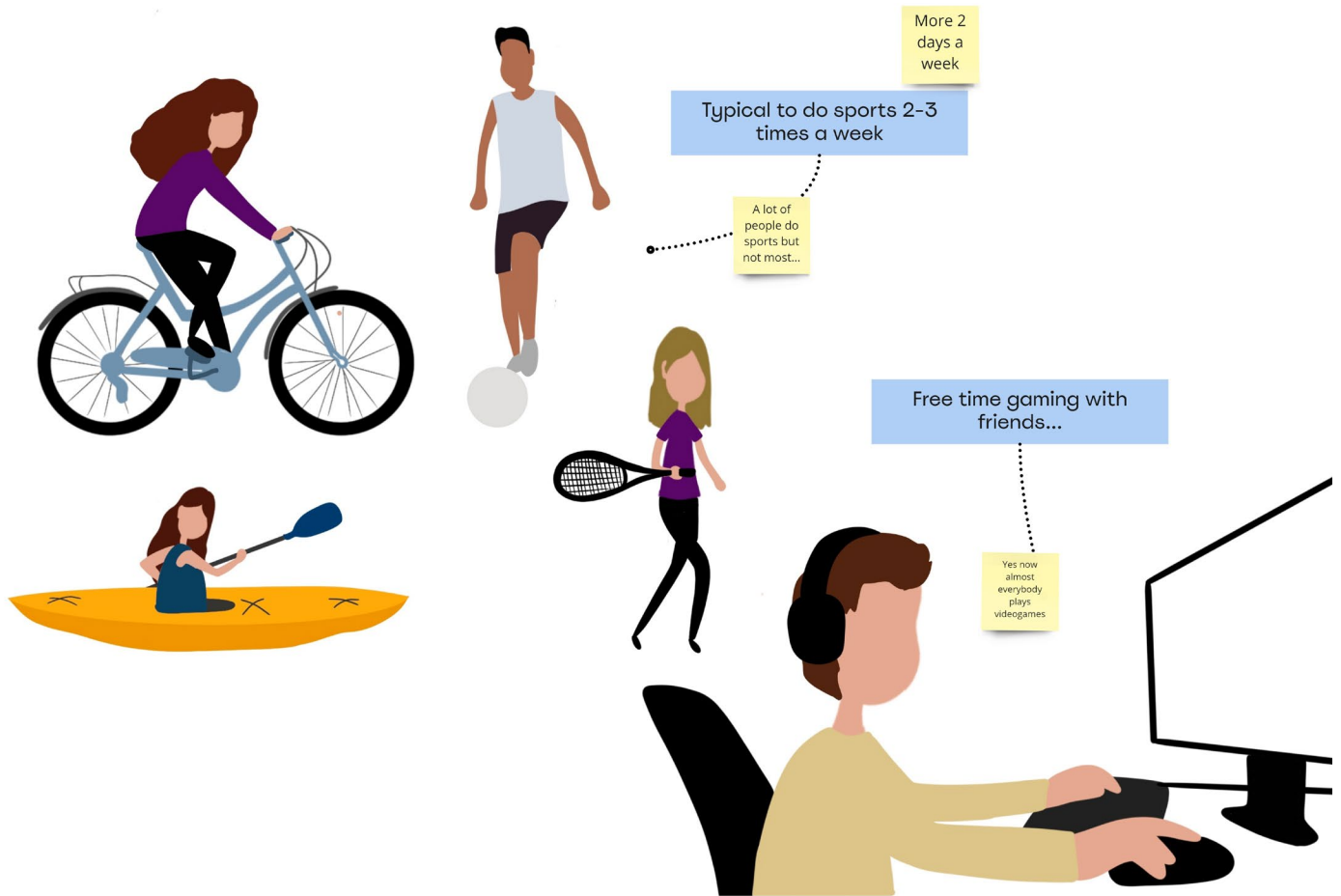
Who cooks?

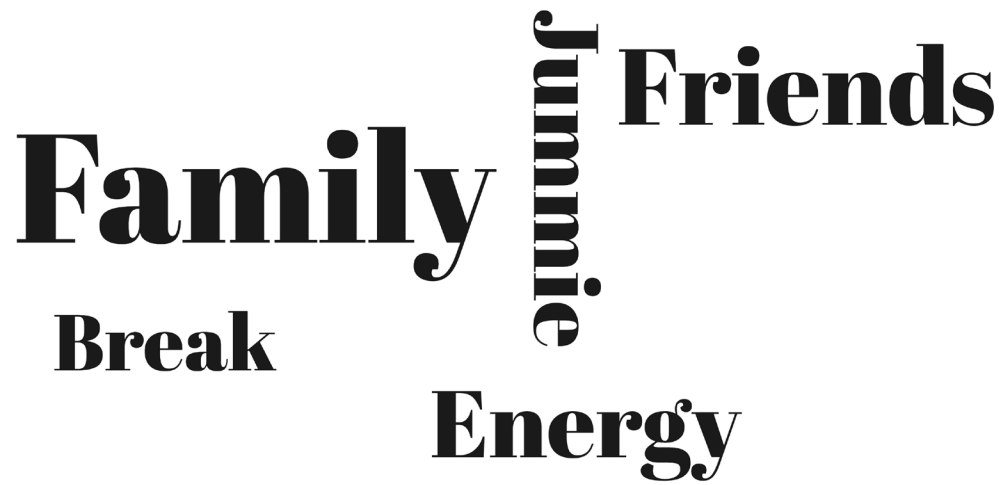
Lunch alone while checking  
phone or with a family  
member while talking

Parents  
cook a  
warm  
dinner

Warm dinner with the whole  
family







The word cloud features five terms in a bold, black, serif font, arranged in a cross pattern. 'Family' is on the left, 'Friends' is on the right, 'Break' is at the bottom left, 'Energy' is at the bottom right, and 'Jummie' is written vertically in the center.

**Family** **Friends**  
**Break** **Jummie** **Energy**

**Figure 60.** Food values mentioned by Dutch teenagers during interviews.

# Appendix C | Conceptualisation

## 9.Design guidelines

DESIGN GUIDELINES	COUNTRY COMPARISON		EVIDENCE		OPPORTUNITIES FOR REDESIGN
	SPAIN	THE NETHERLANDS	LITERATURE RESEARCH	USER RESEARCH	
1. MEDIUM					
Adapt the program to youngsters' lifestyle by implementing online activities on the devices they use and are familiar with.	Program is completely offline. Based on lectures and workshops in class and homework and projects at home and in class.	Program could incorporate some online materials by using students' smartphones.	Study in Nicosia (Greece): 72% of respondents use the smartphone for educational purposes and 41% admitted downloading educational apps (Morphitou, 2014) "a desire to express oneself was mentioned frequently" From dutch secondary school students [ Jansz et al., 2015]	- 1 Participant explains that he uses the phone in class to make tik tok challenges with classmates - 2 participants search for tutorials when they don't know how to do their homework - 1 participant uses discord to socialise with friends when working from home - 2 participants admit to have their phone with them all day long and use it frequently - 3 participants agree that socialising online is a reality	- Part of the program could be online by using their smartphones - Recognisable formats (tik tok, instagram, discord, videogames...)
2. CONTENT					
Language: The content should be understandable and therefore communicated in the language of the Country.	Spanish	Dutch		- Participants have lessons in other languages (English) but prefer in mother tongue because it's "easier to understand and participate"	- Chante language
The information should be country specific.	Spain based information: health guidelines from Spanish Government, Graphs from Spanish studies...	Dutch information (Dutch Government, Dutch statistics, Dutch dietary guidelines...)		"Student motivation is important in education since it will make them more likely to seek out challenges, take risks, persist in the face of difficulty, and demonstrate higher levels of achievement (Bhoje, 2015). Participants: getting information from other countries and cultures is interesting and even fun	- Example of habits and behaviors from Dutch teenagers.
The pictorial examples used to illustrate the theory should resonate with the world youngsters already know. They should be part of their cultural environment or literature world.	Images of animals (a bear), food examples (paella)	Animals that they recognize (a panda bear), food (sandwiches), sports (biking, climbing...)	There is no education when ideas and knowledge are not translated into emotion, interest, and volition (Dewey, 1933, p. 189)		"- Images that youngsters can relate to - Habits (when do they eat, what do they eat, cooking methods, who cooks...)"

## 3. COMMUNICATION

Health guidelines must be transmitted in accordance to the way in which health guidelines are communicated in the Country and/or to the target group	"Recommended intake of different food in grams per day Food pyramid"	"Wheel of five Recommended intake normally not specified, based on proportions (wheel of five) For children ""Smart swap"" explaining easy food exchanges to make diet healthier "	Comparison between health guidelines in the Netherlands and Spain		- Follow the format of Dutch health guidelines: unit (pieces per day)
The representation of a healthy lifestyle is visualized in the leading infographic that the country is using.	"Food pyramid Text explanation next to pyramid (daily, weekly, occasionally) Color to show (daily=green, weekly=orange, Occasionally=red) Physical activity also in same pyramid Drawings (chosen foods, drawing style, people, chosen sports...)"	"Wheel of five (circle, proportions, colors, drawings, chosen foods)/ daily and weekly apart in grey colour Text apart Extra Information in other document Smart swap Practical information with examples: gram in real life, how to add veggies to sandwiches, how to add fruit pieces to your diet..."	Comparison between health guidelines in the Netherlands and Spain		- Follow the format of Dutch health guidelines: visual (colours, drawings...)
Trustworthiness: provided information must come from sources that youngsters recognise and trust. Source must be clear.	"Not many visible sources Guidelines from AESAN [...] Chart (slides) with reference from a Spanish study"	"Add references Dutch Government Dutch studies"	Comparison between health guidelines in the Netherlands and Spain	Spanish participants believe to be true what teacher mention. Dutch participants admit to discuss what is said in class.	- Add data from scientific papers, government
Communication of information should be adapted to the medium of use.	"Slides: text + images Videos"	"Same + online content Online content: how to display information, engagement in online content,	Health program material comparison (style, format, information...)		"- Add quizzes or games - Information first at home and then in class"

## 4. ENGAGEMENT

The materials should evoke creative thoughts among pupils	"Direct question - answer Teacher reflects"	Open questions and many possible answers, open reflection...	"Active and collaborative learning benefits engagement of students in class (Zepke & Leach, 2010) The Netherlands has a lower hierarchy comparing to Spain (Hofstede's dimensions)"	Dutch participants prefer active lessons.	"- Evoke creative thinking before giving information/answer - Add other practical activities during the lecture - Group reflection, share experiences"
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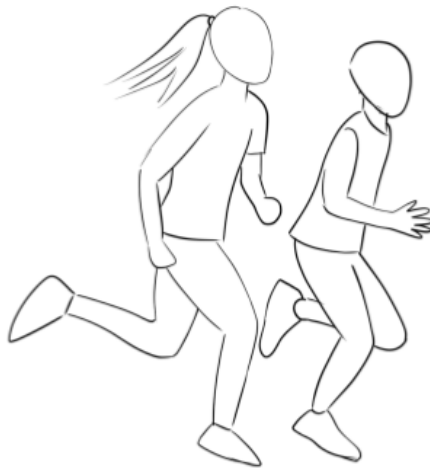
## 10.TAS program material analysis following guidelines

	Keep	Change	Opportunity
Slides			
1. Buscando el equilibrio			
General		Language	Style and graphics
p.1	program name (TAS) title: looking for balance	Images: food type	
p.2 - p.4	Animals as an example		animal type, recognisable
p.5	Comparison Conclusion		
p.6.	Visual representation of conclusion Specific text with conclusion	Recognisable images	
p.7	Conversation about healthy habits	Recognisable images (activities, people)	Evoke creativity: first conversation, activity; without showing images
p.8	Information about sports and movement	Data from the Netherlands and not Spain	How to show this?
p.9 - p.10	Practical activity		communication (general)
p.11- p.14	Health guidelines Visual representation Information about nutrition, physical activity and cooking methods	Recognisable images from dutch food culture and habits	
p.15	Stimulate cooking for next activity	Dutch meals	Sanwiches Colours or other aspect?
p.16	Explain some guidelines	Follow Dutch guidelines	Communication way (ilustrate, style...)
p.17	Stimulate cooking		
p.18	introduction to workshop		
Script buschando el equilibrio			
	Start with a game/activity		type of activity, indoors/outdoors, whole group...
	Reflection after activity, feeding strategy		
	Connection to animals	animal types and expressions "pensar en las musarañas"	
	ask if they know the animals		
	Explain animal characteristics		
	Animals - Humans: similarities and differences		
	Reflection		
	Explanation about the energy we need		
	Small activity to understand (discussion)		which kind of activity?
	Reflect about the graph (why does that happen, when can you exercise and/or move...)	Information about Dutch youngsters	
	Practical activity to understand		Which kind of activity?
	Explanation about health guidelines	Dutch guidelines and habits	
Eat colorful	Breakfast most important meal	Dutch guidelines (how many meals a day,	is it true that eating colorful is a way to eat healthy?
	Introduction to next workshop		
Yo me lo guiso, yo me lo como (WORKSHOP)			
General	Cooking themselves Cooking something quick can be healthy Learn to cook different types of food (legumes, veggies, fruit, fish...	Recipes Cooking methods Examples	Cooking in class or at home? Focus on sanwiches?
part 2	Cook in groups at home		

## 11. Looking for balance redesign - English

### Sensitizing activity

Play a game that teenagers already know (typical warming up game) that involves movement. Add a narrative that helps understand how people needed to hunt to be able to eat and now we don't need to make any effort.



**tas** program you and alícia for health

# LÔÔKING FOR BALANCE



# TABLE OF CONTENTS



## BALANCE



## HEALTHY HABITS



## CONCLUSION

### Animal world

### 1. BALANCE



## 1. BALANCE

## ANIMALS

Go to [www.menti.com](https://www.menti.com) and use the code 6616 7090

How much food consumption do you think they need?

Mentimeter



Little

Cow

Cat

Bee

A lot

5

## 1. BALANCE

## Animal world



How much food consumption do they need?

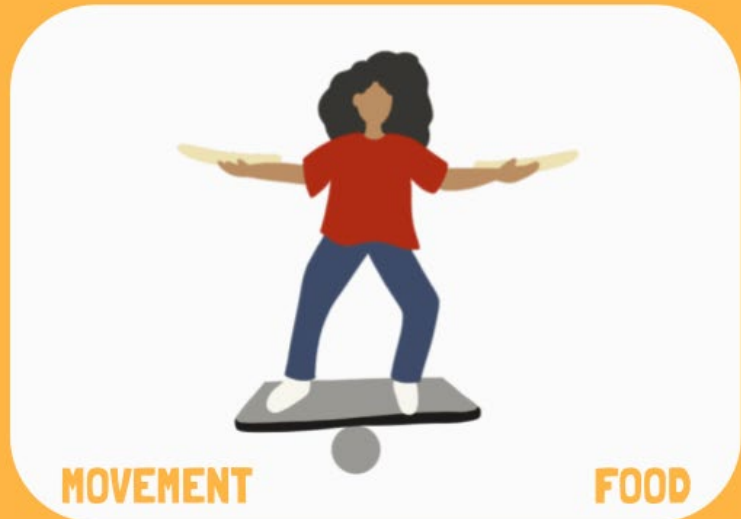
6

Figure 61. Offline version of the previous slide.

## 1. BALANCE

It's all about **BALANCE!**

To be healthy it is important to **feel and grow in a good way**. The energy we get by eating must be the same as the one we spend.



8

## 1. BALANCE

## ENERGY NEEDS

Go to [www.mentimeter.com](https://www.mentimeter.com) and use the code 6616 7090

Who needs more energy?

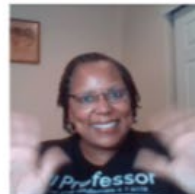
Mentimeter

0



Sleeping woman

0



Awake woman

9

## 1. BALANCE

## ENERGY NEEDS

Who needs more energy?



10

Figure 62. Offline version of the previous slide.

## 1. BALANCE

## ENERGY NEEDS

Who needs more energy?



11

Figure 63. Offline version of the previous slide.

**1. BALANCE****LET'S PUT IT IN PRACTICE!**

12

**Activity to understand ENERGY NEEDS**

Divide the class in 4 groups and give a different activity to each group for 5 minutes:

- 1: Board game
- 2: Walk around
- 3: Abs, squats, push
- 4: Jump quickly

Once the time is over go to the converter and see how many hazelnuts each student should eat and reflect about it.




# HEALTHY HABITS

## 2. HEALTHY HABITS

Why?

It is very important to keep a healthy lifestyle. You could avoid having diverse diseases in the future such as diabetes, cardiovascular diseases...



14

# HEALTHY HABITS


## 2. HEALTHY HABITS

Why?

 Better mood

 Improve sleep quality

 Reduce anxiety

 Consistent energy throughout the day

 Socialise



 Better academic performance, deeper focus

 Muscular fitness


 Self care, learn how to listen to your body

15

HEALTHY HABITS

2. HEALTHY HABITS

Go to [www.menti.com](https://www.menti.com) and use the code 6616 7090

What is important to have a healthy lifestyle? 

What?

16

HEALTHY HABITS

2. HEALTHY HABITS

What?

17

**Figure 64.** Offline version of the previous slide.

# NUTRITION

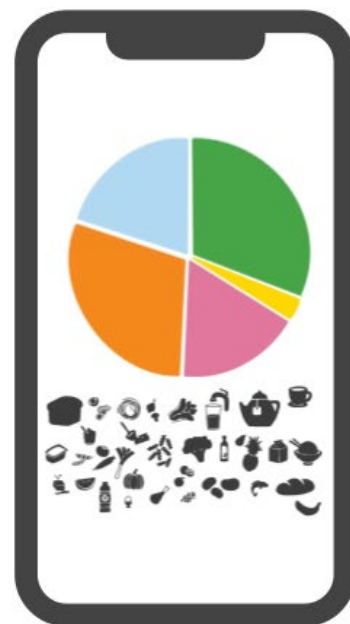
## 2. HEALTHY HABITS



18

### Activity to think about nutrition

Game in which they need to drag the different food groups into the wheel of five. They should think about which food groups we should eat more or less often.



# NUTRITION

## 2. HEALTHY HABITS



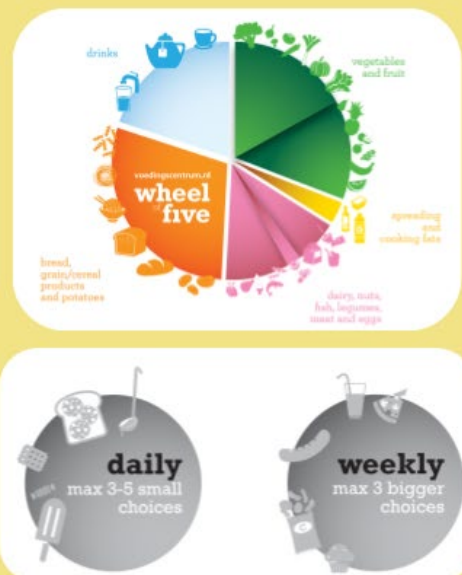
Wheel of five. Retrieved from voedingscentrum.nl

20

# NUTRITION

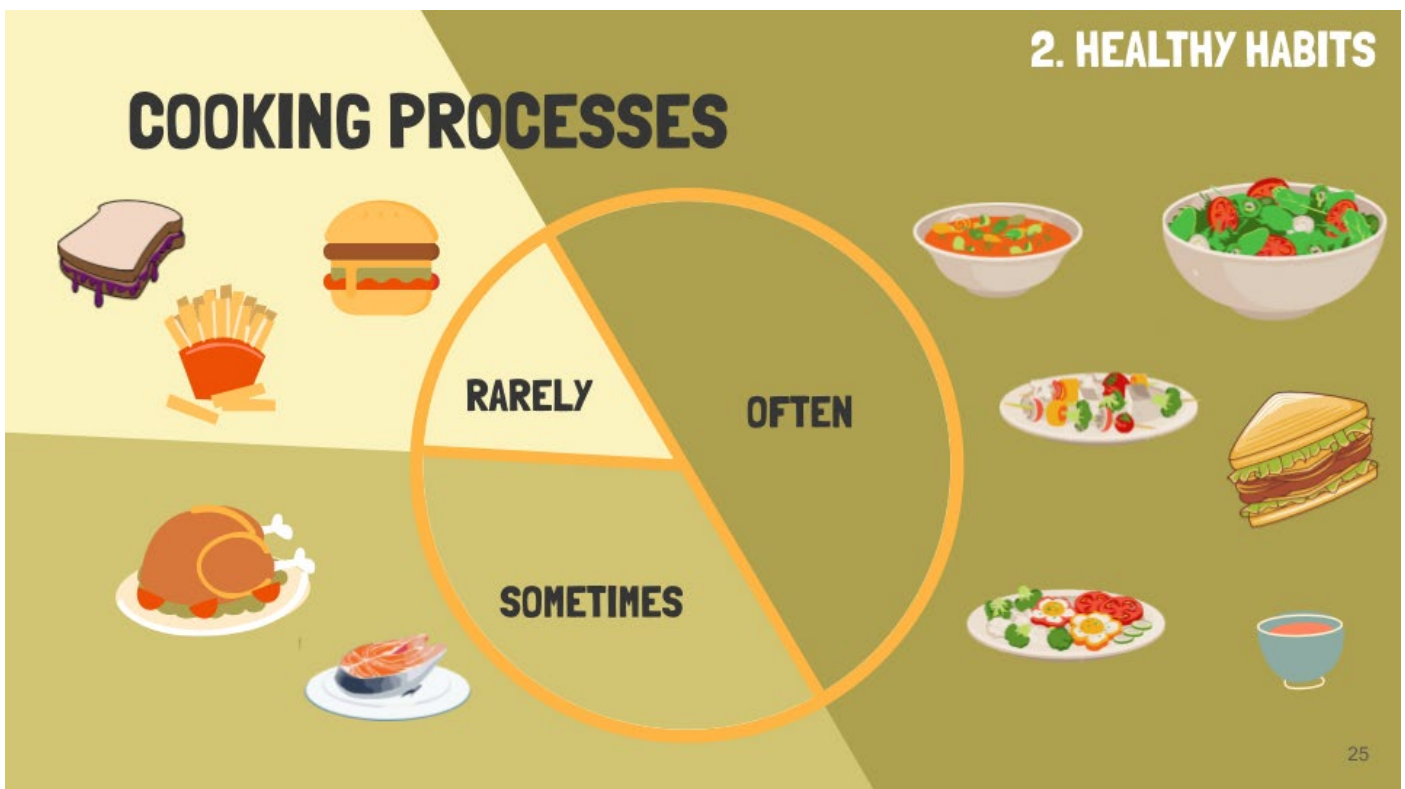
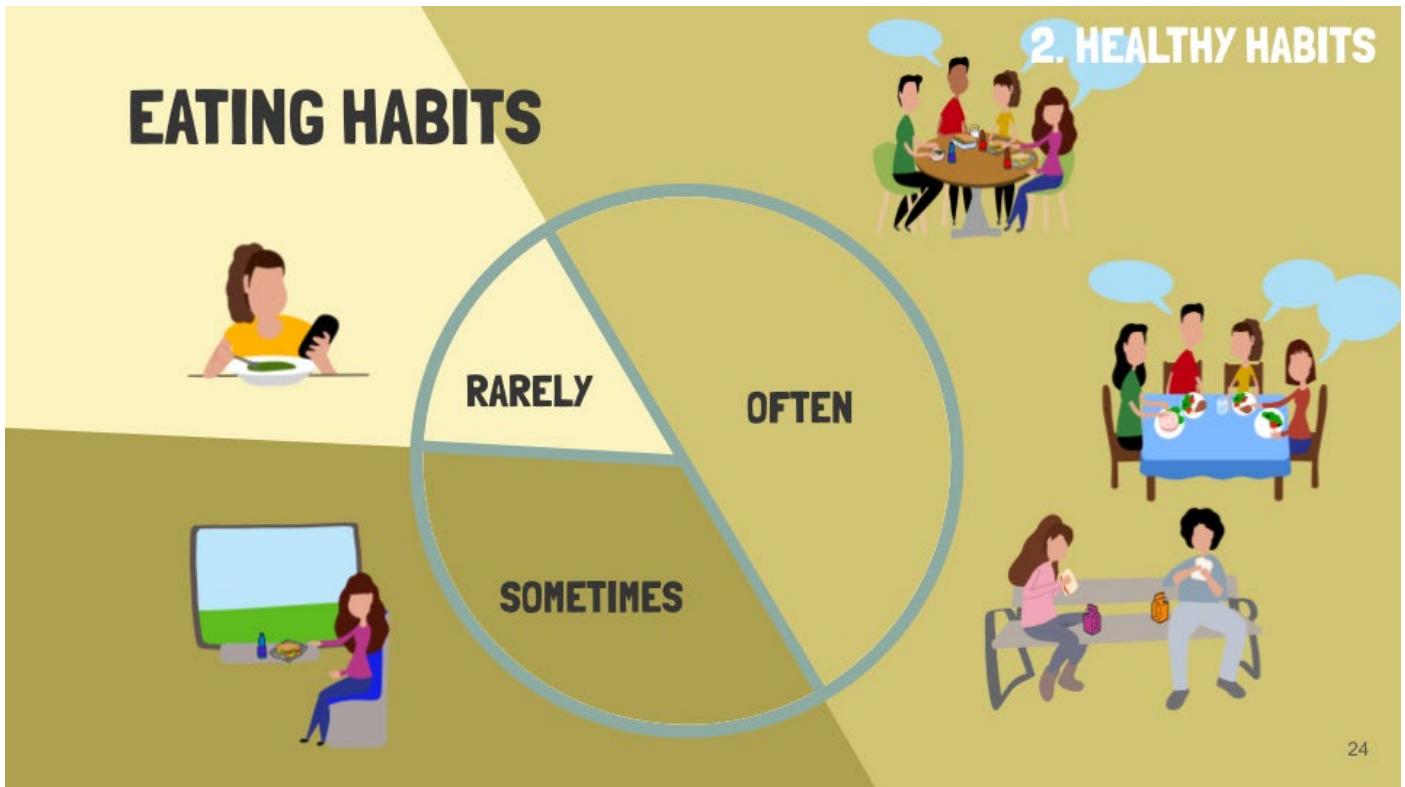
Lots of fruit and vegetables  
 Especially whole grain products  
 Less meat and **more plant-based food**. Vary the diet, switch between fish, pulses, nuts, eggs and vegetarian products  
 Sufficient dairy products  
 A handful of unsalted nuts  
 Soft or liquid spreadable fats and cooking fats  
 Sufficient amount of fluid (water, tea and coffee)

## 2. HEALTHY HABITS



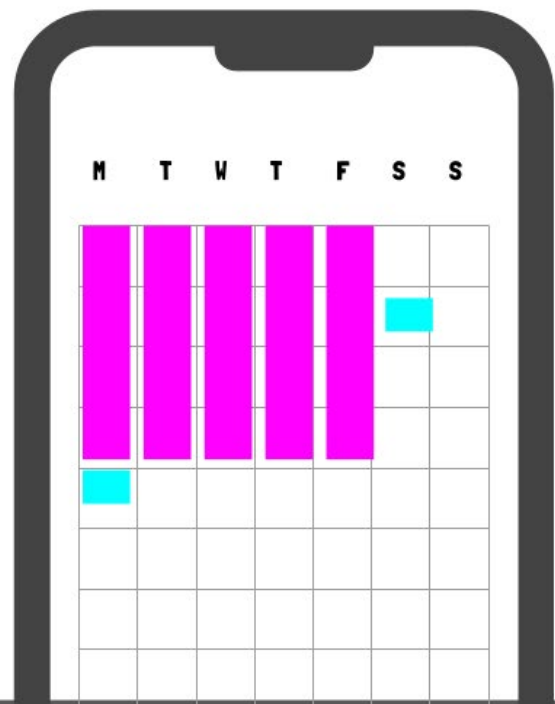
Wheel of five. Retrieved from voedingscentrum.nl

21



## Activity to think about our routines

Game in which they need to plan a healthy routine based on the activities they do. School, sports, friends, music, arts, eat... Similar to a tetris.



## MOVEMENT

**1 hour/day**

Moderately intensive activity



## 2. HEALTHY HABITS

**2-3 times/week  
for around 1h**

Muscle and  
bone-strengthening  
activity



### 3. CONCLUSION

## MAIN GUIDELINES

### 1 BREAKFAST

Start the day by having a good breakfast.

### 2 MOVEMENT

Move around 1 hour/day and exercise 2-3/week  
Do sports that you enjoy.

### 3 FOOD

There are no good or bad food.

### 4 MEALS

Have 4-5 meals/day, maximum 7.

### 5 SUSTAINABLE

Choose sustainable options.

26

### 3. CONCLUSION

## QUESTIONS & REFLECTION

I learned that...

It shocked me that...

A 2x2 grid for reflection. The top-left quadrant is labeled 'I learned that...', the top-right 'It shocked me that...', the bottom-left 'I will try to incorporate to my life...', and the bottom-right 'It's going to be difficult to try...'. A horizontal arrow points from the left to the right, and a vertical arrow points from the top to the bottom, intersecting in the center of the grid.

I will try to incorporate to my life...

It's going to be difficult to try...

27

### 3. CONCLUSION

# QUESTIONS & REFLECTION

28

**Figure 65.** Offline version of the previous slide.

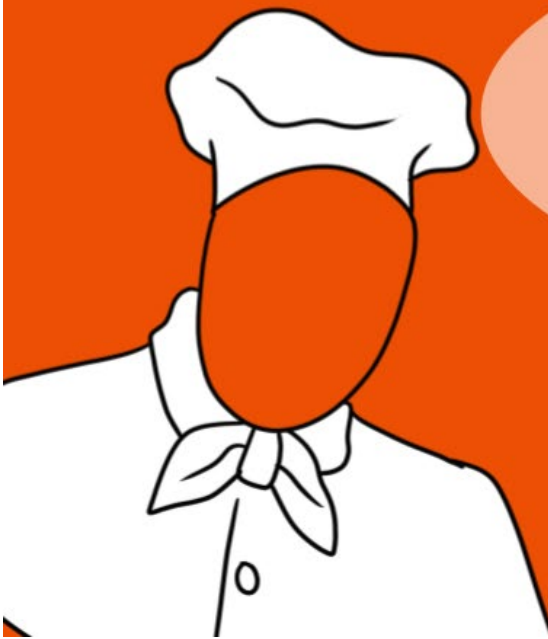
### 3. CONCLUSION

## EAT WITH COLOURS!

An easy way to eat healthy is to add colours to your meals. Look at those sandwiches, they look amazing!

29

### 3. CONCLUSION



**We learn how to eat by  
eating and the best way  
to do so is cooking!**

30

## 12. Looking for balance redesign - Spanish

### Sensitizing activity

Play a game that teenagers already know (typical warming up game) that involves movement. Add a narrative that helps understand how people needed to hunt to be able to eat and now we don't need to make any effort.



**tas** program you and alícia for health

# LÔÔKING FOR BALANCE



### 13. Looking for balance redesign - Spanish

#### Primera toma de contacto

Jugar un juego que los adolescentes ya conozcan (típico juego de calentamiento) que implique movimiento. Agregando una narrativa que ayude a comprender cómo las personas necesitaban cazar (y con ello realizaban ejercicio) para poder comer y ahora no necesitamos hacer ningún esfuerzo.



**tas** tu y alícia por la salud

## LÔÔKING FOR BALANCE



## ÍNDICE



**EQUILIBRIO**



**HÁBITOS  
SALUDABLES**



**CONCLUSIÓN**

### Mundo animal

### 1. EQUILIBRIO



## 1. EQUILIBRIO

## Mundo animal

Go to [www.menti.com](https://www.menti.com) and use the code 6616 7090

How much food consumption do you think they need?

Mentimeter



Little

Cow

Cat

Bee

A lot

6

## 1. EQUILIBRIO

## Mundo animal



¿Qué consumo de alimentos necesitan?

7

Figure 66. Offline version of the previous slide.

## 1. EQUILIBRIO

## ESTRATEGIAS ALIMENTARIAS



Dedican mucho  
esfuerzo o mantienen  
una actividad frenética



Basan la eficiencia  
en el ahorro de  
energía

8

## 1. EQUILIBRIO

## Lo importante es el EQUILIBRIO!

Lo importante **para estar sano, sentirse bien y crecer adecuadamente**, es que la energía ingerida a través de los alimentos sea igual a la energía gastada.



MOVIMIENTO

COMIDA

9

## 1. EQUILIBRIO

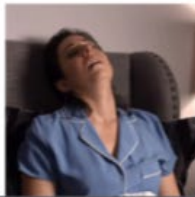
## GASTO ENERGÉTICO

Go to [www.menti.com](https://www.menti.com) and use the code 6616 7090

Who needs more energy?

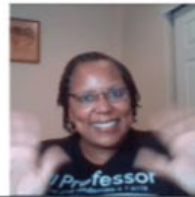
Mentimeter

0



Sleeping woman

0



Awake woman

10

## 1. EQUILIBRIO

## GASTO ENERGÉTICO

¿Quién necesita más energía?



11

Figure 67. Offline version of the previous slide.

## 1. EQUILIBRIO

### GASTO ENERGÉTICO

¿Quién necesita más energía?



12

**Figure 68.** Offline version of the previous slide.

## 1. EQUILIBRIO

Vamos a ponerlo en práctica!



13

## Actividad para comprender los gastos energéticos y la relación con la nutrición

Divida la clase en 4 grupos y asigne una actividad diferente a cada grupo durante 5 minutos:

- 1: juego de mesa
- 2: caminar
- 3: abdominales, sentadillas, empuje
- 4: saltar rápido

Una vez pasado el tiempo pasar al convertidor y ver cuantas avellanas debe comerse cada alumno y reflexionar sobre ello.



## HÁBITOS SALUDABLES

### 2. HÁBITOS SALUDABLES

¿Por qué?

Es muy importante mantener un estilo de vida saludable. Podrías evitar tener diversas enfermedades en el futuro como diabetes, enfermedades cardiovasculares...



# HÁBITOS SALUDABLES

## 2. HÁBITOS SALUDABLES

¿Por qué?

- Mejor humor
- Mejor calidad de sueño
- Reduce la ansiedad
- Energía constante a lo largo del día
- Socializar
- Mejor rendimiento académico, facilidad para concentrarse
- Ayuda a los músculos
- Autocuidado, aprendiendo a escuchar nuestro cuerpo

16

# HÁBITOS SALUDABLES

## 2. HÁBITOS SALUDABLES

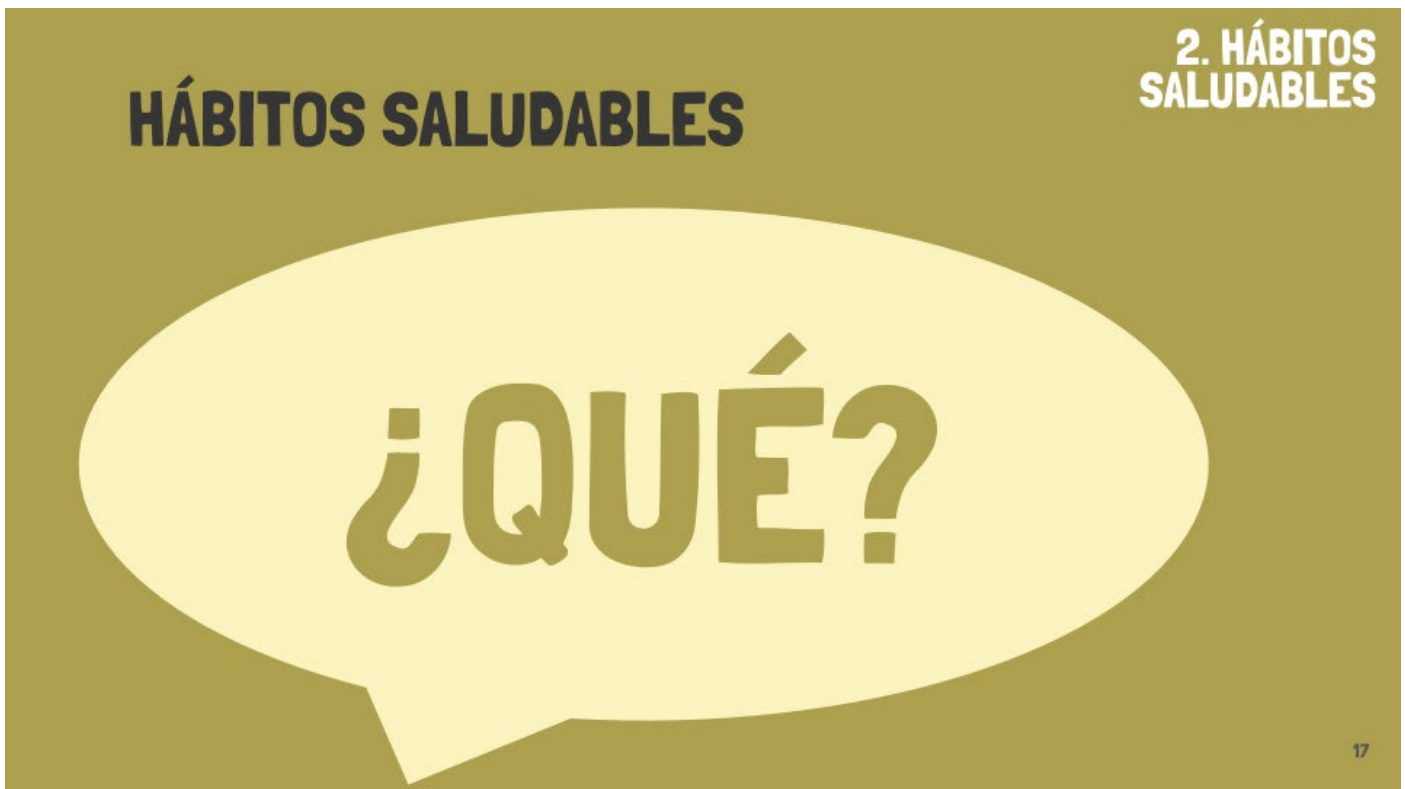
What?

Go to [www.menti.com](https://www.menti.com) and use the code 6616 7090

What is important to have a healthy lifestyle?

Mentimeter

18

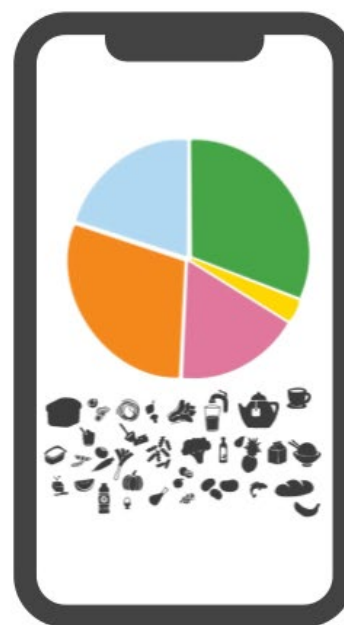


**Figure 69.** Offline version of the previous slide.



## Actividad para pensar sobre nutrición

Juego en el que deben arrastrar los diferentes grupos de alimentos a la rueda de cinco. Deben pensar qué grupos de alimentos debemos comer con más o menos frecuencia.



## NUTRICIÓN

## 2. HÁBITOS SALUDABLES



Rueda de los cinco. Imagen de voedingscentrum.nl

# NUTRICIÓN

Mucha fruta y verduras.  
Especialmente **productos integrales**.  
Menos carne y más **productos de origen vegetal**.  
Dieta variada, pescado, legumbre, frutos secos, huevo y productos vegetarianos.  
Suficientes **lácteos**.  
Un puñado de **frutos secos sin sal**.  
**Grasas** para untar blandas o líquidas y grasas para cocinar.  
Beber suficiente **líquido** (agua, té o café)

## 2. HÁBITOS SALUDABLES

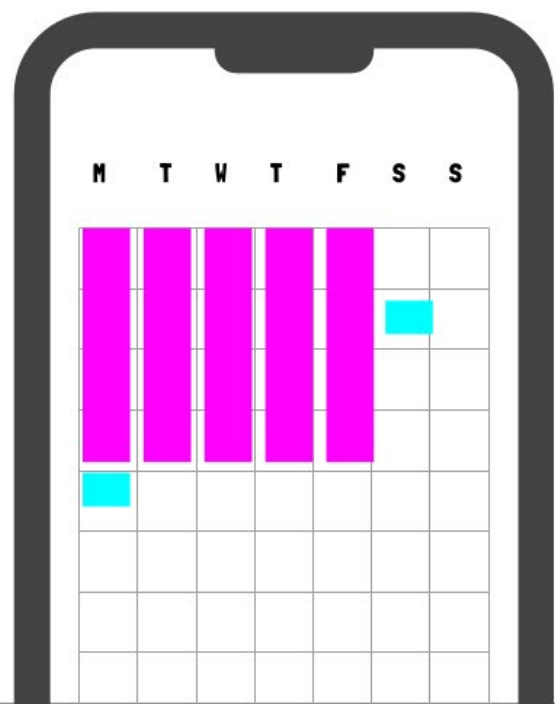


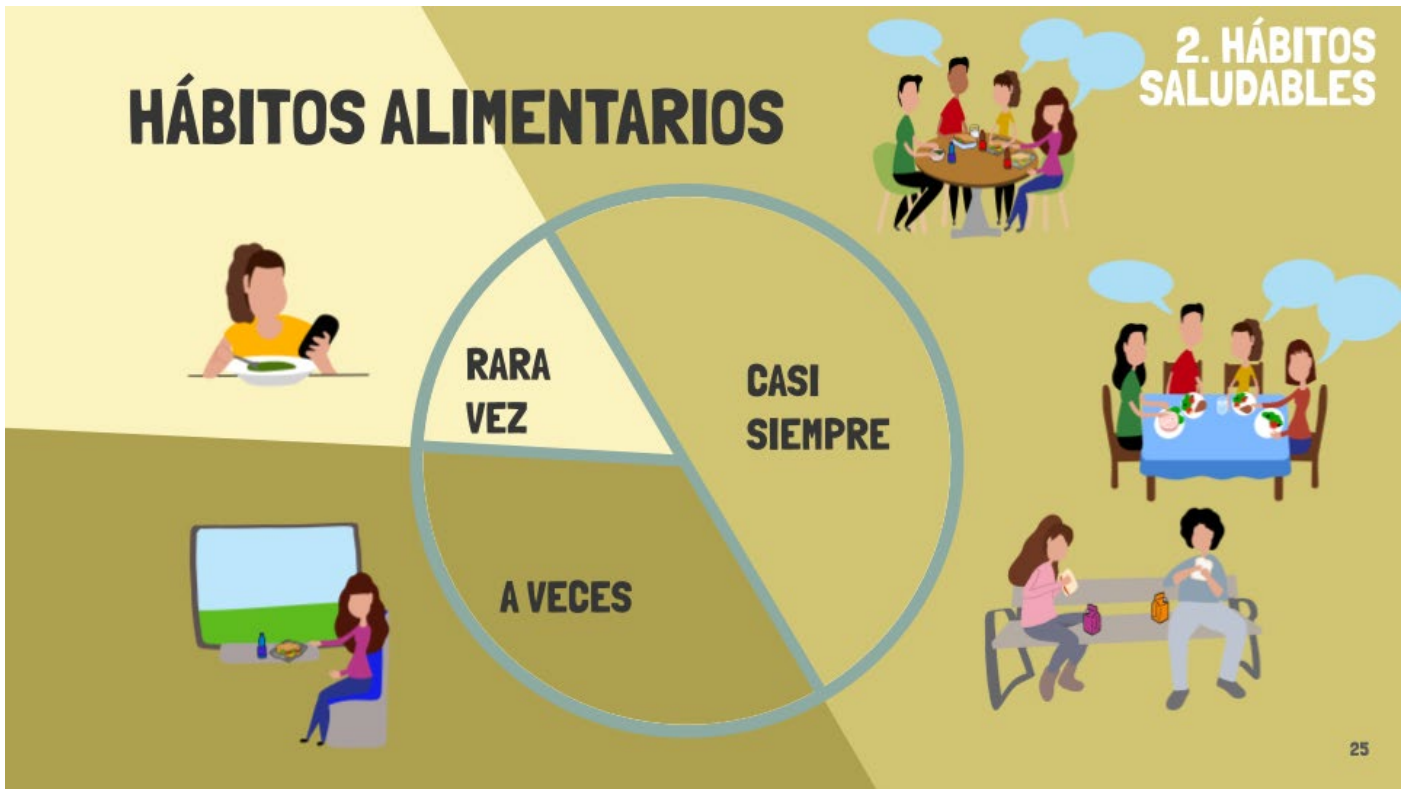
Rueda de los cinco. Imagen de voedingscentrum.nl

22

## Actividad para pensar en las rutinas

Juego en el que deben planificar una rutina saludable en base a las actividades que realizan. Escuela, deportes, amigos, música, artes, comer... Similar a un tetris.





## MOVIMIENTO

**1h/día**

Actividad moderada



## 2. HÁBITOS SALUDABLES

**2-3**

**veces/semana**

Actividad de fortalecimiento muscular y óseo.



24

## RESUMEN

## 3. CONCLUSIÓN

### 1 DESAYUNO

Comienza el día siempre desayunando.

### 2 MOVIMIENTO

Muévete entre 30 y 60 minutos al día, a una intensidad moderada.

### 3 COMIDA

No existen alimentos buenos o malos.

### 4 COMIDAS

Haz entre 4-5 comidas al día.

### 5 DEPORTE

Practica el deporte que mejor se adapte a tus circunstancias y gustos.

27

**3. CONCLUSIÓN**

# PREGUNTAS & REFLEXIÓN

He aprendido que...

Me ha sorprendido...

Intentaré aplicar...

Me resultará difícil...

28

**3. CONCLUSIÓN**

# PREGUNTAS & REFLEXIÓN

29

Figure 70. Offline version of the previous slide.


### 3. CONCLUSIÓN

## ¡Come de colores!

Una manera fácil de comer sano es  
agregar colores a tus comidas.  
¡Mira esos sándwiches, menuda  
pinta!

30

### 3. CONCLUSIÓN



**Aprendemos a comer  
comiendo y la mejor forma  
de hacerlo es cocinando!**

31

# IDE Master Graduation

## Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

### ! USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT

Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

### STUDENT DATA & MASTER PROGRAMME

Save this form according the format "IDE Master Graduation Project Brief\_familyname\_firstname\_studentnumber\_dd-mm-yyyy". Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !



family name Julian 5322  
initials L given name Leyre  
student number \_\_\_\_\_  
street & no. \_\_\_\_\_  
zipcode & city \_\_\_\_\_  
country \_\_\_\_\_  
phone \_\_\_\_\_  
email \_\_\_\_\_

Your master programme (only select the options that apply to you):

IDE master(s): ☐ IPD ☒ Dfl ☐ SPD

2<sup>nd</sup> non-IDE master: \_\_\_\_\_

individual programme: - - (give date of approval)

honours programme: ☐ Honours Programme Master

specialisation / annotation: ☐ Medesign

☐ Tech. in Sustainable Design

☐ Entrepreneurship

### SUPERVISORY TEAM \*\*

Fill in the required data for the supervisory team members. Please check the instructions on the right !

\*\* chair Annemiek van Boeijen dept. / section: HCD/DA  
\*\* mentor Valentijn Visch dept. / section: HCD/DA  
2<sup>nd</sup> mentor Elena Roura Carvajal  
organisation: Alícia  
city: Sant Fruitós de Bages country: Spain

comments  
(optional)

In this project Valentijn and Annemiek are complementary. Valentijn's expertise is behavioural change and obesitas risk prevention, Annemiek's expertise is on cultural studies and design.

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v..



Second mentor only applies in case the assignment is hosted by an external organisation.



Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

**APPROVAL PROJECT BRIEF**

To be filled in by the chair of the supervisory team.

chair Annemiek van Boeijen date 15 - 10 - 2021 signature \_\_\_\_\_

**CHECK STUDY PROGRESS**

To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: 39 EC

Of which, taking the conditional requirements into account, can be part of the exam programme 30 EC

List of electives obtained before the third semester without approval of the BoE

☒ **YES** all 1<sup>st</sup> year master courses passed

☐ **NO** missing 1<sup>st</sup> year master courses are:

name C. van der Bunt date 18 - 10 - 2021 signature \_\_\_\_\_

**FORMAL APPROVAL GRADUATION PROJECT**

To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked \*\*. Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?
- Is the level of the project challenging enough for a MSc IDE graduating student?
- Is the project expected to be doable within 100 working days/20 weeks ?
- Does the composition of the supervisory team comply with the regulations and fit the assignment ?

Content: ☒ **APPROVED** ☐ **NOT APPROVED**

Procedure: ☒ **APPROVED** ☐ **NOT APPROVED**

comments

name Monique von Morgen date 26 - 10 - 2021 signature \_\_\_\_\_

## Guiding teenagers through a healthy nutrition

project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 18 - 10 - 2021

23 - 03 - 2022

end date

### INTRODUCTION \*\*

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

The mission of the Catalan Foundation Alícia is to promote healthy eating for everyone, food being healthy, sustainable, tasty, accepted according to cultures and traditions and adapted to any life situation. The foundation is a research centre focused on innovation in cuisine, and it tackles different fields as can be seen in its webpage (<https://www.alicia.cat/en/>).

One of its areas of activity is "Health and eating habits" with the aim to promote health and prevent illness by improving eating habits, creating awareness of what people in Spain eat, providing dietary behaviour models and providing culinary answers to specific contexts.

It is a very relevant topic since there are many illnesses that are associated with bad nutrition, such as diabetes and cardiovascular diseases or some cancers (among others). In the same way, as WHO states, "Obesity is one of the greatest public health challenges of the 21st century in Europe" (World Health Organization, n.d.)

For this project, it has been decided to focus on a specific program carried out by Alícia in different Spanish schools, the TAS program (<https://programatas.com/>); Tú y Alícia por la Salud (You and Alícia for Health). This program is targeted to teenagers aged 13-14 in Spanish schools and the goal is to improve their quality of life and provide them with knowledge and skills to avoid future illnesses caused by bad habits.

The program has different phases and formats to better adapt to schools, and the methodology is based on involving students into the process. Teenagers are the ones that identify the behaviors to improve and work towards a proposal to change those behaviours. This program was designed by the Alícia Foundation about ten years ago and designed with Spanish academic centers in mind. Due to the success of this program (visible results on their website), it is thought interesting to adapt this program to different countries and/or cultures.

Therefore some cultural factors will be analyzed such as social, daily life, economic, environmental or school context, values of food and literacy. In the same way, it is important to explore and understand what is the influence of design and how can design contribute to promote healthy eating habits.

Thus the stakeholders involved would be:

- Spanish teenagers age 13-14, their caregivers/family, the society they are living in, teachers that took part in the implementation of the TAS program...
- Dutch teenagers age 13-14, their caregivers/family, the society they are living in, school teachers... (maybe other European country's citizens too)
- Alícia Foundation

space available for images / figures on next page

introduction (continued): space for images



image / figure 1: Children during a school Alícia program (source: <https://www.compromisoempresarial.com/>)

DUTCH CANTEEN

VS

SPANISH CANTEEN



<https://www.europeanschoolthehague.nl/schoollife/canteen>

<https://www.sanferminikastola.eus/es/servicio>

image / figure 2: Lunch comparison

## PROBLEM DEFINITION \*\*

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

Designing an intervention that adapts a program that promotes healthy habits from one country to another is a complex task. It is not clear yet how this intervention could be accommodated and appropriated by different cultural groups. There have been two levels of culture distinguished: national and generational.

Initially, the focus will be on teenagers (age 13-14) from Spain, The Netherlands and another European country with a different food culture (artefacts, habits, ingredients, pace of time...). Therefore, research and design explorations are needed.

The TAS program has great potential to scale up to other teenagers in Europe. However, in order to make this global and promote health among teenagers around the world it is fundamental to consider cultural differences. Health related campaigns do not have the same effect in different countries and/or cultures (Gram et al. 2010) and the aim of this project is to adapt an existing Spanish program to different European cities (The Netherlands and another European country with a different food culture). Different studies have been carried out, mostly in the field of IT and web design (Snelders et al., 2011; Alostath et al., 2009; Eune & Lee, 2009; Marcus & Krishnamurthi, 2009) that show that adapting to local customs enhances user trust and appreciation of the service. Therefore, research should be carried out to determine the guidelines to follow when adapting the program to different countries.

On the other hand, the program is carried out in a school context, it is also crucial to analyse how the context varies depending on the country, culture, and framework. As researched on the studies from Hofstede (1986); Maandag et al. (2007); Zurlo et al. (2020) it is shown that there are many differences depending on the type of school, the teacher's role, teacher-student interaction, etc. and thus must be researched.

In addition, the forms in which health information in media (websites, books, social media platforms etc.) are represented and the meaning they elicit varies among cultures. Therefore, research and design explorations are needed. In research from Gram et al. (2010) it has been proven that for the same product, different countries want the message about health articulated in different ways.

## ASSIGNMENT \*\*

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in "problem definition". Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, ... In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

Design an intervention to promote healthy eating behaviours that adapts a teenager-targeted nutrition-specific Spanish program to other European teenagers. Understand eating culture and school culture, and how to attune and adapt to other cultures.

The intervention will be a program targeted to teenagers in the format of a service, similar to the current TAS program (based on surveys, lectures, workshops and different activities). The countries that will be analysed are Spain, The Netherlands and another European country that differs in terms of food culture (ingredients, used artefacts, habits, pace of time...).

Some cultural factors that will also need to be researched:

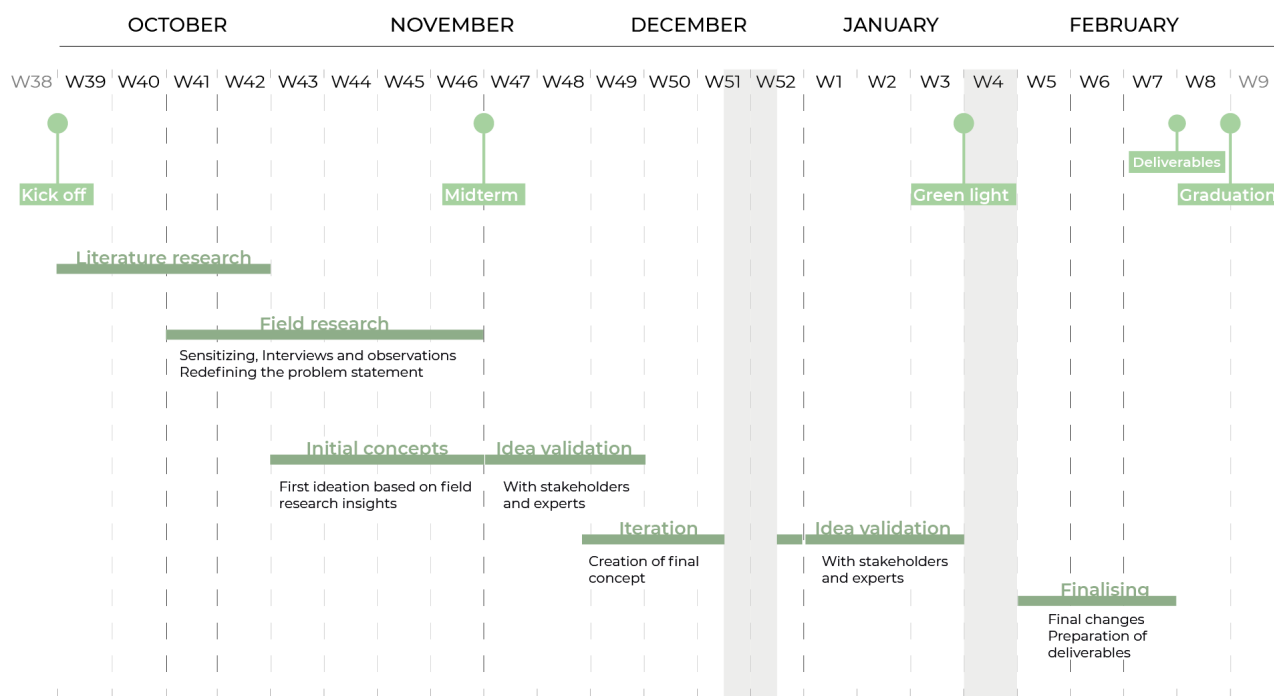
- Social context: What social interactions regarding eating are there? For example, eating alone/with others, eating while watching TV, eating while working...
- Daily life context: the timetables they follow, how many meals they have per day, when do they have them, how much exercise and which type of exercise do they do, when do they exercise, how often do they cook at home/eat out, how much time do they spend cooking/eating...
- Economic context: what can they afford to eat and/or drink?
- Environmental context: what is there to eat?
- Values of food: what does eating mean to them?
- Literacy: how much knowledge do they have about nutrition? And how is information represented in the media?
- School context: teacher's role, educational system, methodology, pupil's participation...

It is also important to explore and understand what is the influence of design and how design can contribute to promoting healthy eating habits.

## PLANNING AND APPROACH \*\*

Include a Gantt Chart (replace the example below - more examples can be found in Manual 2) that shows the different phases of your project, deliverables you have in mind, meetings, and how you plan to spend your time. Please note that all activities should fit within the given net time of 30 EC = 20 full time weeks or 100 working days, and your planning should include a kick-off meeting, mid-term meeting, green light meeting and graduation ceremony. Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any, for instance because of holidays or parallel activities.

start date 18 - 10 - 2021 23 - 3 - 2022 end date



The project has been planified with a whole length of 22 weeks, including two free weeks (one during Christmas Holidays and the other one initially planned after the green light meeting).

The project will start with literature research to get to know the topic and the context, serving as a base for the project. The Alícia foundation will provide the data gathered during the implementation of the TAS program. This phase will validate the problem statement and give guidance into the process.

With the aim of understanding the cultural factors and developing a direction, field research will be carried out. For that, there will be a recruitment of teenagers and/or teachers (both Spanish and Dutch) and the research will start by sensitizing the participants and other activities such as workbooks, interviews and observation. Through comparison, possible differences and similarities will be discovered. The duration of this process could vary depending on the difficulties found when recruiting the participants.

While the field research is being done, it is assumed that a direction on how to attune and accommodate a nutrition program in different European countries will be reached by analysing the insights. The plan is to start ideating in parallel to the mentioned research since some ideas could come up during the process. This way, ideally, during the midterm presentation it will be possible to present some first concepts. These first concepts will be evaluated with stakeholders (children, parents, nutrition experts...) and iterated based on new insights. There will be a free week in between the iteration process due to the Christmas holidays and the redesigned concepts will be evaluated afterwards (again by the experts and in case of difficulties arranging meetings the second option would be to validate it with acquaintances). So the process is based on ideation, validation and iteration.

Therefore, once that process is finished a final design will be reached which will also be evaluated before the green light. This way, once the green light meeting has taken place and a positive result is accomplished, there will be three

## MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, ... . Stick to no more than five ambitions.

This project stems from a combination of both, personal interest in the subject and the opportunity offered by the university. This is why there is a personal motivation to work on a health and obesity issue in society.

I have a special interest in health issues, since my decision to take the DFI master was in a way with the objective of being able to work on projects of this type. In the same way, after having taken courses such as "Health Psychology tools and methods" I have found that this area resonates with me. Especially to empower and motivate people and/or patients to change their behavior towards a healthier one.

Therefore, I would like to work in a project that allows me to put in practice the knowledge that I have acquired during my studies and challenges me to go further in a complex context in which many aspects have to be taken into account and analyzed.

Another competence that I would like to learn and develop is my ability to incorporate culture-sensitivity into design. After participating in the Culture sensitive design course and realizing the importance of incorporating culture sensitivity into the design process and avoiding mismatches I believe that in most (if not all) cases there is no other way. This project will be the first time in which I will apply this theory in practice (apart from when I took the CSD course) and I expect it to be a suitable project for it since it will consist on an adaptation from one country to another, and therefore from one culture to another.

On the other hand, I would also like to put into practice my context mapping skills by carrying out a participatory process in which participants will take part in the field research and in different parts of the process.

## FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.