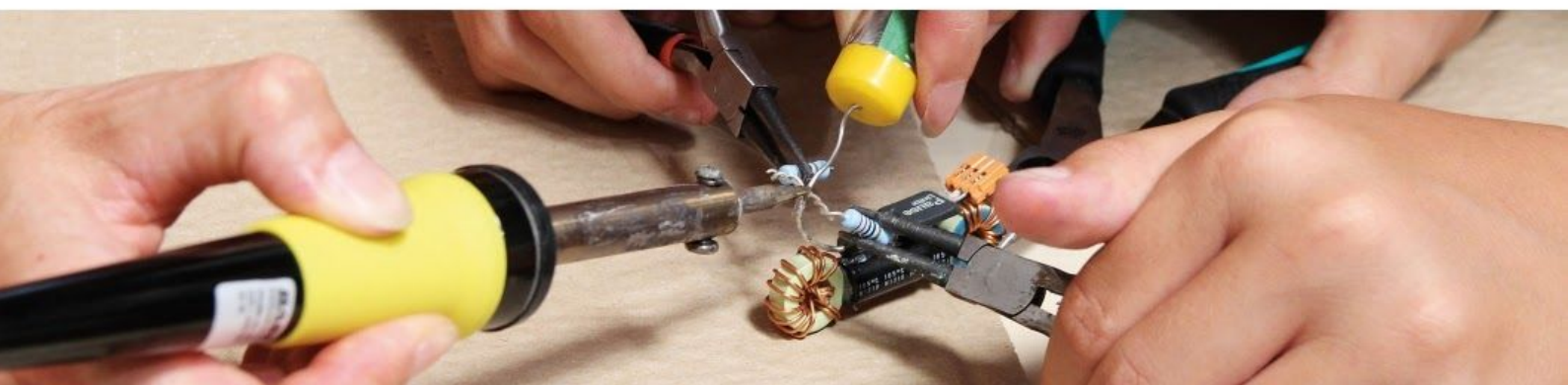




Entrepreneurial skills
for young social innovators
in an open digital world



HANDBOOK

MAKING SOCIAL INNOVATORS

WORKSHOP DESIGN FOR AND WITH

YOUNG SOCIAL INNOVATORS

FROM 6 TO 16 YEARS

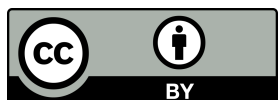


This project has received funding from
the European Union's Horizon 2020 research and innovation
programme under grant agreement No 770063



About this publication

DOIT (2019). Making Social Innovators. Workshop Design for and with Young Social Innovators from 6 to 16 years (DOIT handbook). Publication of the Horizon 2020 project DOIT, EC grant agreement no 770063, Salzburg, Austria: Salzburg Research.



Published and available under the conditions of CC BY International 4.0, see <https://creativecommons.org/licenses/by/4.0/>
Please do refer (“attribution”) “DOIT, <http://DOIT-Europe.net>, H2020-770063” if you use (parts of) the publication.

About “DOIT – Entrepreneurial skills for young social innovators in an open digital world” - A HORIZON 2020 INNOVATION ACTION

Consortium: Salzburg Research Forschungsgesellschaft m.b.H. (AT, co-ordinator), Stichting Waag Society (NL), Lappeenranta University of Technology (FI), Zentrum für Soziale Innovation (AT), mediale pfade.org - Verein für Medienbildung e.V. (DE), eduCentrum (BE), ZAVOD Kersnikova (SI), Polyhedra d.o.o. (RS), Capital of Children A/S (DK), University of Zagreb (HR), Institut d'Arquitectura Avançada de Catalunya (FabLab Barcelona, ES), European Social Entrepreneurship and Innovative Studies Institute (LT), and YouthProAktiv (BE), University College Syddanmark (DK)

Grant: H2020-770063 (Call H2020-SC6-CO-CREATION-2017)

Duration: 10/2017-09/2020

Website: <http://DOIT-Europe.net>

Contact (co-ordinator): Dr. Veronika Hornung-Prähauser, Salzburg Research Forschungsgesellschaft m.b.H., e-mail: info@DOIT-Europe.net

Disclaimer: This document's contents are not intended to replace consultation of any applicable legal sources or the necessary advice of a legal expert, where appropriate. All information in this document is provided "as is" and no guarantee or warranty is given that the information is fit for any particular purpose. The user, therefore, uses the information at its sole risk and liability. For the avoidance of all doubts, the European Commission has no liability in respect of this document, which is merely representing the authors' view.

Authors: Sandra Schön, Isabel Allaert, Luisa Friebe, Guntram Geser, Eva-Maria Hollauf, Veronika Hornung-Prähauser, and Frank Vloet

Content

Introduction	5
The DOIT learning approach	7
The DOIT programme	8
Exemplary DOIT workshops	9
From Waste to Invention	9
Our Own Granola Bar	10
Evaluation of DOIT pilots	11
The DOIT toolbox	12
Element 1: Sensitise - Do it because you can	13
Relevance	13
Recommendation	13
Exemplary Ideas and Materials in the toolbox	13
Element 2: Explore - Do what matters	15
Relevance	15
Recommendation	15
Exemplary Ideas and Materials in the toolbox	15
Element 3: Work together - Do it together	17
Relevance	17
Recommendation	17
Exemplary Ideas and Materials in the toolbox	17
Element 4: Create - Do it now	19
Relevance	19
Recommendation	19
Exemplary Ideas and Materials in the toolbox	19
Element 5: Reflect - Do it better	21
Relevance	21
Recommendation	21
Exemplary Ideas and Materials in the toolbox	21

Element 6: Scale up - Do more of it	23
Relevance	23
Recommendation	23
Exemplary Ideas and Materials in the toolbox	23
Element 7: Share - Do inspire others	25
Relevance	25
Recommendation	25
Exemplary Ideas and Materials in the toolbox	25
How to develop a DOIT workshop	27
Recommendations for practitioners	28
Recommendations for participation of girls	28
Recommendation on special needs and settings	28
Policy recommendations	29
Background: DOIT, the European innovation project	30
DOIT - Entrepreneurial skills for young social innovators in an open digital world. A European Initiative	30
Selected DOIT publications	31

Introduction

DOIT sees young people as engaged citizens who tackle social issues and develop innovative solutions, e.g. for the pressing societal challenges of the United Nations' Sustainable Development Goals (in short UN SDGs).



Figure 1: UN Sustainable Development Goals. Source: UN

Children develop a lot of enthusiasm, as well as skills and competences, when they are actively involved in co-designing ideas and solutions for a better world. In DOIT we focus on the following societal topics (all related to the UN SDGs):

- living together (e.g. inclusivity, intercultural living and freedom)
- education and future (e.g. school and vocational ambitions)
- health and sport (e.g. physical activity and well-being)
- participation and rights (e.g. political involvement, privacy and mobility)
- youth culture and leisure (e.g. digital culture, social networks and media)
- environment and nature (e.g. resource efficiency, sustainability, up-cycling, and more)

In this handbook, we present how you can empower girls and boys, 6 to 16 years old, to create and share innovative, concrete solutions using the DOIT learning approach.

The DOIT consortium developed and tested materials in 10 European countries with different target groups in different settings: with children of different age groups (6-10 years, 11-16 years), children within and outside of school settings, children with less privileged background, children with disabilities, children in rural areas, and advanced young makers and social entrepreneurs. Girls are typically underrepresented in makerspaces and technology-related activities, we focused on them as well.



Toilet Water Alarm, developed by MaCha



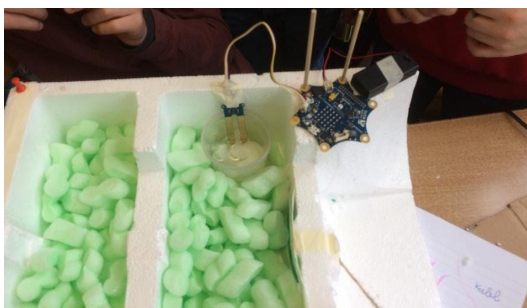
Massage Belt, developed by Yeet



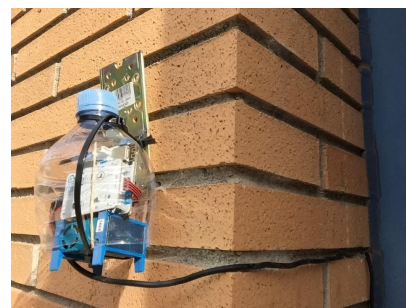
Green Keeper Alarm, developed by The Football Girls



Sensitive Jacket, developed by the Breathtaking Team



Hydroelectric Power Station Alarm System, developed by The Water Watchers



Acoustic Pollution in the School, developed by Noise

Figure 2: Prototypes and solutions developed by children from 6 to 16 years old - winners of the DOIT challenge (left-hand side: 6 to 10 years, right-hand side: 11 to 16 years)

The DOIT learning approach

The aim of the DOIT learning approach is to empower girls and boys, 6 to 16 years old, to create and share innovative, concrete solutions. The DOIT learning approach has three important strands. DOIT combines:

- Social innovation - DOIT sees young people as engaged citizens who tackle social issues and develop innovative solutions.
- Entrepreneurial education - DOIT supports the development of entrepreneurial mindsets and skills through practice-based learning experiences.
- Makerspace and digital fabrication tools - DOIT activities are carried out in open workshops using digital tools with maker education as the core.

DOIT provides a new approach for entrepreneurship education promoting social innovation in makerspace settings. It is informed by a broad understanding of early entrepreneurship education that comprises personal development, creativity, self-efficacy, self-reliance, initiative taking and action orientation. The DOIT learning approach covers the phases of a social innovation project with (digital) fabrication and other maker activities as the core learning process.

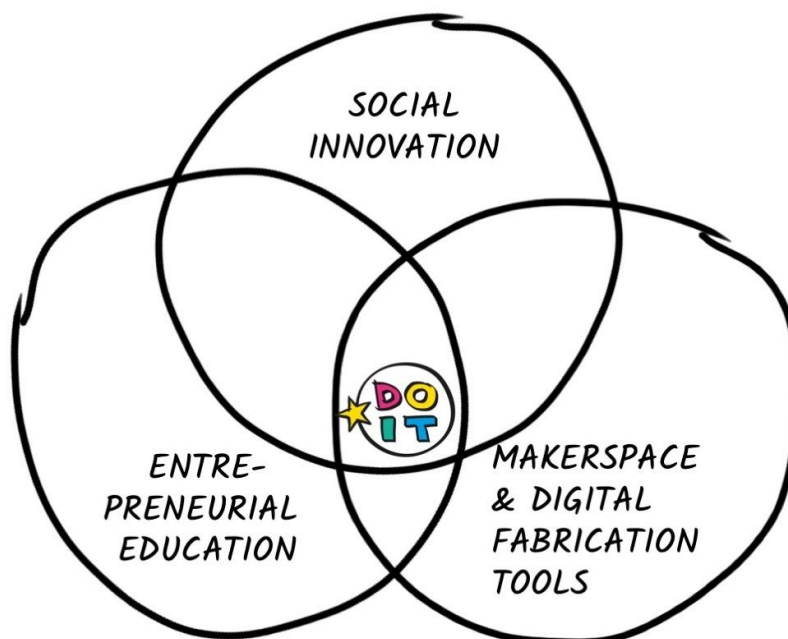


Figure 3: The DOIT learning approach combines different methods of entrepreneurial education, social innovation and makerspace-based learning.

The DOIT programme

The DOIT programme comprises seven elements which empower young social innovators:



Sensitise - Do it because you can

Raise awareness of a social problem, motivate to do something about it, feel able to work on it



Explore - Do what matters

Collect and explore ideas for potential social innovation: What is the challenge? Where is the need? What can we do to make a change?



Work Together - Do it together

Build a team – Elaborate and select ideas the team wants to work on



Create - Do it now

Prototype, develop solutions – Present, iterate and improve the innovative prototype



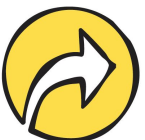
Reflect - Do it better

Reflect and fail forward – Get feedback on the product idea



Scale-Up - Do more of it

Plan the realisation of the product – Develop business ideas, marketing material, and find support



Share - Do inspire others

Give a public presentation – Share the story and results of the social innovation project

Exemplary DOIT workshops

The DOIT programme has been implemented in different workshop formats with different target and age groups, for example in schools and outside schools and with children from 6 to 16 years old.

From Waste to Invention

The first example took place in a makerspace in the Public Library of Amsterdam operated by DOIT project partner Waag. It was an afterschool activity for children from 8 to 11 years old with 13 participants. First, children analysed the system of the production and use of a pair of jeans by mapping out the product chain. By mapping out the process with laser cut icons, they developed a holistic view of the system and identified intervention points. They were asked to come up with a waste robot that could help solve the identified problems. The children prototyped potential solutions in two phases: In the first phase they crafted a physical prototype of the waste robot by combining and manipulating recycled materials like cardboard and plastics. In the second phase they made a more advanced prototype by using digital fabrication and electronic components. They used a laser cutter, a 3D printer, batteries, motors, buttons, LED and wheels for the prototype.



Figure 4: Photo impressions of the “From Waste to Invention” pilot process and results (Source: Waag, Amsterdam)

Our Own Granola Bar

The second example comes from a pilot action of Salzburg Research with children from 5 to 10 years old in a temporary makerspace in an afternoon care setting of a primary school in Salzburg. The pilot theme was “healthy food”. In the pilot the children wanted to develop their school’s own granola bar. The pilot took all steps of product development from idea generation of children-friendly ingredients to prototyping and marketing. The workshops started with a presentation of a 3D printer, a technology, which the children had not seen before. The children asked how it works and what can be done with it. They were thrilled that a 3D printer can be used to make individual biscuit casters for the school’s own granola bars. Four groups developed ideas for ingredients, product names and logo, and the children voted for their favorites. They also developed a marketing video, packaging ideas for the “chocolate power” as well as a booth for the final presentation.



Figure 5: Photo impressions of the “Granola Bar” pilot process and results (Source: Salzburg Research, Salzburg).

Description of the developed and tested DOIT workshops can be found in the “DOIT toolbox”.



Figure 6: An exemplary DOIT workshop description. See: <http://DOIT-Europe.net/toolbox>

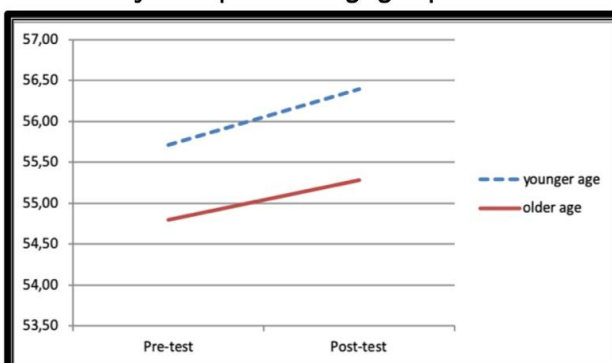
Evaluation of DOIT pilots

The DOIT project has run two waves of pilots in ten European countries trialling the learning program (Austria, Belgium, Germany, Denmark, Spain, Finland, Croatia, Netherlands, Slovenia and Serbia). The pilots were organised in makerspaces or temporary makerspace environments. The minimum joint maker activities of the children or young people was 15 hours (in practice often more) which took place from two and a half days up to four months. 1,002 children participated in the DOIT actions of the regional pilots.

The pilots have been systematically documented regarding plans and outcomes, and evaluated with several methods, including standardised pre- and post-tests for creativity as well as self-efficacy of the children and young people, interviews with the facilitators, and feedback from the participants. In total 751 data questionnaires and 633 creativity tests were analysed. The quantitative evaluation was complemented by qualitative information from facilitator reports, 36 interviews with facilitators and interviews with students.

The evaluation shows positive developments regarding creativity as well as self-efficacy and entrepreneurial intention between pre- and post-tests, and compares the results for different age groups and gender. In addition, the experiences of the pilot participants were analysed and are the base for DOIT recommendations for policy makers and practitioners.

Self-Efficacy – Comparison of age groups



Creativity – Comparison concerning gender

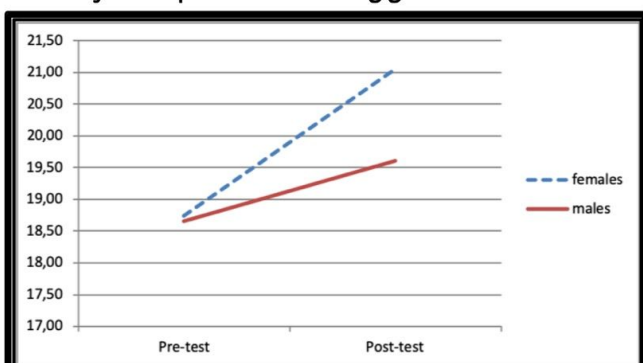


Figure 7: Results of standardised tests at the start and after the pilots of phase 1. We used the TSD-Z test for creativity by Urban & Jellen (2010) and developed a standardised questionnaire for self-efficacy and entrepreneurial intention ($n_1=763$, $n_2=632$)

The DOIT toolbox

All our tools for young social innovators and for you as a facilitator of a joint activity are available in the DOIT toolbox. This is an online collection of several inspirational materials and instructables for projects following the DOIT programme.

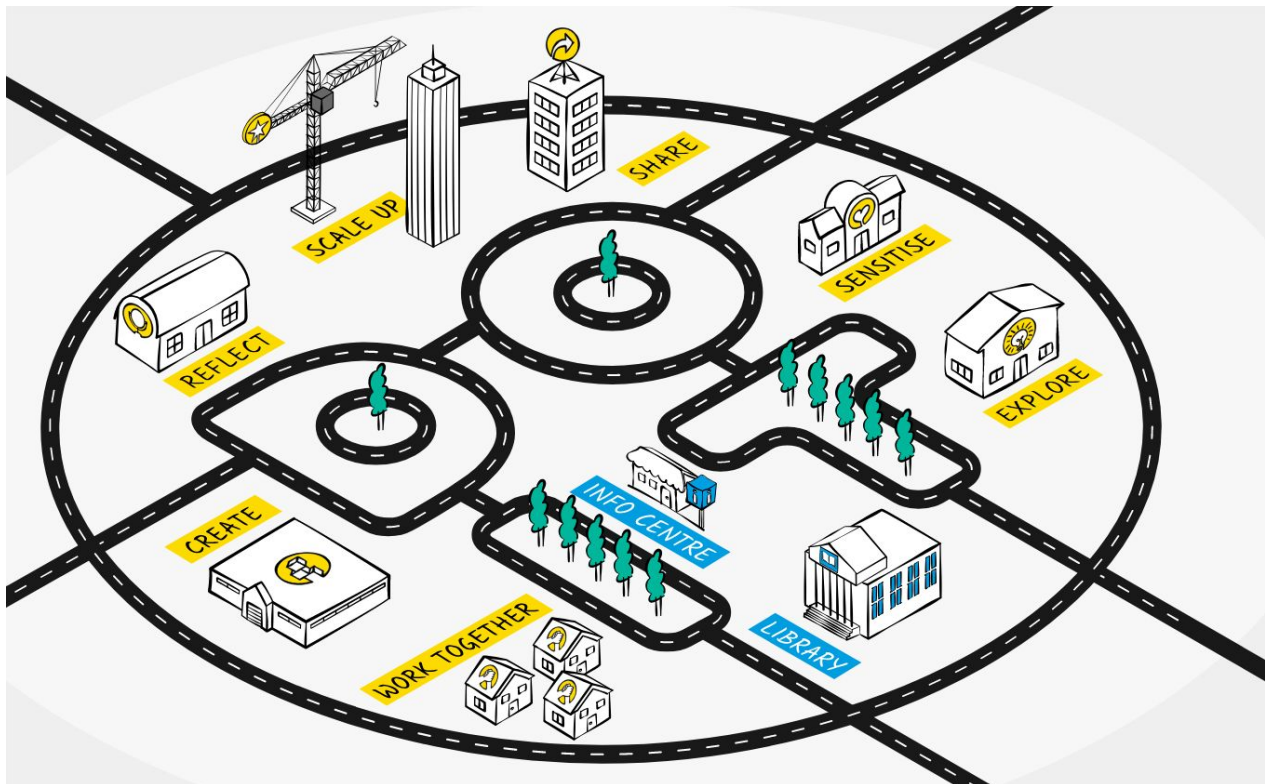


Figure 8: Screenshot of the DOIT toolbox (<https://www.doit-europe.net/toolbox>)

The DOIT online toolbox can be used with young social innovators in two age groups, 6 to 10 years and 11 to 16 years. It consists of materials that promote and support the social innovation process, for example, success stories, videos and instructables to work with in your solution design process. The toolbox allows all facilitators, e.g. teachers, young facilitators and makerspace co-workers, to initiate, organise and design a workshop with children. For example it provides exemplary DOIT actions, activity descriptions, expert video interviews, and research-based recommendations on related topics, e.g. on how to include girls.

The sections that follow present the different parts of the DOIT toolbox.

Element 1: Sensitise - Do it because you can

Relevance

Children (as well as adults) often have a barrier in their heads, thinking they are not able to change something in their environment. Therefore it is important to show them that they can make a difference. When children see that other children developed ideas and solutions to problems, they become aware of their own strengths, become more motivated: It strengthens their self-confidence and self-efficacy. Sensitizing is the base to become active citizens in the future, in order to change the world.



In “Sensitise - Do it because you can” you find materials to help you determine your motivation, find like-minded people, define your scope and goals, and how you can become a social innovator.

Recommendation

Help the children focus on their strengths and encourage them to think positive (“I can do it!”). Support their ideas, encourage them to think out-of-the-box, come up with crazy ideas. If you are planning/organising a DOIT action on a certain topic, you can already consider specific inputs to give the children.

Exemplary Ideas and Materials in the toolbox

Our DOIT success stories inspire children and introduce them to young social innovators and their inventions. Maybe you can also find and invite a child or teenager in your town who came up with a solution to a common problem. Let the children start thinking about which strengths are attractive to them – with the *My Superhero* worksheet.



Figure 9: Who is your superhero? Let the children draw their superheroes with favoured strengths or characteristics.



Figure 10: The DOIT project collects about 100 success stories of young social innovators that can serve as inspiration

Element 2: Explore - Do what matters

Relevance

Raising awareness of social challenges and how they could be addressed helps to identify a societal problem you want to tackle. In the environment of your school you may quickly find something that is in need of improvement or change. The idea is to take a closer look at your surroundings and examine problematic situations in order to develop a tailored solution.



In “Explore - do what matters” you find materials to help you do research and develop a vision of how you might make a difference.

Recommendation

Support the children in their ideation process. Value their ideas, even when they have crazy ideas you think won't work. Encourage them to explore the ideas instead of taking them down. Accompany the children in their decision-making process. If they come up with an idea that is not feasible in the given setting, let them rethink and adapt. When the children have found something they enjoy and they are motivated, let them work on it!

Exemplary Ideas and Materials in the toolbox

Several DOIT toolbox materials support the ideation phase: what challenges can children work on or what problems do they find in their surroundings? You could show them challenge videos, for example a challenge a kid is facing (e.g. *Lisa's Challenge*). Let them use the *Social Detective* sheet on their usual way to school, and see what new insights they gain when looking at things more closely? In a workshop they could create a *Social Investigation Board*, put together information about a problem, connect and explore it in a creative way.

Element 3: Work together - Do it together

Relevance

Working together in teams is a core aspect of modern society, as great innovations are not realized by single persons, but people who join forces for a common goal. It is therefore of importance that children learn how to communicate, collaborate and co-create in an innovation project. In the process of collaboration, children learn to better express themselves and present their ideas to others, thus developing social skills and self-confidence. Working together also means to reflect upon oneself and to take different viewpoints. When they collaborate with others children can learn different ways of thinking and behaving.



In “Work together - Do it together” you find materials that will help you work collaboratively on your ideas and projects.

Recommendation

Encourage the children to see themselves as active members of a group who can give meaningful input. In order to enable this, the groups should be small (3 to 4 children). Facilitators should interact at eye level with the children, in mutual respect, and let them work autonomously. They should be given the freedom to decide their next steps, i.e. without imposing a strict curriculum.

Exemplary Ideas and Materials in the toolbox

The DOIT toolbox provides materials that inspire collaboration. Ice breakers loosen up the situation at the beginning and set the mood for participation and cooperation. With different methods such as *Show & Tell* the participants get to know each other, form a group and focus on their strengths. The children may develop a group identity as young social innovators through a drawing of themselves with the help of *Who Are We?* Afterwards they are ready to find a common goal with *Picture Pieces* and find the steps and means to reach their aim.



Figure 13: Children can evaluate their personal social entrepreneur skills, and use it for the team-building



Figure 14: Be A Buddy promotes helping others and working together

Element 4: Create - Do it now

Relevance

Whether alone or in a group - through making you turn your ideas into reality. Now the work on the initial idea, building something physical can start. It is never about having the perfect plan but learning hands-on and how to improve or change ideas during the process. Creating a prototype provides an easy and playful way to deal with failures or setbacks. The makers can change, rework and improve their prototypes. In the process they can learn how to use physical and digital tools.



In “Create - Do it now” you find materials to develop your idea and instructions to use new techniques.

Recommendation

In the creative process the children should have enough time to try out the given materials and tools. Trial and error, learn from failure. If children need help, they can ask the facilitators. Encourage participants to try everything first themselves. Failure is part of the process and should be celebrated, you learn best by learning from your mistakes!

Exemplary Ideas and Materials in the toolbox

Using the tool *Plain Prototyping* you can focus on the physical appearance and functions of the prototype rather than decorative elements and colours on the surface. The *Smart Cardboard Prototype* introduces you to the “Internet of Things”, things with sensors which can detect and collect data about their environment and send it to other devices. Don’t hesitate to try different tools, they are quite simple and you will be surprised about the innovative prototypes your team will develop.



Figure 15: Plain Prototyping. Colourless materials help focusing on the form and functionality of the prototype. A how-to work in this way is available in the toolbox.

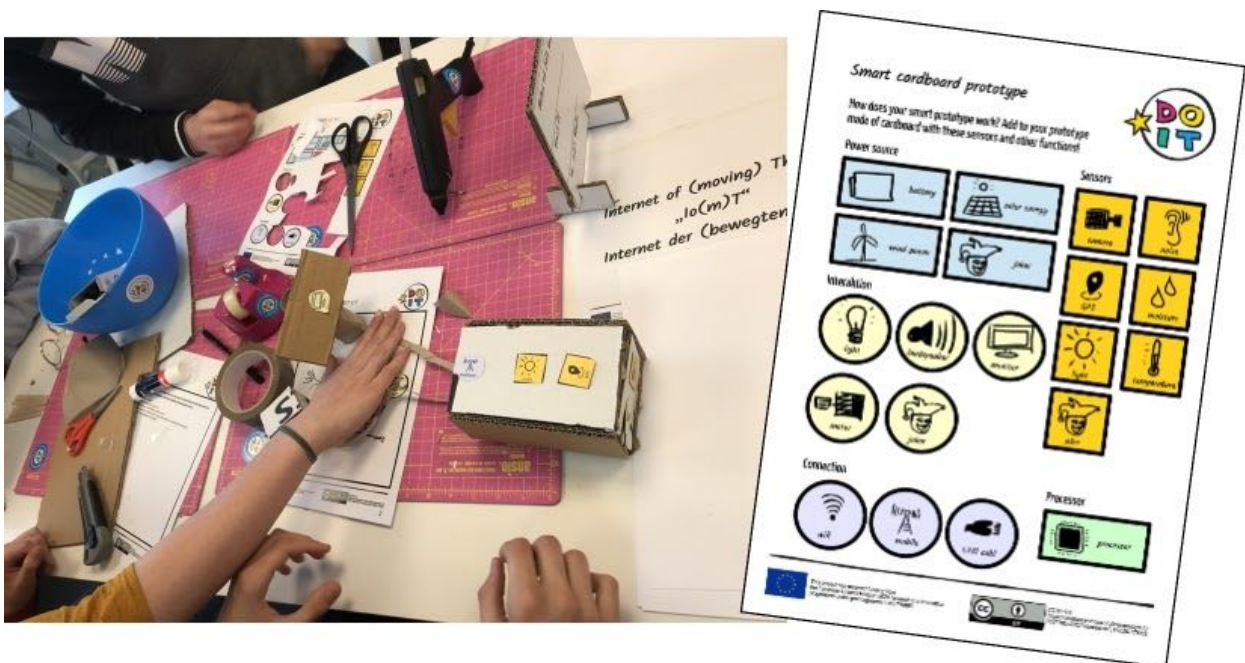


Figure 16: With the Smart Cardboard kit children can add sensors, processor, motor and more to a prototype, thereby making their prototype smart.

Element 5: Reflect - Do it better

Relevance

Reflection is important because it helps to improve the usefulness and value of the creative prototype. Reflecting with others on the possible use of the product leads to the question of who might benefit from it and what needs to be improved. Intended users may give helpful suggestions on how to make the product even better. Reflecting with others augments personal skills and strengthens self-efficacy, it builds personality.



In “Reflect - Do it better” you find materials that support the reflection on your work. Already a great solution can get even better.

Recommendation

Sometimes children have difficulties giving feedback to others, they believe their input is not valuable or they cannot think of anything “good” to say. When this occurs it is important to support them. Show them that there are no stupid questions or remarks and that every feedback is valuable. Not all feedback must be positive, but explain to the children that constructive feedback is better than giving plain negative feedback.

Exemplary Ideas and Materials in the toolbox

With the *Project Journal* the children can document the progress of their projects. It helps them think ahead, what to do next, and what will be needed for the next step. The *Feedback Cube* can be used during a feedback session. Questions like “What could be improved?” or “What is not understandable?” help the children to reflect on their prototypes. The cube supports the reflection process and encourages the participants to think outside the box.



Figure 17: Feedback Cube. Giving feedback on a prototype promotes reflection and improvement. The model of the cube is available in a paper version and a laser cut version.



Figure 18: Project Journal. Documenting the steps of the innovation process can help to keep the big picture in mind, think about the next step, but also go back one step, if necessary.

Element 6: Scale up - Do more of it

Relevance

In DOIT scaling up means reaching a broader audience to explore possibilities to realize the prototype and get support. When children get a chance to turn their ideas into reality it fosters their entrepreneurial skills and gives them a boost in self-confidence. Therefore it is important not to stop after finishing a prototype but to look for opportunities to bring it to a higher level, for example with help from a local entrepreneur. This step also allows making the children aware of economic aspects that need to be considered.



In “Scale up - Do more of it” you find materials on how to get broader support and bigger audiences for your project.

Recommendation

The scale-up tools can be used already during the prototyping phase or in a separate workshop. Thinking about a logo or a slogan for the prototype early on helps to identify what is its core idea and purpose, and it is fun and engaging. In any case, working with the tools will increase the chance to get support for the prototype.

Exemplary Ideas and Materials in the toolbox

When thinking about ways to promote a product idea it is not only important to know who will benefit from it but also where to find support for it. The cards showing potential supporters help to think about how to involve persons or local organizations. When giving the children a fixed budget, e.g. in DOIT coins that they can spend on materials for promoting a prototype, they have to calculate and use resources according to their budget. This restriction helps to consider ecological aspects, the materials have to be carefully selected. On the other hand, it serves as an exercise to go from the free ideation process to the “serious” business.



A set of cards that can be used to think about potential supporters



The toolbox has working sheets to develop logos or slogans for products



Schoko-Power für Power-Kids (produced by kids within the Salzburg's pilot activities)

Children also love to produce a marketing video



DOIT money as a symbolic way to decide on where to invest promotion work and materials

Figure 19: Examples of DOIT materials for promoting their product idea.

Element 7: Share - Do inspire others

Relevance

Sharing project results can inspire others and strengthen the identity of children as innovators who feel more confident that can tackle social and environmental issues. The self-confidence of the children grows when they can present what they have achieved, and those who hear or read about it are inspired to follow their example. The children also learn how to communicate their results and experiences to others. They can get and give feedback on their prototype or product, and keep improving it or develop new project ideas. And of course, sharing should be fun!



In “Share - Do inspire others” you find materials on how to present and spread your project story and results, and to be a role model for others.

Recommendation

Presenting the project, prototypes and other results is the best way to share experiences and lessons learned. Organise an event at your school, makerspace or other public space, and use media to communicate the project results more widely (e.g. a poster or video shared online).

Exemplary Ideas and Materials in the toolbox

There are many different ways to present project results and share them with others. In a final *Project Presentation* to invited parents, teachers and local supporters the children can showcase their work and improve their presentation and other social skills. The *Comic Strip* is a fun tool to highlight and share experiences from the prototyping process, and the *Marketing Poster* helps to promote the product idea.

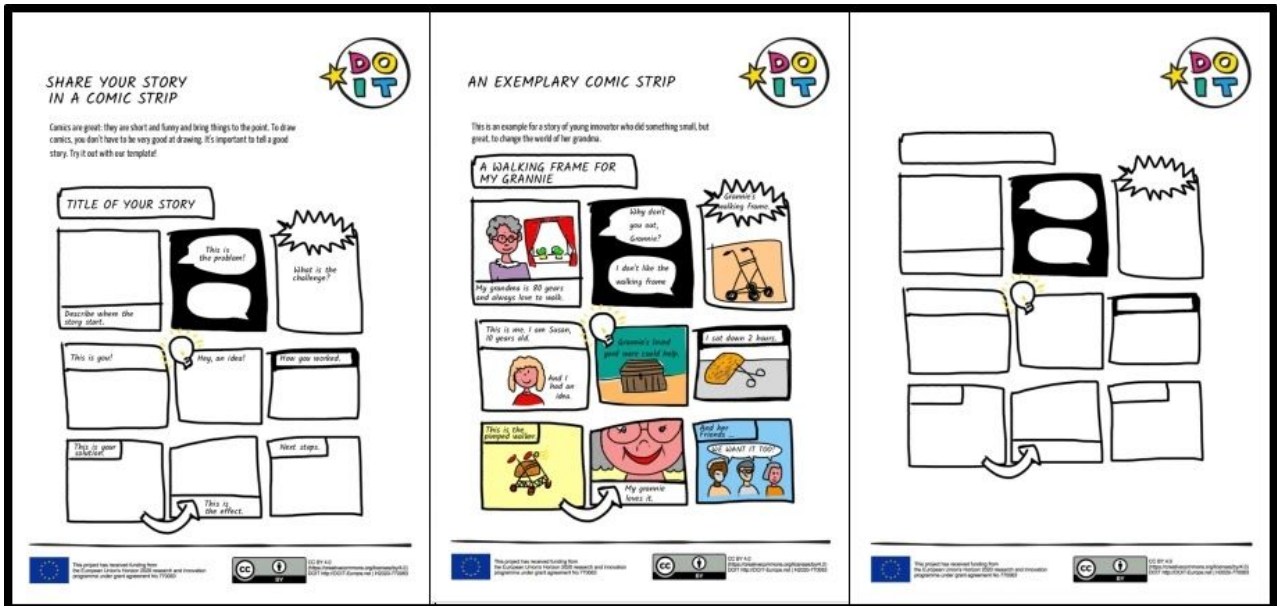


Figure 20: Tell your story in a comic strip! - Print-out for children



Figure 21: Proud children of the Belgian pilot activities present their prototypes at an event for peers, parents and teachers (Photo available under CC BY ND).

How to develop a DOIT workshop

You can take one of our DOIT workshop descriptions and adapt it to your setting, i.e. replace activities with others from the DOIT toolbox.

But maybe your project topic, target group or partners need a different approach and you have to start from scratch? Then, our DOIT action design canvas can help you collect all your (first) ideas. To use it, print it out on a large paper and fill it out, ideally already with the people you want to collaborate with.

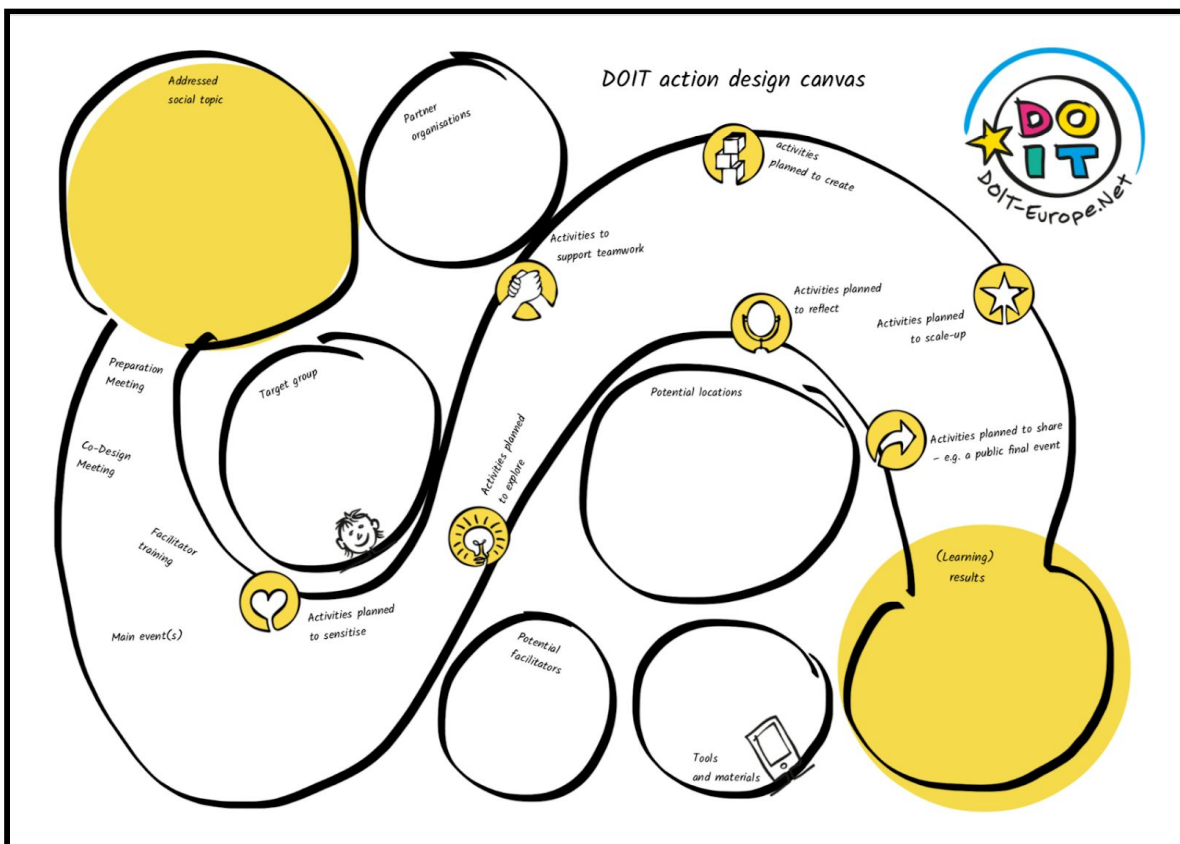


Figure 22: The DOIT action design canvas.

When you organise a workshop to discuss interesting topics and potential contributions by partners you are already starting a DOIT action. You could discuss issues of the Sustainable Development Goals, how they relate to your life and local environment, and which one your team wants to work on (see also *Co-designing an Action* in the toolbox).

Recommendations for practitioners

In DOIT pilots in 10 European regions we collected experiences with about 1,000 children in diverse settings. Lessons learned in the experiences we condensed in recommendations for practitioners; especially we highlight how to involve girls.

Recommendations for participation of girls

Girls are often underrepresented in makerspaces and projects using technical tools. Therefore, we have taken a closer look at what is necessary to reach and involve girls equally, and make them more interested in working with various maker tools. This can be promoted by female role models, e.g. a female facilitator or a young girl leading the team, and focusing on cooperative rather than competitive tasks. In gender-mixed groups, girls sometimes feel responsible for design and decoration, while boys are responsible for functions and technical work. Both are important aspects. But in order to break up gender stereotypical behaviour, we recommend making two activities out of them: First the whole group works on the functional aspects, i.e. what the prototype should be able to do (see *Plain Prototyping*), then the group works on the design, i.e. its form, materials, etc.

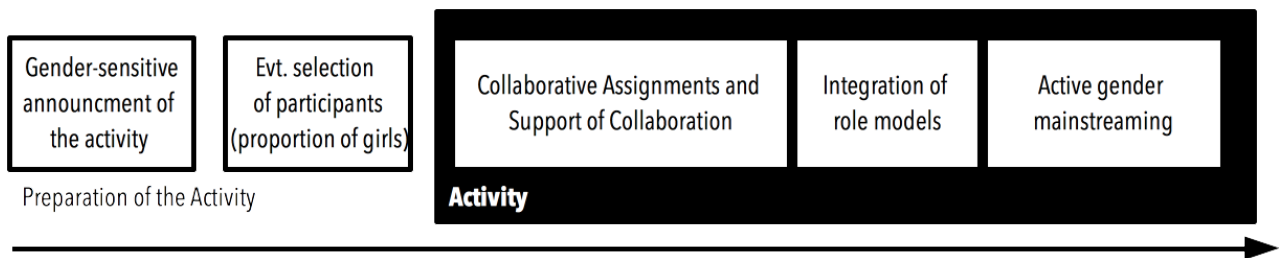


Figure 23: Overview of gender-sensitive measures in a DOIT action. More on these measures and recommendations in the poster and paper Schön et al. 2018 and 2019 (see: DOIT Publications).

Recommendation on special needs and settings

Special needs: Children with disabilities deserve particular attention as they have various special needs. These pose a challenge but are also an opportunity regarding inclusiveness of makerspaces and to work on creative prototypes for special needs with contributions by the children.

Makerspace: Makerspaces are now being set up in ever more community and youth centres, libraries and schools, but mostly in larger cities, not in small towns and rural areas. Here “pop-up”

makerspaces can be a solution, e.g. reserve a room in a school for the DOIT action and bring useful materials and tools there. Most of the DOIT projects used this approach, and it worked well.

Materials and tools: In a “pop-up” makerspace you may not have all technical tools such as a 3D printer, laser cutter, etc., and the DOIT worksheets intentionally do not focus on these. It is the collaborative and creative work on a common goal that counts!

Policy recommendations

In addition to the practical guidance for practitioners, DOIT gives recommendations for educational policy makers and other stakeholders. These focus on how to foster social innovation and entrepreneurial competencies and skills of children and young people. DOIT proposes a practice-based approach of co-creative maker activities addressing societal issues.

The Council of the European Union addresses practical entrepreneurial experiences in their Recommendation on Key competences for Lifelong Learning (2018/C 189/01, 22 May 2018). Under point 2.5 the Council requests that Member States should pay special attention to

“nurturing entrepreneurship competence, creativity and the sense of initiative especially among young people, for example by promoting opportunities for young learners to undertake at least one practical entrepreneurial experience during their school education”.

We suggest a **DOIT experience for every young learner**, with the DOIT programme for girls and boys, 6 to 16 years old. More specific recommendations from our first European Policy Brief are:



- Raise awareness of makerspaces as environments for practice-based development of digital, social and entrepreneurial skills of young people.
- Expand the number of pilot makerspaces in schools, and of educational programmes in makerspaces.
- Promote maker education with a focus on social and entrepreneurial mind-sets and skills.
- Support collaboration on teacher training and local community projects.

Figure 24: The first of our three European policy briefs.

Background: DOIT, the European innovation project

DOIT - Entrepreneurial skills for young social innovators in an open digital world.
A European Initiative

The DOIT project empowers primary and secondary school pupils (6-16 years) alongside educators to apply open innovation methods, digital maker and fabrication tools and collaboration skills to tackle societal problems. The DOIT project, launched in October 2017 and running until September 2020, developed, tested and evaluated a flexible workshop programme. Over 1,000 children have been involved. The DOIT programme has been proven to help them develop and prototype innovative solutions with creativity and perseverance in various settings, be it schools, youth centres or public libraries. DOIT pilot workshops were run in 10 different European countries. The pilots addressed topics related to the United Nations' Sustainable Development Goals, such as Living Together, Education and Future, or Environment and Nature. The pilots were specifically designed to explore the needs of different target groups, for example children from less privileged backgrounds, children in rural areas or children with special needs, and took place in different settings. Based on the pilot experiences DOIT offers activity descriptions and materials in an online toolbox and provides an online course called "Making Young Social Innovators" for facilitators, which provide complementary knowhow. The DOIT consortium brings together well-known European makerspaces and fablabs, which already work with children, with entrepreneurial education as well as social innovation experts and networks.

Webpage: <http://DOIT-Europe.net>

Duration: 10/2017-09/2020

Grant: H2020-770063 (Call H2020-SC6-CO-CREATION-2017)

Selected DOIT publications

All our deliverables and publications can be found on the DOIT website

Geser G., Schön S., Hollauf E.M. & Vloet F. (2019). Makerspaces as Social Innovation and Entrepreneurship Learning Environments: The DOIT Learning Program. In: Discourse and Communication for Sustainable Education, 10(2): 60-71, <https://doi.org/10.2478/dcse-2019-0018>

Hornung-Prähauser V., Schön S., Teplov R. & Podmetina D. (2018). Social Innovation Training in Makerspaces with the new DOIT approach, pp. 1-15, in: Proceedings of the ISPIM conference 2018 Stockholm, June 2018; preliminary version: <https://www.researchgate.net/publication/327449265>

Schön S., Rosenova M., Ebner M. & Grandl M. (2018). Poster: How to support girls' participation at projects in makerspace settings. Presented at the International EduRobotics Conference 2018, Rome, <https://www.researchgate.net/publication/328175572>

Schön S., Rosenova M., Ebner M. & Grandl M. (2019). How to support girls' participation at projects in makerspace settings. Overview on current recommendations, pp. 193-196, in: International EduRobotics Conference 2018, Rome. Springer, AISC 946, doi: 10.1007/978-3-030-18141-3_15; preliminary version: <https://www.researchgate.net/publication/338164755>

Unterfrauner E., Voigt C. & Hofer M. (2019). Participative evaluation with children in educational maker projects: Experiences from a pilot action, pp. 194-197, in: C&T 2019: International Conference on Communities & Technologies, New York; preprint: <https://www.researchgate.net/publication/334399080>

CONTACT



salzburgresearch

Salzburg Research Forschungsgesellschaft m.b.H.
Contact: Eva-Maria Hollauf
E-Mail: info@DOIT-Europe.net

PROJECT CONSORTIUM



salzburgresearch



waag society



Open your mind. LUT.
Lappeenranta University of Technology

ZENTRUM FÜR SOZIALE INNOVATION
CENTRE FOR SOCIAL INNOVATION



ZSI



University College
South Denmark



Capital of Children



POLYHEDRA
DESIGNED TO CREATE



YouthProAktiv

eduCentrum

evokiuszak



mediale pfade.org
Verein für Medienbildung



Af



Sveučilište u Zagrebu
A hrvatski školi
University of Zagreb
Faculty of Architecture

Iaac

Institute for
advanced
architecture
of Catalonia

