EATING IS LEARNING!

LEARNING PROGRAM ABOUT HEALTHY EATING AND A HEALTHY LIFESTYLE

Impact Report

By Designathon Works
In collaboration with Microsoft, the Hollands Kroon municipality and JOGG
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Microsoft

gemeente Hollands Kroon

Hollands Kroon gezonde jeugd gezonde toekomst

Designathon Works

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EXECUTIVE SUMMARY

With this report, we wish to present you with the unique findings of the project Eating is Learning! rolled out during 2022 and funded by Microsoft. During this project, children in the Hollands Kroon municipality of the Netherlands used the Designathon method to create innovative solutions around the theme of healthy eating and a healthy lifestyle by responding to the question: "What can you think of to help people eat healthier"? Microsoft has capacity building initiatives for the communities around their data centers. This project is an example of one of those initiatives in this region of Holland. The theme is the result of a core focus of the municipality on creating a healthier community. As guidance, children were asked to consider:

1. How can we help families eat healthier if they don't have enough time to cook?
2. How can we help families eat healthier if they don't have enough money for healthy food choices?
3. How can we help families to know more about healthy eating?
4. How can we help families eat healthier with all the fast food and junk food advertisements?

The project took place from September to November 2022 with six participating schools, one classroom per school : 't Span in Den Oever, IKC Spoorbuurt in Anna Paulowna, RKBS De Marinx in 'T Veld, Don Bosco, Het Baken and Triangel in Wieringerwerf. Classroom teachers were encouraged to co-facilitate the lessons, resulting in six teachers taking part. 149 students, ages 8 to 12, took part. In small groups, these students generated a total of 45 solution ideas.

Success of the project was evaluated through pre- and post-surveys completed by the teachers and students. For students, the intention was to measure any increase in their knowledge of healthy eating, the problems associated with it and the ability to identify good solutions that would result in a healthier community. For teachers, the evaluation measured their observations of what the children know and later learned as well as to assess their skill development in the areas of focus: problem solving, teamwork and creativity. In addition to these skills areas, although not measured, there was a strong focus on digital literacy skills woven into the curriculum of the project.

The process for understanding the problems around healthy eating into solution generation followed the standard Designathon process of seven steps across four lessons.

The Inspiration and Research phases took place in lesson 1. Then in lesson 2 children worked in teams to brainstorm and select their solution ideas. The solutions generated by the participating children identify the focus area where change and innovation is needed. These ideas were elaborated, by the children who invented them, into sketches, and then were made into prototypes in lesson 3,

culminating in final presentations and reflection during lesson 4.

In addition there was a brief homework assignment after the first three lessons. Tasks included: an online survey to get the opinions of family members or neighbors, searching for reliable health information online and analyzing the sources, and practicing their presentations in front of family members.

This report shows that 108 pre-tests and 59 post-tests were completed by the children participants. 6 teachers took part with 4 completing the post-survey. Children already had a relatively high knowledge of healthy eating, but also identified with the problems presented on why it is challenging for families to eat as healthy as they would like. They could also more positively identify reasons for unhealthy eating and consequences of consistent wrong food choices. Additionally, children became aware during the course of the project that people living in the Netherlands don't eat as healthy as they thought!

There were some limitations on the data. Even though children clearly demonstrated their ability to work in teams to come up with unique solution ideas and to communicate those ideas, their post-test results weren't reflective of this increase in these skills. Due to that additional requests for observation went out to facilitators and is discussed in the final section of this report.

In total children presented 45 ideas in small teams. The most commonly tackled problem was around how expensive healthy food is, making it less accessible to many. Many children presented digital components with their solutions.

By stimulating children to solve the world's most pressing issues, Designathon Works helps to unleash children's creativity and to spread awareness about the importance of engaging children as co-designers of our shared future. Our biggest wish is to involve children in the big conferences of the world, not as decision makers but as consultants and creative thinkers. This will further empower and encourage children to play a part in solving worldwide issues. By reading this report you are playing a role in creating and supporting the next generation of changemakers.

PROJECT OVERVIEW

The project, Eating is Learning! focused on pupils in the age group of 8-12 years old at 6 schools in Hollands Kroon. The municipality comprises the 15 North Holland Municipalities with the lowest average disposable income. According to municipal statistics, 5% of residents experienced a major drop in income in 2020, 15% experienced a significant drop, and 31% experienced a moderate drop. While this is in line with data on the nationwide fall in income, it may amplify the effect on already existing vulnerable households. For example, this can have consequences for food diversity and the nutritional value of children's diets. Diet-related health problems have been identified as a priority in the Municipality of Hollands Kroon. Between 2013-2016, the municipality has identified diabetes and obesity as the main theme in its "Kadernota local health policy". As a result, the project focuses on empowering children as champions of healthy eating within their schools, homes and communities.

The Eating is Learning! project is commissioned and funded by Microsoft, but developed and executed by Designathon Works in collaboration with Microsoft, the Hollands Kroon municipality and JOGG.

The curriculum and methodology is developed by Designathon Works and implemented by Designathon facilitators (with assistance from classroom teachers). Four lessons of 90 minutes each were developed to be delivered in each classroom and children were asked to come up with ideas around the theme: "Eating is Learning: healthy eating and a healthy lifestyle." The aim of the project was to actively involve children and increase their knowledge of healthy eating. Children learned about what healthy eating means, why it is important and the problems surrounding wrong food choices and why families perhaps struggle to eat as healthy as they would like. The four problems proposed to the children were:

1. Too little time for (healthy) cooking
2. High prices of healthy food and in some cases too little choice of healthy options in the area
3. Lack of knowledge about the importance of healthy eating or what healthy food really is
4. Exposure to too many advertisements that tempt people to buy unhealthy snacks or ready-made food

In this series of lessons, there was also a lot of emphasis on conducting (online) research on the theme of healthy food and a healthy lifestyle. Where possible, children were encouraged to conduct research among parents/caregivers.

Additionally, as children developed prototypes they were also encouraged to come up with a plan to motivate people to participate. This part also immediately gives them a voice towards adults and the municipality. At the end of the lesson series, we reflect on the process with the children and encourage them to further develop and implement future actions around healthy food and lifestyle choices. The intention is to also implement a winning idea across participating schools.

SKILL FOCUS

Project-based learning gives teachers and students the opportunity to look at a subject from different angles and disciplines. It also offers the possibility to use multiple tools to develop core skills. The approach consists of a mix of 21st century skills and Dutch primary education core objectives.

Career development : at each stage of the Designathon method, children develop 21st century skills, which they can use to design a more sustainable, equitable future. Our approach influences the development of future-proof learning environments, where teachers can see firsthand the benefits of learning by design and project teaching. In the inspiration and ideation phase of the Designathon workshop, students link local challenges to national and global issues, developing their global citizenship skills. A Designathon workshop also encourages children to develop their creativity and problem-solving skills by engaging in solutions to problems in their own living environment. In addition, working in groups helps children develop their communication and interpersonal skills, such as empathy, cooperation and negotiation as part of teamwork. All these skills have been recognized by the World Economic Forum as essential skills needed to deal with complex issues now and in the future.

Problem-solving	Problem-solving is the ability to recognize a problem and come up with a plan to solve the problem. Students learn to define the problem in a specific context and use subject knowledge and skills to arrive at a solution. The process that leads to solving the problem is more important than finding the solution itself.
Teamwork	Teamwork is about jointly achieving a goal, and being able to supplement and support others in this. This kind of collaboration has both a social and a cognitive component.
Creativity	Creativity is the ability to find new and/or unusual but applicable ideas for existing issues. Creative ability is best developed in a rich learning environment in which children are encouraged to come up with solutions themselves.

Digital skills and transformation : during the first two phases of the method (inspire and research), students are introduced to innovative, child-centered online research methods to further explore access to healthy food and healthy lifestyle choices. Digital literacy is also developed during the creation phase (e.g. designing prototypes, apps, video editing, etc.) and in the presentation phases where children learn about digital communication tools.

Specifically the digital literacy skills focused on from the Dutch primary education guidelines were:

- Media literacy: insight into the media landscape, digital participation and security.
- Information skills: critical and systematic assessment of e.g. digital information.
- ICT basic skills: designing and realizing 'content' for various purposes (e.g. inform, advertise, warn, rate).

The project promotes the inclusion of children and their ideas, both within the classroom and within the Municipality. Within the classroom, the project is designed to build on existing eating habits. In addition, there is a lot of attention within the project for healthy food and lifestyle choices within the existing available resources.

A secondary goal of the project was to introduce teachers to the value of design thinking and project-based learning in a sustainable way. As a result, teachers were involved during the Designathon process in the classroom.

ABOUT THE CURRICULUM

The Designathon method includes seven steps: Inspire, Research, Ideate, Sketch, Make, Show and Reflect. The following provides detail on the learning objectives, lesson duration, Designathon steps covered, homework and skills practiced for each of the four lessons:

Content can be found here.

Lesson 1:

Learning objectives:

- Can identify the food groups on a 'healthy food plate'
- Can name 4 problems related to food
- Can define why healthy food options and choices are beneficial
- Understand how to create and conduct an online survey

Duration:

90 minutes

Materials:

- Powerpoint presentation (theme slides)
- Microsoft Live Form survey

Activities:

- Identifying problems: health and healthy eating in their environment through discussion and research
- Create an (online) survey together to carry out at home

Skills:

ICT basic (digital) skills, information skills, media literacy.

Step 1 | Inspire (Information and problems):
Central questions: Do I eat healthy? Where can I get information about healthy eating? What is the 'healthy food plate'? What are the problems in my environment in terms of healthy eating?

Step 2 | Research:
Create an online survey (e.g. with Microsoft Live Form) to ask people if they eat healthy and what they see as health problems in their environment.

Homework:
Conduct the survey with relatives and neighbors.

Lesson 2:

Learning objectives:

- Can summarize the results of an online survey
- Can identify 2 to 3 solutions to the problem
- Can define the different solutions/awareness options Participates in teamwork to brainstorm ideas

Duration:

90 minutes

Materials:

- Powerpoint presentation (solutions)
- Ideation worksheet and Sketch worksheet
- Examples of websites, social media about healthy eating

Activities:

- Looking at the results of their survey
- Look at example solutions and think together how you can motivate people
- Work together in threes to come up with ideas and sketches
- Thinking together about how technology could help

Skills:

ICT basic (digital) skills, Computational Thinking, collaboration, critical thinking, problem solving.

Step 1 | Inspire (Examples of solutions):
Present different (mostly child-made) solutions that help spread the word about what healthy eating is, how to stay healthy, or how to solve other health issues in the area.

Step 3 | Ideation:
Think In groups of 3, the children will come up with their own ideas using the worksheet.

Step 4 | Sketch:
Sketch In the same groups they will refine the idea, choose the medium and sketch it.

Homework:
Pupils look for a few digital sources (in the field of health). They will take it with them for an activity in the next lesson.

Lesson 3:

Learning objectives:

- Can tell about reliable digital sources and identify criteria of a good digital product.
- Can give and receive positive feedback
- Understand how to make an idea more concrete with revision, drawing and prototyping
- Can identify successful ways of communicating their ideas and motivating others to participate

Duration:

90 minutes

Materials:

- Sketch worksheet
- Materials for making the prototype

Activities:

- Discuss digital sources and see where you should pay attention (with 2 or 3 examples)
- Recent adjustments to the sketches (think of a digital part as well) and presenting 3 groups Prototype the idea

Skills:

Communication, creative thinking, collaboration, critical thinking, basic ICT (digital) skills.

Step 4 | Sketch (presentation):
Refine ideas and (a few) groups present their sketches.

Step 5 | Making:
Using recycled materials, a camera, etc., children will bring their idea to life.

Homework:
See if they can finish their prototypes during the week and practice presentation (e.g. in front of parents, with other friends, or in front of the camera).

Lesson 4:

Learning Objectives:

- Can name two tips to give a better presentation.
- Can confidently present their creation.
- Can run an online quiz/poll game

Duration:

90 minutes

Materials:

- Materials for making prototypes
- Smartboard or projector to do the online quiz

Activities:

- Look for tips on how to give a good presentation
- Finish prototyping and practice presentation
- Present
- Play online Kahoot Quiz or Poll

Skills:

Creativity, teamwork, communication, ICT basic (digital) skills, information skills.

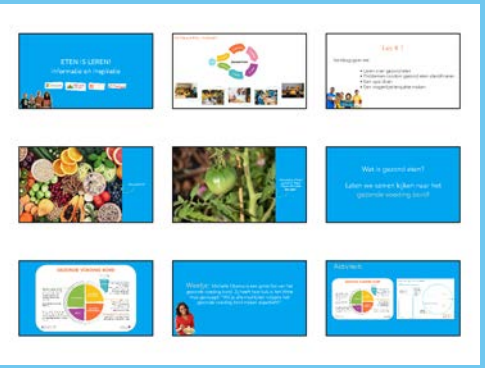
Step 5 | Making:
Finish making prototypes.

Step 6 | Present:

Time to shine! Groups present their idea, prototype, motivation - everything in an enthusiastic way.

Closing | Reflect:
Play an online quiz together.

Theme slides for lessons 1 to 4, with the accompanying information sheet:



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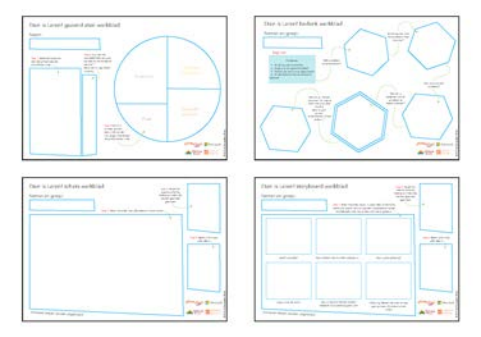
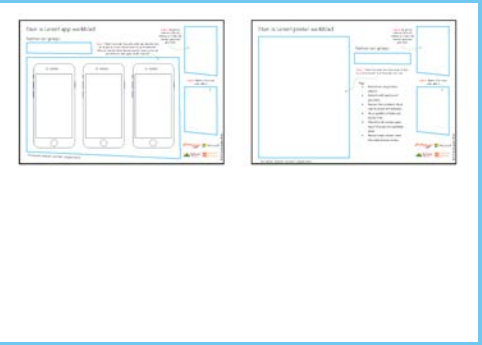
Worksheets:





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Survey:

ABOUT THE RESEARCH

The Designathon method focuses on developing the skills of all children, regardless of their gender, race, social status, skills or learning situation. The method recognizes that all children can and want to contribute to a better world. The project promotes the inclusion of children and their ideas, both within the classroom and within the municipality. Within the classroom, the project is designed to build on existing eating habits. In addition, there is a lot of attention within the project for healthy food and lifestyle choices within the existing available resources. Our methodology is designed to build children's confidence to design innovative solutions to challenges they face. Outside the classroom, the Designathon method aims to empower children's voices in decision-making by gathering key insights about children's experiences, ideas, and interests and integrating them into local government decision-making. The project therefore used the Designathon method as a means to gain more knowledge about the problems, questions and wishes in the community. As a result, the voice and idea of the child is even better positioned as an important stakeholder in finding solutions around health and well-being.

The main indicators to make this a successful project are described below:

1. **Children's level of knowledge about what constitutes a healthy diet:** Before and after the Designathon process, the children's level of knowledge was assessed to determine the extent to which their knowledge of healthy nutrition and lifestyle has improved. The assessment was carried out by teachers, which demonstrated first-hand the benefits of design learning and project teaching.
2. **Children's career skills level:** Teachers were asked prior to and one month after completion of the project to assess any changes in children's level of skills: problem solving, teamwork and creativity. A short teacher survey was conducted before and after the Designathon process to measure this based on observation of the children.
3. **Teachers understanding of the Designathon method and value place on design learning and project-based teaching:** This evaluation was added as a second section to the main pre- and post-survey for teachers (to avoid a lack of participation in requiring too much time to be spent on evaluations) was conducted to assess the interest in the Designathon method and the extent to which teachers see the value of design learning and project-based learning.

The table below summarizes the project indicators, reasoning, objectives and measuring instruments:

Indicator	Reasoning	Objective	Instrument for measuring
Knowledge level of children on the theme "healthy eating and healthy lifestyle"	Based on the choice of the municipality to focus on healthy lunches, we could assume that there is a low understanding around healthy food choices.	The children's understanding of the theme is considerably increased.	Pre and post workshop evaluation survey.
The children have the following skills: problem solving, teamwork and creativity.	Based on the current teaching methods in the Netherlands, we could assume that there is a limited level of skill in problem solving, teamwork and creativity of children in the region.	At least 90% of the teachers report an increase in the skill abilities of the children for the skills: problem solving, teamwork and creativity.	Pre and post workshop evaluation survey (completed by teachers)
Teachers understand the Designathon-method and value design learning and project-based teaching.	Based on the current teaching methods in the Netherlands, we could assume that there is a low knowledge level in this area.	At least 70% of teachers are interested in this way of giving, integrate it into their other lessons and take part in other Designathons.	Appeared as additional set of questions on same Pre and post workshop evaluation survey completed by teachers above

The pre- and post-test evaluation surveys for the children were identical. They consisted of 9 multiple choice questions and 1 open-ended question. 7 questions were testing for their knowledge of healthy eating and a healthy lifestyle. 2 questions were specific to skills (information literacy and problem solving/creativity), and the final question was an open ended request to share any ideas they already have which could address the problem of unhealthy eating. 108 children completed the pre-test and 59 children completed the post test. Even though it would have been desirable to have more children complete the post-test, it is still a high enough level of participation to derive results from the project.

The pre- and post-test evaluation surveys for the teachers were identical. They consisted of two parts:

- **Part 1 | Intended for measurement:** For comparison before and after the lesson series: Changing or increasing student skills in problem solving, collaboration, and creative thinking. This consisted of 12 questions where teachers were to rank the children's skills (on average for their classroom) on a scale of 1 to 5, with 1 being low ability and 5 being the highest ability.

- **Part 2 | Self-interest (or change of interest) teachers in Designathon/project-based learning methods:** This consisted of 8 ranking questions, on a scale from 1 to 5 with 1 being 'low' and 5 being 'high or very good'. For these questions, teachers were asked to consider their current level of knowledge, interest, and motivation as a teacher around design learning and project-based learning. In addition, there were 2 open-ended questions to check their motivation and for any questions.

All 6 participating teachers completed the pre-test and 4 completed the post-test.

45 solution ideas were generated to tackle the problems of this theme.

IMPACT

In order to understand children's relationship with healthy eating, we designed a pre- and post-evaluation to research what children already know and what they identify as consequences of and reasons for unhealthy eating.

Knowledge analysis from the pre-test of children: The children of Hollands Kroon municipality demonstrated a high level of knowledge about what healthy food is from the outset. An average of 86% of students could accurately identify what a healthy lunch looks like, that vegetables and water are two key items needed in a healthy diet daily, and that things like fries, which are made from potatoes, are actually not a healthy snack. Although this demonstrates an already high level of understanding of what healthy food is or a healthy lifestyle could look like, it does not evaluate their daily choices and habits. It is one thing to know what you should be eating, but it is another if they and their families are choosing for it.

The Netherlands ministry of health (RIVM) published in 2020 that only 10% of Dutch people eat healthy enough. The majority of the children surveyed weren't sure or thought that most people do eat healthy enough, only 16.7% thought that people in the Netherlands don't eat healthy enough.

When asked to identify consequences of not having a healthy lifestyle and reasons why people may not eat as healthy as they should, just an average of 21.8% of children could recognize that all potential answers were correct consequences and reasons. The most common choices for consequences of not eating healthy enough were that people can become sick, such as with diabetes or that they won't become as strong. And for the question: "Why do people not eat as healthy as they would like?", the most common answers were that healthy food is too expensive for some people and that there are too many tempting advertisements for snacks or fast food.

Skills | Digital literacy and problem solving: 46.3% of children said they knew where to find trustworthy information. This speaks to the information literacy development as part of their digital literacy skills, making that a valuable skill as part of the lessons to focus on.

And only 25% of children could confidently say that they had ideas already on how to help people eat healthier. 20 ideas were shared in the pre-test, and the most common answers given were around making healthy food cheaper and reducing junk food advertisements or increasing healthy food advertisements.

The results of the post-test on knowledge showed an increase in correct answers from an average of 86% to 90.2%. Another positive result was that there was an increase from 16.7% to 42.4% in awareness that Dutch people don't eat as healthy as we think.

Additionally, more children could identify that:

- All of the following are consequences of not eating healthy enough: we become too hyper or too tired and can't learn well, we become sick such as with diabetes, and we can't become or remain as strong.

- And that all of the following are reasons that people don't eat as healthy as they would want to: they don't have enough time to cook, healthy food for some people is too expensive, people don't know well enough what healthy food is, and there are too many tempting advertisements to eat unhealthy.

Unfortunately there was an insignificant change in identifying solutions to the problems. Only 10 students recorded an answer with their idea even though we saw each group sketch, create and pitch excellent ideas. Therefore there is a discrepancy in how the post-test evaluations were completed. To check this data, we sent an additional set of questions to facilitators of the program. See that discussion at the end of this report.

Skills assessment of children by teachers: The below presents the results of the ranking for children (on the scale of 1 to 5 with 5 being the highest ranking) on their observed abilities for the following skills prior to doing the project: Problem-solving, Teamwork, and Creativity.

There was a modest increase in the ranking of students on problem solving and a significant increase in creativity, however the average ranking still remained in the moderate range. Worth mentioning, the perceived skills of the students in teamwork actually decreased. This could use follow up, but it's likely that teachers overestimated the children's teamwork skills prior to the project.

45 total ideas were put forward from the teams within the six schools. The children were most inspired to tackle the problem "healthy food is too expensive". 19 of the ideas generated suggested solutions for this problem. Examples from the children were an app with tips on what healthy meals you can make from things you have in the refrigerator already, called 'KookZond' and another idea generated was a 'Vegetable Bar' with free fruits and vegetables for children who don't have enough money. The bar would collect a small amount of money from other parents each week to provide this food and this idea would also help bring more awareness to healthy eating.

'Vegetable Bar' and 'KookZond'

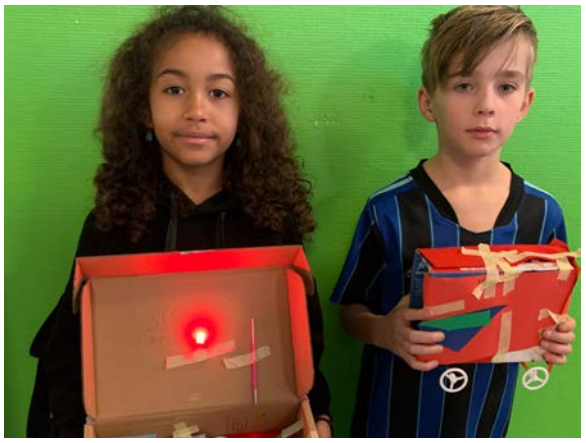
The problems "too little time" and "too many tempting, unhealthy advertisements" were the next most commonly selected problems to tackle. These were each presented with nine solution ideas. Example for too little time, a video to inspire people to cook in advance and tips for what to prepare. Example for too many advertisements was to counter the junk food ads with a doll that rolls around the streets encouraging everyone to eat healthily.

A majority of the children's ideas were practical and implementable at home or involved the school system.

These results show that children were able to show empathy for those in the community who can't afford to eat healthy enough and to identify this as the problem that they see as being the most important.

As part of the secondary goal of the data collection, we did assess as discussed above any shifts in teachers' knowledge and motivations around the methods used during the project.

The teachers' knowledge and use of the Designthon method, design thinking and project based learning was reported as low prior to the project. However, their average ranking for their perceived skills in helping students with creativity, teamwork and problem solving was average, as was their motivation for this kind of teaching and learning. Comparing that to the post-survey, the most significant change was in the teacher's understanding of Designathon method and project-based learning and teaching. They viewed their skills before and after the project as relatively the same as well as their interest and motivation. The teachers listed increasing children's autonomy and ability to be responsible and take action as their main motivations for this type of project reflecting on what they value as outcomes in their classrooms.



SPOTLIGHT

Here we present the majority of the children's ideas organized by problem area. At the end of the section, some of the winning ideas are highlighted with images.

Problem 1 | Lack of knowledge about healthy eating:

- A machine with green, yellow, and red, that scans your food and tells you if it's healthy.
- 'Vegetable bar': a bar with free fruit and vegetables for the children who have no money. The money for the food is collected by the parents from their school - each parent pays a small amount each week. The bar also works well to inform people about healthy eating.
- A poster with information about bad & good food.
- An app on how to make your own vegetable garden.
- Making fruit and vegetables fun through a game app.
- An app that allows you to take a picture of your food and see if it is healthy (or unhealthy).

Problem 2 | Healthy food is hard to find and too expensive:

- 'Mega Vega': A vegetarian healthy restaurant that is not expensive.
- An app with tips for healthy meals to make, with the food that is already in your fridge. The app is called 'KookZond'.
- A car/robot that drives around selling and distributing healthy food.
- A healthy restaurant that is not too expensive.
- An advertising-car driving through the streets with kids on it waving flags and promoting healthier food.
- Rebuild an old garage in their garden and sell fruit and vegetables from there for less than €1. They can deliver at home with a self-built cart. To inform people about their business, they make videos about healthy eating with the advertisements where/when you can come and get it.
- A moving poster to convey the message about healthy eating in the neighborhood.
- Making their own vegetable garden.

- Selling home-grown vegetables, regional products. Sold locally with solar-powered stalls.
- An app where you can get the cheapest vegetables and cooking tips.
- A truck that brings fruit and vegetables.
- An app to make the healthy things cheaper and the unhealthy things more expensive.
- They have made the following business plan: Buy a cow and sell her milk. With that money they will buy sprinklers and plant a vegetable garden. They grow vegetables in the vegetable garden. People can rent the vegetable garden with accompanying vegetables. They pay a fixed amount per month. You can rent it from 3 days to a month (or longer). Then they have floating gardens that travel and feed poor communities. It also has a chill room on board :)
- A stand near the supermarket, with vegetables, fruit and seeds on it. The stall has two functions: sales and information source of naturally grown food.
- They believe that all supermarkets should sell healthy food for little money and make unhealthy food more expensive. For example, vegetables cheap and juice more expensive. The supermarkets save money if they only advertise healthy food.
- They grow vegetables for themselves, and once a month an employee of a supermarket comes to collect the extra food. They get a small fee for it. The vegetables are sold for cheap to people who are short of money. Made a pickup bus.

Problem 3 | Too many advertisements of unhealthy or fast food- creating a lot of temptation:

- Advertising for healthy food, a walking doll (through the streets) who shouts that you have to eat healthy, a bit playful. Name: ABCD Eat healthy.
- Advertising on TV for healthy eating, “Don't get too round, Eat healthy!”
- Healthier advertising, making it attractive.
- "Healthy Food Collection Point": a drive-in where you can pick up healthy food. For everyone. This is a kind of McDonalds but with healthy food - you see billboards along highways advertising it. Instead of McDonald's billboards.
- This team found all unhealthy eating ads very tempting and would like to see them go away and replace them with ads encouraging healthy eating. The same goes for all fast food restaurants. Actually, there should be only one fast food restaurant per city/village. They have made a machine that tests whether you eat healthy.
- Ask to make fewer advertisements about unhealthy food and protest.
- Healthy eating campaign. Prepare a healthy meal every day and knock on the door of the neighbors. The whole street participates.
- A robot that goes through a supermarket and calls out the healthy food offers.

Problem 4 - Too little time to cook healthy meals:

- Vegetable Bot 3000, a robot to make healthy food.
- A drone that brings cooked meals to people who don't have time to cook a healthy meal.
- Massa, a kind of Hello Fresh, but local. Less transport costs, so affordable products and better for the planet.
- A kind of snail farming machine for the neighborhood. And a submission box with a card-reading system that can measure how much 'green' you eat.
- Video to inspire people to cook the night before.
- Vegetables app to buy vegetables more easily.
- They want to introduce a fixed mealtime. Via an app you will receive a notification that it is dinner time between 6:00 and 6.30pm. In the next screen you choose from a few menus. All just healthy food. You order it and it is brought to you. It's for people with a lot of money. People with less money are shown menus made from healthy food from the food bank. It is paid for by the government.

Winning ideas per classroom:

Don Bosco, Wieringerwerf
by Faye, Jet, Sara:

An app with tips for healthy meals to make, with the food that is already in your fridge.

Het Baken, Wieringerwerf
by Tim, Thijs, Suus, Mariet:

A bar with free fruit and vegetables for the children who have no money. The money for the food is collected by the parents from their school - each parent pays a small amount each week. The bar also works well to inform people about healthy eating.

RKBS De Marinx, 'T Veld
by Kwaadaardige Tandarts:

Too little time App with cooking tips and create your own eating plan.

't Span, Den Oever
by Janet en Jill:

Ad based on Jill's existing initiative: she prepares a healthy meal every day and knocks on the door of the neighbours. The whole street participates. She has her own bank account. Earn € 13 per week with that. Seen her saving for a new car.

Triangel, Wieringerwerf
by nameless team:

Making fruit and vegetables fun through a game app. (No picture available)

IKC Spoorbuurt, Anna Paulowna
by Stan de Boer, Sven, Just, Laurens:

A group of children making takeaway meals. They are sponsored by a company. That's why they can also offer the food a bit cheaper. They wanted to make flyers, but they didn't succeed due to lack of time. (No picture available)

CONCLUSION

The project was well-received by the children. The project lessons were implemented as planned and achieved the learning objectives of the Eating is learning: Healthy food and a healthy lifestyle theme. It's clear from the facilitator and teacher reactions as well as from the final prototypes and pictures of the students that there was a great deal of enthusiasm around the theme and methodology of the project.

Teachers increased their understanding of design thinking and project-based learning teaching methods. The children also demonstrated through their teamwork and prototypes that they could successfully, and often digitally, present thoughtful and unique solutions to the problems presented.

Limitations: There were some inconsistencies in the data collection. Participation was lower than expected, both in the number of schools participating (goal was 24 classrooms across four schools, but instead only 6 classrooms signed on) and in the number of completed post-test evaluations. We believe that this is also a reason for some of the questionable results discussed in the report. Children and teachers perhaps did not have ample time to thoughtfully complete their surveys.

Due to this and the lack of qualitative data collected, we asked Designathon's facilitators to provide additional observations on verbal discussions during the course of the project and on any observed shifts in skill and knowledge. This was not part of the originally planned evaluations, but proved valuable to confirm some of the outcomes. We asked the facilitators to provide observations on: the level of interest of the children, any shift in their knowledge around healthy eating between the first and final lesson, and on particular problems or solution areas where the children were most interested in. These observations are summarized below.

Main observations from facilitators: The theme and workshop was well received by the children. This workshop was observed as being a new way of learning and receiving lessons from what children were used to. All facilitators noted that children were very enthusiastic, especially in Lessons 2 to 4 when they had a chance to complete homework tasks and could become more hands on and have freedom with their ideas. They loved presenting their ideas and giving feedback. It was also noted that all children found the topic important and their knowledge level was already quite high. Specifically, children enjoyed reflecting on their own eating habits and that of their family members. They liked to exchange opinions and experiences. Children commented at the end of the first lesson that they are now more aware of their own and their families habits.

The majority of facilitators also observed that since children have a relatively high knowledge of what healthy eating is, they were also surprised to learn the statistic from the Dutch health ministry that a majority of Dutch people don't eat what they should. Children found the comments such as "I don't have time to cook" and ordering take out and heating things in the microwave to be common occurrences in their own home. But upon further discussion, some children also expressed that this isn't something they would be comfortable to talk to their parents about out of respect. Even if they

understand there might be a healthier way to eat. The facilitators guided the discussion to focus on what ideas and actions they individually, as children, can take then to help tackle some of these problems. It was a valuable discussion to lead children to consider their own voice and ability to be a changemaker.

Finally, it was also observed that children found the high cost of healthy food as very problematic, although harder to find solutions for that problem area, and advertisements as a very interesting problem to tackle. Although many suggested ideas of coming together - suggesting a very community-spirit minded group- to cook together or provide cheaper, healthy food for others. That aligns with the frequency of ideas chosen by the children and discussed already in this report. A final inspiring observation made that wasn't captured in the survey data was the success of the homework on finding reliable health information and the discussion around what reliable sources are. This was a direct learning objective of the information literacy pillar and media literacy pillar of digital literacy. The children demonstrated a real interest in understanding this better and spent time to find and explain their reasoning for reliable sources. They were successful in this.

What's coming next? In the interest of the program, and to secure the impact we wished for, we now are organizing teacher training for the teachers of Hollands Kroon. Materials such as a Designathon Method Manual and a step-by-step video for how to carry out this program again are being developed as part of this training. It will be held on January 25th. We aim for 12 teachers.

The intention to decide on and roll out a winning idea is also somewhat delayed. A rubric for determining the winning and most implementable idea is being developed. Designathon will work together with the municipality to determine those results. The goal is still to roll out this selected idea across all 25 schools in the municipality.

Recommendations: To successfully continue or expand the project, the following would be recommended:

- Lesson 1 of the workshop could be revised to be more interactive, based on feedback from teachers and facilitators. It was potentially too dense and theory heavy. Then this would leave more time for ideating and making prototypes which was also noted as having potentially not enough time.
- Revisit the inclusion of the app design on the sketch sheet and/or clarify how that works with other prototyping materials available in the maker kits.
- A multi-stakeholder project has its advantages and disadvantages. It is great to have involvement across a whole spectrum for the region, but it also poses challenges in implementation.
    - Bring on an additional partner to help identify and reach schools.
    - Allocate a budget for Designathon to run a final event as it is a key step in the process to show to children that their ideas are valued and to elevate their voices in the community.
    - Allocation of a budget for timely implementation of one or more winning ideas.
- Adjustment of evaluations
    - Questions on the pre- and post-survey for children which include behavior indicators would be beneficial to identify further impact in decision-making and any shifts of behavior of children or their families on healthy eating choices.

    - Include a qualitative survey for teachers or facilitators to capture more context around the motivation and attitude of the children during the project.

- Consider revising project content in some lessons to bring ideas closer to school; so that it is simpler for the municipality to implement ideas on the school grounds.
- Create more buy in and understanding from the beginning with the classroom teachers to avoid any confusion they have about how the workshop runs, what the main objectives are of the workshop and to give them time to consider the theme for themselves.

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