

## D3.7 DESIGN FACTORY WORKSHOPS

*Organised for RUN-EU Students*

*(Delivery Date: 13/06/2023)*

*(Partner responsible: HAMK)*

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# 1. Design Factory Workshops organized by HAMK

## 1.1. Product Development in 3 hours 2021

Product Development in 3 hours (PD3) was organized as Design Factory workshop during RUN-EU Super Week. PD3 is product development exercise conducted in three hours, where the purpose is to learn prototyping skills by hands-on doing and demonstrating a tangible or intangible prototype solution for the audience of the workshop. The students in the prototyping teams were from different fields making the groups interdisciplinary. Students had an opportunity to navigate in international team where they had to take in consideration different approaches, culture differences and languages.

Participants in the PD3 where all the students that were involved in 'How to Navigate Through Unfamiliar Contexts' Short Advanced Program (SAP).

Instruction material for PD3 is available from HAMK Design Factory SlideShare account: <https://www.slideshare.net/hamkdf/design-factory-bootcamp-2021-pd3>.



Figure 1. Product development in 3 hours workshop 2021.

Table 1. Participants to PD3 workshop 2021.

Institution	Number of participants
(AIT) Athlone Institute of Technology	4
(FHV) Vorarlberg University of Applied Sciences	2
(LIT) Limerick Institute of Technology	2

(SZE) Széchenyi Istvan University	5
(HAMK) Häme University of Applied Sciences	1
(IPCA) Polytechnic of Cávado and Ave	6
(NHL Stenden) NHL Stenden University of Applied Sciences	6
Total	24

### *1.2. 3D modeling workshop 2021*

3D-modeling workshop was embedded inside Short Advanced Program ‘How to Navigate Through Unfamiliar Contexts’. The 3D modeling included online instruction on using Tinkercad for creating 3D models. The learning goal was to have basic knowledge on 3D modeling and to be able to create a 3D model that can be printed with a 3D printer.

### *1.3 3D printing workshop 2021*

Students had a pretask, where they needed to think about a model/object, which they would like to 3D print during their Super Week visit at HAMK Design Factory. Before the Super Week HAMK Design Factory (DF) provided an online teaching session for the students for using Tinkercad 3D software. Later during the Super Week, DF staff members guided the students through the 3D printing process and helped with the fine tuning and developing their premade 3D models. Each student printed their 3D model that they could bring back home as a takeaway from the Super Week.

These two workshops gave a quick and easy learning opportunity for the students to learn what 3D modeling and printing is, how the process works and how to use 3D printers. The role of the workshops was to provide an introduction to the topic, so that students could better understand opportunities that 3D modeling and 3D printing bring to product development and design.



Figure 2. Students printing their own designs.

Table 2. students participating in the 3D modeling and 3D printing workshops.

Institution	Number of participants
Vorarlberg University of Applied Sciences	2
Széchenyi Istvan University	5
Häme University of Applied Sciences	1
Polytechnic of Cávado and Ave	6
NHL Stenden University of Applied Sciences	6
Total	24

### 1.3. Product Development in 3 hours 2022

During the Super Week, HAMK Design Factory provided a product development project workshop (PD3), which was held within 3 hours for all visiting staff and students. The workshop was organized separately for the staff and the students from the different visiting universities. The idea behind this workshop was to bring and support understanding how product development and design thinking can be done and to get an idea about the value of working in multi-disciplinary teams towards a common goal. This workshop also provided the opportunity for participants to get their hands “dirty” through prototyping, while figuring out how their solution idea should be built into an understandable, visual and interactable form.

At the beginning of each workshop, the participants were given a challenge to design a workshop that they would like to implement in their own their university.

## 1.4. 3D-modeling workshop 2022

Just like during the 2021 3D printing workshop, the same workshop was provided again during the 2022 Superweek due to its success and positive feedback from the first run. Workshop participants were given a remote introduction to 3D modeling using Tinkercad software, so they could prepare their models beforehand for the 3D printing.

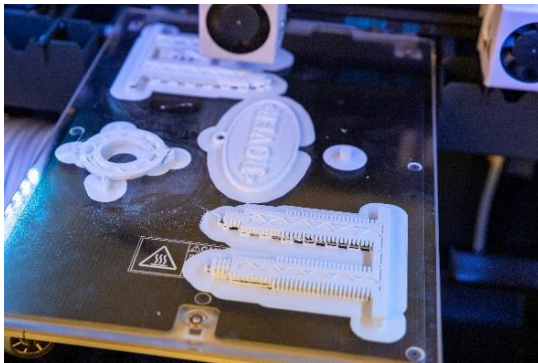


Figure 3 3D printing



Figure 4 Students using 3D printer

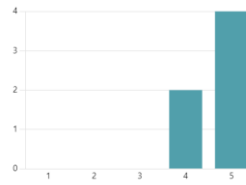
## 1.2 Satisfaction survey

19 students participated in the Product Development Project in 3 hours, 3D-modeling workshop in 2022. Anonymous feedback was collected from the participants at the end of the week, however only 6 responses were received. We asked the students to rate lectures and group work on scale from 1 to 5 stars. The average of lectures and group work responses were

4.65 stars. Similarly, we asked students to rate the over-all experience on scale 1-5 stars. The average of responses for over-all experience was 4.83.

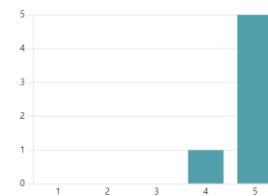
2. Lectures and group work  
[More Details](#)

4.67  
Average Rating



4. Over-all experience  
[More Details](#)

4.83  
Average Rating





## 2. Design Factory Workshops organized by NHL Stenden

### *2.1 Contracting 2022 and 2023*

The workshop on Contracting was organized as part of the intervention method for the RUN-EU research 'Transactional Analysis and its impact on open-mindedness' that was conducted at the Future Design Factory at NHL Stenden University of Applied Sciences and at HAMK Design Factory at HAMK University of Applied Sciences.

At NHL Stenden three different groups of students participated in the workshop. Two groups in September 2022 and one group in January 2023. At HAMK University also three different groups of students participated in the workshop. One in November 2022 and two groups in March 2023.

The goal of this 1,5 hour workshop is to help the students make a good start with the necessary negotiating and making agreements that they have to do in order to be able to work together in a constructive way. It also provides them with tools they can use in the negotiations with their clients (the companies that provide the challenges/issues they work on).

Students become aware of the influence of different frames of reference on the negotiating process. In the assignment we challenge them to take their own responsibility to make sure every group member can achieve their learning goals and to negotiate their group contract from an I'm okay / you're okay position. After negotiating their group contract, each group gives a short presentation about the process and the outcome and gets feedback from the other groups. They then go for a second round to process the feedback they got from the other groups and make their contracts even better.

We expect that this workshop will also create a ground for the second workshop to have a larger effect.

**Table 3. Participants to workshop on Contracting.**

Institution & period	Number of participants
NHL Stenden (Future Design Playground) September 2022	13
NHL Stenden (Sustainable Development Solutions) September 2022	12
HAMK (Product Development Project) November 2022	15
NHL Stenden (Future Design Playground) January 2023	12
HAMK (Product Design) March 2023	13
HAMK (Measurement Systems and Embedded Systems) March 2023	18
Total	83

Afterwards one of the participating students mentioned that the workshop helped him understand the influence of negotiating from different frames of reference and reflect on his own manner of negotiating.

## *2.2 Managing Communication 2021, 2022 and 2023*

The workshop on Managing Communication was first organized as part of the program for the RUN-EU Super Week. In November 2021 and May 2022 a group of international students from the participating universities participated in the workshop. In two hours' time students learned how to recognize negative communication patterns. The learned theory and concepts of communication and they learned how to influence communication and to communicate more effectively. Theory was alternated by role plays.

A few days later the students had a meeting under the guidance of the workshop teacher, where they could discuss communication problems they encountered during the week. This was an opportunity for them to apply the theory from the workshops to real life situations. Since the students were from different countries, there was also the opportunity to learn about cultural differences in these kind of situations.

The participants in these workshop on Managing Communication were all the students that were involved in ‘How to Navigate Through Unfamiliar Contexts’ Short Advanced Program (SAP).

The workshop was also part of the intervention method for the RUN-EU research ‘Transactional Analysis and its impact on open-mindedness’ that was conducted at the Future Design Factory at NHL Stenden University of Applied Sciences and HAMK Design Factory at HAMK University of Applied Sciences during the academic year 2022/2023.

So far three groups of students from NHL Stenden University of Applied Sciences have been participating in the workshop. One group in October 2022, one group in December 2022 and one group in March 2023. In Finland the workshop hasn’t run so far, but it is scheduled in April 2023 for two groups of students.

**Table 4. Participants to workshop on Managing Communication 2021 in RUN-EU SAP.**

Institution	Number of participants
(AIT) Athlone Institute of Technology	4
(FHV) Vorarlberg University of Applied Sciences	2
(LIT) Limerick Institute of Technology	2
(SZE) Széchenyi Istvan University	5
(HAMK) Häme University of Applied Sciences	1
(IPCA) Polytechnic of Cávado and Ave	6
(NHL Stenden) NHL Stenden University of Applied Sciences	6
Total	24

Based on satisfaction survey of six participating students the students found the workshop beneficial for their studies.

**Table 5. Participants to workshop on Managing Communication 2022 in RUN-EU SAP.**

Institution	Number of participants
(AIT) Athlone Institute of Technology	0
(FHV) Vorarlberg University of Applied Sciences	1
(LIT) Limerick Institute of Technology	0
(SZE) Széchenyi Istvan University	1
(HAMK) Häme University of Applied Sciences	2
(Leiria) Politécnico de Leiria	1

(NHL Stenden) NHL Stenden University of Applied Sciences	3
(IPCA) Polytechnic Institute of Cávado and Ave	4
(TUS) Technological University of the Shannon	5
Total	17

Based on satisfaction survey the students helped them to think out of the box and widen their view on.

**Table 6. Participants to workshop on Managing Communications participating in RUN-EU research.**

Institution & period	Number of participants
NHL Stenden (Sustainable Development Solutions) October 2022	12
NHL Stenden (Future Design Playground) December 2022	13
NHL Stenden (Future Design Playground) March 2023	12
Total	37

One of the participating students stated: “I wish I would have had this workshop earlier in my studies. That would have been very helpful in the many communication problems I encountered in different project groups during my studies’.

## 3. Design Factory Workshops organized by IPCA

### *3.1 Creative thinking 50+10 workshop*

The creative thinking 50+10 workshop was organized in the context of the IPCA "50+10" Concept for Future Skills pilot courses. This methodology is currently applied on 6 bachelor degrees and 4 higher technical professional courses.

The 50+10 proposes three main stages: kickoff (when the semester begins, focused on setting up a challenge and teambuilding), skill moments (workshops throughout the semester, one per curricular unit), sprint weeks (project development and presentation, at the end of the semester). The creative thinking 50+10 workshop was one the skill moments.

Workshop's agenda:

1. Introduction (10 minutes): a brief discussion with the whole group to clarify the objectives for the session (being able to work in teams to generate ideas and discuss expected impacts)
2. WarmUP (15 minutes): a moment for icebreaking and to instruct team leaders (these were appointed by the team in previous sessions),
3. Skill challenges (30-45 minutes): Three rounds to create short stories prompted by a random set of story dice (<https://davebirss.com/storydice-creative-story-ideas/>), with a reflection between each round; divergent thinking drawing exercises.
4. Debrief: Learning reflection

This workshop 5 groups of about 30 students, from 5 degrees implementing the 50+10, in the following areas: Finance, Tourism management, Medical Informatics Engineering.



Figure 5 Teamworking



Figure 6 Student's presentation



Figure 7 Students presenting their idea

## 4. Design Factory Workshops organized by SZE

Lecturers from Széchenyi István University's Department of Design in the Faculty of Performance Arts and Design, Edina Andrási, design artist and Senior Lecturer, as well as Daniella Koós DLA, Associate Professor organized a Design Factory workshop on March.

### 4.1 DIGItiles workshop

The workshop was digitally enabled ceramics workshop, where design thinking, digitalization and Arts & Crafts together take on a new meaning. The workshop consisted of two consecutive parts, the first week focusing on design and the second week on crafts:

Session 1: Monday, 20 March 2023, 9.25 – 12.25

Session 2: Monday, 27 March 2023, 9-25 – 12.25

Location: 9022 Győr, Gárdonyi Géza utca 10, Modellezo

Workshop	Number of participants
DIGItiles workshop 20.03.2023	28
DIGItiles workshop 27.03.2023	20
Total	48

### 4.2 Satisfaction survey

13 responses were received to the satisfaction survey. 11 of the respondents rated the workshop as either Excellent or Very Good and two of the respondents as Good. All of the respondents agreed that they would like to attend a similar workshop in the future. 11 of the respondents considered the event to be about right in length, while two considered it too short.

## 5. Design Factory Workshops organized by IPLeiria

The Lecturers of the arts and design school in Caldas da Rainha, Dr. João Santos, Director of the school, as well as Dr. Sérgio Gonçalves, deputy director of the school, and Lecturer José Vicente, organized a Design Factory workshop in May. This workshop counted with the special participation of Eric Voigt – Future Design Factory coordinator from Design Factory Friesland (NHL-Stenden), Maria Ramadas, CEO FINI Premium Gelato and Jorge Barosa, CEO Barosa, two ice-cream industries in Portugal.

### *5.1 The Future – What if Humanity Depended on Ice Cream?*

The main goal was to think out of the box and come up with different ideas for Ice Cream. The workshop began with a warm welcome to all the participants. The facilitator introduced the objectives of the Design Factory Workshop and set the tone for the day's activities. During this session, the facilitator provided an overview of what a Design Factory is and its significance in the context of future design. They discussed how Design Factories serve as collaborative spaces for multidisciplinary teams to tackle complex problems and foster innovation.

The facilitator presented a specific design methodology that would guide the participants throughout the workshop. They explained the steps involved in the chosen methodology and highlighted its relevance to the workshop's objectives.

During this session, industry experts from the ice cream industry were invited to present and share their insights with the participants. These facilitators provided a valuable perspective on the ice cream industry's current trends, challenges, and potential future scenarios.

The industry facilitators discussed various aspects of the ice cream industry, including production processes, market demands, sustainability considerations, and technological advancements. They highlighted the importance of innovation and creativity in driving the industry forward, especially in a future where humanity may depend on ice cream.

The facilitators also encouraged the participants to think critically about the potential implications of ice cream becoming a vital resource. They explored questions such as the environmental impact of increased ice cream production, the need for sustainable ingredients, and the development of alternative manufacturing methods.



By involving industry experts, the workshop provided a unique opportunity for the participants to gain firsthand knowledge and insights into the ice cream industry's current state and future possibilities. The industry facilitators sparked inspiration and stimulated the participants' thinking as they embarked on their own design challenge within the ice cream context. The participants had the chance to engage in interactive discussions, ask questions, and learn from the experiences of the industry professionals. This collaborative exchange of ideas bridged the gap between academia and industry, enriching the workshop experience and providing valuable real-world context to the participants' design thinking process. Overall, the industry facilitators' involvement added depth and practical relevance to the workshop, empowering the participants to consider the ice cream industry from multiple perspectives and inspiring them to explore innovative solutions within this domain. In order to encourage collaboration and diverse perspectives, the participants were divided into smaller teams. The facilitator carefully assigned individuals to teams, ensuring a mix of backgrounds, skills, and interests within each group. The facilitator introduced a thought-provoking scenario: "What if humanity depended on ice cream?" The participants engaged in a creative brainstorming exercise to explore the potential challenges and opportunities associated with this hypothetical situation. After the ice cream scenario discussion, the teams began their collaborative work. They were encouraged to apply the design methodology introduced earlier to develop innovative solutions or ideas related to the given scenario. The teams were provided with necessary materials and resources to support their ideation and prototyping process. At the end of the workshop, the participants shared their ideas and results. Each team had the opportunity to present their concepts, prototypes, and findings to the rest of the workshop attendees. This session fostered a supportive and constructive environment for feedback and discussion.

**Table 7. Participants to workshop on The Future – What if Humanity Depended on Ice Cream?**

Workshop	Number of participants
The Future – What if Humanity Depended on Ice Cream? 30/05/2023	23 students

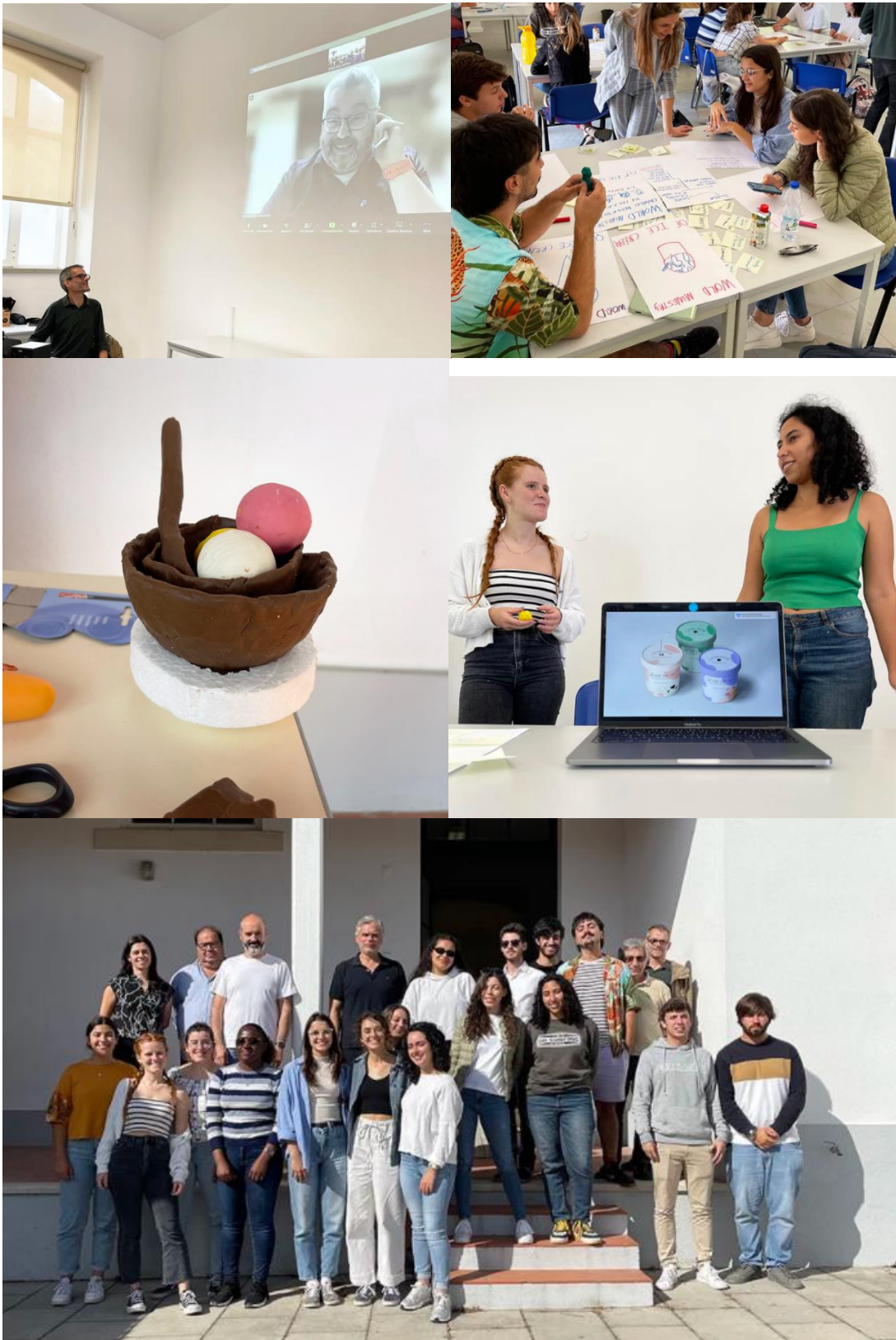


Figure 8. Students and workshop dynamics at the Polytechnic of Leiria

## 5.2 Satisfaction survey

Based on satisfaction survey of eight participants, overall, the Design Factory Workshop on 30/05/2023 was a successful and engaging event. The participants had the chance to explore the concept of Design Factories, learn about a specific design methodology, collaborate in teams, and apply their creative thinking skills to solve a challenging problem. The workshop fostered innovation, teamwork, and critical thinking among the participants, leaving them with valuable insights and memorable experiences.

During the analysis of the questionnaire responses, we observed one outlier in the data. Outliers are data points that significantly deviate from the overall pattern or trends observed in a dataset. In this case, they represent responses that were markedly different from the majority of participants' feedback. While we recognize the importance of considering all feedback and perspectives, it is standard practice in data analysis to identify and handle outliers appropriately. In this instance, we have decided, after careful consideration, not to include this outlier in the statistical analysis of the overall satisfaction results that you can find below:

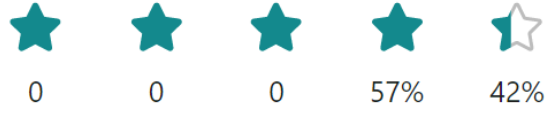
### 1. Opening lecture



The opening session was online, so perhaps this result was conditioned to that.

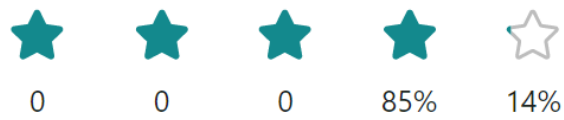
## 2. Challenge and group work

4.4



## 3. Over-all experience

4.1



## 6. Summary

Overall, there were 430 students that participated in Design Factory Workshops organized by HAMK, NHL Stenden, IPCA, IPLeiria, and SZE. The numbers were calculated based on students that registered for the workshop or the module or the other learning event, where the workshop was embedded, like RUN-EU SAPs.

Answering to student feedback and satisfaction surveys was voluntary and very little answers were received. This may be due that this was voluntary for the students and there were no standard satisfaction surveys, rather each institution collected the feedback in their own way and format.



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