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UNLOCKING POTENTIAL: 17 case studies in creative thinking, innovation & STEAM in the classroom and in the cloud

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Title
UNLOCKING POTENTIAL: 17 case studies in creative thinking, innovation & STEAM in the classroom and in the cloud

Editors[1]
María del Carmen Arau Ribeiro, Clara Silveira, Fernando Marcos, Natália Gomes, Noel Lopes, Paula Coutinho, and Pedro Fonseca

Authors
Ágnes Ibolya Pál[2], Alessandra Talamo[3], Anna Veszprémi Sirotková[4], Clara Silveira[1], Fernando Marcos[1], Filipa Gaudêncio[1], Kári Joensen[5], Katusa Sol[6], Lenard Opeskin[7], María del Carmen Arau Ribeiro[1], Michał Nowakowski[8], Natália Gomes[1], Natasa Brouwer[6], Noel Lopes[1], Paula Coutinho[1], Pedro Fonseca[1], Rafael Avelãs Stanton Arau Ribeiro[9], Renáta Ševčíková[4], Robert Fischer[7], Soňa Otiepková[10], Tanja Vesala-Varttala[11], Tim Vervenne[6], Veronika Orfánusová[4], and Zuzana Turlíková[10]

[1] Guarda Polytechnic University (Portugal)
[2] Budapest Business University (Hungary)
[3] Sapienza University of Rome (Italy)
[4] University of Economics in Bratislava (Slovakia)
[5] Bifröst University (Iceland)
[6] University of Amsterdam (Netherlands)
[7] Dresden University of Technology (Germany)
[8] Maria Curie-Skłodowska University in Lublin (Poland)
[9] NOVA University Lisbon (Portugal)
[10] Slovak University of Technology in Bratislava (Slovakia)
[11] Haaga-Helia University of Applied Sciences (Finland)

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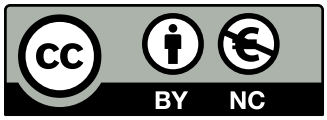

ANNOTATED

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INTRODUCTION

We are pleased to welcome you to this collection of 17 case studies of best practices in creative thinking, best practices in creativity, innovation, and STEAM in the university classroom and in the cloud. The case studies have been prepared by the eight partner universities of the Erasmus+ project ***CT.uni: Creative Thinking - Taking an Innovative and STEAM Approach for a Transdisciplinary University*** (n° 2021-1-SK01-KA220-HED-000023022 - Cooperation partnerships in higher education) and some gracious guest authors.

Unlocking Potential: 17 case studies in creative thinking, innovation & STEAM in the classroom and in the cloud presents a collection of case studies that illuminate innovative approaches to teaching and learning across various university settings. The interconnected themes explore the transformative impact of participation in creative and innovative settings, where creativity and innovation are a purposeful objective for interdisciplinary teams. Science, Technology, Engineering, the Arts (and Letters and Humanities), and Mathematics make up the acronym STEAM, where STEAM education embraces a holistic approach to learning, integrating diverse areas to cultivate creativity, critical thinking, and innovation.

Representing a consortium of eight universities from seven countries - Iceland, the Netherlands, Germany, Poland, Slovakia, Italy, and Portugal - the authors have focused on innovative teaching methods, collaborative project-based learning, and the integration of the arts and artificial intelligence (AI) in education. The case studies also provide rich insights into promoting mental health, well-being, diversity, and inclusion within university contexts, offering practical strategies and interventions for creating supportive learning environments and for including external

stakeholders in these learning projects, highlighting the dynamics of effective industry-academia collaboration that showcases successful partnerships that bridge the gap between academic research and real-world application.

Note that, as explored in the companion volume ***Unlocking Potential: 17 literature reviews to promote creative thinking, innovation & STEAM in the classroom and in the cloud***, the case studies aim to examine how learning experiences are created to integrate diverse disciplines, encouraging students to explore complex problems from multiple perspectives, students of the arts and humanities work in teams alongside STEM students, preparing students to deal with unbounded challenges. Transcending disciplinary boundaries while fostering teamwork, creativity, and innovation across diverse fields of study, the STEAM approach encourages individuals to leverage their unique skills and perspectives to tackle complex issues collaboratively, which can lead to creative solutions and surprising discoveries. As learners engage in fully-considered environments within the STEAM framework, they are empowered to embrace complexity, think critically, and approach challenges with creativity and resilience. Through interdisciplinary and transdisciplinary approaches, STEAM education expands the horizons of learning, equipping individuals with the skills and mindset needed to thrive in an ever-evolving global landscape. Ultimately, the interconnected themes underscore the transformative power of participation in creative and interdisciplinary settings, where transdisciplinary work opens horizons to unexpected results.

To unlock potential at your university and, more specifically in your classroom, the case studies represent research and classroom activity in five interrelated areas.

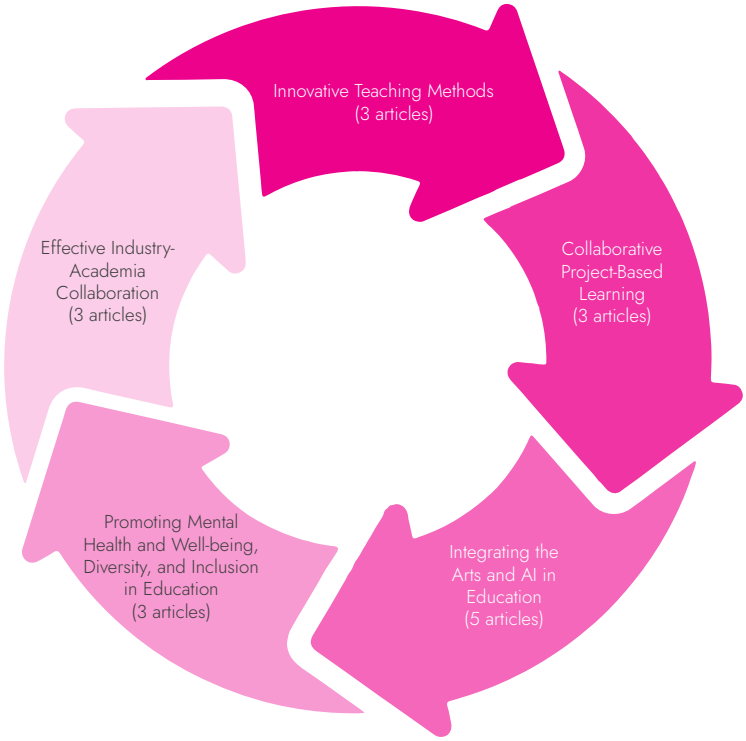

Figure 1:
Case studies in interrelated areas

The links included in the Annotated Table of Contents can be followed to meet specific interests or the case studies can be appreciated sequentially. Each case study offers a unique perspective and practical examples of best practices, making the collection a valuable resource for educators, researchers, and policymakers alike. Through these compelling narratives, readers will gain a deeper understanding of the challenges and opportunities facing contemporary education and discover innovative approaches to address them. *Unlocking Potential* begins a collection that serves as a beacon for educational transformation, inspiring readers to reimagine teaching and learning in ways that can empower students and foster lifelong learning.

The following annotated sections may spark your interest in the specific chapters. Within each case study, you will discover a succinct and informing description of each of these aspects:

- The objectives and contextualization of the project
- A case description
- A description of the team involved
- The approaches and methods applied
- The challenges and some suggested solutions

Each of the case studies concludes with a reference table that summarizes the benefits and learning involved in the respective projects. In the table, these aspects are considered:

- Innovation/Value
- Future prospects
- What would you do differently next time?
- Tips

Feel free to contact the authors with questions. We would be happy to help you implement creative thinking, using creativity, innovation & STEAM in the classroom and in the cloud.

As a peer-reviewed project, we would like to thank the partners for their contributions to building this collection of case studies. According to partner affiliation, they are:

University of Amsterdam

Emiel van LOON

Katusa SOL

Natasa BROUWER

Tim VERVENNE

Sapienza University of Rome

Alessandra TALAMO

Marino BONAIUTO

Mei XIE

Silvia CATALDI

University of Economics in Bratislava

Anna VESZPRÉMI SIROTKOVÁ

Renáta ŠEVČÍKOVÁ

Veronika ORFÁNUSOVÁ

Dresden University of Technology

Lenard OPESKIN

Robert FISCHER

Bifröst University

Kári JOENSEN

Guarda Polytechnic University

Clara SILVEIRA

Fernando MARCOS

Filipa GAUDÊNCIO

María del Carmen ARAU RIBEIRO

Natália GOMES

Noel LOPES

Paula COUTINHO

Pedro FONSECA

Slovak University of Technology in Bratislava

Soňa OTIEPKOVÁ

Zuzana TURLÍKOVÁ

Maria Curie-Skłodowska University in Lublin

Michał NOWAKOWSKI

Other participating guest authors and reviewers

Ágnes Ibolya PÁL

Budapest Business University

Carme VILA CARDONA

IPG Consulting partner for CT.Uni

Rafael Avelãs Stanton Arau RIBEIRO

UNINOVA

Tanja VESALA-VARTTALA

Haaga-Helia University

of Applied Sciences

We wish you moments of enjoyment as you read and reflect on how to adapt these proposals to your local educational context.

Having just lost our dear friend and colleague Filipa Pacheco Gaudêncio to a long battle with cancer, we dedicate this volume of ***Unlocking Potential*** to her memory, in honor of the blend of creative and critical thinking she shared with us daily. She is missed every day.

Guarda, April 2024

The IPG editors

María del Carmen Arau Ribeiro, Clara Silveira, Fernando Marcos, Natália Gomes, Noel Lopes, Paula Coutinho, and Pedro Fonseca

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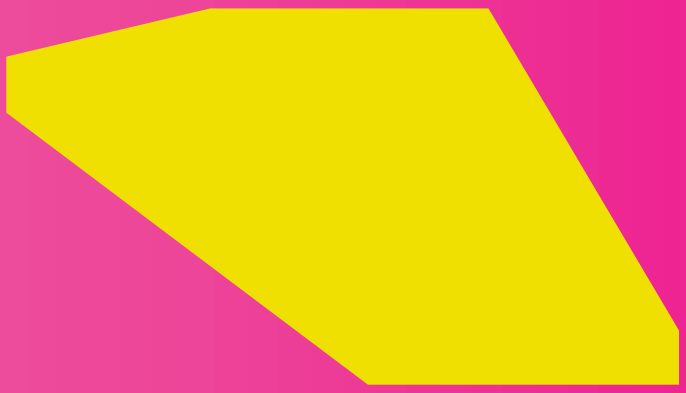


INNOVATIVE TEACHING METHODS

CASE ONE

THE NEXT GREAT/SMALL TRANSFORMATION

University of Amsterdam [UvA]
Tim VERVENNE
Katusa SOL
Natasa BROUWER

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

Our world is ridden with urgent, but daunting transition challenges. Just think about the challenges prompted by climate change, inequality, pandemics or digitalization. In all these and similar cases we know we must fundamentally change the way we think about and do things, and urgently so, but we do not know how. Uncertainty about the direction of change, and resistance to change are ubiquitous. How to move forward?

In this course, the aim is to familiarize students critically and constructively with conceptual and operational tools to cope with these transition challenges. With the help of these tools, interdisciplinary teams of students will identify a transition challenge and develop a strategy to address it. In recognition of the open nature of the field, students will at the same time be prompted to critically assess the tools and propose improvements.

The process will be articulated in four iterative stages:

1. **Imagine:** identifying a transition challenge, and a vision that could address it;
2. **Connect:** developing a systemic understanding of the challenge;
3. **Act:** conceiving and implementing a simple, real-life intervention towards the realization of the vision;
4. **Assess:** monitoring and evaluating the impact of the intervention.

In parallel to the development of the strategy, individual students will be asked to reflect and draw lessons for the improvement of the intervention, the contents of the strategy and the process of developing the strategy.

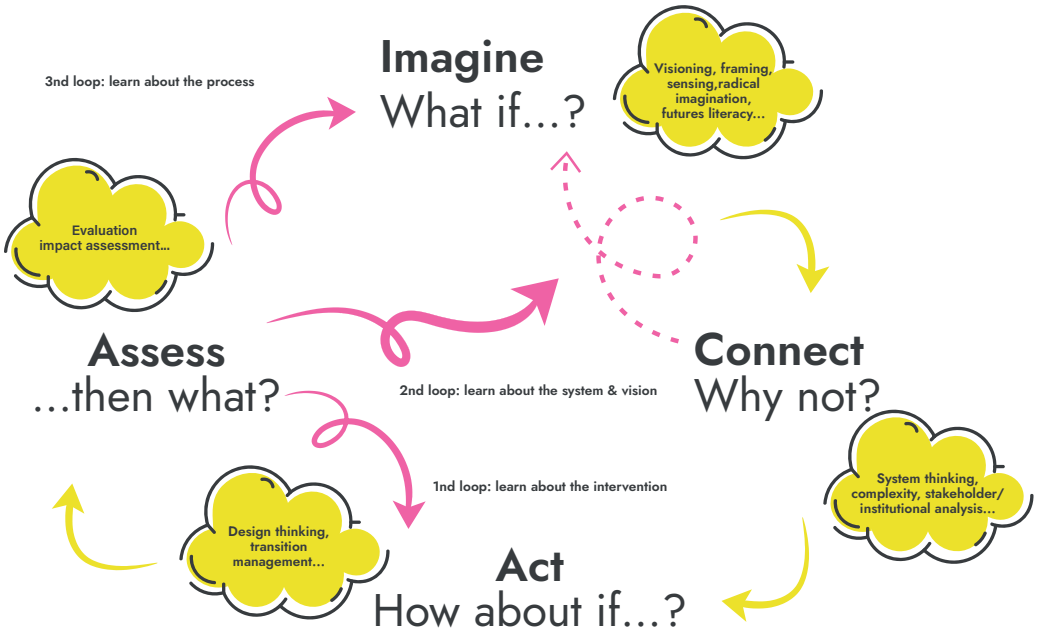
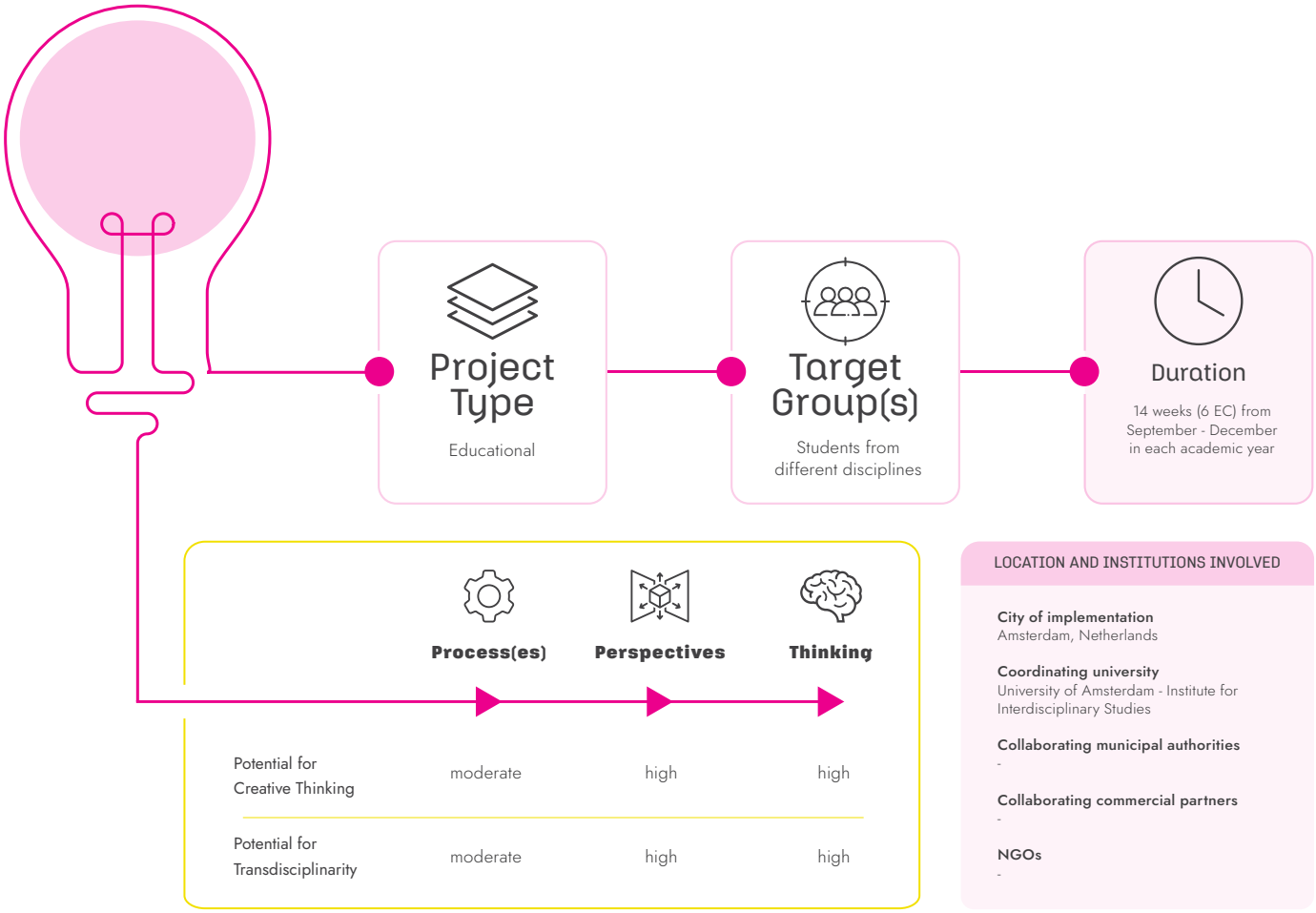


Image by UvA, IIS: https://iis.uva.nl/binaries/_ht_1702563299054/700x0-webp/content/gallery/subsites/iis/strategische-agenda/transition-cycle.png

FURTHER INFORMATION

https://iis.uva.nl/shared/programmas/en/honours-modules-iis/honoursmodule-the-next-great-small-transformation/honoursmodule-the-next-great-small-transformation.html



CASE DESCRIPTION

The main goal and background of the project

Main objectives:

- The student is able to use both imagination and creativity in order to define a challenge and develop a vision (imagine phase)
- The student is able to critically analyze the path towards the vision by developing a system map and stakeholder analysis (connect phase)

- The student is able to develop a strategy to address a transition challenge and prepare and execute a simple real-life intervention (act phase)
- The student is able to monitor the intervention and assess critically the outcome as well as the process of the transition methodology (assess phase)
- The student is able to apply scientific literature, coherent argumentation and relevant methods and tools (all phases)

Within 'The Next Great/Small Transformation', students form groups to choose a problem within one of the four themes: health, digitalization, inequality or sustainability. They start from a broad theme and work their way to define a specific (research) question for their group. They define their question through the framework of the transition cycle and creative workshops to work towards a small-scale experiment that can influence the problem that they see or is present within one of the four themes.

The transition cycle has four steps: imagining, connecting, acting and assessing.

- The first step of imagining starts with imagining or dreaming of a different kind of world - in which they can be as radical as they want to be. What is the world like now, and what are the obstacles or limitations to work towards the imagined world? i.e. Why is that dream not a reality (yet)?
- The connecting phase focuses on the critical analysis of the current systems, to be able to think about the development of the tools that help move towards a system that can sustain the dream world of the student groups.
- Through different kinds of creative workshops, they concretize the possible solutions to tackle the problems that are 'in the way' of reaching their different kind of world. The students go into action and check what kind of niches are present within the system that could provide the possibilities for small or big changes.

» To finally go towards the assessing stage: this is what we have developed now and what we want to establish, what are the steps we need to take from this point onwards?

The course stimulates the imaginative, creative and futuristic thinking of students who want to work towards a 'better' or different world and establish their ideas of this world through collaboration with students from other academic fields by combining and using the knowledge within different disciplines to work towards a sustainable future.

TEAM

The course is coördinated by Katusha Sol at the education lab of the Institute of Interdisciplinary Studies (IIS). As the UvA's center of expertise in the field of interdisciplinary learning and teaching, the IIS develops and implements new education with faculties or external clients. The institute gives advice on learning, teaching and the development of new educational concepts in an interdisciplinary context with the associated organizational and teacher professionalization.

More information about the department can be found on the IIS website:https://iis.uva.nl/over-iis/over-het-instituut-voor-interdisciplinaire-studies.html

APPROACHES

The course uses the theoretical framework of the transition cycle to guide students through their research. Other than the framework, the students are free to create their own ideas and methods to conduct their research projects. To help students within the creative 'imagining process', creative experts and professionals are asked to give workshops based on the field in which they are active. These workshops can take on different forms: spoked world, science-fiction writing, creating soundscapes, theatrical visualization, etc.

The course gives the students the framework and extra creative input, and with these references the students have the freedom to design their ideas, projects, methods and output.

'The Next Great/Small Transformation', which is open to all students, has an interdisciplinary approach, and brings together students and teachers from different disciplines and areas within the academic field. During the course, there is an emphasis on collaboration and the integration of different perspectives on challenges within society.

CHALLENGES

How to bring different student populations together? How to keep all the students from the different disciplines engaged with their research.

- Some students are not used to getting sent into the 'open world', so this course is their introduction to concrete societal thinking.
- How to protect students from taking on too big a challenge for their research? Some students are very much aware how big the challenges they want to address and tackle actually are, and can be overwhelmed with this awareness of the complexity of their research topics.
- Creative workshops can be a 'hit or miss' for some students. The experiences are that especially for the more introvert students, the creative workshops can be intense and a big step.
- The content of creative workshops can both add to the course but can also distract from the course content. Creative workshops need to be carefully selected and reflected on.

TOOLS/RESOURCES/MATERIALS

The course The Next Great/Small Transformation is built on the transition cycle, a framework designed by Luca Bertolini, scientific director of the Institute of Interdisciplinary Studies and professor in Human Geography at UvA. https://iis.uva.nl/en/content/news/2021/06/the-iis-presents-its-plans-for-2021-2026.html

BENEFITS AND LEARNING

Beneficiaries

The output of the student research projects takes on very different forms, which creates opportunities for the stakeholders to experience in different ways how challenges within a field can be taken on. The liberal and freeing possibilities of thinking within the educational setting can give impulses to the stakeholder to break paradigms that have been generated within certain fields.

This course is a great way for students to generate output in which they can shape their portfolio within their field of interest.

This course helps to bring external professionals and teachers within the community of the university and the academic world, establishing connections between the educational world and the professional work field.

Innovation/Value

The course offers a lot of freedom in experimenting with creative forms of teaching and transference of knowledge. The creative workshops help to inspire both the students as well as the teachers to think further how (future) problems can be tackled, creating a sustainable and progressive teaching and working environment.

The students value the course because of the interdisciplinary collaborations, the different perspectives each student brings to the table and the working together towards a common goal or dream. This strengthens the collaborative thinking of these students who soon will be an important part of society and the (academic) world.

Future prospects

In the future there is the plan to extend the course to a minor or make it a component of a broader course that corresponds to 18 European Transfer Credits. This minor will be a collaboration of three different faculties within the UvA. The focus of the course will remain to be interdisciplinary thinking and design thinking. The goal of the programme will be to stimulate collaboration of students from different studies and faculties.

What would you do differently next time?

For the course, we want to have a good look at how to improve the 'grading' of the student. Instead of focusing on solely grading the progression in the process and the final output, we want to see if we can have integral interviews with the students to hear from them, individually or collectively, on what their learning outcomes have been during the course from beginning till the end.

Tips

How do creative workshops contribute to the overall design and problem solving-thinking of students? How do the contents of a creative workshop contribute concretely to the societal problem the students want to solve? Interactive components during the workshops help, so that the students can guide the process and bring in their specific topics. Teachers need to be aware of the different research projects the students are conducting.

Furthermore:

Have a clear view on how students need to be graded within the educational setting.

Establishing a clear connection between the '(societal) problems' the students want to solve and the designs that they are making, and the stakeholders that could be of interest within the framework of the design. How does this research or ideal relate to the world outside of the university?

CONTACTS AND SOURCES

Katusha Sol - K.Sol@uva.nl

https://iis.uva.nl/shared/programmas/en/honours-modules-iis/honoursmodule-the-next-great-small-transformation/honoursmodule-the-next-great-small-transformation.html

https://iis.uva.nl/over-iis/over-het-instituut-voor-interdisciplinaire-studies.html

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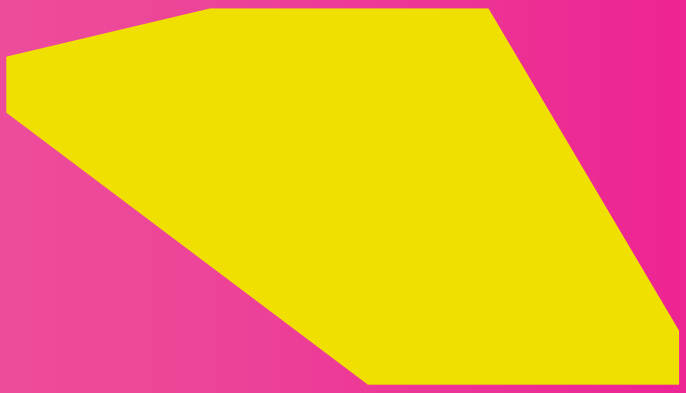


INNOVATIVE TEACHING METHODS

CASE TWO

REFLECTIVE DESIGN PROJECT

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

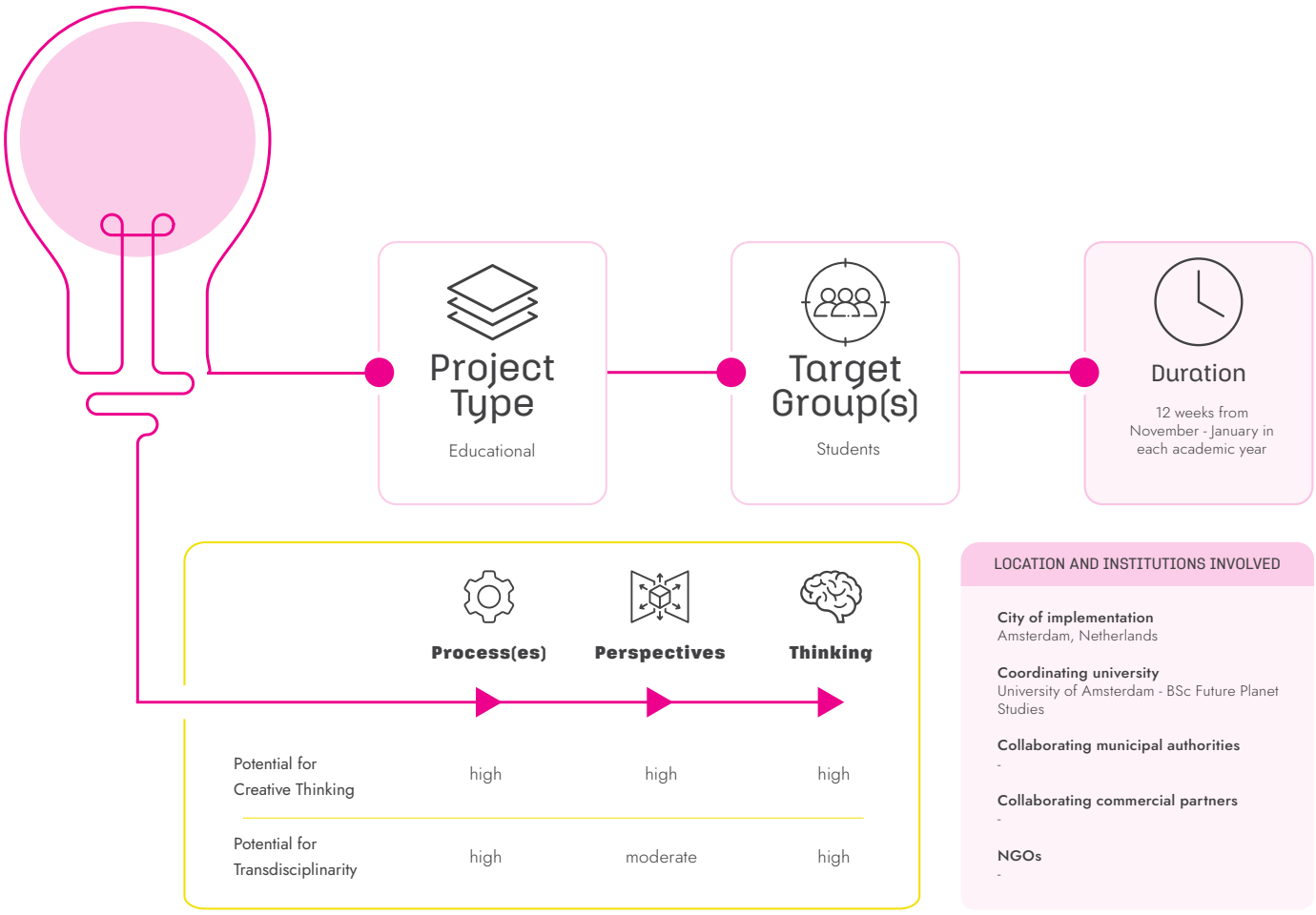
University of Amsterdam
[IBED, UvA]
Tim VERVENNE

The course Reflective Design Project is a part of the second year bachelor's on the Future Planet Studies at the University of Amsterdam. The course is also open to Exchange students and students in the minor Sustainable Food Systems. Students who take this course have the opportunity to:

- Use earlier acquired system skills and methods, particularly making a system analysis, identifying system traps and selecting leverage points for effective interventions, and incorporate those with complexity and design thinking in their project.
- Use a range of conceptual tools from the realm of design thinking to come up with smart solutions for a selected food (or related) issue.
- Bring together disciplinary knowledge and skills to come up with the best possible solutions for a selected food (or related) issue.
- Define and analyze complex issues from an interdisciplinary perspective.
- Able to anticipate any foreseen and unforeseen consequences of social and ecological interventions on our future life, specifically with regard to the chosen topic.

- Able to critically reflect on the potential impact of social and ecological interventions on our future life, specifically with regard to the chosen topic.
- Integrate critical thinking skills, problem-solving skills, collaboration skills and reflexive capacities to try and find solutions for complex problems.
- Demonstrate their scientific professional attitude by acting critically, open and with integrity.
- Apply collaboration skills through working in interdisciplinary teams.
- Reflect on their collaboration skills and the group process, and draw up a plan for improvement.

Further information: https://studiegids.uva.nl/xmlpages/page/2023-2024/zoek-vak/vak/110099



CASE DESCRIPTION

The main goal and background of the project

'Wicked' problems such as the food supply require a way of working that takes as a point of departure an open, inquiring attitude rather than omniscient expertise and an attitude that is supportive and investigative rather than oriented towards simple solutions. Design thinking can offer such an approach. The way we see it is as a form of solution-based thinking in which complexity and systems thinking are used to develop creative interventions or strategies to produce constructive results.

The Design Method can be used to test out whether a particular technology, intervention, or policy that was designed to offer a solution for a particular problem indeed works out as hoped. If it does, it can be implemented on a large(r) scale in a real-life setting. If it doesn't, adjustments need to be made to come up with a better solution. In any case, we will have gained more understanding of the steps that must be taken to overcome the problem.

During this course, students will be trained in this way of thinking and are invited to put it into practice in their own Reflective Design Project. In the various courses in the Future Earth and Future Society track, vital questions related to the food issue are addressed, such as:

- Which resources are available for food production; do we have enough water and land to grow crops or do we need to develop alternative substrates for soil to meet the demand?
- Should we stick to 'conventional' methods or can we also use new technologies such as genetically modified organisms (GMOs) or in vitro meat to enhance (the quality of) our food production?
- What about our food chains, are they optimally organized; are they efficient, are they fair?
- What are the main challenges regarding the global food supply; is it food production, is it food distribution, is it both?

» What does this tell us about the current food system and other related systems such as the water supply and the global economic system? Can we meet our future demands with the current systems, or are system changes needed to tackle these huge challenges?

TEAM

The course is part of the Bachelor Future Planet Studies. The goal of this Bachelor is reflected in this course. The Bachelor's vision is that you cannot create a sustainable future purely with the use of one discipline. Earth sciences and biology are needed to understand human intervention in 'system earth'. At the same time, it is important to look at the social, political and economic factors that determine people's behavior. These different disciplines are combined and taught within this Bachelor programme.

The course is led by dr. J.C. Tromp, ex-program director of Future Planet Studies. She is also connected to the Institute for Interdisciplinary Studies at the UvA.

APPROACHES

Taking the Design Method as a point of departure, students are challenged to come up with a solution for a pressing food issue (or to a related topic concerning the climate, or energy or water demand). After a thorough problem analysis, the project team is asked to design an intervention or policy that is aimed at improving the existing situation. The solution is first tested on a small scale, and the team members reflect on the anticipated effects, both intended effects and potential undesirable side-effects. If necessary, they adjust their action plan.

Meanwhile, the group also reflects on the group process to see whether the cooperation runs smoothly or whether the alignment of tasks among the team members needs to be improved. They then draw up an action plan for the implementation of the solution in a real-life situation.

After the December break, the team dedicates the whole month of January to working on the actual implementation of the solution. At the end of the project, they present their results to their peers and a jury of change-makers.

To conclude, they are asked to look back once more on the group process during their whole design project and reflect on what they learned from this as it comes to dealing with complex problems such as the world food issue.

CHALLENGES

- This is a big course in which students have to think about big challenges: how to efficiently guide them through the research process within the limited amount of time because of the three-month duration of the course?
- Sustaining a close connection between the topics within the 'food industry' that the students research and the reality of the outside world.
- Giving students the space and possibility to make mistakes, allowing the students to allow themselves to make mistakes.

TOOLS/RESOURCES/MATERIALS

Although various literature sources are used as the basis for the theory in the course, the focus is mainly Tromp (2018) and Meadows (2008). Furthermore, at the end of the course three prizes are awarded to three different research groups:

- One prize for the project with the greatest impact, for the research group that has done their research thoroughly and with care and that has results that could be or are impactful;
- One prize for the project with the most beautiful failure, for the research group that has done their best but for whom the project did not go smoothly because of specific circumstances. They have shown in their reflection that they learned a great deal from the things that 'went wrong'; Because they show in the reflection how much they have learned from it, the prize shows students that it is okay to make mistakes and that it is essential to be able to learn from them;
- One prize for the project with the greatest perseverance, awarded to the research group that worked the hardest.

BENEFITS AND LEARNING

Beneficiaries

Students, especially alumni, greatly value the course and their freedom in the course. The research project in this course is one of the first big projects that they conduct within their studies. The course reports a high learning efficiency.

Change-makers and primary target groups: in the course, students are immediately forced to contact their Primary Target Group. Students have a very quick tendency to go straight to the solution because they want to tackle the problem that they are facing, but sometimes the problem does not even exist or they have not mapped out the problem properly or they do not know who is dealing with the problem. The Design Method teaches them that they must immediately start talking to their primary target group. Through making an empathy map, the students have to characterize the problem that the primary target group faces or could be facing. Through contacting and empathizing with the primary target group, students learn how to communicate with these groups and involve change makers in the work field, which benefits these groups in the professional societal world of change making.

Innovation/Value

This course is a combination of scientific and analytical thinking and letting the students 'go free'. The students are not bound by any end product, so they can choose for themselves what kind of solutions they want to make and in which way they want to do and present their research. Whether they want the end product to be a dance, a film, an app, a research report or a cookbook: all is possible. The freedom in what the research can have as output is definitely a certain stimulus for the students.

Future prospects

A different kind of reflection form for the students on this course, since alumni of Future Planet Studies make known that this course is of great value for students, but the students that are doing the course or have just done the course do not clearly see or want to see the merit the course has to offer. For the future, the course leaders want to keep planting seeds for the students that will help them in their professional career.

What would you do differently next time?

The guest lectures are poorly visited by students, while the guest speakers are top-rank and do very valuable work for their respective fields. We have to find ways to make students aware of this fact, so that they make use of the knowledge and expertise these prestigious guest lecturers have to offer.

Tips

Making sure that for courses that have big projects, enough time is reserved for students to let the theoretical knowledge sink in while also giving students enough time to actually work on their projects.

Personalised coaching helps students to ask for help and to not wait too long before asking for help when they hit a bump during their preparations or during their research.

CONTACTS AND SOURCES

Coyan Tromp - J.C.Tromp@uva.nl

Lieke Mulder - L.L.Mulder@uva.nl

Course guide: https://studiegids.uva.nl/xmlpages/page/2023-2024/zoek-vak/vak/110099

Tromp, C. (2018). Wicked Philosophy. Philosophy of Science and Vision Development for Complex Problems, Amsterdam: Amsterdam University Press

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INNOVATIVE TEACHING METHODS

CASE THREE

HONORS EXTENSION EXPERIMENTATION PSYCHOBIOLOGY

University of Amsterdam [IBED, UvA]
Tim VERVENNE

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

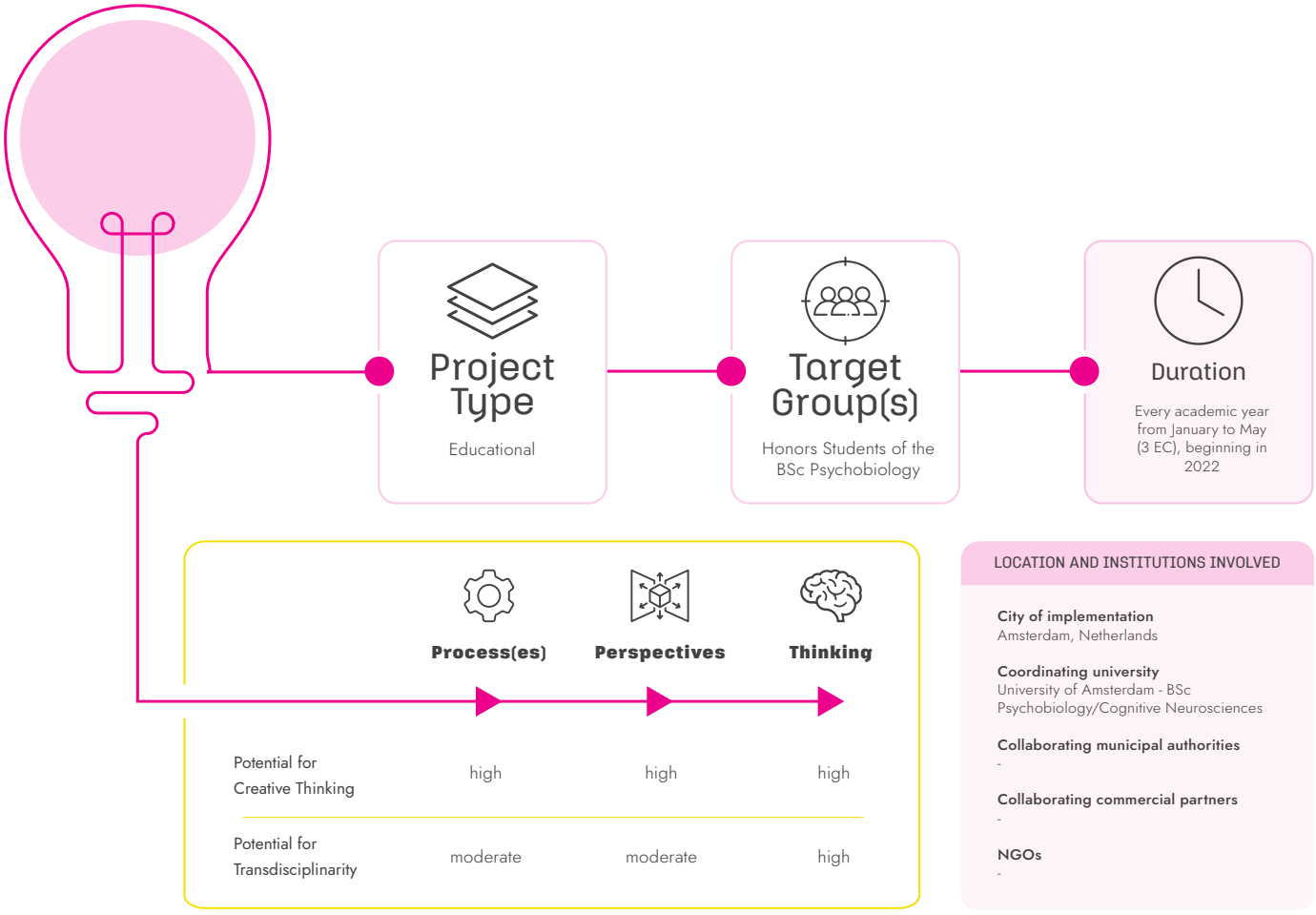
The course Honors Extension Experimentation Psychobiology is a part of an extension program for highly motivated and talented students. It can be followed exclusively by students who parallel follow the Experimentation parts of Experimental Psychology and EEG. During the honors extension of the Experimentation course's two practicals: Experimental Psychology and EEG practical are further expanded by deepening and professionalizing the design, reporting and evaluation of the experiments during and after these practicals. Students present a research proposal, apply in-depth analysis techniques and place this analysis and conclusions in the context of recent literature in two report parts and two presentations. There is intensive cooperation and the emphasis is on conducting discussions at a high scientific level. Students will learn to:

- critically evaluate scientific behavior and EEG/ERP research.
- devise and carry out an EEG/ERP follow-up analysis in which previously obtained results are discussed in more detail or in a different way during the EEG practical.
- defend their own research proposal orally.
- process feedback from fellow students and teachers.

» extensively explain and justify the used design and procedure of the extra EEG analysis.

» explain, interpret and critically evaluate the results of the in-depth analysis.

Further information: https://studiegids.uva.nl/xmlpages/page/2023-2024/zoek-vak/vak/109606



CASE DESCRIPTION

The main goal and background of the project

- How can students look further than the projects they do within the educational context?
- How can curiosity be stimulated?

Responding to these questions is the main goal of the Honors Extension Experimentation Psychobiology. Within the 'regular course', students conduct a small EEG/ERP experiment. Through this Honors course, students are encouraged to create a link between the experiment they did and possible psychological processes that underlie the tasks in the experiment.

The students have only three weeks to do the experiment in the original course, which makes it hard for the students to explore the 'possibilities' of their data collection and to creatively and open-mindedly assess the data that they have collected. They respond to the challenge, "You now have this data: see if you notice things in the data that could be interesting to research, to see the events and circumstances that you created in the experiment in a different way than you initially envisioned".

This approach of non-binding research creates the opportunity for students to think outside of the box when it comes to formulating research questions and hypotheses, and to take these experiences with them in their future career. This is also the creative component in the course: stimulating data exploration and looking for new ways to treat data. We ask questions like:

- What if you see the data that you have collected as a jungle in which different pearls can be discovered?
- Are there patterns that arise if you go in-depth in the research that you are conducting and go in with an open mind?
- Do you see things that you could not have thought of beforehand?

TEAM

The team of the Honors Extension Experimentation Psychobiology includes a variety of teachers, each specialized in different fields across the spectrum of the Cognitive Neurosciences from (Molecular) Biology to Clinical Psychology to Computational Neuroscience. The different teachers and researchers use their expertise to guide the students in their in-depth research on the topics that are relevant to the field.

APPROACHES

The Honors Extension Experimentation Psychobiology takes the complete research cycle as the leading approach. Parallel to this course are some 'regular courses', and this Honors elective creates the possibility for students to take the researched principles in the 'regular' courses to the next level. The significant emphasis on collaboration with teachers and other students means that the in-depth research is conducted with fellow students and each of the teachers involved is assigned to a specific research group. Through this cooperation structure, the academic research structure is imitated so as to prepare the students for their Bachelor's thesis and the academic world after finishing their Bachelor's. Students are encouraged to see the extended research that they do within this extracurricular course as a pilot study that could be extended to a full academic study.

Trial and error, data exploration and creative research methods are encouraged to be explored and developed. Since the course contains a subset of the student population of the BSc Psychobiology, there is a lot of space for the teachers to individually support and guide students in their specific projects.

CHALLENGES

The biggest challenge that comes with this course is to make the students aware of their own capacities and the possibilities. Besides the 'serious' part that comes with doing a Bachelor's degree and being prepared for the academic world, there is also a playful and curious and creative part that comes with doing research. It is found that within the Bachelor's degree in Psychobiology, students tend to be very much result- and

grade-oriented and a shift in this thinking can be stimulated by bringing in playful components and non-binding resultive courses like this Honors course.

BENEFITS AND LEARNING

Innovation/Value

Collaboration between students, from individualization to cooperative thinking, through research projects.

Opening education to the bigger picture: Ask students to consider this question... How does what you do in your first and second year of a Bachelor's degree relate to your Bachelor's project, a Master's degree and possibly even a PhD trajectory?

Future prospects

Extending the Honors program parallel to all the different courses that are taught in the second year of the BSc Psychobiology.

What would you do differently next time?

Offering more interaction moments, for example, in the form of discussion groups amongst the different research groups, so that students and research groups can learn from each other but mostly help each other as well.

Finding more creative ways and offering different methods of data exploration so as to encourage students to think outside of the box when it comes to doing research within the field of Cognitive Neurosciences and research related to EEG and computational neuroscience.

Offering classes within each course that focus on the importance of making mistakes and the value of honest but 'kind' reflection.

Tips

Make clear decisions in advance about the way students want to or have to be graded. You will want to consider how creativity and curiosity can be stimulated while still quantifying the process, progress and results of the students and the project. My suggestion is as follows:

To prepare students for the world outside of academia, give a clear overview to students to show how an in-depth research project is connected to the academic world and society.

Consider the purpose of reflection: Making students aware that making mistakes is a (beautiful) part of doing research.

CONTACTS AND SOURCES

Hannie van Hooff - J.C.vanHooff@uva.nl

Julia Dawitz - J.Dawitz@uva.nl

Course guide: https://studiegids.uva.nl/xmlpages/page/2023-2024/zoek-vak/vak/109606

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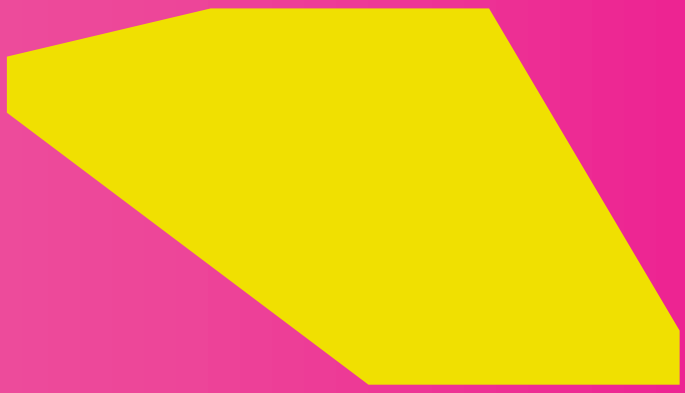


COLLABORATIVE PROJECT-BASED LEARNING

CASE FOUR

UEBA'S BUSINESS IN PRACTICE – RETAIL ACADEMY

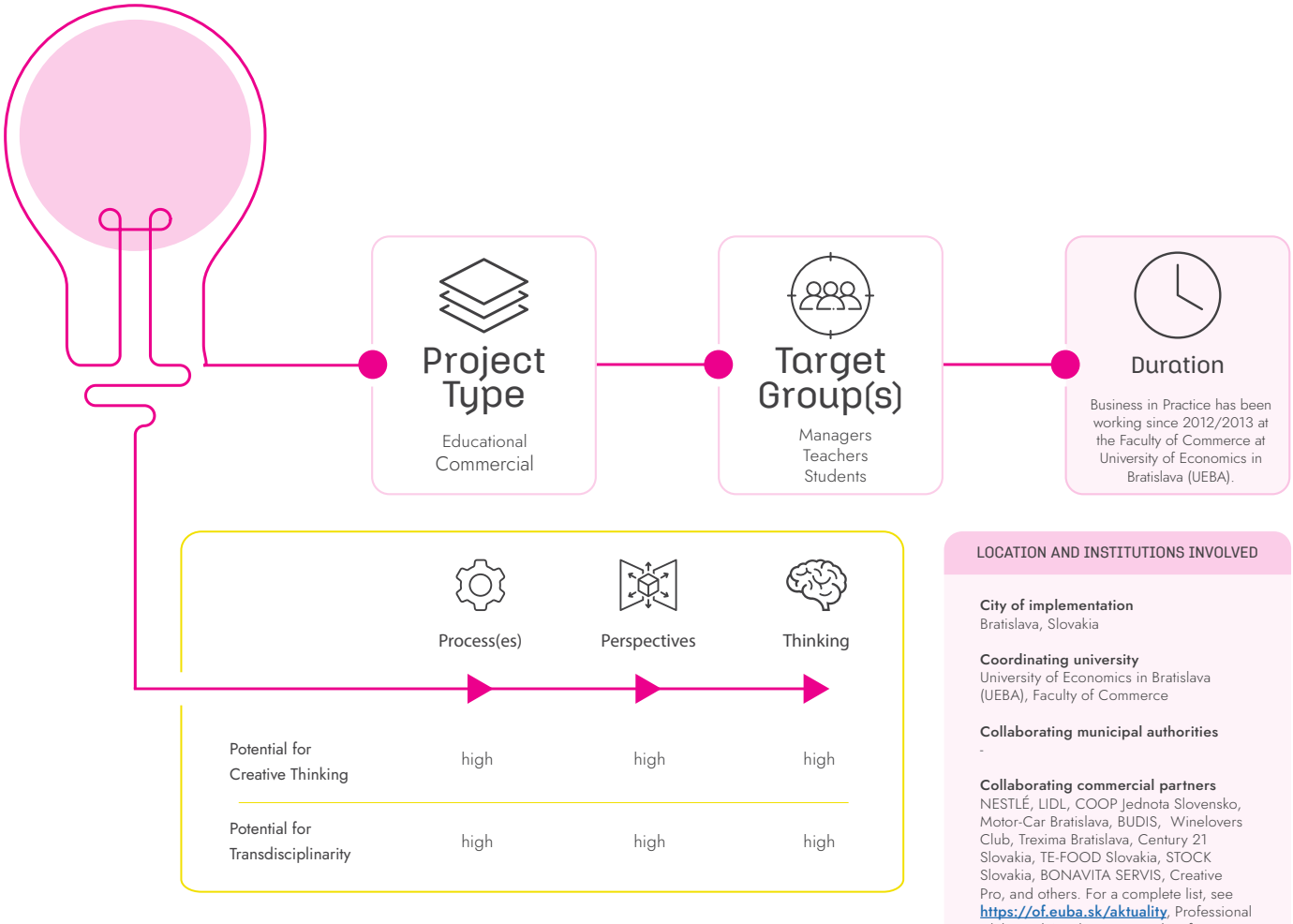
University of Economics in Bratislava
Anna SIROTKOVÁ

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

At the UEBA Faculty of Commerce, there is high attention to cooperation with external partners from the businesses and institutions. The Faculty of Commerce has 23 partner institutions in Slovakia and more than 290 partners via the Erasmus+ Program in Europe, Asia, and Africa. All courses related to business involve some external partners, mostly in the form of lectures, consulting or coworking on projects. Business in Practice is a platform at the UEBA Faculty of Commerce for supporting the connection of all students with practice through activities that also enable the systematic and comprehensive development of their personality in clubs and academies, where each of them engages different external partners.

Business in Practice provides students with space for direct cooperation with practice, by involving students in solving practical tasks, problems, and challenges of varying difficulty assigned by partners from practice - several companies from the private sector, e. g. tour operator, hotel business, retail business, marketing, etc. not only to gain experience with working on a team and to create their own topics for their final theses, but also to establish their own businesses. Business in Practice has been operational for 10 years at UEBA, involving more than 2,300 students and

engaging more than 20 companies and organizations. Retail Academy is one of clubs within the Business in Practice course at UEBA, engaging a group of students with retail company Lidl.



LOCATION AND INSTITUTIONS INVOLVED

City of implementation
Bratislava, Slovakia

Coordinating university
University of Economics in Bratislava (UEBA), Faculty of Commerce

Collaborating municipal authorities
-

Collaborating commercial partners
NESTLÉ, LIDL, COOP Jednota Slovensko, Motor-Car Bratislava, BUDIS, Winelovers Club, Trexima Bratislava, Century 21 Slovakia, TE-FOOD Slovakia, STOCK Slovakia, BONAVITA SERVIS, Creative Pro, and others. For a complete list, see https://of.euba.sk/aktuality, Professional Clubs and Academies - Faculty of Commerce (euba.sk).

NGOs
Professional organizations:
Trade Union of the Slovak Republic
Other courses at this faculty cooperate with:
SBA - Small Business Agency
Slovak Association of Small and Medium Entrepreneurs and Businessmen

CASE DESCRIPTION

The main goal and background of the project

Every student of the UEBA Faculty of Commerce completes Business in Practice to gain practical experience, engage in direct cooperation with partners from practice who lead professional workshops, and participate in lectures, seminars, and final theses through consulting activities.

In the Business in Practice project, students make relevant and meaningful contacts with managers and experts from selected areas of business and their social environment to improve their social and professional skills. The main goal of Business in Practice is to sustain all of these benefits from their practical experience as well as their new ideas and solutions. Some of the innovative education in this platform covers project-based learning, problem-based learning, design thinking, interdisciplinary linking of UEBA student teams from the other local national faculty (Faculty of Architecture, Slovak Technician University (STU)). For development of new products, for example, technical students were designing the product while UEBA students were creating the marketing plans, and bringing new experience and knowledge from international companies. Other experience came from the International Club and student internships and even from foreign faculties and universities. Club Mobility is established for students from our faculty who participate at partner universities in EU countries, like Université de Lorraine in Nancy (France), University of Economics in Prague (Czech Republic, ISCAL – School of Accounting and Administration at the Instituto Politécnico de Lisboa (Portugal), University of Las Palmas de Gran Canaria (Spain). This year there is an opportunity to travel to the Maldives via the Erasmus+ project CHILDRN. Practical experience in companies abroad comes from internships in international organizations like Amnesty International, Nestlé, Alza (see the list of past collaborating organizations).

The activities within the Business in Practice platform also contribute to ongoing faculty events, like the UEBA Christmas University, Regionfest, Spring University, and Winefest, all organized by students in cooperation with partners from Business in Practice.

The basic starting point for project-based learning in the Business in Practice project is the assignment/project based on the topics attributed by UEBA's external partners that students solve as a team. Within the project teams, which are designated by the teachers, the students themselves determine their schedules of planned activities, sub-goals, and responsibilities for meeting the set goals. Similarly, they decide for themselves what knowledge they need, look for the information and data they need to successfully achieve the statutory goals, and respectively solve their task/problem. Teachers play a coaching role in this project-based teaching, where they supervise the activity to fulfill the teams' goals and guide students in solving the problems that have been identified in the projects.

In the course of resolving the project issues, the students make interim presentations according to a timeline that has been established by the teachers, then present the complex results at their final presentation with the participation of experts from practice. The assessment is focused on students' abilities, is collective and is provided not only by club/academy supervisors, but also by experts from practice and/or by their classmates. All of them give feedback, but the final decision of grade is on the teacher. Through collective assessment, it is easier for the teacher to evaluate the project and the team as a whole rather than try to distinguish the contributions and efforts of each student in each of the seven teams in a class of 28. The collective grade lowers competitiveness among team members. while promoting teamwork and other soft skills, like cooperation, communication, empathy, organization of work, and time management. Although some students may benefit as parasites from the work and effort of their colleagues, this paradoxical disadvantage may lead to improvement of managerial skills of the more responsible students, who will better organize their teamwork in the future or refuse to co-work with problematic classmates.

At the beginning of the semester, students choose the professional clubs and academies that best suit their preferences from the following list of collaborating professional clubs and academies currently offered:

» Business in Practice 1 - Animation in Tourism, Financial Literacy in Tourism, Photo-Lab, Internship, Communication, Mobility, Nestlé,

Practice in Professional Organizations, Retail Academy, UNILEVER – for students in the 4th semester of their Bachelor's degree.

» Business in Practice 2 - Agro Bio, Travel Club, BUDIŠ (mineral water business), Heuréka (retail business), CREATEC (cooperation with marketing agency), Business Financing in Practice, Photo Lab, International Business Club, Mobility, UNILEVER, Business Strategies, Retail Academy, HORECA (Hotels (HO), Restaurants (RE), and Cafeteria (CA)), Mercedes – for students in the 3rd semester of their Masters in engineering.

The Retail Academy option, for example, offers lectures enriched with excursions and workshops with experts from the fields of HR, communication, administration, purchasing, sales and central services. In addition, it also offers practical experience and the sharing of best practices and verified experiences from professional life.

Retail Academy is taught through discussion seminars. The representative of Lidl introduces their previously defined topic to the students and then opens the space for questions. The lesson can also include practical exercises that complement the theoretical lecture, e.g. blind testing of products. The focus of Lidl representatives is to create a relaxed atmosphere and to be accessible to students so that they are not afraid to ask questions or express their opinion.

At the Retail Academy, the development process follows the approach described in general for the Business in Practices platform, where students must actively work in teams to resolve a given project throughout the semester. They study professional literature, do their own research, and also communicate almost every week (at least 11 moments of contact during the 13 weeks of the semester) with a competent expert from Lidl on the given topic. Each team must make a weekly presentation of their results and, at the end of the semester, defend their solution to a jury of Lidl representatives and teacher(s). The jury rates each team as a whole, so each team member will have the same shared grade. The final evaluation consists of evaluating the depth of treatment of the topic, the originality of the solution, teamwork and the quality of the presentation.

TEAM

Teams work together on the MS Teams platform in the separate stages of project creation, the analysis of the recent situation, creation of solutions, development of solutions, creation of the project for implementation of the chosen solution including possible revenues and costs, as well as possible risks.

APPROACHES

Retail Academy uses an interdisciplinary approach due to the complexity of retail business, which includes at least management, marketing, economics, psychology, logistics, product creation, and technologies. The Business in Practice platform also promotes an interdisciplinary approach through the diverse clubs and academies students can choose from, and which can vary with different clubs for each stage of their study to provide deeper insight into more businesses.

CHALLENGES

- The pandemic situation had complicated the teaching process and co-operation went online, where some activities, like product blind testing, or excursion were not possible with students. We must take this into account in the near future too and be prepared for any circumstances.
- The recent economic and energetic crisis has opened new challenges and new topics for students' projects, like how to replace rare raw materials in products, how to solve a chosen problem within crisis management, and a challenge, how to build a strong brand.
- Determining timescales to meet client and university requirements.
- Mentoring students to be creative and effective while working on their projects with the aim to bring original and new solutions.

BENEFITS AND LEARNING

Beneficiaries

Students acquire knowledge about project management and determine and apply the tools and the approaches of coordinating and managing the activities of middle and upper management. They also acquire the ability to decide and propose solutions to projects and problems at a tactical and strategic level.

Organizations that participate benefit from new ideas and solutions created by our students. They may find their future new employees among our students.

Innovation/Value

The main value lies in connecting students with representatives from the practice, so they better understand the nature of business, work on solving real problems in their projects, and improve their skills and competences.

Future prospects

Students have the opportunity to complete a practical internship in these companies.

In the future we would like to organize more events where students may show their solutions so they will be more motivated and evaluated.

What would you do differently next time?

It might be better to control interim results more in the future.

Tips

Between seminars, use MS Teams or other platforms for communication with students.

Provide students with previous solutions of the tasks so they may base their solutions on their improvement, be inspired by them, or create something new.

CONTACTS AND SOURCES

Dipl. Ing. Anna Veszprémi Sirotková, PhD. - anna.veszpremi@euba.sk
Assoc. Prof. Dipl. Ing. Jozef ORGONÁŠ, PhD., MBA - rozvoj.of@euba.sk
Dipl. Ing. Veronika Orfánusová, PhD. - veronika.nekolova@euba.sk

Sources:

https://of.euba.sk/dualne-vzdelavanie/odborne-kluby-a-akademie
Možnosti práce - Študent vysokej školy (lidl.sk)
Faculty Profile - Faculty of Commerce (euba.sk)
List of companies abroad, where our students were participating via internships
Zoznam podnikov/organizácií/inštitúcií, kde pôsobili naši stážisti
https://euba.sk/en/univerzita/mission-vision-strategic-objectives
ERASMUS+ programmes at UEBA - https://euba.sk/en/international-relations/partner-institutions-and-international-organizations#erasmus-plus
Business activities run by students https://of.euba.sk/dualne-vzdelavanie/podnikanie-v-praxi
Kotler, P. KELLER, K. L. Marketing management. Praha: Grada Publishing, 13th ed., 2013.
KITA, J. et al. Marketing. Bratislava: IURA EDITION, 2010.
BALÁŽ, P. et al. Medzinárodné podnikanie (International Business). Bratislava: Sprint 2, 2020.
ZORKÓCIOVÁ, O. et al. Medzinárodný marketing (International Marketing). Bratislava: EKONÓM, 2016.
Central Register of Contracts in Slovakia

TOOLS/RESOURCES/MATERIALS

We use tools - WWWH, Persona, Brainwriting, Brainstorming, Customer Journey, Canvas, and Prototyping, which are resources and materials related to project-based learning and design thinking as well as literature related to management and marketing (Kotler, Kita, Baláž, Zorkóciová - in list of sources).

PROCESS(ES)

For the Business in Practice course, students apply to one of our participating clubs via our internal information system. With limited capacity, between 15 to 30 are admitted to each club, depending on the nature of the course and the total number of students in a given academic year. Students are accepted automatically until the maximum capacity of the course is reached.

For international mobility, students apply via an online system to study abroad. They are selected based on an interview with the Faculty Commission (Management of the Faculty & Representative from Student Parliament) according to their presentation, motivation, study results, language competences, and student activity on the condition of acceptance by our partner abroad. Each member of the Commission awards points for each of the given criteria during the interview. After that, the committee ranks the results in a list of students and approves the internships of as many students as possible.

Our partners in the practice are often our former students, colleagues from previous jobs, friends, etc. Teachers may create new co-operations and suggest creating formal cooperation with them at the university level, often in the form of a Memorandum of Cooperation. All contracts between university and partners are registered in the Central Register of Contracts.

NETWORKS

Assoc. Prof. Peter DRÁBIK, PhD., MSc., Dean of the Faculty of Commerce, Guarantor of the Course Business in Practice

Assoc. Prof. Dipl. Ing. Paulína KRNÁČOVÁ, PhD., Vice-Dean for International Relations & PR - Course leader of Agro Bio Club

Assoc. Prof. Dipl. Ing. Jozef ORGONÁŠ, PhD., MBA, Vice-Dean for Development & Quality Assurance

Assoc. Prof. Dipl. Ing. Róbert REHÁK, PhD., Vice-Dean for Research, PhD. Study & International Projects - colleague in CT.Uni Project

Dipl. Ing. Veronika Orfánusová, PhD. - colleague in CT.Uni Project, expert in Design Thinking

PROCESS(ES)

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and suggest creating formal cooperation with them at the university level, often in the form of a Memorandum of Cooperation. All contracts between university and partners are registered in the Central Register of Contracts.

FINAL COMMENTS ON THE CONTEXT

Business in Practice and the Retail Academy fit into the mission of the UEBA Faculty of Commerce of the University of Economics in Bratislava, which "is part of the European higher education area and the common European research area, to develop harmonious personalities, knowledge, wisdom, welfare and creativity and based on the creative scientific research in the field of economics, humanities and follow-up social sciences to contribute to the development of education and science for the well-being of society and knowledge-based society". (https://euba.sk/en/univerzita/mission-vision-strategic-objectives).


BRANDING
ACTION
Design
mobile App
Video Viral
Online

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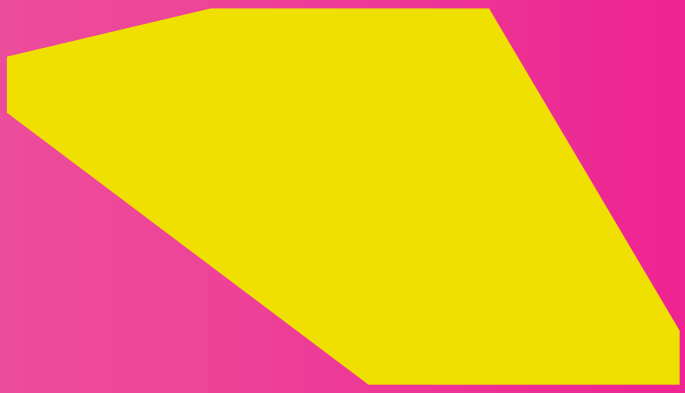


COLLABORATIVE PROJECT-BASED LEARNING

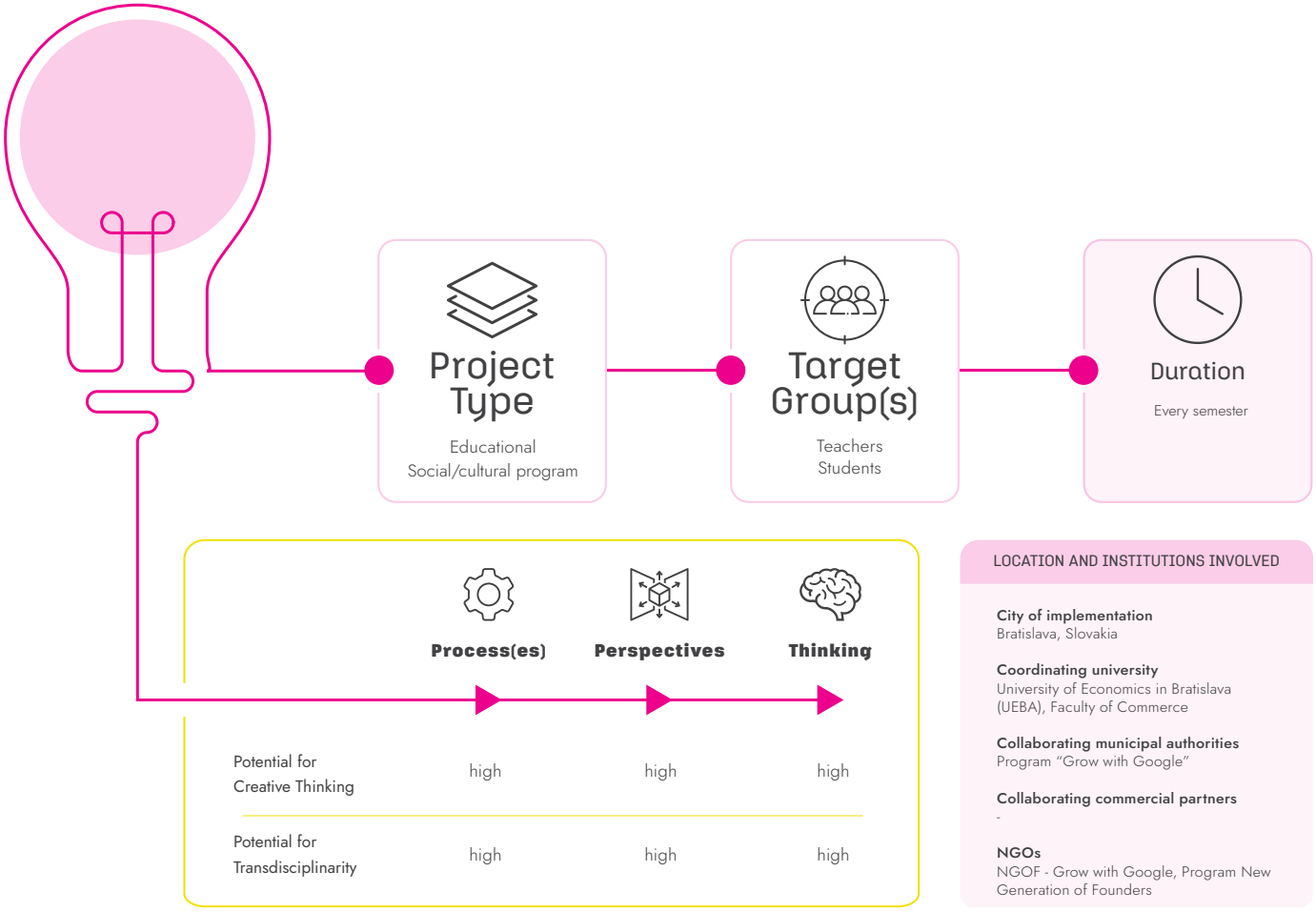
CASE FIVE

GROW WITH GOOGLE PROGRAM AT THE FACULTY OF COMMERCE (BRATISLAVA)

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

University of Economics in Bratislava
Veronika ORFÁNUSOVÁ
Renáta ŠEVČÍKOVÁ

"The New Generation of Founders" (NGOF) program is part of the Google NGO initiative Grow with Google. The NGOF Program has been part of the courses at the Faculty of Commerce for more than three years, involving some 300 students. Thanks to this program, UEBA students can develop their creativity and innovative spirit. They can attend a Design Thinking workshop and learn about the tools and methods Google uses to develop innovative products and ideas. WIth the competitive advantage of design thinking, NGOF gives students the opportunity to meet people who may have different experiences and interests. The students will practice all the steps of design, with a little theoretical background and lots of practical exercises.



CASE DESCRIPTION

The main goal and background of the project

In the project students participated in the New Generation of Founders/ Grow with Google workshops focused on the implementation of Design Thinking tools. The students were from two different universities, the University of Economics in Bratislava (UEBA) with a focus on Economics and Management and the Slovak University of Technology (STU) in Design. The goal of the interdisciplinary cooperation of these universities was to foster and improve soft skills, like team collaboration and creative critical thinking.

Design thinking is a human-centered problem-solving and innovation approach that is widely used in various fields, including product design, service design, and business strategy. The design thinking process typically consists of several stages or steps, which can be iterative and non-linear. Here is an overview of the key stages in the design thinking process:

Empathize

The first stage involves gaining a deep understanding of the problem or challenge you are trying to solve. This includes empathizing with the people who are experiencing the problem.

Techniques such as user interviews, observations, and surveys are used to gather insights and develop empathy for the users' perspectives and needs.

Define

In this stage, you synthesize the information collected during the empathy stage to define the core problem or challenge. It involves reframing the problem statement in a human-centered way. The goal is to create a clear and concise problem statement that guides the rest of the design process.

Ideate

Ideation is the stage where you generate a wide range of possible solutions to the defined problem. This stage encourages creativity and divergent thinking.

Brainstorming sessions, mind mapping, and other creative techniques are often used to generate a large number of ideas.

Prototype

Prototyping involves creating low-fidelity representations or models of your ideas. These prototypes can be physical or digital and are used to test and communicate concepts quickly and inexpensively.

The goal is to turn ideas into something tangible that can be shared and tested with others.

Test

Testing involves gathering feedback on your prototypes from potential users or stakeholders. This step is essential for validating ideas, uncovering flaws, and making improvements.

The feedback obtained during testing informs further iterations of the design.

Implement

Once you have refined and validated your solution through testing, you can move forward with implementation. This may involve the development of a final product, service, or strategy.

Implementation also includes planning for scalability and sustainability.

At the workshop, students learn four basic aspects of Design Thinking:

- How to deeply understand the problem (Design thinking tool WWWWH)
- How to empathize with the user in empathetic interviews (Design thinking tool empathetic interviews)
- How to think creatively using brainstorming (Design thinking tool brainstorming)
- How to prototype (Design thinking tool prototyping)

The in-depth empathetic interviews will give students the opportunity to understand users' desires regarding their way of life, work, and relaxation. With empathy, they open themselves to being inspired by real needs, which can lead to creating valuable products and services for users. During the workshop, students will learn how to better focus on and understand users.

Brainstorming generates a large number of ideas in a limited amount of time, which typifies the Design Thinking framework. Working with a team, students learn different brainstorming techniques.

Prototyping requires that students do not expect to find the perfect solution the first time they create a working model. In the workshop, they learn how to minimize the risk of project failure by creating a prototype and then testing it with a small group of users to get feedforward to apply and create a final product that meets their needs.

During the semester, the students worked in several phases: empathize, define, ideate, prototype. The semester is 13 weeks long at our university. The phases of design thinking were designed as follows:

Week 1: Design thinking theory, explanation what is creative thinking, convergent and divergent thinking.		
Weeks 2-3:	Stage of DT: Empathize	Tools: WWWH questions, brainstorming
Week 4:	Stage of DT: Empathize	Tool: empathetic interviews
Week 5:	Stage of DT: Define	Tool: brainstorming
Week 6:	Stage of DT: Define	Tool: brainstorming
Week 7:	Presentations by student teams	
Weeks 8-9:	Stage of DT: Ideate	Tool: brainstorming, mind
Week 10:	Stage of DT Prototyping	Tool: prototyping
Week 11:	Preparing for final presentations/prototyping	
Weeks 12-13:	Final presentations + teachers' feedback	

TEAM

This project was instigated by Veronika Orfánusová. She is a Google Certified trainer and assistant professor at the Faculty of Commerce. NGOF is now coordinated by Veronika Orfánusová and Renáta Ševčíková. Renata is an assistant professor at the Faculty of Commerce. Professionally, she works in the fields of marketing and industrial design. He works with design thinking and problem-based learning methods.

APPROACHES

Thanks to the Program, students of the Faculty of Commerce can solve real world problems and business ideas. In the workshop, they will understand what is behind the problem, how to empathize with the user and how to test and improve the product.

CHALLENGES

Key factors why students of business need to use design thinking:

- Businesses and start-ups need to innovate. Customers are aware and spoiled for choice. In a competitive market, there is a strong need to innovate to create an advantage over their competitors. Design thinking will allow companies to innovate and explore opportunities.
- Design thinking can be used to solve problems. We face issues like traffic jams, obesity, pandemics, and psychological problems. By applying design thinking, students identify the best possible options to make these experiences better by reaching a solution more quickly.
- Many schools have offered courses on Design Thinking to executives and professionals. Rather than just give students with design backgrounds a stronger business advantage, NGOF offers other students the opportunity to develop the same competences.

BENEFITS AND LEARNING

Beneficiaries

A key element in education is providing relevance and real-life experiences. The students found new solutions for the real-life problems thanks to Design Thinking methodology. The Program helped them to be more creative and teamwork oriented. The faculty benefit by engaging with innovative ideas. Students used to solve their problems at the faculty. Thanks to the Program students develop their soft skills like creativity, critical thinking, and cooperation.

Innovation/Value

The activity has a high added value for the students. They solve real life problems and practice their creativity, critical thinking, and teamwork on interdisciplinary teams.

Future prospects

Curate projects with a more complex make-up of interdisciplinary participants in fashion, media, English, etc).

Develop a web platform that presents the intricacy of the design process more clearly online.

Instigate an investment fund that promotes new design agencies run by graduates to cultivate a network of innovative practices within the region.

What would you do differently next time?

Not applicable. The budget no longer exists.

Tips

Set up a fixed structure quickly where others can follow and join in.

Establish a key policy on the balance between pro-bono work and income generating services – and stick with that policy!

Establish a network of regional partners that you can draw on from time to time.

CONTACTS AND SOURCES

https://events.withgoogle.com/new-generation-of-founders/

https://www.youtube.com/watch?v=JTvVBQuzxzY

https://blog.google/outreach-initiatives/grow-with-google/

veronika.nekolova@euba.sk

RESEARCH RESULTS

During the NGOF project the aim of the research was to investigate the differences in the level of soft skills of students at UEBA and STU through pre-test and post-test online questionnaires. The different focuses on economics and management (UEBA) and design and architecture (STU) gave an interdisciplinary design to the measured soft skills and supported better team cooperation and creative thinking. A total of 188 responses to each of the questionnaires from UEBA (144 received answers; 77% of answers) and STU (44 received answers; 23% of answers) were evaluated.

In this case study, we present some of the results that were most significant for improving teamwork and creative thinking. To measure the level of students' skills in teamwork and creative thinking, we used the Semantic Differential method. We used IBM SPSS Statistics and MS Excel statistical software for data processing.

In the online questionnaires, students from both universities were asked to rate their views on the following statements on a scale of 1 to 5 (1 means totally disagree; 5 means fully agree):

- Q1: I think teamwork is very important in creating new solutions.
- Q2: I often have trouble accepting the different opinions of team members on how to solve a given problem.
- Q3: I like to share my ideas in the team and build solutions based on the ideas of my colleagues.
- Q4: I am very good at using my creativity to generate new ideas.
- Q5: I enjoy creating lots of ideas.

The images below, divided into the respective tables for UEBA/EUBA and STU, show the basic distribution of responses to these questions.

DESCRIPTIVE STATISTICS - EUBA

	N	Minimum	Maximum	Mean	Std. Deviation
Q1	144	2	5	4,35	,760
Q2	144	1	5	2,35	,935
Q3	144	2	5	3,94	,933
Q4	144	1	5	3,36	,928
Q5	144	1	5	3,56	,952
Valid N (listwise)	144				

DESCRIPTIVE STATISTICS - STU

	N	Minimum	Maximum	Mean	Std. Deviation
Q1	44	2	5	4,02	,876
Q2	44	1	4	2,07	,789
Q3	44	1	5	3,95	1,056
Q4	44	2	5	3,68	,883
Q5	44	2	5	4,02	,902
Valid N (listwise)	44				

Tables 1 and 2: Means, standard deviations and response distribution

When comparing the average scores in selected areas of teamwork and creative thinking, we found that UEBA/EUBA students value the importance of teamwork in creating new solutions to a greater extent but, compared to STU students, they have more difficulty in accepting the different opinions of team members.

(A Likert scale is a commonly used type of psychometric scale often employed in questionnaires and surveys to measure attitudes, opinions, and perceptions of individuals on a particular subject. Named after its creator, psychologist Rensis Likert, this scale typically consists of a series of statements or items to which respondents are asked to express their level of agreement or disagreement on a predefined scale. The Likert scale typically consists of five or seven response options, which might look like this: Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, Strongly Agree.

The purpose of using a Likert scale is to quantify subjective responses and gather data that can be analyzed statistically. Researchers can use the data collected from Likert scale questions to assess trends, attitudes, and perceptions within a group or population. It provides a structured way to gauge the intensity or direction of people's opinions or feelings on a topic.

The Semantic Differential Method typically involves presenting respondents with a series of bipolar adjectives or pairs of opposite adjectives (e.g., good-bad, friendly-unfriendly, fast-slow) and asking them to rate their feelings or evaluations of a specific subject on a scale between the two adjectives. Respondents rate the subject on dimensions defined by these adjective pairs.)

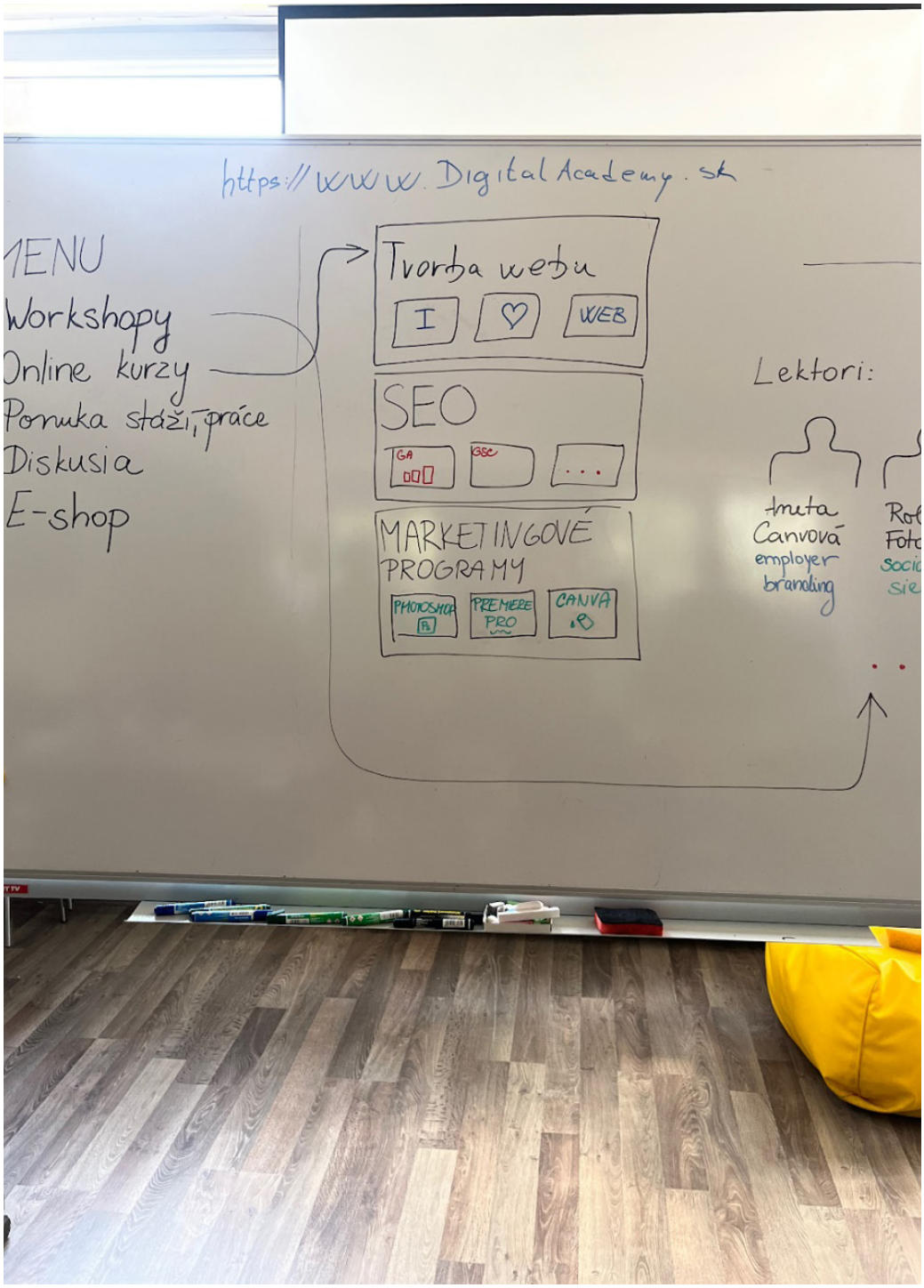
NETWORKS

Assoc. Prof. Peter DRÁBIK, PhD., MSc., Dean of the Faculty of Commerce, Guarantor of the Course Business in Practice

Assoc. Prof. Dipl. Ing. Jozef ORGONÁŠ, PhD., MBA, Vice-Dean for Development & Quality Assurance

Assoc. Prof. Dipl. Ing. Róbert REHÁK, PhD., Vice-Dean for Research, PhD. Study & International Projects - colleague in CT.Uni Project

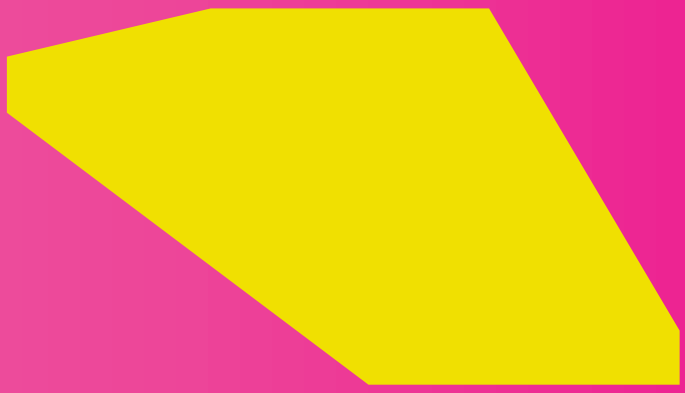
Prototype Creation: The students draw the prototype on a flip chart. This phase begins with the creation of prototypes, which are functional or non-functional models of the product or solution. Prototypes can be made from various materials, including paper, plastic, software, or hardware, depending on the nature of the project.



Students' first prototype

Prototype Creation: Students making their own Lego prototypes.

6



COLLABORATIVE PROJECT-BASED LEARNING

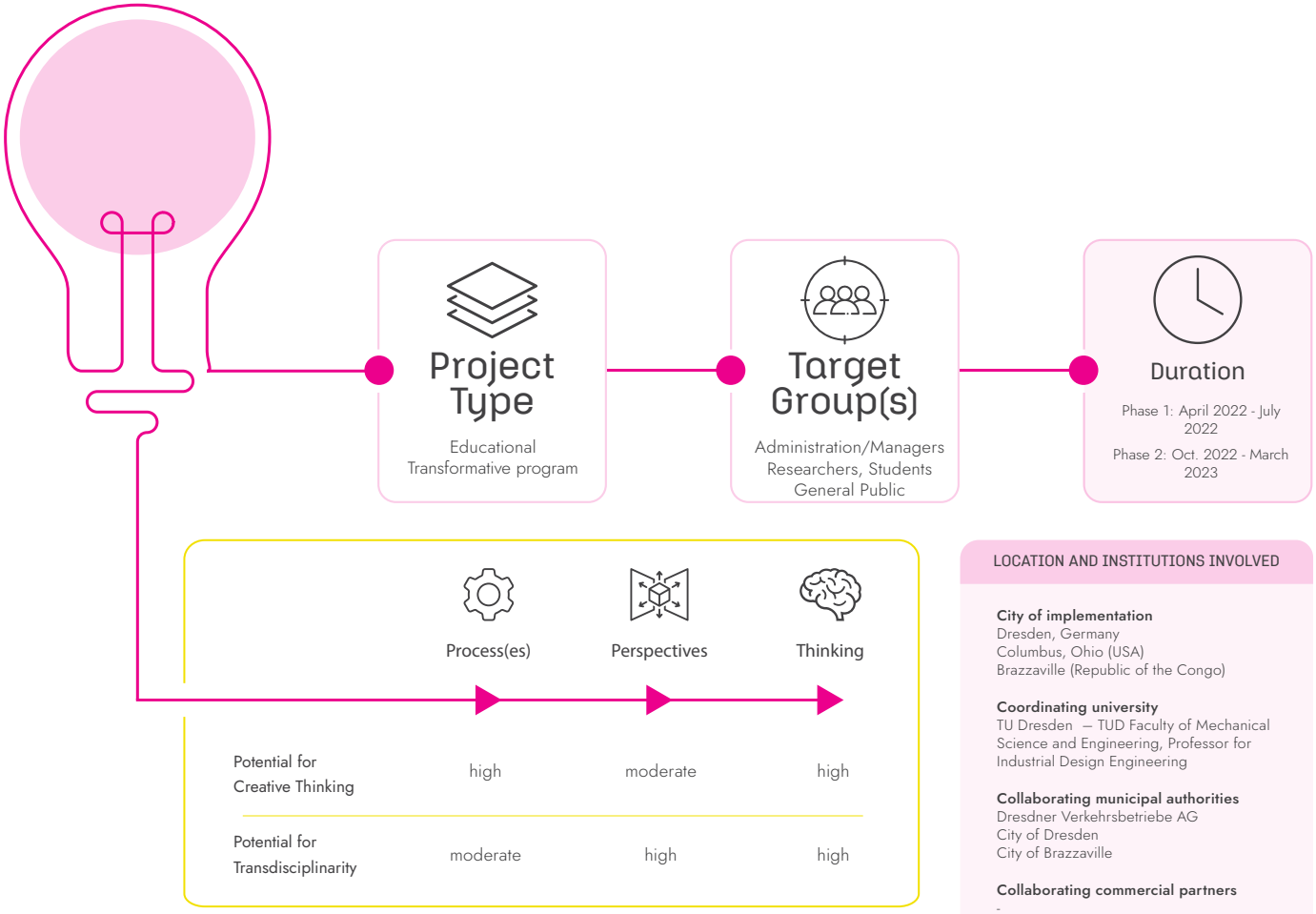
CASE SIX

PRODUCT-SERVICE-SYSTEMS DESIGN FOR CLIMATE-NEUTRAL MOBILITY

Dresden University of Technology
Lenard OPESKIN

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

Product-Service-System (PSS) Design is an interdisciplinary course for students from different disciplines such as industrial design engineering, business engineering and computer science to create product-service-systems and present them to an informed audience. As a topic "climate neutral mobility concepts 2035" was chosen as it connects to Dresden's net zero plans for 2035. In order to broaden the perspective of the students, several external stakeholders were involved such as municipal authorities from the cities of Dresden and Brazzaville as well as local traffic companies.



LOCATION AND INSTITUTIONS INVOLVED

City of implementation
Dresden, Germany
Columbus, Ohio (USA)
Brazzaville (Republic of the Congo)

Coordinating university
TU Dresden – TUD Faculty of Mechanical Science and Engineering, Professor for Industrial Design Engineering

Collaborating municipal authorities
Dresdner Verkehrsbetriebe AG
City of Dresden
City of Brazzaville

Collaborating commercial partners
-

NGOs
-

CASE DESCRIPTION

The main goal of the project was to confront the students with realistic scenarios for the creation of product service systems (PSS). In order to dive deep into the topic of PSS, the students were confronted with a complete design process from the exploration of the problems with the help of external stakeholders, to the creation and prototyping of solutions, to finally an evaluation in the frame of a presentation in front of the stakeholders and an informed audience. Within this process the common topic of future mobility concepts was set with matching stakeholders from the city of Dresden and Brazzaville. This topic connected ideally to the net zero strategy of Dresden and motivated the students to create realistic solution scenarios that might have an impact in the city.

Phase 1 - Concept Development

In the first project phase of PSS Design, students from Industrial Design Engineering and Business Engineering **developed product-service systems for climate-neutral mobility concepts.** In a structured design process, the students from these two study areas at the TUD Faculty of Mechanical Science and Engineering jointly conducted research on technologies, trends and markets and analyzed various use scenarios. Using methods from User Innovation Research, students then developed conceptual approaches for two different cities, with one being further refined. The student groups created pitch decks for their product-service systems, communicating their designs using system maps, customer journeys, sustainable business model canvases and descriptive illustrations.

In addition to a high degree of hands-on work, the theoretical foundations for the design of sustainable product-service systems were acquired in a flipped classroom approach. For each theoretical subtopic, the lecturers provided exhaustive slide decks and exemplary tasks two weeks in advance, which the students had to work through on their own. During the lectures, the subtopics as well as the prepared task solutions were discussed. The collaboration amongst students as well as with lecturers mainly took place on a collaborative, digital whiteboard (miro.com). The final mobility concepts were presented at the COSMO Science Forum in the Kulturpalast in Dresden.

The first project phase was observed by a student from a higher semester as part of a research project. The student investigated how the use of design methods in interdisciplinary development processes can lead to artifacts that work as boundary objects. This concept from Science & Technology Studies describes artifacts that are, on the one hand, sufficiently robust to persist across different social worlds and yet allow individual interpretations due to their plasticity. As part of her work, the student conducted both participating observations of work meetings and conducted semi-structured interviews with the students and a tutor who consulted within the hands-on work.

Phase 2 - Implementation and Communication of the developed concepts

In the second phase of the project, the task for a second group of students, blending Industrial Design Engineering this time with Computer Sciences instead of Business Engineering, was to jointly develop **immersive and interactive mixed reality exhibits on the previously developed mobility concepts.** The idea was to make it easier to experience the complex visions of the future in a comprehensive and playful way. The viewers should be able to change key parameters in the concepts (e.g. size or number of vehicles) and switch between different perspectives (1st person vs. bird's eye view) in order to directly experience the effects of the modifications. The exhibits were designed to be explored simultaneously by multiple users who could then directly initiate a discussion regarding the mobility visions. The results were shown to a broad public in an exhibition at the COSMO Science Forum.

During both project phases, a central focus of the course was to teach methods-based cooperation in interdisciplinary teams working on complex challenges. The students had to work independently to **select methods, plan milestones and delegate responsibilities** within the team, also sharing leadership roles as the opportunity arose and thus moving the lecturer's role to the one of a facilitator and supervisor. This was meant to stimulate reflection on the students' own disciplinary skills and to reinforce the need for transparent communication in a team setting. At the same time, the students were able to experience which methods are particularly suitable for productive collaboration in the space that was opened between the two separate disciplines.

Especially in the second project phase, the foreshadowing of transdisciplinarity in the developmental process found in the first phase moved more into focus. For example, the exhibits should be explicitly designed so that scientific findings (e.g. issues of autonomous driving or traffic planning for sustainable transportation) are communicated in accessible language to a non-scientific audience. Through the immersive and interactive character as well as the discussion-provoking nature of the exhibits, second order learning, i.e. a reflection or reframing with regard to thematic contexts, should be stimulated among the participants.

TEAM

The project on PSS Design was carried out as a combination of a regular class and a research studio within the studies in Industrial Design Engineering at the TU Dresden. For the first phase of the project, lectures on theory were held by Matthias Willner, Head of User Experience Design at Dräger Safety and Ursula Tischner, CEO of econcept and Professor for Sustainable Design at Wilhelm Büchner college. The overall coordination and consultations on the hands-on work were the responsibility of Prof. Jens Krzywinski and his research associate Lenard Opeskin, both TU Dresden.

The second phase of the project was coordinated by Prof. Matthew McGinity, Junior Professor in immersive media as well as the research associates Daniel Zeidler and Anselm Wohlfahrt.

APPROACHES

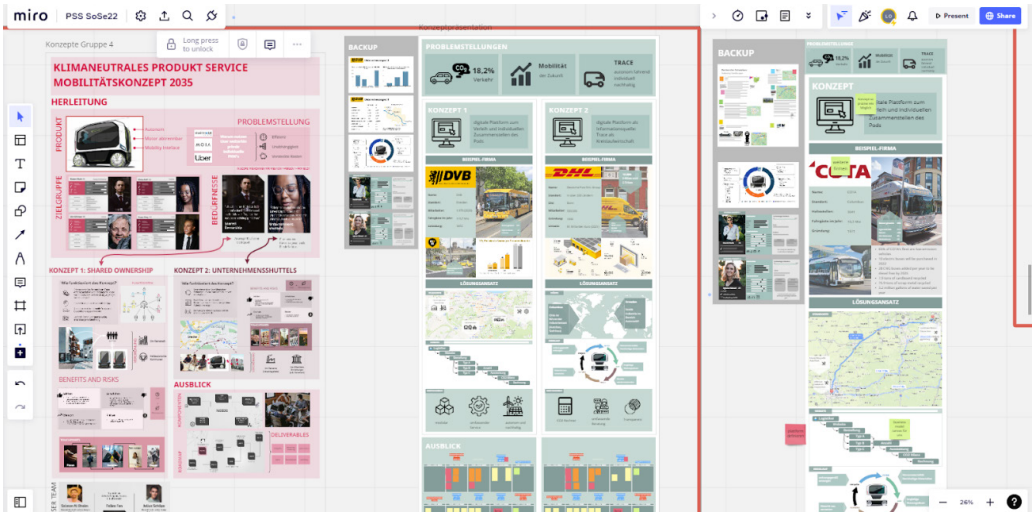
The design students had experience working with methodological approaches to creative product development, such as personas, mood boards, and prototyping. Nevertheless, they had to transfer their skills to the field of PSS design. On the one hand, to generate ideas in a relatively structured way, existing PSS concepts from topics other than mobility were presented to the students. They then had to transfer the core ideas to the mobility topic. On the other hand, students carried out brainstorming sessions on the virtual collaboration board to achieve a wide range of ideas. Moreover, the students presented and discussed preliminary results with the whole class and the tutors to gather feedback for further development. In these presentations, students illustrated concepts and ideas using non-verbal communication, such as mood boards, sketches, storyboards, and charts.

CHALLENGES

The challenges within both project phases were quite similar and mainly determined by the interdisciplinarity as well as the novelty and complexity of the task. Consequently, the effort to ensure clear and transparent communication was relatively high. In the following section, we describe in more detail the challenges which emerged in both project phases:

- Establishing a common ground for the interdisciplinary group work
- Students have to learn and understand new methods; for example, Business Engineering and Computer Sciences students were not used to working with methods from user-centered product development.
- Develop a shared understanding of specific terminologies; for example, the word "platform" has different meanings in all three disciplines, which can lead to misunderstandings.
- Students needed to understand what each group member could contribute to the project from their disciplinary point of view.
- Setting specific boundaries for the task to reduce complexity; otherwise, students hesitate due to overload.
- Encouraging students to pursue ideas though they could not validate them as a whole in the fuzzy front end of the development process, i.e., to fail early
- Working in a virtual environment (miro board) hindered students from developing physical prototypes and mockups early in the process.

TOOLS/RESOURCES/MATERIALS



In the project's first phase, students primarily used the online collaboration tool miro to gather ideas, develop concepts and present them to the lecturers and tutors. In addition, the students conducted online desktop research and interviews with experts on mobility concepts.

Later, students transferred their conceptual sketches and diagrams into more refined illustrations with graphics and CAD programs like Adobe Illustrator and Blender.

In the project's second phase, students also used miro to develop concepts for the mixed-reality exhibits. Later in the process, they used existing CAD-Data of design concepts and recomposed them in a development environment for games named Unity.

BENEFITS AND LEARNING

Beneficiaries

This project's primary focus is to broaden students' views on industrial design methods and how they can contribute to sustainability transitions. On the one hand, they can analyze complex, sustainability-related societal challenges and use methods from user innovation research to develop solutions. On the other hand, the students understand the importance of communicating these solutions appropriately to allow participation and ownership for a broad audience. Moreover, the students gain experience working in interdisciplinary teams and can take on different roles in development projects.

Innovation/Value

In both project phases, the students set out into more complex and demanding tasks than traditional industrial design, equipping them with a toolset to contribute to sustainability transitions. In the project's first phase, the innovation lay in combining products and services to generate resource-efficient and climate-friendly mobility concepts. Students integrated technologies like autonomous driving into novel yet implementable visions by applying user innovation research methods. In the project's second phase, the value lay in using new media technologies to convey desirable visions in an interactive and immersive exhibit, allowing the students to test and evaluate concepts at an early development stage.

Future prospects

The developed mobility concepts could set the base for scientific research on future mobility and should be tested with reliable scientific data. Furthermore, the developed mixed reality exhibits could serve as a starting point for novel ways of communicating scientific research to a broad audience.

What would you do differently next time?

Setting up early hands-on prototyping sessions to develop and evaluate concepts more playfully, for example, with Lego serious play.

Encouraging students to conduct fieldwork in terms of interviews and observations.

Tips

Demand more hands-on work, i.e., illustrations as well as physical prototypes at an early process stage rather than allowing the students to stay at a level of fuzzy, conceptual descriptions.

Set a relatively specific context and limitations for the task so that they do not "get lost" along the way.

Encourage the students to use more qualitative methods from social studies (interviews and observations) to broaden their view on the task.

CONTACTS AND SOURCES

https://tu-dresden.de/ing/maschinenwesen/imm/td

https://technischesdesign.mw.tu-dresden.de/blog/klimaneutrale-mobilitaetskonzepte-2035/

https://www.dresden.de/de/leben/stadtportrait/europa/internationales/mobilitaetskonzepte-tud.php

https://www.kulturpalast-dresden.de/de/cosmo-wissenschaftsforum.html

FINAL COMMENTS ON THE CONTEXT

The PSS design project was carried out as a lecture within the studies in industrial design engineering at TU Dresden. In two project phases, interdisciplinary groups with students from industrial design, business engineering, and computer sciences developed climate-neutral mobility concepts and mixed reality exhibits communicating the results. The students were encouraged to question established ways of product development and think out of the box to deliver concepts that balance all three dimensions of sustainability. The results show ambitious and visionary yet technologically viable approaches to future mobility that can serve as an inspiration for developing transition pathways.

7

INTEGRATING THE ARTS AND AI IN EDUCATION

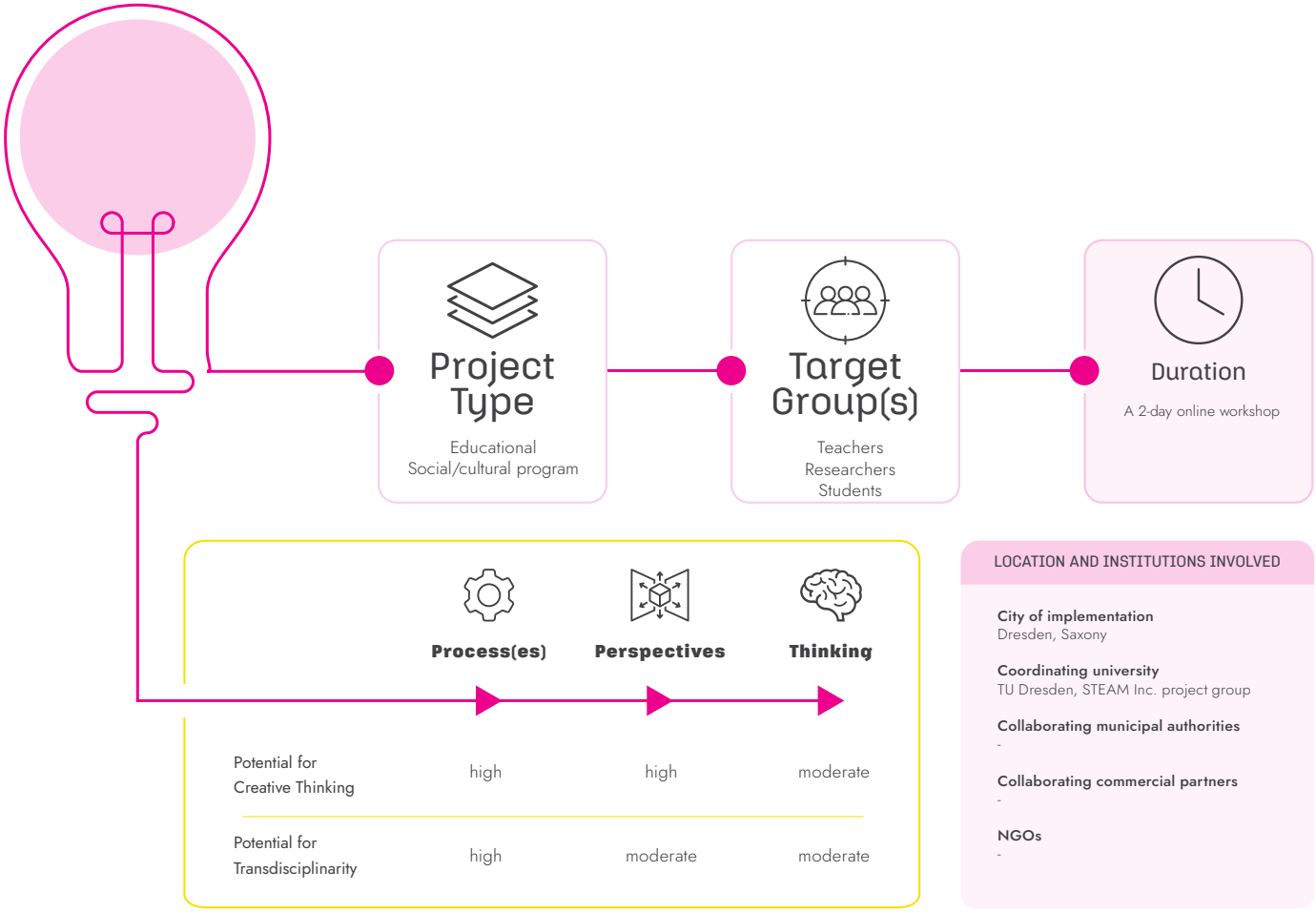
CASE SEVEN

AIX - ARTIFICIAL INTELLIGENCE EXCHANGE

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

University of Amsterdam
Robert FISCHER

In May 2021 the research group Geometric Modeling and Visualization (GMV) at the Faculty of Mathematics organized the online workshop Artificial Intelligence Exchange (AIX) together with the Center for Interdisciplinary Learning and Teaching at TU Dresden, the professorship Industrial Design Engineering and the Schaufler Lab@TU Dresden. The workshop is a designated multiplier event in the Erasmus+ project STEAM INC. (STEM + Arts, Innovation and Curriculum), project n° 2019-1-UK01-KA203-062032), an EU-funded research project that focuses on a cooperation between the STEM disciplines and the arts.



CASE DESCRIPTION

The main goal and background of the project

The two-day online workshop (27th and 28th May 2021) Artificial Intelligence Exchange (AIX) focused on experimenting with and reflecting on artificial intelligence (AI). For this purpose, the STEAM INC. project group set up a program of input, interdisciplinary group work, and reflection, which involved scientists and artists on an equal footing. The goal was to explore the state of the art of machine learning and its future implications, such as the impact on problem solving, business concepts, creativity, memory, and individuality.

To open the black box of AI, the team created a playful environment with an interdisciplinary group of participants. Computer scientists, artists, technicians, journalists, designers, curators, collaborators in start-ups, and humanities scholars collaborated to transfer AI knowledge to a wider audience. The team was committed to creating public engagement in an area that affects us all, but is still poorly understood in its operation and effect.

TEAM

The workshop was organized and facilitated by the TU Dresden team of the Erasmus+ project STEAM INC. The team includes:

- Daniel Lordick, Prof. Dr.-Ing., head of Geometric Modeling and Visualization (GMV)
- Henriette Greulich, head of the Center for Interdisciplinary Learning and Teaching (ZiLL)
- Robert Fischer, Dr. des., M. A., senior research associate at the Chair of Industrial Design Engineering
- Lisa Nickolaus, research assistant at Geometric Modeling and Visualization (GMV)
- Felix Schmitt, Dipl.-Ing., junior research associate at the Chair of Industrial Design Engineering

The scientists involved in providing input and helping out with the tools as well as general questions were:

- Simon Meier-Vieracker, Prof. Dr., Chair of Applied Linguistics
- Sunna Torge, Dr., senior researcher at ScaDS.AI
- Karsten Wendt, Dr.-Ing., Researcher at the Chair of Software Technology

The artists involved in the workshop were:

- Christian Kosmas Mayer, artist in residence, Schaufler Lab
- Anton Ginzburg, artist in residence, Schaufler Lab

APPROACHES

The workshop environment was digital due to COVID-19 restrictions using video conferencing (Zoom) and a whiteboard tool (Miro) for remote collaboration. In order to provide a positive and creative working environment for the transdisciplinary groups of researchers, students, and artists, four approaches were emphasized for the workshop:

1. intense onboarding/warm up (20 minutes in separate Zoom rooms of 5 participants each):

The participants were asked to provide information about themselves and in connection with the general topic of AI to their fellow group members (quote you identify with; image of AI; historical fact of AI development). Additionally, a content heavy warm-up game (Future Timeline) was played where the participants had to fill in facts about the development of AI from past to present to future, moving from a selection of historical facts to a speculation about the future of AI. Both warm up approaches were created to help the participants in the group to reveal what they think about AI and to get to know the other participants, thus creating some predictability and trust in a short time span.

2. involvement of researchers and artists:

The workshop was then opened with talks from two scientists and two artists. All four - a linguist, a painter, a software engineer, and a sculptor - reflected on their experience working with AI and shared insights on how to approach the topic. The conscious inclusion of both areas on an equal footing aimed to give the participants a common knowledge base.

3. flexible but fixed facilitation:

Bringing together people with rather different styles of working, e.g. programmers and artists, can be challenging. Whereas programmers oftentimes cherish clear agendas and work assignments, artists value a certain freedom to be creative with their work. This difference was overcome in the workshop by creating a flexible but also fixed framework. Relying on various approaches of creative and collaborative work (design processes, artistic research), the facilitators used a fixed framework for the workshop that included four phases for orientation, contemplation, creation, and finally presentation. During these phases, the facilitators drew on a collection of guidance and facilitation strategies (see below in Tools/Resources/Materials) that the groups could choose from based on their expected outcomes. an extensive collection of facilitation methods that could be used if the groups were stuck or in need of guidance. But rather than just applying the methods the groups were offered different methods and explained which possible method made use of would have what kind of expected outcome.

4. experimentation with software:

Emphasis was set on the experimental use of AI software to create a playful atmosphere and give the participants tangible access to the topic of AI. According to different access scenarios (text, image, music) the software was presented and made available. For the whole time of the workshop, researchers were present to help with the application of the software for the ideas created during the workshop. It was underlined that no defined results had to be created during the workshop. However, all groups actually did create a solution to a problem. The following software was used:

Text analysis and text generation

Markovify is a simple, extensible Markov chain generator. Its primary use is for building Markov models of large corpora of text that will then be used for generating random sentences. However, in theory, it could be used for other applications.

https://github.com/jsvine/markovify

- Generative Pre-trained Transformer 2 (GPT-2) is an open-source artificial intelligence created by OpenAI in February 2019 that translates text, answers questions, summarizes passages, and generates text output. The GPT architecture implements a deep neural network, specifically a transformer model, which uses attention in place of previous recurrence- and convolution-based architectures.[*] https://openai.com/blog/tags/gpt-2/
- Generative Pre-trained Transformer 3 (GPT-3) is an autoregressive language model that uses deep learning to produce human-like text. GPT-3's full version has a capacity of 175 billion machine learning parameters. The quality of the text generated by GPT-3 is so high that it is difficult to distinguish from that written by a human, which has both benefits and risks. [*]

Image processing

- Reflect face swap is the first ever automated realistic face swapping app based on machine learning. Reflect does not simply copy/paste a face from one person to another, but generates a seamless

face onto the other person, so it fits precisely, even if swapping is made between completely different people. https://reflect.tech/faceswap/hot

- DALL·E is a 12-billion parameter version of GPT-3 trained to generate images from text descriptions, using a dataset of text–image pairs. It has a diverse set of capabilities, including creating anthropomorphized versions of animals and objects, combining unrelated concepts in plausible ways, rendering text, and applying transformations to existing images. https://openai.com/blog/dall-e/
- TensorFlow is an end-to-end open source platform for machine learning. It has a comprehensive, flexible ecosystem of tools, libraries and community resources that lets researchers push the state-of-the-art in ML and developers easily build and deploy ML powered applications. https://playground.tensorflow.org/
- DeepDream Generator is a computer vision program created by Google engineer Alexander Mordvintsev that uses a convolutional neural network to find and enhance patterns in images via algorithmic pareidolia, thus creating a dream-like hallucinogenic appearance in the deliberately over-processed images. [*] https://deepdreamgenerator.com/
- GAN Playground lets you play around with Generative Adversarial Networks right in your browser. Currently, it contains three built-in datasets: MNIST, Fashion MNIST, and CIFAR-10. GAN Playground provides you the ability to set your models' hyperparameters and build up your discriminator and generator layer-by-layer. You can observe the network learn in real time as the generator produces more and more realistic images, or more likely, gets stuck in failure modes such as mode collapse. https://reiinakano.com/gan-playground/

Music generation

- MuseNet: MuseNet is a deep neural network that can generate 4-minute musical compositions with 10 different instruments, and can combine styles from country to Mozart to the Beatles. MuseNet

was not explicitly programmed with an understanding of music, but instead discovered patterns of harmony, rhythm, and style by learning to predict the next token in hundreds of thousands of MIDI files. MuseNet uses the same general-purpose unsupervised technology as GPT-2. https://openai.com/blog/musenet/

CHALLENGES

- Securing enough participants from the arts
- Developing a facilitation approach that would benefit researchers and artists alike and would simultaneously give guidance and freedom
- Preparing a selection of facilitation methods for the four different workshop phases
- Preparation and execution of the workshop due to time differences for the online workshop
- Selection of AI software that is easy to work with but also potent
- Developing/adapting a warm-up challenge that is at the same time playful and informative
- Moving the workshop from an in-person to an online environment

TOOLS/RESOURCES/MATERIALS

The workshop was set, as mentioned, in an online environment with Zoom video conferencing software and Miro collaborative whiteboard software. Additionally, the workshop made extensive use of AI software as an experimentation tool.

Apart from the software, the workshop relied on a new facilitation concept combining rather fixed design processes with flexible artistic approaches.

For the warm-up games the hacking process of the STEAM INC. project was used to create the Future Timeline method.

BENEFITS AND LEARNING

Beneficiaries

A central element of collaboration is to create something new and innovative. In order to reach this goal, the combined approaches of onboarding, the involvement of experts, facilitation, and experimentation built a space of trust and creativity. The participants from very diverse disciplinary backgrounds benefited from these approaches and were able to collaborate more easily and create solutions to various problems.

Innovation/Value

The innovation focussed on the collaboration of participants from different disciplinary backgrounds and applied the above four approaches to tackle the issue of understanding AI in a new way through:

intensive onboarding and warm-up to create trust

involvement of researchers and artists on an equal footing

flexible but fixed facilitation drawing from design and artistic research

playful experimentation with AI software

Future prospects

Collaboration between researchers and artists on a more regular basis.

Moving the creation phase from a conceptual approach to a more tangible prototyping approach.

Creating opportunities to present the results to a broader public audience in order to discuss the findings.

What would you do differently next time?

Shift from an online to an in-person environment.

Present the results for a longer time in a public space.

Tips

Create a fixed framework but rely on good facilitators to be flexible about the actual methods used in the groups.

Give the participants the opportunity to continue working after the actual workshop.

Create a network of interested participants.

CONTACTS AND SOURCES

STEAM INC. https://steaminnovation.org/
dschool: https://dschool.stanford.edu/
DT.Uni: https://www.umcs.pl/en/dtuni.htm
Age of Artists: https://ageofartists.org/
GMV: https://tu-dresden.de/mn/math/geometrie/lordick
ZiLL: https://tu-dresden.de/tu-dresden/organisation/rektorat/prorektor-bildung/zill
IDE: https://tu-dresden.de/ing/maschinenwesen/imm/td
Schaufler Lab: https://tu-dresden.de/gsw/schauflerlab

FINAL COMMENTS ON THE CONTEXT

The AIX (Artificial Intelligence Exchange) was developed as a multiplier event for the STEAM INC. Erasmus+ project. The overall concept of the workshop to combine the insights of researchers and artists fit well with already existing cooperations between the TU Dresden (technical university) and the HfBK (fine arts university) in Dresden. Additionally, this collaboration can be marked as one element of a more intensified science communication as the results created could be presented to a broader public and initiate discussion about cutting edge research.

8

INTEGRATING THE ARTS AND AI IN EDUCATION

CASE EIGHT

ITERATING AND VISUALIZING

OBJECTIVE(S) AND CONTEXTUALIZATION OF THE PROJECT

University of Amsterdam [Uva]
Tim VERVENNE

The course Iterating and Visualizing is a part of the first year bachelor's Mathematics at the University of Amsterdam and is given in the second semester. The course is also available for the students who follow double Bachelors Mathematics - Physics and Mathematics - Computer Science. It requires pre-knowledge of basic Mathematics principles and Lineaire Algebra. This course can be placed within the framework of Science Communication. Proper visualisations become more and more essential within the communication of science and scientific principles. This course introduces students to this scientific field, both in the scientific and the creative component that is important in the field of Science Communication.

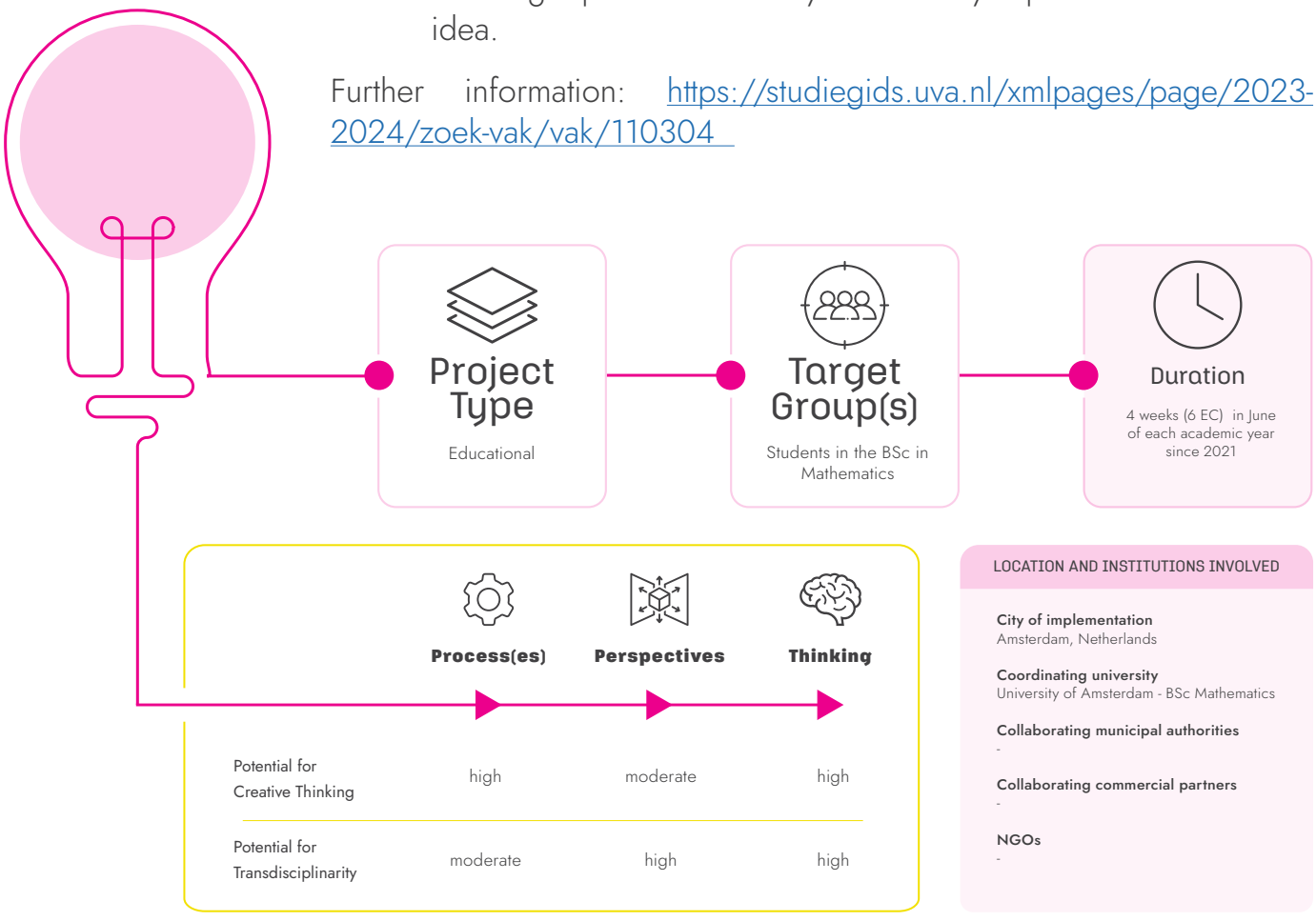
During the first three weeks, the students get taught different mathematical ideas and programming principles that teach them how object oriented programming works and that build up in difficulty as the weeks progress and in the last week they work on a final project.

In this course the student will learn how to implement graphical applications in Python through the use of three mathematical topics: geometric transformations, fractals and Fourier analysis. In addition, they will learn how to present a mathematical idea using a poster in Latex.

Learning goals:

- Recognizing transformations of the plane, implementing them in Python and using them to generate symmetrical patterns.
- Creating a projection of a three-dimensional geometric object from different orientations.
- Generating an IFS fractal and determining its Hausdorff dimension.
- Generating Julia, Mandelbrot and Newton-Raphson fractals and illustrating the relationships between them.
- Describing a curve and surfaces in polar and spherical coordinates and approximating them via Fourier transformations.
- Implementing and using the FFT algorithm to manipulate images.
- Applying graphical techniques in Python and using new libraries.
- Creating a poster that clearly and visually explains a mathematical idea.

Further information: https://studiegids.uva.nl/xmlpages/page/2023-2024/zoek-vak/vak/110304



CASE DESCRIPTION

The main goal and background of the project

The course has three main goals:

- Giving the students further understanding about a variety of mathematical topics and theorems;
- Letting the students developing more programming skills;
- Using both their mathematical understanding and their coding skills to create different kinds of computational visualisations.

TEAM

The course has been (mostly) developed by dr. Nicos Starreveld, the sole teacher and coordinator of the course. He is part of the Korteweg-de Vries Institute for Mathematics at the UvA.

APPROACHES

The final assignment for the course requires students to make a scientific poster about a specific mathematical topic, including at least one original image/figure, to clearly explain the topic. The biggest creative component for the students is the development of artworks that translate mathematical concepts and certain abstract formal techniques into an artistic visualisation. The objective is to create their own visualisation for a specific purpose by the end of the course. During the course, they have to make an artwork every day based on the new techniques that they have learned that day. Sometimes guidelines are given for these artworks and students have the option to follow these instructions, but often the students just start making something all by themselves.

CHALLENGES

- The theory and skills the students have to learn are quite difficult. To what extent do students have to be guided through the art visualisation process, so that the threshold to start coding will not be too big but students still feel free in designing their own visualisations?
- Making clear to the students what the bigger picture is of the knowledge and skills taught in this course, their coding and visualisations.
- Finding a balance between providing examples that give students inspiration
- Short time period: How to stimulate creativity and artwork production when there is very little time and a lot of knowledge and skills that have to be taught?
- How do the specific skills and theory the students get taught relate to the field of the studies?

TOOLS/RESOURCES/MATERIALS

The students make use of an online portal in which they can hand in their assignments and visual artworks. The charm of this project is that everything is done within Python, and little tools and materials are needed for this course. This makes it very accessible for most students and the course staff.

BENEFITS AND LEARNING

Beneficiaries

The students are the main beneficiaries of this course, being able to develop their skills and knowledge in coding, artwork production and scientific communication. Reflection of a student that followed the course: "Last year I really enjoyed working with mathematics in a different way during this course. Instead of proving theorems, the emphasis was more on intuition and on constructing a product in a visual way. I also really enjoyed programming during this course, because every day you were busy writing a piece of code that you could use to make beautiful pictures at the end of the day. I also loved that it was possible to put a lot of creativity in all the artworks."

Innovation/Value

This course can - besides Mathematics and Computer Sciences - be placed within the field of Science Communication. The influence of visuals and multi & modern media grows each year. Design and Science Illustration is a growing discipline within the academic world. This course and the visualisations that the students are creating are an amazing introduction to Science Communication.

Future prospects

Course leaders could create a platform or a place outside of the university where the students can show their art to the outside world.

What would you do differently next time?

Making students more aware of the bigger picture of the course. In past years, the students were very much immersed in the understanding of the theorems and practising with the coding and the creation of the artworks. The understanding of what they are creating, why they are doing these assignments and how their new learned skills can be used is missing for a lot of students.

The goal for the future versions of the course is to invest in assignments that make students aware of the bigger picture of the visualisations, the codes and the mathematical underlying theorems.

Tips

The creative (thinking) process of creating an artwork takes time, so students should be given the space to get inspiration and let their creative 'artwork brain' be stimulated beyond the theory they have to learn and the coding they have to do and master.

With courses that have a very specific goal, make sure that students are also aware of the bigger picture.

To some extent students have to be guided through the art visualisation process, so that the threshold to start coding will not be too big but students still feel free in designing their own visualisations.

CONTACTS AND SOURCES

Nicos Starreveld - N.J. Starreveld@uva.nl

Course information:

https://studiegids.uva.nl/xmlpages/page/2023-2024/zoek-vak/vak/110304

9

INTEGRATING THE ARTS AND AI IN EDUCATION

CASE NINE

BEYOND BARCODE: INTERNATIONAL MUSEUM

OBJECTIVES AND CONTEXTUALIZATION

Bifröst University
Kári JOENSEN

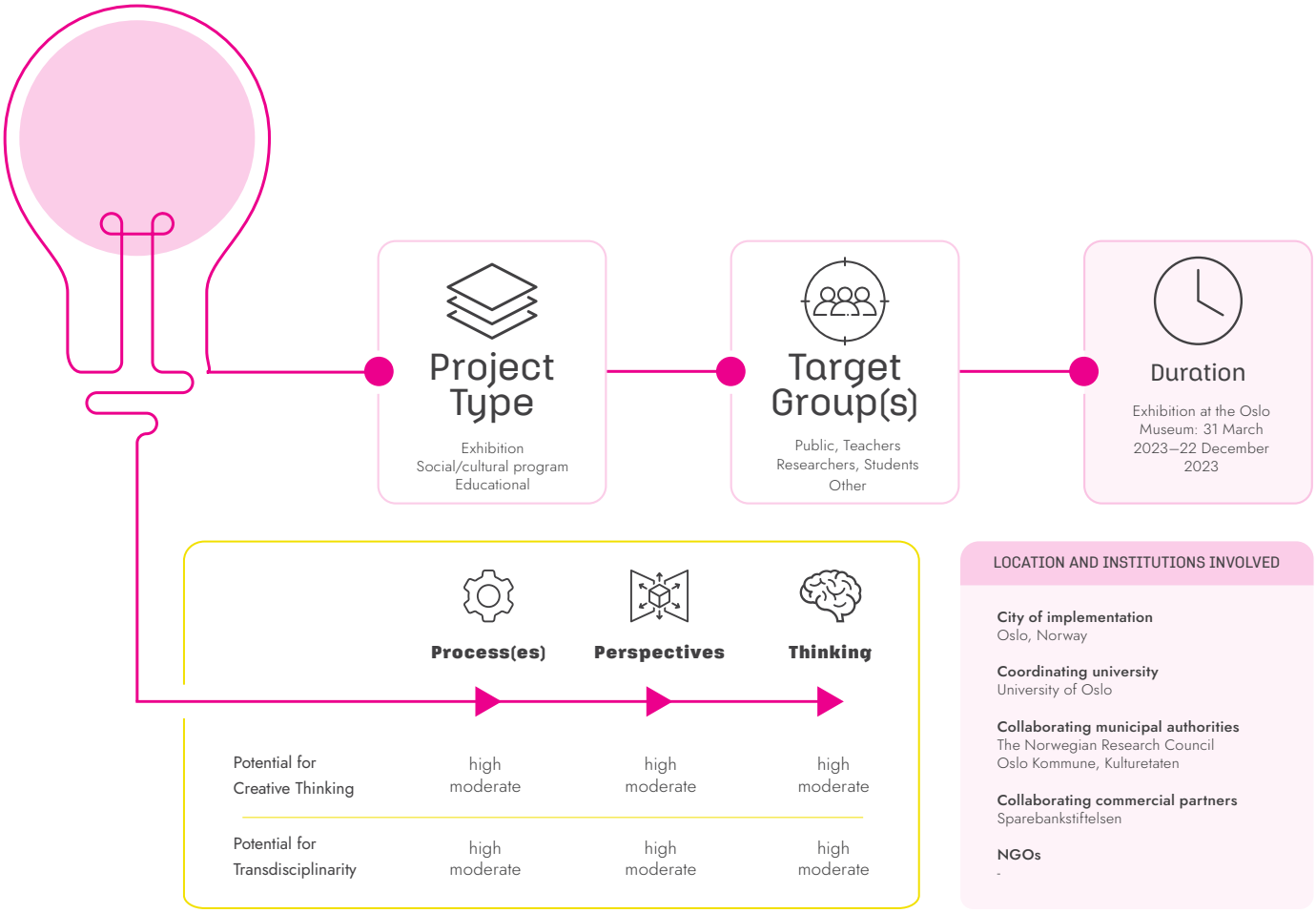
Beyond Barcode is a collaborative, research-based exhibition project, hosted by the Intercultural Museum in Oslo (link). It showcases different scenarios of future life in Norway's capital, scenarios that were designed and developed by diverse teams of people, mainly teenagers and youth from Oslo, through a series of workshops. Participants worked under the guidance of workshop facilitators at first, and later, ideas were refined, and models or prototypes developed in collaboration with artists and designers.

The project is part of the research initiative CoFUTURES (www.cofutures.org), funded by the European Research Council (ERC) and the Norwegian Research Council (NFR). CoFUTURES is led by Dr. Bodhisattva Chattopadhyay, associate professor at the Department of Culture Studies and Oriental Languages, University of Oslo.

CoFUTURES brings together academics, technologists, policy makers, and artists and attempts to broaden the many possible ways the future, on a global scale, may unfold. It acknowledges that there is an interplay between humans, societies, nature, and technology. But the outlook on global futures presented in contemporary discourse is largely dominated by established ideas about the future of climate change, social structures, and technology. The CoFUTURES project, and in particular the Beyond Barcode exhibition, attempt to open up the space of possibilities for

Figure 9.1.
Illustration by Sharmila Banerjee
Source: https://exhibition.cofutures.org/prototypes/qmtm/

future scenarios by giving people the chance to imagine alternative future scenarios so that such scenarios are not as easily dismissed and may become part of the discourse that shapes future policies and actions.



CASE DESCRIPTION

The main goal and background of the project

Beyond Barcode is an exhibition that offers visitors alternative future visions of what Oslo might look like, in 50 or 100 years. Through current societal and environmental challenges, people are regularly offered future scenarios that focus on the effects of global warming, increased migration, or energy crises. Beyond Barcode diverges from these more mainstream ideas with seven potential future scenarios, developed by participants, mainly teenagers and youth, with culturally diverse backgrounds. They are experiments in radical futures, developed in cooperation with teachers or workshop facilitators, artists and other stakeholders. Workshops were thematic, focusing on climate and demographic change as well as sociopolitical and technological change.

A premise of Beyond Barcode is knowledge of the fact the future is uncertain and can unfold in numerous different ways. The exhibition invites participants to experience a "Quantum Multiversal Time Machine" (QMTM) that allows them to travel from one scenario to another and explore the different prototypes, soundscapes, or visualizations developed.

- » https://www.oslomuseum.no/beyond-barcode/
- » https://exhibition.cofutures.org/

The quantum feature of the time machine, as theorized by the workshop participants engaging in these thought exercises about the future, derives from the notion that futures are plural and undetermined. As stated on the official site, "The QMTM has unlocked portals to different points in space-time, but time here isn't linear, and the spaces you can get to are only one of many possible futures of Oslo".

Interkulturelt Museum – The Intercultural Museum, the venue of the Beyond Barcode exhibition, is part of Oslo Museum, a migration museum that has focused on the immigration history of Norway and cultural changes in Norwegian society. The Museum's work with minority groups and thematic exhibitions is managed under a principle of "not about me, unless with me", stipulating the importance of including and involving the groups and cultures represented in the museum's production and design decisions.

- » https://www.oslomuseum.no/interkulturelt-museum/
- » https://snl.no/Interkulturelt_museum

The team behind the exhibition was in contact with community organizations from Oslo districts such as Tøyen, Grønland, and more. These organizations included (but were not limited to) SID-Oslo, Tøyen Unlimited and Nabolagshager. Artists and designers who joined the production of the exhibition were recruited through various networks of the facilitators, the Intercultural Museum and more. And the network grew through references and contacts with colleagues of the initial collaborators.

All participants were remunerated for their work, made possible by grants from the Norwegian Research Council, The Savings Bank Foundation (no. Sparebankstiftelsen DNB), and the municipality of Oslo.

The exhibition opened its doors in March 2023 with the seven scenarios conceived through the work carried out by the participants and the Beyond Barcode team.

Havria: Hotel Havria, in the year 2085, is a hotel built underwater, some 80 meters below the sea level of Oslofjord. It is an inclusive, welcoming place of refuge for all, "whether you are in dire need of a shelter or just need some time off from your busy life."

Beyond Tøyen: Tøyen is a district in Oslo that has been reimagined as a new economic and cultural hub for the city. By 2100 it is a multicultural, smart tech, democratically governed area, mixing skyscrapers with lush green gardens, public housing, museums, and more. Creators of Beyond Tøyen ask if this would be a future for all, or only for a richer elite? And how would privacy and democracy shape out in this future scenario?

The "Lid" Coup: A massive concrete platform (known locally as the Lid) „was built" above Oslo's train tracks in the early 2050s. When commercial interests took over the development of the buildings rising on top of the Lid, the public protested and eventually took over the area, establishing a free-state, a city-scape of chaos, color, and creativity.

REALITY++: Advancements in technology and media have blurred the boundaries between the virtual and physical world in 2050. People are incentivized to tend to the physical world by growing plants or otherwise supporting their communities. In return, they gain time and access to the virtual world, where people interact, learn and work in an AI-supported reality.

Essence of Grønland: In 2063, Grønland, still a busy, multicultural, and grassroot-led district of Oslo, has influenced the Norwegian language, introducing new letters to the alphabet. We enter a thriving, creative workshop where we can create signposts for marketing our local business.

Cloud 9 / Seventh heaven: Climate catastrophes have caused living conditions in Oslo to deteriorate. Only 2,500 people have the opportunity to reside in one of two giant domes, hovering some 20 km above the city. The domes are safe havens where residents recover, grow food, and cultivate their relationship with mother nature, away from the consumerism and man-made climate calamity that has taken over the city. But access to the domes is limited to just a few hundred persons and now you have the chance to apply for entry.

Chill Plaza: In the year 2222, Oslo's city center is under sea level and the more affluent have adjusted to living underwater. While others have had to leave, setting up housing around the new shoreline, most of the public resources are spent on maintaining the underwater parts of the city. The underwater city, called Chilleplassen, resembles our current 21st century way of living. Advancements have been made in energy production and nutrition but environmental concerns persist and society is presented with new challenges.

TEAM

The exhibition is a collaboration between CoFutures (University of Oslo) and the Interkulturelt Museum (Oslo Museum). It is hosted by the Intercultural Museum and is funded by the Norwegian Research Council, European Research Council, Oslo municipality, and Sparebankstiftelsen DNB.

The organization and oversight of the project, along with the management and selection of collaborators, is in the hands of the curatorial team:

- Bergsveinn Thorsson (CoFutures, Bifröst University)
- Anders Bettum (Interkulturelt Museum)
- Annelise Bothner-By (Interkulturelt Museum)
- Bodhisattva Chattopadhyay (CoFutures)

APPROACHES

The future scenarios of Beyond Barcode were developed through different stages of workshops, in collaboration with facilitators, designers, and artists. Starting in the fall of 2021, participants joined the project and worked in teams of 4-5 to ideate and hypothesize what the future may hold for Oslo. During four sessions of 2.5 hours each, participants produced posters with sketches and text, explaining their vision of what is to come. Including facilitators, around 40 individuals were involved at this stage.

Through a second series of workshops in 2022, each future scenario was developed further. There were shifts in the teams, some participants from the fall did not continue work on the project, and more people were brought in. At these later stages of development, more artists and designers were brought in to take part in shaping and prototyping the scenarios so they could be communicated to others through the exhibition.

The exhibition employs a wide range of formats, text, audio, and visuals. The exhibition space at the Intercultural Museum is used in a variety of ways and features of the building affect the ambience. The building was once an incarceration facility and that is still apparent as windows are barred, doorways are narrow, and many of the rooms are small, former prison cells. Many spaces are completely remodeled; this includes the foyer of the museum, which is now a lobby and bar for the underwater Hotel Havria. Further inside the exhibition space, visitors can enter the reception desk of Cloud 9/Seventh heaven to fill out a form and apply to move to the safe haven. The opportunity is "to escape the harsh realities of declining quality of life caused by the ongoing climate catastrophe". Furthermore, the exhibition offers a variety of other media and interactions, including short films, a cityscape mural that guests can enhance, and a gamification in quiz-form for children exploring the space and more.

Now that the exhibition has opened, it has become a venue for exploring and ideating in different ways, whether for guests who might visit only once or for locals who might get more involved. Some of the participants in the workshops, many from underprivileged parts of Oslo, are still actively

involved in the exhibition. This has created employment opportunities with the municipality of Oslo, where youth from these neighborhoods of Oslo are now guiding visitors or conducting workshops by sketching, designing, and ideating future scenarios.

The aim of Beyond Barcode (and CoFUTURES) is partly to expand thoughts and ideas about the future. Through the collaborative workshops, participants were invited to think creatively and free themselves from constraints and assumptions about what can or cannot happen. The notion is that coming up with absurd solutions is permissible while thinking creatively about the challenges we face today or in the future.

CHALLENGES

The production process of this exhibition was open-ended and at times seemed chaotic, even for the facilitators. But this is not to be seen simply as a downside to the process. Chaos and uncertainty can cause stress and disrupt teamwork, but they can also spark diverging and creative ideas.

Given the open and exploratory nature of the project, workflows are not easy to document and the outcomes are unpredictable. Transferring the production process onto a new subject will most likely produce new challenges as well as some of the old challenges again. A curator of the exhibition and its production process notes the importance of three aspects: 1) having a skilled and well-functioning team behind the endeavor; 2) allowing the ideas to mature and refraining from disrupting the flow of work; and 3) relying on judgment and experience to bring in external experts and advisors at the right time if work is stalling.

The model or methodology developed through Beyond Barcode has been applied to other subject matters, in more condensed workshops. While Beyond Barcode focused on the future of Oslo, other initiatives have focused on, for instance, the future of museums.

Currently, the Beyond Barcode project is being studied through interviews with participants. This may shed further light on the process itself and facilitate its adaptation to other subject materials.

The focal point of the teams' work moved and changed as the work progressed. In such an open format, facilitators should be prepared to see teams diverge considerably from what they set out with initially. A team that was faced with a future Oslo distraught with climate related challenges, gradually shifted focus towards social injustices of the future, as the environmental challenges were deemed solvable. Teams might be working on wildly inconceivable solutions to future challenges, but even if the solutions presented are hard to grasp, the creation exposes the challenges that people foresee as most pressing in the future.

TOOLS/RESOURCES/MATERIALS

Participants were presented with different mental models and approaches to analyze future perspectives and to theorize. These models would, for instance, factor in social, political, cultural, economic, and geographical considerations of current and future scenarios.

Artists and designers of different backgrounds could offer tools and methods to express and communicate the ideas developed. Coming from visual arts, industrial design or performing arts, their resulting exhibits are diverse in form and their methods for analyzing subjects could range from using conventional canvases and templates to more unconventional approaches like dance or installations.

BENEFITS AND LEARNING

Beneficiaries

Public, project participants, researchers, teachers.

Innovation/Value

Promoting the capability of imagining the future, positioning oneself in future imaginaries and exploring the diverse potentials of multiple futures.

Future prospects

The project's approach is applicable to other subject matters, in part or in full.

What would you do differently next time?

Halda upphaflegu þátttakendunum virkum inni í ferlinu.

Fengu greitt í upphafi fyrir að koma á workshop.

Mikilvægt að skoða fjölbreyttar aðstæður sem

Tips

Have a diverse, skilled, and well-functioning team behind the endeavor.

Give workshop participants the space to allow ideas to mature and refrain from disrupting the flow of work. Rely on judgment and experience to bring in external experts and advisors, at the right time if work is stalling.

Be aware that the process is unbound, so all participants may experience uncertainty and chaos at times, which can lead to stress and disengagement. And the process is risky, in the sense that the outcome is unpredictable.

CONTACTS AND SOURCES

https://www.oslomuseum.no/beyond-barcode/

https://exhibition.cofutures.org/

https://www.oslomuseum.no/interkulturelt-museum/

Interview with Dr. Bergsveinn Thorsson, curator of Beyond Barcode

NETWORKS

https://cofutures.org/

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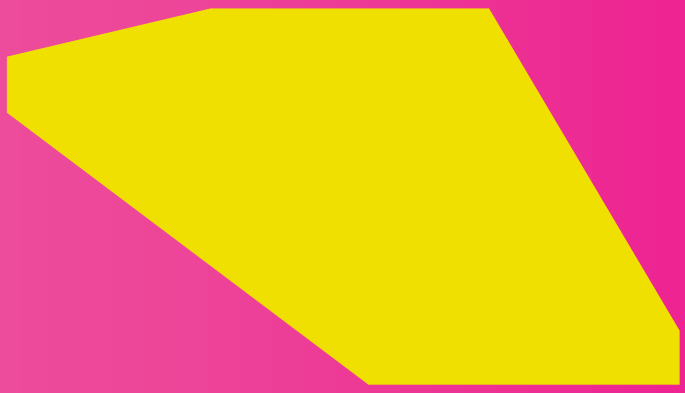


INTEGRATING THE ARTS AND AI IN EDUCATION

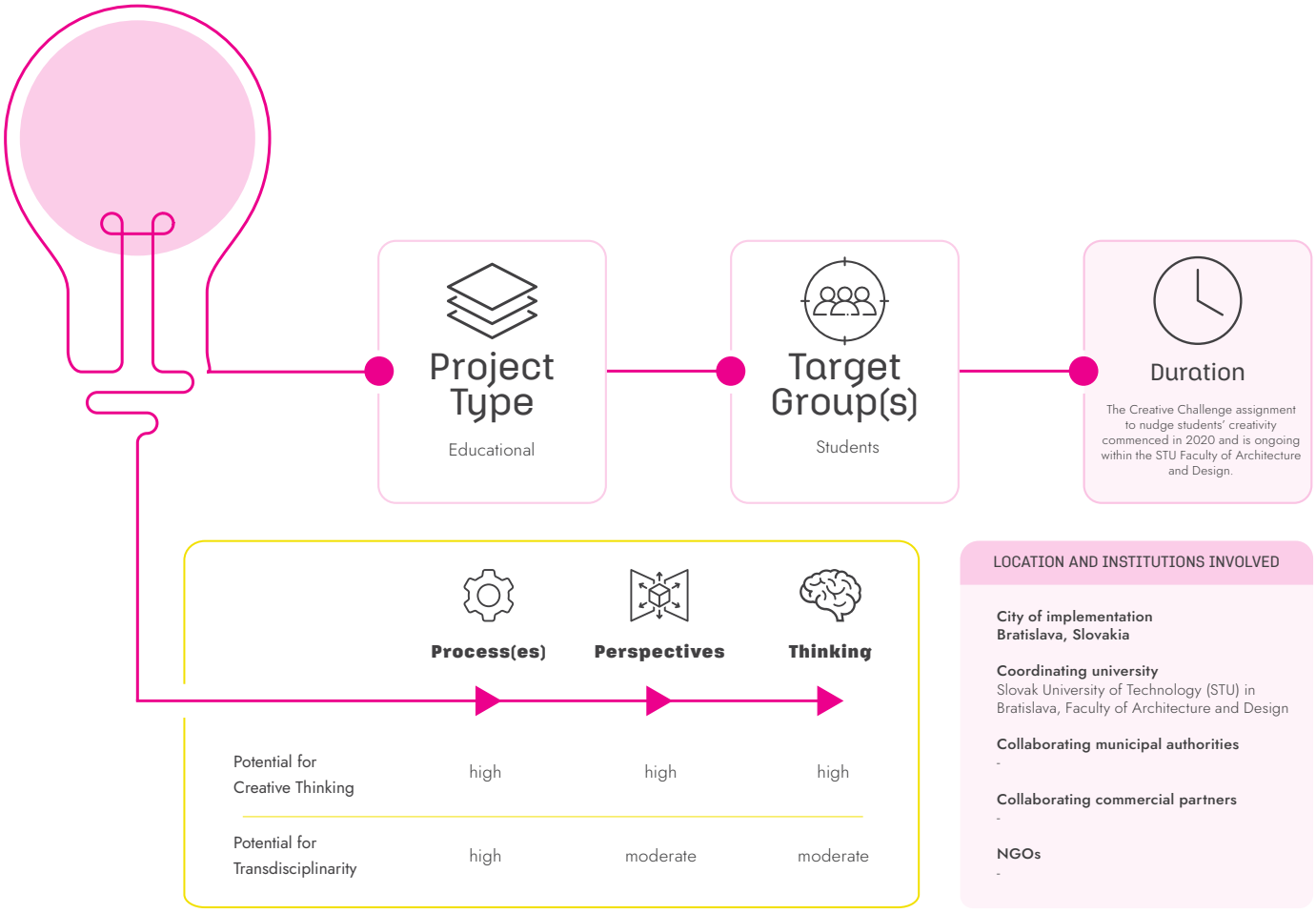
CASE TEN

THE CREATIVE CHALLENGE:
NUDGING STUDENTS' CREATIVE POTENTIAL (DURING DESIGN STUDIO SEMINAR)

OBJECTIVE(S) AND CONTEXTUALIZATION OF THE PROJECT

Slovak University of Technology in Bratislava
Soňa OTIEPKOVÁ
Zuzana TURLÍKOVÁ

The Creative Challenge is a project - an exercise, developed for the needs of supporting students' creativity during the Design Studio Seminar within the Faculty of Architecture and Design STU. It focuses on challenging students' creative thinking during the class and serves also as a call to action to inspire the work on prototypes for Design Studio. The concept of this challenge was created during the pandemic in 2020 when also the practical classes were held online. It reflects the need of students, especially those in early grades who had only studied online since the beginning of their studies, to work on off-screen tasks and create physical objects. Since the beginning of the project almost 60 students of first, second and third grade were involved in the challenge. The exercise is designed to help individuals overcome a creative block, enhance out-of-the-box thinking, and encourage them to work on their next semester's assignments. It also helps students gain creative confidence and adds elements of playfulness and overview to their work.



CASE DESCRIPTION

The main goal and background of the project

During the pandemic in 2020 all the lessons of the Faculty of Architecture and Design (FAD) of Slovak University of Technology (STU) were held online. Students and teachers were able to quickly adapt to these new circumstances and lessons kept going smoothly. But after some time students started reporting the absence of practical lessons that are very important in the study of design. Some 1st and 2nd year students had only studied online since the beginning of their studies, others were confronted with these creative blocks in the middle and end of their studies. Also, some teachers had noticed a decline in students' performance within the

seminar called Design Studio, where students were not able to come up with an efficient amount of ideas and proposals compared to previous years.

Design Studio Seminar is a supporting course to Design Studio. After learning basic principles of design thinking, where effective tools and approaches are presented, students can try to use them when working on the main semester assignment in the Design Studio course. This course is identified as crucial to improve students' performance and to nudge their creative potential with the support of what we created and called the Creative Challenge.

The main objective of creating the Creative Challenge was to help students overcome a creative block, enhance out-of-the-box thinking, and encourage them to work better on their Design Studio assignments.

After researching creative tools that could be beneficial for students facing a creative block, a simple project was designed to help to kick off their creative thinking. The Creative Challenge was originally created to be used as an online assignment, but after transition to hybrid education it was adjusted to in-person lessons. This flexibility could be useful for teachers looking to build their toolkit in both situations.

Key inspiration for the Creative Challenge was a project by multidisciplinary designer Domenic Bahmann in Canberra, Australia, who started a movement called Stop, think, make in 2013. Accordingly, he challenged himself to come up with creative ideas on a regular weekly basis. He promotes a playfulness, curiosity, and child-like approach to the vision of the world. A similar attitude was adopted by artists and creatives around the world. One of the most outstanding is Russian-born photographer Helga Stentzel.

- https://domenicbahmann.com/conceptual-work Check out Bahmann's creations and look at his client list.
- https://www.helgastentzel.com Note Stentzel's innovative creations based on everyday objects.

Another source that was taken into consideration when creating the Creative Challenge was the readymade movement in design, where the works of art and design are made from manufactured objects.

- https://www.tate.org.uk/art/art-terms/r/readymade
- https://www.designboom.com/design/smartlight-ready-made-iphone-lamps-by-raw-edges-studio/

Readymade products designed by Slovak designer Martin Žabka were one of the specific inspirations for the Creative Challenge. Žabka's designs are used as an example when assigning the exercise for a better understanding of the goals of the challenge.

TEAM

The Creative Challenge, as a part of Design School Studio lectures was initiated by Soňa Otiepková, doctoral student and lecturer of the subject, and Zuzana Turlíková, Senior Lecturer at FAD STU in Bratislava. Since the beginning of the project in 2020, almost 60 students from the 1st to the 3rd years of study at FAD STUBA have been involved in the challenge.

APPROACHES

The Creative Challenge takes a playful and light-hearted approach to the creative process.

It starts with thinking that, by working on appropriate exercises, creativity can be trained and enhanced as a muscle. A number of studies (see link 4, as listed in Contacts and Sources) support using a cognitive approach in creativity training to improve a variety of creative performances.

Participants in the Creative Challenge were introduced to the topic and were presented with various examples of the approaches to the topic. They were also introduced to the concept of readymade design. After a brief discussion about the topic, they were asked to complete the challenge by themselves and to create their own original products or compositions from the ordinary objects they find at the moment. To complete the challenge, learners were limited to 30 minutes. The tight time-span, which is crucial for this kind of challenge, made students stand up, actively look around, and immediately adopt a new point of view of ordinary objects. This creative challenge gave learners relevant and practical experience in areas of problem finding, conceptual combination, and idea generation that are particularly important for promoting creativity (see link 5).

Some outcomes of the Creative Challenge shown here showed the characteristics of problem solving. Students developed simple aids that helped them solve everyday problems.

In these images, another output of the Creative Challenge could be classified as demonstrating a problem-solving approach. During the limited time of the challenge, a student was able to create a simple notebook support.

Some outputs from the Creative Challenge showed elements of gamification.

CHALLENGES

- Motivating students to work actively on the challenge, stand up, and physically move around the space
- Using appropriate examples to explain the challenge according to their field and grade of study, age, sociological background, etc.
- Getting them excited about the task
- Taking students out of their comfort zone
- Promoting out-of-the-box thinking
- Explaining effectively the objective of the challenge
- Setting the right time limit for the challenge according to the expected level of elaboration of the outputs. Here we chose 30 minutes for most activities since the challenge involves not just problem-solving but also problem finding.
- Promoting a positive approach to solving the task and reminding learners that there are not right or wrong outputs of the challenge
- There is a need to develop a broader spectrum of similar challenges and projects for more versatile training of creativity of various cognitive skills

TOOLS/RESOURCES/MATERIALS

The project did not require any specific tools, materials, or services. If held online, students will need an Internet connection, a notebook/tablet for writing, and a camera or smartphone to capture and upload the outputs to a shared folder. Remember to designate the shared folder for this purpose in advance.

BENEFITS AND LEARNING

Beneficiaries

Participants are nudged to go out of their comfort zone, physically move across the space and mindfully look for the ordinary objects that could be used in a new context. This helps to cheer them up, make them more present and focused. Students become more observative, open-minded and receptive to new ideas. It also helps to overcome the creative blocks and to start the brainstorming process of other assignments by gaining more creative confidence.

Innovation/Value

The main value of the Challenge lies in changing participants' point of view, when they start to notice new relationships between simple ordinary objects by connecting them in a new context. With some adjustments it is possible to use the Creative Challenge in different fields of study and it is also possible to use it at various locations.

Future prospects

There is a need to develop a broader spectrum of similar challenges and projects for more versatile and systematic training of creativity of various cognitive skills

Create an online platform that promotes the outputs of the Creative Challenge

Promote the idea of the Challenge through an exhibition of the outputs

Develop a tool to measure the effectiveness and benefits of the project

What would you do differently next time?

Ask participants to capture the outputs of the challenge in good lighting conditions.

Remind the participants of the importance of the expected format for presenting their work, ideas, and final outputs.

Tips

Our best advice is not to expand the time limit for the Creative Challenge to more than 40 minutes. When more time is given to participants to complete their creative task, they start to look for more complex solutions and overlook the simple creative ideas.

CONTACTS AND SOURCES

Mgr. art. Soňa Otiepková: sona.otiepkova@stuba.sk

Mgr. art. Zuzana Turlíková, ArtD.: zuzana.turlikova@stuba.sk

https://domenicbahmann.com/conceptual-work

https://www.tate.org.uk/art/art-terms/r/readymade

https://www.fad.stuba.sk/english.html

https://www.researchgate.net/publication/272177953_The_Effectiveness_of_Creativity_Training_A_Quantitative_Review

https://www.researchgate.net/publication/288174678_Creativity_Training

FINAL COMMENTS ON THE CONTEXT

The Creative Challenge was initially designed to fit the context of the field of study of product design, but with some adjustments, it can be used to support and to train creative thinking in other fields of study as well. This type of practically-oriented assignments are often positively evaluated by students. The Creative Challenge was repeatedly highlighted and evaluated by students in their final evaluations of courses as one of the most favorite and helpful assignments.

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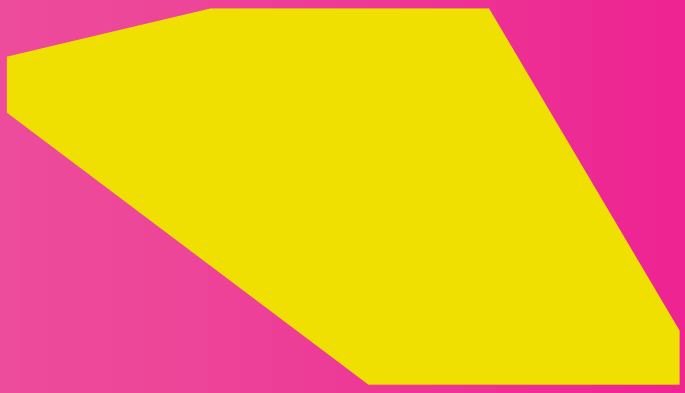


INTEGRATING THE ARTS AND AI IN EDUCATION

CASE ELEVEN

SKETCHING WORKSHOP: DRAW TO THINK

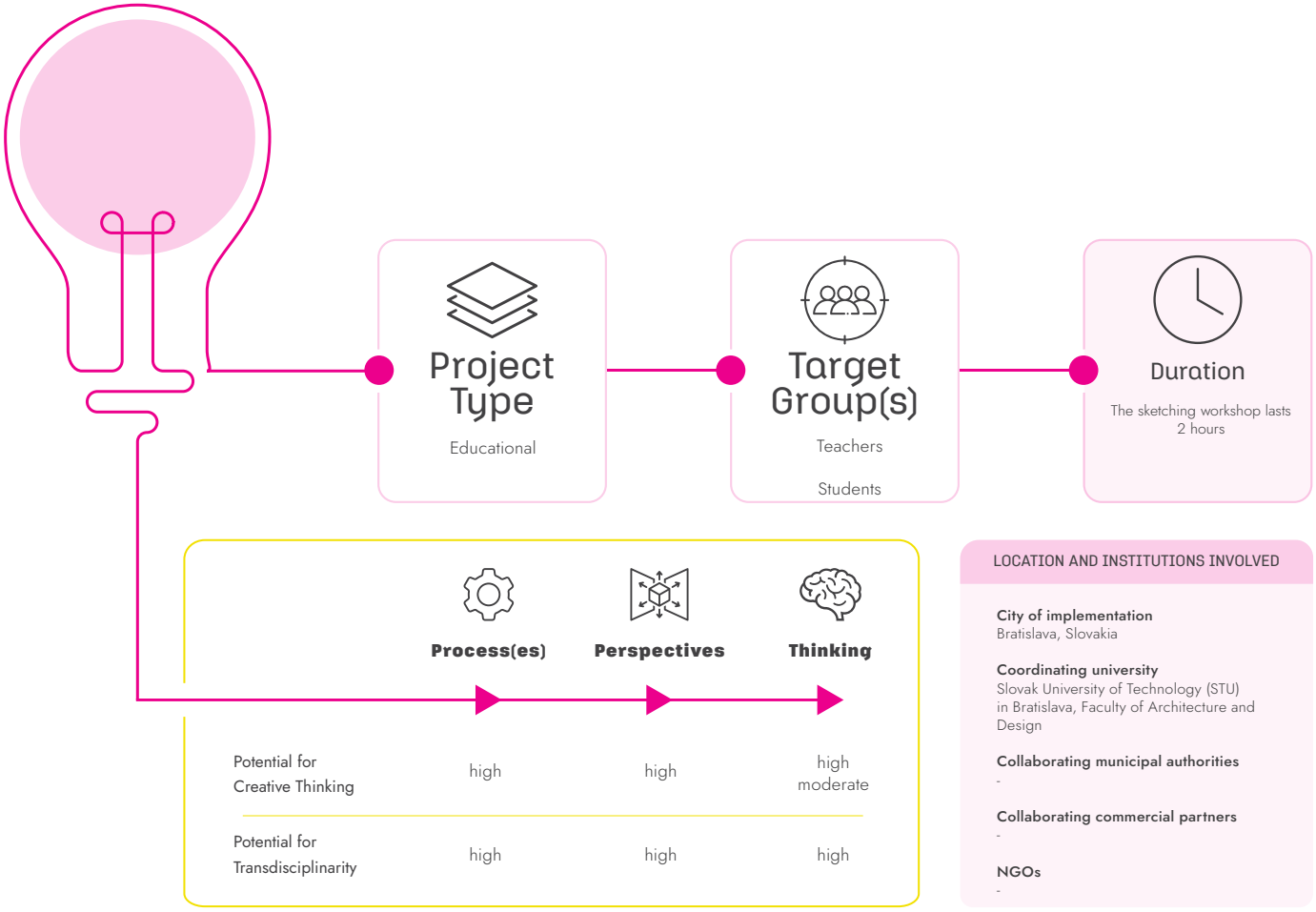
OBJECTIVE(S) AND CONTEXTUALIZATION OF THE PROJECT

Slovak University of Technology in Bratislava
Zuzana TURLÍKOVÁ
Soňa OTIEPKOVÁ

Sketching workshop: Draw to Think is a workshop developed by Slavomíra Ondrušová, an illustrator, jewelry designer, and Assistant Professor at the Academy of Fine Arts in Prague. Dedicating her studies and research to drawing, her dissertation at the Academy of Fine Arts in Bratislava, is a practical and theoretical inquiry into the relationship between drawing and space and the role of drawing in the creative process of thinking and making (see her blog).

She observes the way we draw, why we draw, and also why our confidence in our drawing abilities fades as we grow. The predominant psychological tendencies in thinking are clear, but why do these doubts appear also in people who call themselves artists or "creatives"? Can we do anything about it? How can we overcome the blocks in our creative thinking processes? Is drawing only for artists? How can sketching and drawing help us think and express ourselves no matter what job we have?

When conducting any adaptation of this workshop, please credit to Slavomíra Ondrušová.



CASE DESCRIPTION

The main goal and background of the Sketching Workshop: Draw to Think

The main goal of the workshop is to show the connection between thinking and drawing and the importance of communicating visually. The workshop helps the participants to remind them and give them the opportunity to recognize the creative potential we had and our enthusiasm and passion for anything we did when we were children.

The workshop helps overcome the lack of confidence in one's drawing skills: it does not focus on "correct" shapes and "nice" forms we think we

know and we tend to draw them by memory. Through a series of simple exercises, the workshop helps one "get to drawing": how to get rid of the fear of blank paper and how important it is to observe reality faithfully. What's more, participants discover that sometimes sketches with our non-dominant hand look better than the stiff, dominant hand.

The Sketching Workshop is divided into four segments of 15 minutes plus a quick portrait drawing session of 30 minutes for a total of two hours:

- Introduction: 15 min
- Physical Exercise: 15 min
- Drawing Exercise: 15 min
- An optional break: 5 min
- Quick Portrait Drawing: 30 min
- Reflection: 15 min

INTRODUCTION (15 minutes)

The intro discussion presents the workshop and explains the main objectives. It is important to set up a relaxed yet determined and ready-to-work atmosphere to support the high level of concentration required without prior preparation. The invitation to focus on yourself leads to discussion of their experiences and confidence in their drawing skills

PHYSICAL EXERCISE (15 minutes)

Before any actual drawing activity, it is truly important to start moving your body. Yes, the WHOLE body!

Stand up and stretch your arms.

- Start by rotating your wrists clockwise for 30 seconds
- Go on to rotating your elbows clockwise for 30 seconds
- Finish up by rotating your arms clockwise for 30 seconds

Now the other way round:

- Start by rotating your arms counter-clockwise for 30 seconds
- Go on to rotating your elbows counter-clockwise for 30 seconds
- Finish up by rotating your wrists counter-clockwise for 30 seconds

The same with your legs:

- Start by rotating your ankles clockwise for 30 seconds
- Go on to rotating your knees clockwise for 30 seconds
- Finish up by rotating your legs clockwise for 30 seconds

Now the other way round:

- Start by rotating your legs counter-clockwise for 30 seconds
- Go on to rotating your knees counter-clockwise for 30 seconds
- Finish up by rotating your ankles counter-clockwise for 30 seconds

Now, shake the stress off your body.

- Stand up and shake your wrists for 30 seconds
- Keep shaking your wrists and add your elbows, then your arms as a whole for 30 seconds
- Jump and keep shaking your arms for 30 seconds

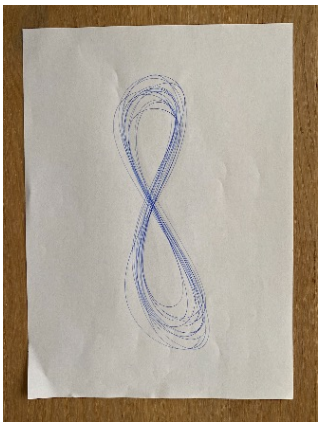
All this might seem really silly but the whole exercise – as you can imagine – literally warms up your body, increases your circulation and unblocks your stiff hands.

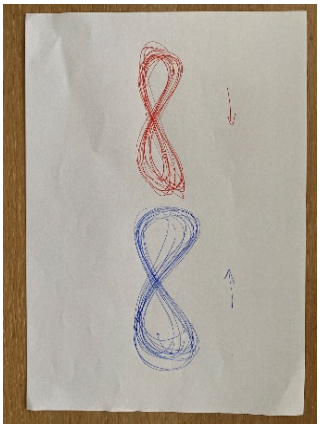
WARM_UP DRAWING EXERCISES

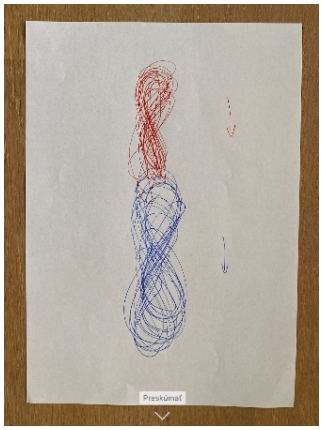
How to coordinate hands and brain, left and right hemisphere?

Infinity

- 1st paper: Draw a symbol of infinity, with your dominant hand. Draw only ONE symbol, but keep drawing over it several times until you get the flow and a nice shape.
- 2nd paper: Draw another symbol (ONE symbol) of infinity using both of your hands at the same time. Keep your hands going in the same direction. Draw one symbol with each hand, but keep drawing over it several times until you get the flow and a nice shape.
- 3rd paper: Draw another symbol (ONE symbol) of infinity using both your hands, but this time with your hands mirroring their movements in opposite directions. Draw just ONE symbol, but keep drawing over and over several times until you get the flow and a nice shape.





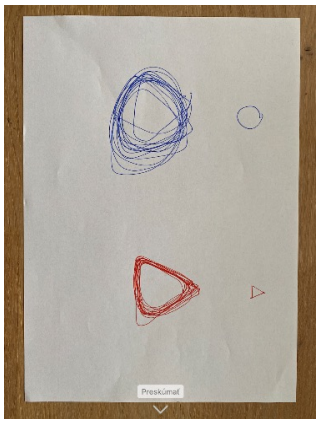


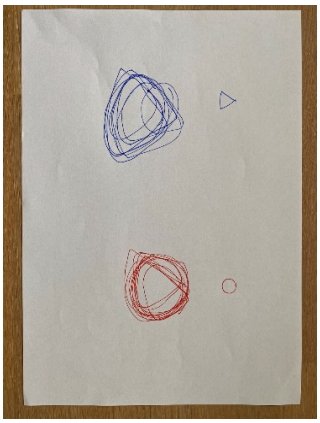
Circle/Triangle

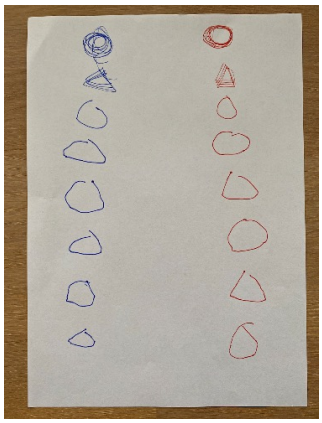
» 1st paper: Side by side on a paper on the horizontal, draw a triangle with one hand and draw a circle with your other hand next to it on the same paper. Draw each symbol several times over and over again in the same place until you get the flow. Try drawing the triangle and the circle simultaneously!

» 2nd paper: Change the hands so that the original "triangle" hand now draws a circle and the "circle" hand now draws a triangle. Draw each symbol over and over again in the same place until you get the flow. Do the drawings simultaneously!

» 3rd paper: Orient your paper vertically so that you can imagine drawing simultaneously in two organized columns. Both hands simultaneously draw a one-line triangle and a one-line circle at the top of the paper. Move down the column and change the shapes so that the original "triangle" hand draws a square and the "circle" hand now draws a triangle etc. One-line at a time, change hands, filling in the columns.







If needed, this is the best time for a 5-minute break.

QUICK PORTRAIT DRAWING

Now the participants will work in pairs. They should be sitting facing each other behind their desks with enough space for drawing. The instructions for this series of quick portrait drawings involves some "limitations". Participants should follow the instructions and concentrate on their performance. There is no need to include all of them. Each exercise should be drawn on a separate piece of A4 paper, vertically oriented. After each of the nine exercises, participating artists will display their

drawings on the wall, each participant forming a gallery of drawings displayed in a column. The reflection and discussion will take place at the end of this whole exercise.

1. Draw a portrait of your partner (5 min). No limitations.
2. Draw a portrait of your partner with your non-dominant hand (2 min). Try NOT to look at the paper, carefully watch your "object". Forget about their face, observe the lines, shapes, and forms. Try to draw with just one fluent line (try NOT to interrupt the line). Play with the thickness of the line, draw over it if needed.
3. Draw a portrait of your partner with STRAIGHT lines only, non-dominant hand (2 min). Try NOT to look at the paper, watch your "object". Play with the thickness of the line.
4. Draw a portrait of your partner with CURVED lines only, non-dominant hand (2 min). Try NOT to look at the paper, watch your "object". Play with the thickness of the line.
5. Draw a portrait of your partner drawing DARK places only, non-dominant hand (2 min). Try NOT to look at the paper, watch your "object". Play with the thickness of the line to point out dark shadows.
6. Draw a portrait of your partner drawing LIGHT places only, non-dominant hand (2 min). Try NOT to look at the paper, watch your "object". Play with the thickness of the line to point out light shadows and places.
7. Draw a portrait of your partner upside-down (2 min). Upper face features (eyes, forehead) being in the bottom part of the paper, bottom features (mouth, chin) in the upper part of the paper. Try NOT to look at the paper, watch your "object".
8. Draw a portrait of your partner with both hands, simultaneously (2 min).
9. Draw a portrait of your partner, using any of the preceding instructions. (2 min)

Participants should try to avoid looking at the paper in order to observe reality.

Reflection

Gather the participants in front of the wall to talk about their results. Let them speak while you moderate and encourage the debate by asking stimulating questions: What did they like? What did they dislike? What worked and what did not? How did they feel?

Gallery of portraits. Each column represents one artist. Participants gathering for the discussion and debrief. Lecturer Slavomíra Ondrušová pointing out important learnings.

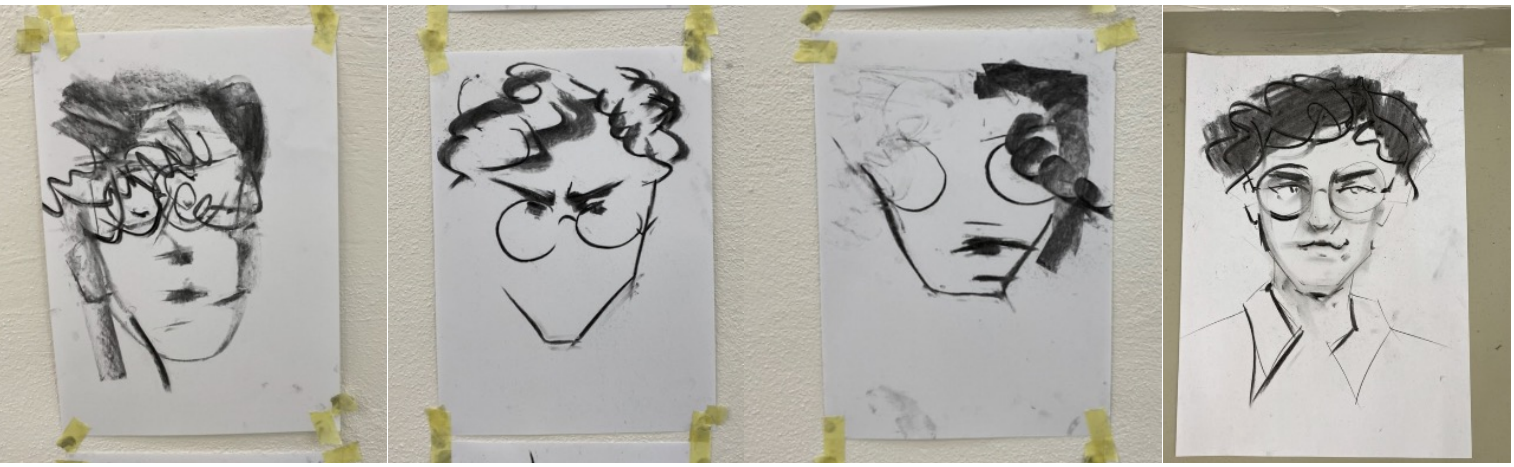
In the end, make them understand and repeat the main goals:

- the tight time limitation encourages the performance – you just start working;
- the non-dominant hand acts more relaxed;
- the lines are not stiff and timid;

» watching the object carefully reflects reality;

» the drawings need not be a faithful photocopy of an object. However, the gallery of portraits of a partner by a given artist does reflect the same specific face features.

» Each artist will notice that their gallery shows that they, in fact, have an original, certain artistic expression.



TEAM

One of the authors of this paper, Senior Lecturer Zuzana Turlíková, who is leading the Design Studio and Methodology of Design Process for first-year Design students at FAD STU observed ongoing lack of confidence and a certain fear of visual expression of her students. Although not all design students excel in sketching, as many students did not attend art schools, they do stand out in technical skills and ability to learn fast. The implementation of this workshop reflects their need to overcome the hidden blocks caused by a confrontation with colleagues with artistic backgrounds.

The workshop can be conducted by a single tutor, although an "assistant" or facilitator is useful for repeating the main points, checking time, taking photographs, and encouraging the creative atmosphere. Soňa Otiepková,

has been such a help. She, as the Lecturer of Methodology of Design Process for third-year students, also took part herself when pairing with one last student, due to the odd number of participants.

The optimum workshop size is twelve participants (the even number of participants is useful for working in pairs).

APPROACHES

This workshop has been conducted since 2019 for first-year students of Design at FAD STU in Bratislava by the external lecturer, Slavomíra Ondrušová. Slavomíra has conducted these workshops for many years for diverse target audiences with diverse expectations and diverse goals: for children, seniors, students of artistic and creative study fields or as team-building activities for managers in global corporations, Slovak National Gallery visitors, etc. They all have different skills and approaches but share the same passion: they understand that we can all think and communicate with drawings.

CHALLENGES

- Participants (our experience is with students) expect fun and light work only.
- Participants feel shy when you ask them to practice physical exercise.
- However, very quickly they start laughing, talking, hitting colleagues by accident, and it is more difficult to get their attention.
- They do not understand the instructions and ask you to repeat the instructions.
- During drawing exercises, they talk and do not concentrate on the given instructions.
- Once an exercise is finished, they tend to comment, talk, and laugh, all of which slows down the process.

- During the common reflection at the end of the Portrait Drawing Session they suddenly are silent.
- Students think they will be sketching masters after having spent their time at the workshop and feel surprised that the further work – practicing the observation and drawing the reality – is their everyday job.

A balance of relaxed time and hard work is of course needed and required.

TOOLS/RESOURCES/MATERIALS

Ask the students to bring their preferred sketching mediums. For a better visual result, colored (felt tip) pens work better than hard pencils.

Be sure to provide plenty of paper – A4 format and paper tape to use to display the portraits on the wall. It is also useful to have a flipchart to draw on when explaining the instructions to the participants.

- preferred sketching mediums - markers, pens, soft pencils (to be brought by participants)
- plenty of A4 paper (provided by lecturer)
- paper tapes (provided by lecturer)
- flipchart (provided by lecturer)

BENEFITS AND LEARNING

Innovation/Value

Despite low confidence in their own drawing skills, participants experience how to unblock their dislike, fear.

Short drawing exercises make them start right away.

Time limits force them not to defer their energy.

Drawing with a non-dominant hand simulates "equality" in drawing skills – few artists can draw with their non-dominant hand, after all!

The key instruction – not to look at the paper – breaks away from all previous learnings and habits. Participants need to redefine their drawing approaches.

Observing reality – drawing what we see rather than what we know or what we think we see – encourages the participants not to perceive the face as a set of typical facial features, but as a mixture of lines, curves, geometrical shapes, and strokes.

The surprise and relief come in when they experience and understand that their portrait in a way truly resembles the depicted object. The key features are present, recognize-able, and performed in an original manner – the stroke is relaxed, dynamic, and not stiff.

Future prospects

The authors of this case study would like to build upon the first workshop. Organizing another would provide opportunities for researching and better understanding the progress and evolution of reality-based observation.

What would you do differently next time?

Take a flipchart for a tutor to draw on. (We did not use one.)

De-brief: make time for reflection several weeks later.

Tips

Set up the tables in advance so the paired participants sit at the tables across from each other.

Keep an eye on their level of concentration so that you give them a break when needed: e.g. there is no need to go through all 9 portrait exercises. The main point is to try out several unusual ways of drawing.

Provide participants with / Use a paper tape to fix a paper on the desk when drawing with both hands at one-time.

Take photos, then share. Remind the participants how they felt when attending the workshop. Experience so far says 99 % enjoyed it).

Debrief after several weeks: Gather feedback after the workshop. How did such activity help them? Did they practice some of the approaches? Do they keep on doodling in their ever-present notebooks?

CONTACTS AND SOURCES

Slavomíra Ondrušová:

http://slavomirao.blogspot.com/2022/

https://www.instagram.com/oslavao/

FINAL COMMENTS ON THE CONTEXT

Sketching Workshop: Draw to Think is suitable as a warm-up activity but, when performed in full time, length, and strength, it provides an essential/crucial experience and learnings that help to redefine our habits and drawing stereotypes. Observations show that participants tended to look at their papers when working on first/second portrait assignments. In the following exercises, the laughter (caused by looking at each other) changed to deep concentration and silence, especially when working with both hands simultaneously and trying to observe the true reality.

12

PROMOTING MENTAL HEALTH AND WELL-BEING, DIVERSITY, AND INCLUSION IN EDUCATION

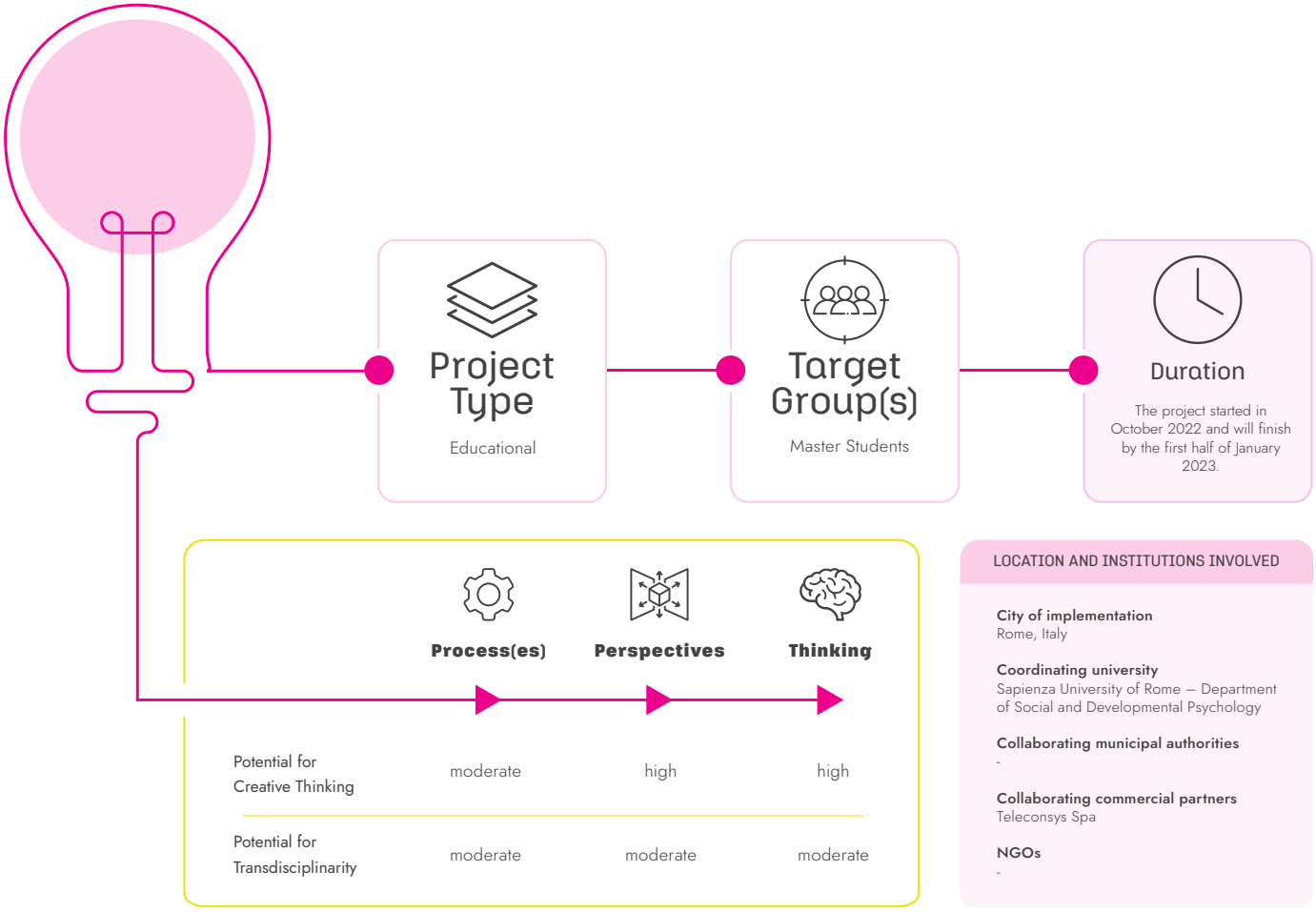
CASE TWELVE

SILVER PLUS CHALLENGING PROJECT

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

Sapienza University of Rome
Alessandra TALAMO

The Silver Plus Challenge is a pioneering initiative aimed at leveraging the burgeoning Silver Economy by designing innovative phygital (physical + digital) services. These services focus on promoting active aging and inclusion across multiple sectors including health, mobility, welfare, and tourism. The project aims to address the needs, both expressed and latent, of an increasingly active, health-conscious, and tech-savvy elderly population, projected to become the most significant consumer group globally. With its multi-sectoral approach, the Silver Plus Challenge seeks to accelerate the development of a range of products and services tailored for individuals aged 65 and over.



CASE DESCRIPTION

The main goal and background of the project

Currently, the progressive aging of the population is known to all. What is most striking about the 21st century is the fact that we are witnessing an unprecedented demographic redistribution, so that by 2050 the proportion of the elderly is expected to double, from 11% to 22% of the total population. Indeed, for the first time in human history, in the next five years, the number of individuals aged 65 and over will exceed that of children under five.

This trend has given rise to the so-called Silver Economy, which accelerates the development of new products and services, such as:

» Smart Home Solutions

- Interactive Platforms and Digital Tools for Active and Healthy Ageing
- Tourism
- Integrated Assistance
- Driverless Cars
- Entrepreneurship

Therefore, the aim of the Silver Plus Challenge project is to design innovative phygital services that promote the inclusion and active aging of the Silver Generation, in different areas (i.e. Consumption, Health, Mobility, Welfare, Tourism), that may arise from the analysis of the needs, expressed or latent, of the target users.

TEAM

The team belongs to IDEaCT (Interaction Design and Communication Technologies) Social Lab, which is an award winning inter-disciplinary design and research initiative within Sapienza University of Rome in the Social and Developmental Psychology Department. IDEaCT Social Lab uses Design Thinking methods to study the uses of new technologies by real users. IDEaCT (Interaction Design and Communication Technologies) Social Lab, a member of the European Network of Living Labs, primarily:

- works on technological innovation starting from the study of real users and their practices;
- connects the design of ICT devices with their implementation in specific contexts of use; and
- connects in a strategic way academic and applied research.

The Joint Lab offers enterprises Interaction Design competence. Collaborative projects are finalized for the analysis of the contexts of the use of ICT and the design/redesign of ICT based devices and services. These analyses aim at improving the efficacy and efficiency of products to respond to the real needs of users.

The IDEaCT Social Lab team will also be involved in the student research in the course on Technological Innovation and Organizational Processes of the Master in Psychology of Communication and Marketing at Sapienza University of Rome.

Links:
https://ideact.wordpress.com/about/

https://corsidilaurea.uniroma1.it/it/users/alessandratalamouniroma1it

APPROACHES

The IDEaCt Social Lab employs an interdisciplinary approach in its creative process, drawing inspiration from the Design Thinking method. This means that instead of simply using tools and methods from various disciplines in parallel, the lab actively merges and integrates these methods to innovate new services or enhance existing solutions. Design Thinking, in essence, combines strategies from diverse fields in a holistic manner to improve usability, efficiency, and adaptability to user needs.

It is a user-centered, co-creative and iterative approach that uses research, prototyping and a range of activities and visualization tools to create and orchestrate experiences that meet the needs of businesses, users and other stakeholders.

Design Thinking builds a bridge between the user's objectives and the objectives of the organizations, which must be compatible with each other: while the service provider, that is the one who provides the service, must ensure that the latter is unique, efficient and effective, the user seeks a service that is characterized as desirable, useful and usable. It is therefore the duty of the service designer to support the provider in creating an innovative and unexpected service that allows the latter to position itself strategically on the market, guaranteeing an advantage in comparison with competitors.

CHALLENGES

To design innovative phygital services that promote the inclusion and active aging of the Silver Generation, mainly in the areas of Consumption, Health, Mobility, Welfare, and Tourism.

TOOLS/RESOURCES/MATERIALS

These Design Thinking Tools will be used for collecting and analyzing data:

- Narrative Interviews
- Empathy Map
- Personas
- Mental Model
- User Journey

BENEFITS AND LEARNING

Beneficiaries

At the core of the Silver Plus Challenge project are the individuals over the age of 65, who stand to gain significantly from the project's innovative phygital services. The project aims to not just meet the needs but to elevate the quality of life for this increasingly important social group. Through the use of Smart Home Solutions, Interactive Platforms, and services in Tourism and Integrated Assistance, the project provides a multidimensional approach to promoting active and healthy aging. For the first time, seniors will have access to services designed not just for their needs, but also their desires—giving them a "safe" space to explore technology, travel, and other forms of leisure and self-care, thus enhancing their overall well-being and sense of inclusion.

Innovation/Value

Creating:

Direct bridges between students at university and enterprises where they could work in the future.

Direct feedback from external actors by enterprises on students achieved competences.

Future prospects

Expand interdisciplinary collaborations involving experts from healthcare, technology, and tourism.

Develop a web portal to showcase project milestones and interdisciplinary efforts.

Launch a seed funding program for start-ups focused on the Silver Economy.

Publish whitepapers and case studies to influence aging-related policies.

Forge international partnerships for project expansion and adaptability.

What would you do differently next time?

Introduce earlier and more robust user feedback mechanisms to better align the project's phygital services with the evolving needs and preferences of the Silver Generation.

Tips

Establish a comprehensive feedback loop for continuous alignment with the needs of the Silver Generation.

Formulate a sustainability model balancing grant-funded and revenue-generating services for long-term impact.

Build a consortium of industry partners specializing in various sectors such as healthcare, tech, and tourism to enrich the project's offerings.

Prioritize scalability in phygital service design to accommodate the growing number of elderly consumers.

CONTACTS AND SOURCES

Alessandra Talamo
Full Professor in Social Psychology
alessandra.talamo@uniroma1.it
Department of Social and Developmental Psychology
Sapienza University of Rome

13

PROMOTING MENTAL HEALTH AND WELL-BEING, DIVERSITY, AND INCLUSION IN EDUCATION

CASE THIRTEEN

THE VERSATILITY+ PROJECT: CRITICAL THINKING, CREATIVITY AND TRANSDISCIPLINARY APPROACHES IN UNIVERSAL DESIGN WORKSHOPS

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

Maria Curie-Skłodowska University in Lublin
Michał NOWAKOWSKI

On December 13, 2006, the United Nations (UN) General Assembly adopted the "Convention on the Rights of Persons with Disabilities", which was ratified by Poland in 2012. The UN General Assembly of Human Rights, stated that, assuming that "...the universality, indivisibility, interdependence and interrelatedness of all human rights and fundamental freedoms and the need for persons with disabilities to be guaranteed their full enjoyment without discrimination", inter alia, requires the states:

"(f) To undertake or promote research and development of universally designed goods, services, equipment and facilities, as defined in article 2 of the present Convention, which should require the minimum possible adaptation and the least cost to meet the specific needs of a person with disabilities, to promote their availability and use, and to promote universal design in the development of standards and guidelines; (g) To undertake or promote research and development of, and to promote the availability and use of new technologies, including information and communications technologies, mobility aids, devices and assistive technologies, suitable for persons with disabilities, giving priority to technologies at an affordable cost; (h) To provide accessible information to persons with disabilities about mobility aids, devices and assistive technologies, including new technologies, as well as other forms of assistance, support services and facilities."

For 2022 Poland planned to implement the provisions of the UN Convention by adopting the "Act on Equal Opportunities for Persons with Disabilities", the consequence of which will be the need to provide people with disabilities equal access to services, education, health protection, rehabilitation, labor market, public institutions, sport, culture etc. and exercising the right to vote. Public institutions that fail to meet these requirements will face trials and damages for people who prove that they do not have equal access to the above-mentioned areas.

The preamble to the Convention includes a very important and binding definition, as well as the key to the necessary social and cultural changes, a definition of disability. Accordingly, "disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others". The definition provides an important frame for universal design so that the barriers can effectively be eliminated. According to the definitions provided by the UN for Article 2, universal design "means the design of products, environments, programs and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." The definition includes the caveat that "Universal design shall not exclude assistive devices for particular groups of persons with disabilities where this is needed."

In order to prepare for these "new" requirements (note that ten years after the ratification of the convention, the requirements should not come as a surprise), in 2020 MCSU launched the educational project Uniwersalność+ (Versatility+). Three MCSU Departments applied to participate in the initiative offered to teachers who understand the need to adapt the infrastructure, procedures, and courses to comply with the principles of universal design. The objectives of the project can be divided into official (listed in the application) and additional, which motivated employees of the Faculty of Philosophy and Sociology to engage in writing and implementing the project.

The official goals were defined:

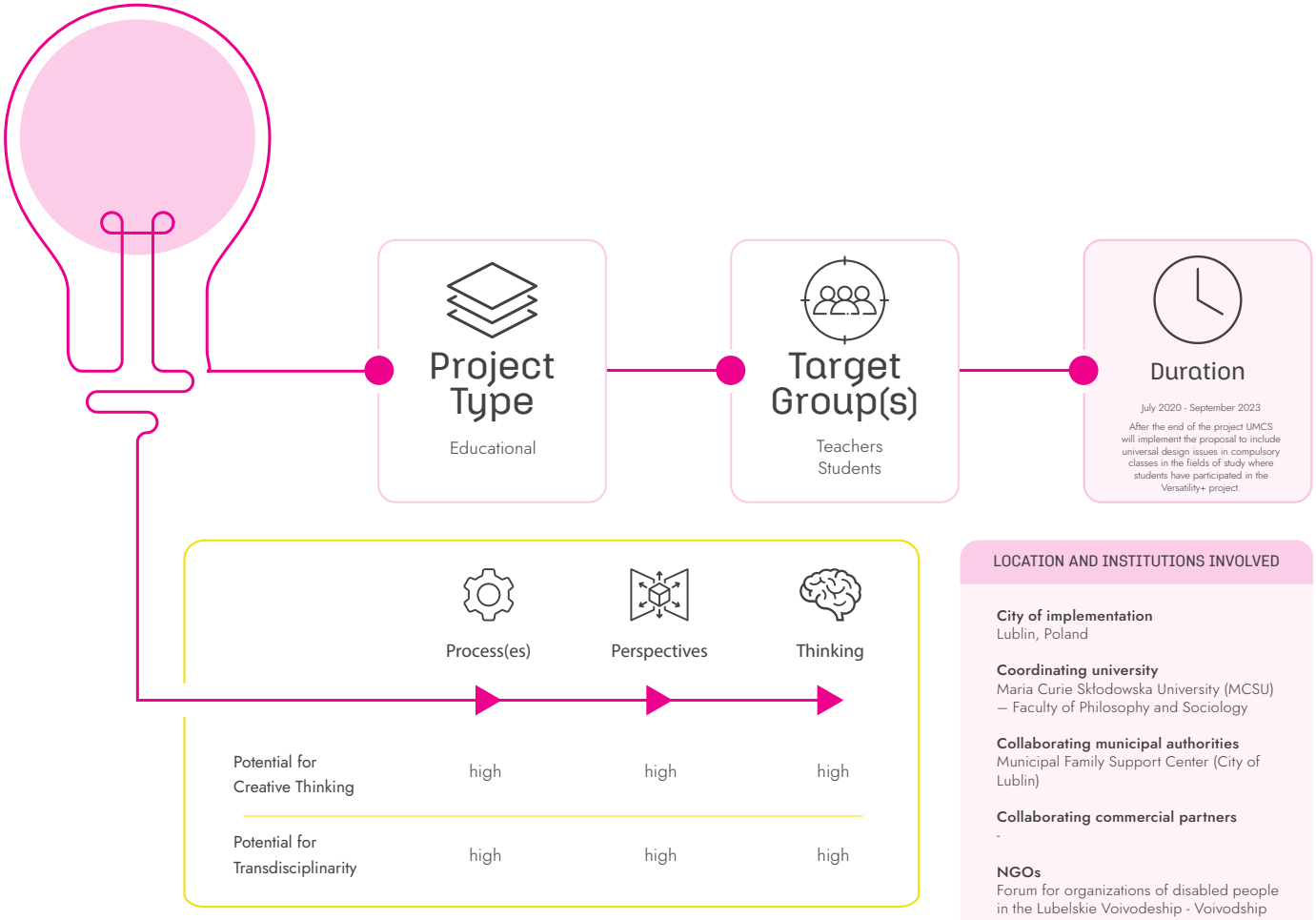
- to increase competences of at least 108 UMCS students in the field of universal design by offering additional classes in accordance with model solutions. The target number of students represented half of the total students in sociology, public policy and social creativity.;
- to increase didactic competences of at least 22 MCSU teachers in the field of teaching universal design by professional training and conducting classes;
- to support organizational changes at MCSU by introducing compulsory modules of classes in the field of universal design in the curricula of 9 specific fields of study.

In fact, one of the reasons behind offering Universal Design workshops to students of the Faculty of Philosophy and Sociology was the willingness of the project authors to apply activating didactic methods (including Design Thinking). Designing universal solutions appeared as a potentially inspiring, engaging, and necessary activity which would enable students and teachers to acquire useful skills:

- creativity and critical thinking
- empathy towards people with disabilities
- group work and cooperation with external stakeholders.

We aim to present this project as a set of activities with two types of goals:

- reducing the number of physical and mental barriers in order to respond to the needs of people with disabilities; and
- increasing creativity, openness, and empathy in students participating in the workshops.



LOCATION AND INSTITUTIONS INVOLVED

City of implementation
Lublin, Poland

Coordinating university
Maria Curie Skłodowska University (MCSU) – Faculty of Philosophy and Sociology

Collaborating municipal authorities
Municipal Family Support Center (City of Lublin)

Collaborating commercial partners
-

NGOs
Forum for organizations of disabled people in the Lubelskie Voivodeship - Voivodship Parliament (Lubelskie Forum Organizacji Osób Niepełnosprawnych - Sejmik Wojewódzki)
Union of Associations of the Forum of Lublin Non-Governmental Organizations (Związek Stowarzyszeń Forum Lubelskich Organizacji Pozarządowych (FLOP)
Senior Club "Śródmieście"

CASE DESCRIPTION

The main goal and background of the project

The proposed good practice is only a part of the Versality+ project and an educational activity addressed to teachers and students of the Faculty of Philosophy and Sociology at MCSU. Although the main goal of the project was to familiarize students with the concept and principles of universal design (see Objectives and contextualization of the project), employees of the Faculty of Philosophy and Sociology got involved in this project also for other potential benefits (for students and teachers):

» additional opportunity to develop soft skills (creativity, critical thinking, group work, inter alia during the Universal Design workshops according to the Design Thinking approach), useful not only in the labor market, but also in private life (helpful in building relationships with other people, managing stress, raising self-esteem, making life decisions etc). "Higher education — higher learning — holds the promise of altering students' perceptions of themselves, and especially their perception of their talents and capabilities. And that self-recognition can be transformative".

» conducting multi, transdisciplinary research, i.e. going beyond the theories that are characteristic of social sciences, organizing specialist knowledge, terminology and research methods,

» starting cooperation with representatives of the University's external environment, which the persons responsible at the Faculty for the quality of teaching and research are trying to expand,

» implementation of projects in real response to social needs (service learning),

» obtaining financial support for:

  · the workshop room equipment (adapted to working in groups and designing physical prototypes according to the principles of universal design);

  · prototyping materials;

  · devices facilitating learning through experience what the everyday life of people with limited abilities is (wheelchairs, crutches, walking sticks for the blind, pregnancy/old age/ vision disorders simulators).

TEAM

The initiator of the "Versatility+" project was Andrzej Juros, PhD, a clinical psychologist who uses elements of sociology and public policies for scientific work and social activity in the area of disability (education, rehabilitation, occupational therapy, services), universal design, and social organizations representing the disabled. Excited by the possibility of developing new workshops, the team leadership was expanded to include:

- Michał Nowakowski, PhD - a sociologist of health and medicine
- Artur Wysocki, PhD - a sociologist of ethnicity, nation and culture.

Both are certified Design Thinking moderators who perceived launching Design Thinking workshops for the Faculty of Philosophy and Sociology students as a success.

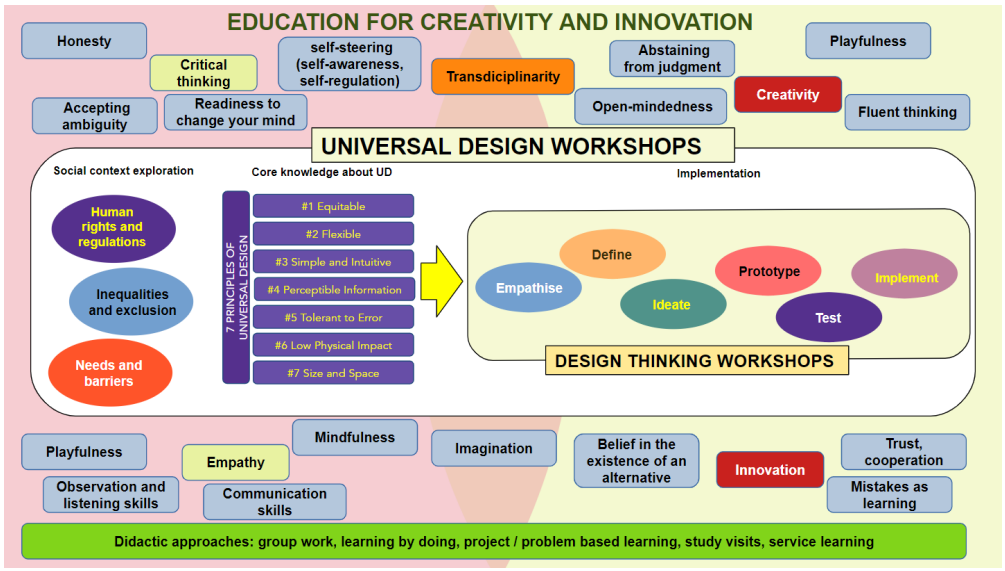
The team includes:

- Anna Dudkowski-Sadowska, MA - a health and medical sociologist interested in the issues of caregiving for the elderly and the disabled
- Marzena Kruk, PhD - a sociologist and a specialist in project implementation
- Justyna Rynkiewicz, PhD - a philosopher and psychologist who participates in a number of disability and mental health projects and cooperates with the MCSU Support Team for People with Disabilities.

APPROACHES

Various motivations of the workshops' authors contributed to a specific approach, the complexity of which is illustrated in the diagram below. The basic concepts that organize the goals, work methods, and

theoretical assumptions are: "Universal Design", "Education for creativity and innovation", and "Design Thinking" as the key workshop methodology, which is not only a toolbox but also a base in which appropriate teaching approaches or methods are integrated (learning by doing, service learning, problem-based learning, project-based learning). In the central part of the project, there is the Universal Design workshop consisting of two modules (see diagram below). The workshop is placed in the broader context of didactic goals set by the authors: developing critical thinking skills, empathy, creativity and innovation. In addition, the diagram includes some attitudes (the list is not exhaustive, of course). For this reason, the workshop curriculum contains minimum didactic delivery methods (lectures) and in return, offers activating didactic approaches (group work, learning by doing, project/problem-based learning, study visits, and service learning), and appropriate techniques and exercises.



Module I. Introduction to prosocial/universal design (30 hours)

- » introducing the issues of accessibility in various areas of social life
- » presenting diverse social needs of various groups of excluded people and people at risk of social and digital exclusion, and the characteristics of specific barriers for them

- savoir-vivre in contacts with people with disabilities
- counseling people with disabilities and their families about instruments supporting social integration - identification of resources, environmental "forces" facilitating the process of social rehabilitation
- introduction to the concept of universal design
- social responsibility of product and service designers
- meetings with representatives of selected groups of excluded people and people at risk of social and digital exclusion, in particular with a person in a wheelchair, a blind or partially sighted person, an elderly person and a pregnant woman
- under simulated conditions, playing the roles of excluded people and people at risk of social and digital exclusion (aiming at empathizing with the socio-psychological situation of a person with special needs, e.g. exclusion, condescending treatment)
- testing specific limitations (darkness, movement/mobility/hearing impairment), e.g. perception of the art by the blind or partially-sighted people during their visit in an art gallery, a special exhibition - Ewa Niestorowicz, PhD, Faculty of Arts, MCSU,
- writing and presenting reports on students' impressions from simulation activities.

Module II. Universal design workshops (30 hours)

- learning advanced principles of universal design and diagnosing the needs of selected types of users (taking into account psychophysiological limitations and user capabilities: excluded users and people at risk of social and digital exclusion)
- acquiring skills to design social services, as well as, optionally, objects/spaces/devices/tools, with reference to specific needs of people with disabilities/the elderly (according to the Design Thinking approach and the concept of universal design)

» designing some new and redesigning existing services (optionally: objects/spaces/devices/tools), taking into account the perspective of excluded users and those at risk of exclusion, in a series of design work processes consistent with the Design Thinking methodology

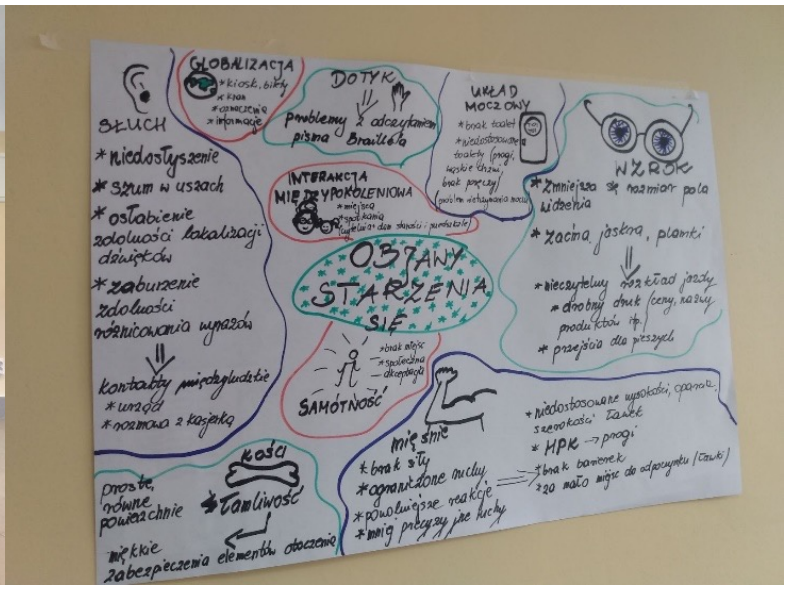
» using simulators of various types of impairment and constraints (wheelchair, visual impairment, hearing impairment, old age, pregnancy).

The classes involve participation/cooperation with people with disabilities or representatives of other disadvantaged social groups (the elderly, mothers with children, etc.), e.g. in terms of good practices - as reviewers or testers of students' projects/solutions.

Entities/organizations involved in the implementation of the activities (with their role):

Forum for organizations of disabled people in the Lubelskie Voivodeship Voivodship Parliament (LFOON-SW)	
Module I	**Module II**
Co-organizing meetings with people with disabilities and cooperation in the evaluation of classes.	Cooperation in the evaluation of classes and assessment of the prototype solutions designed during workshops (from the disabled perspective; in this case: organizations associating people with disabilities, or organizations supporting people with disabilities).
Union of Associations of the Forum of Lublin Non-Governmental Organizations (FLOP)	
Module I	**Module II**
Sharing the experiences from cooperation with local government administration for the inclusion of people with disabilities in the public life of the community.	-
The Freedom Foundation - member of the Watchdog Polska Civic Network	
Module I	**Module II**
Sharing the methods of monitoring the activities of public administration in terms of compliance with the provisions of the UN Convention on the Rights of Persons with Disabilities. In addition, sharing the expert knowledge resulting from participation in the project aimed at monitoring the implementation of the "UN Convention on the Rights of Persons with Disabilities" in local governments and government administration offices in the Lubelskie Voivodeship.	-

Municipal Family Support Center	
Module I	**Module II**
Co-organizing a meeting with an elderly person and cooperation in the evaluation of classes.	Cooperation in the evaluation of classes and assessment of the prototype solutions designed during workshops.
Senior Club "Śródmieście"	
Module I	**Module II**
Not included in the project but the project could be adapted to also include social workers in Module 1.	Cooperation in the evaluation of classes and assessment of the prototype solutions designed during workshops (from the public services perspective; in this case: social workers)
Ewa Niestorowicz, PhD (Art Gallery, Faculty of Arts, UMCS)	
Module I	**Module II**
Organizing an exhibition of contemporary art for the blind and partially sighted, as an opportunity for students to experience and empathize, and cooperation in the evaluation of classes.	-



LEFT: After empathy: The reflective stage of summarizing body experiences with simulators
LEFT: After empathy: identifying the symptoms of aging

Prototyping
Universal design: prototype of a playground for children with various disabilities

CHALLENGES

- Workshops are planned in homogeneous teams of students. Transdisciplinarity can be ensured by external stakeholders, but access to them is questionable.
- Will the interest of external stakeholders be maintained?
- An important element of the workshop is the "embodiment" of students' experiences, and pandemic reality (partial distance learning) has greatly reduced the value of the process.
- During the pandemic, the project did not attract much student interest. To comply with the condition of 108 participants in the project, students were encouraged through additional recruitments even from other faculties.
- Encouraging external partners to appreciate a design process and how it can contribute to their organization and wider society.

TOOLS/RESOURCES/MATERIALS

Empathy facilitators

- The age simulation suit GERT offers the opportunity to experience the impairments of older persons: opacity of eye lens, narrowed visual field, high-frequency hearing loss, reduced head mobility, joint stiffness, loss of strength, reduced grip ability, reduced coordination skills.
- Vision impairment simulators are devices that make it possible to experience moving around, performing daily activities with various visual impairments. There are also online simulators available, for example https://www.versanthealth.com/visionloss/.
- Pregnancy simulators provide non-pregnant wearers with the unique opportunity to experience many of the inconveniences and discomforts of being pregnant. Wearers experience a variety of the physical sensations and discomforts of pregnancy, including weight gain, pelvic tilt, increased breast size, difficulty rising from chair or bed, abdominal distention, shift in posture with waddling gait, lower back stress, abdominal aches, and many more.
- Active wheelchairs allow you to experience physical obstacles such as doors, curbs, driveways, elevators, pavements on the street, cars parked on the pavement, furniture in the kitchen, bathrooms, toilets, but also communication barriers, for example talking to a person standing or hidden behind a high bar.
- Others: walkers for seniors, walking sticks for the blind, ear-muffs for noise reduction.

BENEFITS AND LEARNING

Beneficiaries

In the long run, the project will benefit people with disabilities, advocated by educated/trained students and teachers.

In the shorter term, students who have acquired important competences related to accessibility, but also a range of transversal skills (see the diagram above on Education for Creativity and Innovation).

Innovation/Value

The innovative element of the project is to supplement typical universal design training with embodied experiences aimed at understanding the problems faced by people with disabilities. It is also an opportunity to undertake transdisciplinary research on

exclusion and inclusion, dignity, empowerment, equal opportunities, freedom, and human rights

Studies could also include the role of the body in society, architecture, design, industry and business, stereotypes, culture, art, public policy, mental and physical well-being, and many other issues that arise when learning about inclusive and universal design.

Future prospects

Universal design workshops will be included in three UMCS study programs: Social Creativity, Sociology and Public Policies. The workshop will evolve towards reduced lecture time, solving real problems (also commissioned by institutions from the community), and linking with theories and research in the fields of social sciences, humanities and, if possible, technical sciences.

What would you do differently next time?

Plan activities in such a way that the students' projects can be implemented.

Tips

Use the experience of external stakeholders cooperating with you:

- Consult with them on your training project
- Consult with them on the choice of the design challenge
- Try to create a situation in which student projects are evaluated by external stakeholders and/or tested by final beneficiaries (people with disabilities) in the most natural environment possible

If you have the opportunity, create interdisciplinary student groups (mix students from different disciplines - arts, social sciences, humanities, and technical and natural sciences).

Share knowledge in short presentations and then arrange group work, during which students will have the task of using the acquired knowledge to solve a problem.

These short presentations are actually quite brief, 3-10 minutes. Imagine that the purpose of the activity is for the students to learn by doing so they only require an overview and will soon be figuring it out on their own based on the rich learning environment you have created.

CONTACTS AND SOURCES

m.nowakowski@umcs.pl
a.juros@umcs.pl
https://www.umcs.pl/pl/projekt-uniwersalnosc.htm

BOOKS/ARTICLES

Michelle Bartlett, Suzanne Ehrlich, "UDL + Design Thinking = Designing for All Learners", Wednesday, December 16, 2020, URL: https://www.td.org/insights/udl-design-thinking-designing-for-all-learners

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"Universal Design Handbook. Second Edition," eds. Wolfgang F.E. Preiser, Korydon H. Smith. New York: McGrawHill, 2011, URL: https://disabilitystudies.nl/sites/disabilitystudies.nl/files/beeld/onderwijs/universal_design_handbook_with_interesting_chapters_23_30_31_33_etc.pdf

FINAL COMMENTS ON THE CONTEXT

The Versatility+ case described here seems to have the same objectives as the CT.Uni project, which aims to "support students, researchers, academics and management staff in developing their abilities to think divergently, creatively, and critically while strengthening cooperation with the external institutions as essential partners for a modern university. Such a transdisciplinary approach can be used as a mechanism to drive innovation within higher education" (quotation from the project application). Half of the authors of the project are also involved in the work

of the team designing the Sociology curriculum and until recently, they were also involved in the work of the curriculum design team of Public Policy studies. This is important from the point of view of the workshops described because their idea is also part of the general strategy for the development of courses at the Institute of Sociology.

For several years now and despite the higher cost of studies, the general trend has been to reduce the percentage of lecture classes to align with modern requirements of the labor market and modern knowledge of effective forms of learning. The most important specific solution, beyond the "Universal Design Workshop" as a compulsory course in the new sociology curriculum (from September 2023), is the creation of a separate block of classes. This "Soft Skills Training" covers five modules:

1. "Effective learning techniques" (students learn individual effective learning strategies)
2. "Design Thinking" (they not only learn design methods but also group work, and the role of play and cooperation in increasing their creativity)
3. "Interpersonal communication and public speaking"
4. "Sociology in action: student social projects" (according to the premise of service learning - learning through work for the local community -, students have a chance to put into practice the acquired competences during previous subjects)
5. "Evaluation of student social projects" (learning methods of assessing the impact of designed and implemented student social projects).

If the idea turns out to be a success, we will consider introducing similar solutions in the area of "Public Policy" studies.

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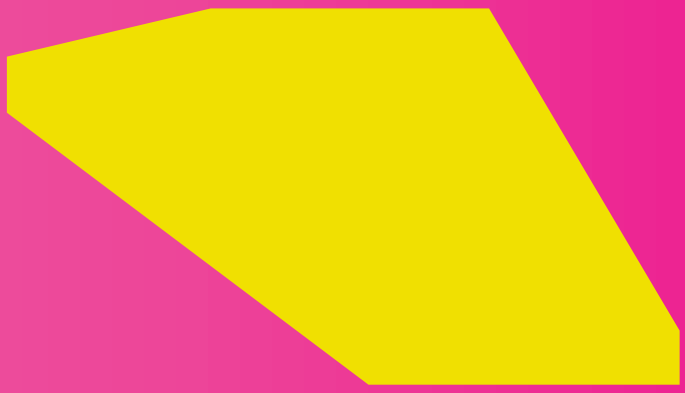


PROMOTING MENTAL HEALTH AND WELL-BEING, DIVERSITY, AND INCLUSION IN EDUCATION

CASE FOURTEEN

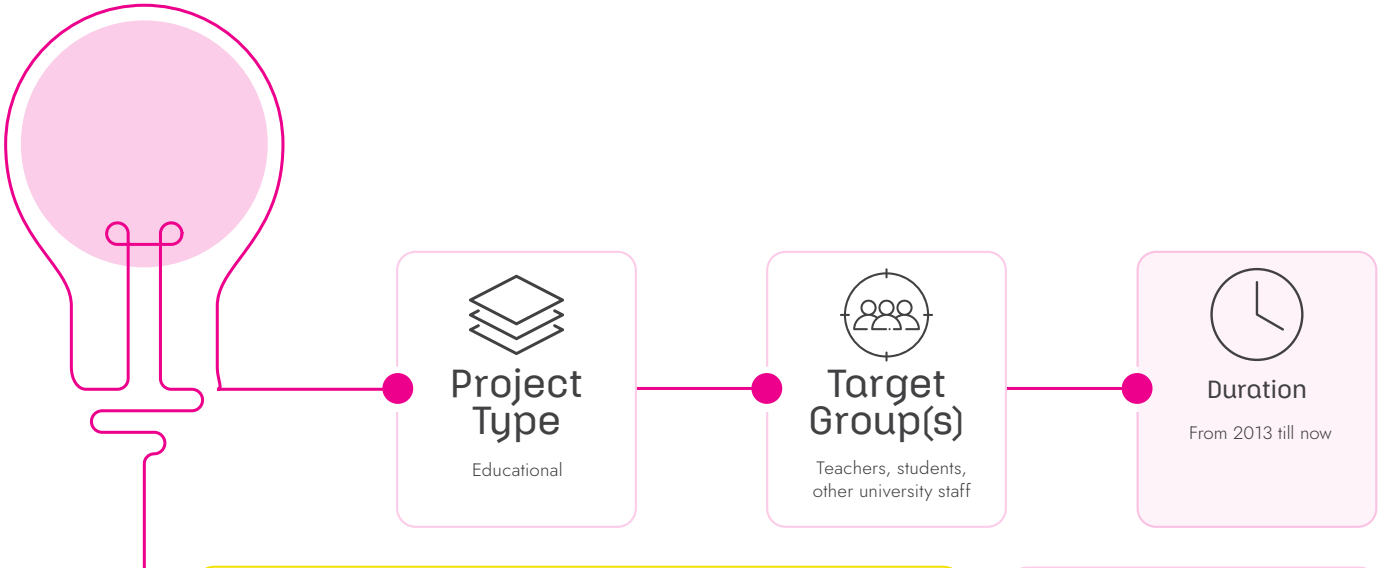
FRIENDLY UNIVERSITY

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

Maria Curie-Skłodowska University in Lublin
Michał NOWAKOWSKI

The goal of the Friendly University project is to draw the attention of the academic community to the needs of people experiencing mental crises. In addition to the objective need arising from the growing burden of mental disorders on the population and also the growing awareness of the need to counteract this problem, the project is the result of the need to go beyond the research activity characteristic of academics. Those involved in the project felt that they no longer wanted to limit themselves to researching and communicating their findings to an elite group of other scientists. Instead, they want their knowledge to contribute to positive change in the reality around them.

The project was selected as an example of good educational practices because of its innovative use of art to convey knowledge about the problems of people with mental disorders as well as the extensive involvement of students in the project activities.



	Process(es)	Perspectives	Thinking
Potential for Creative Thinking	medium	medium	medium
Potential for Transdisciplinarity	high	high	high

[1] At the core of the organization's mission is the conviction that the issues dealt with by psychiatry are not a matter played out solely between doctors and patients, but entail the need to ask fundamental questions about what health is, about the shape of society, about the nature of man. Therefore, it is necessary to integrate the health sciences with the humanities, psychiatry with philosophy, and the cooperation of specialists across paradigmatic divides.
[2] A municipal cultural institution whose activities are centered around art. It has existed since 1956, when it functioned as the Bureau of Art Exhibitions.
[3] The eFkropka Foundation was established on the initiative of professionals involved in the treatment of people with mental illness and therapeutic work on their behalf, and the foundation's activities involve people after mental health crises, the Experts through Experience.
[4] The New Forge Society provides professional psychological assistance to children, adolescents and parents, teachers and educators in a variety of developmental and educational problems.

LOCATION AND INSTITUTIONS INVOLVED

City of implementation
Lublin, Poland

Coordinating university
Maria Curie Skłodowska University (MCSU) – Faculty of Philosophy and Sociology

Collaborating municipal authorities
-

Collaborating commercial partners
-

NGOs
Lubelskie Stowarzyszenie Rodzin "Zdrowie Psychiczne" - Lublin Association of Families "Mental Health",
Zrzeszenie Studentów Niepełnosprawnych - Association of Students with Disabilities).
Otwarte Seminaria Filozoficzno-Psychologiczne - Open Philosophical and Psychiatric Seminars[1]
Galeria Labirynt - Labyrinth Gallery[2]
Akademickie Centrum Kultury "Chatka Żaka" Academic Cultural Center "Student Hut" (UMCS)
Fundacja eFkropka[3]
Jesteśmy Towarzystwo Nowa Kuźnia[4]
Ex Cordis - Lublin association for mental health care

CASE DESCRIPTION

The main goal and background of the project

The goal of the Friendly University project is to bring the needs of people with mental disorders to the attention of the academic community. The university as a community should be better prepared for the presence of people experiencing mental crises. Its functioning should be designed to prevent and counteract the appearance of such problems as much as

possible, and certainly not to exacerbate them. The first edition of the project took place in the 2013/2014 academic year and continues to this day (despite the two-year hiatus of the pandemic). The implementation of the project has brought positive results in the form of greater interest in the academic community in the problems of people experiencing mental health crises. Lectures, seminars, workshops, and training sessions on psychoeducation were very popular among staff and students. The need to continue the project in the next edition was confirmed by a large group of students who participated in regular meetings on mental illness.

The Academic Cultural Center of the Maria Curie-Skłodowska University "Chatka Żaka" also participates in the project. Thanks to the involvement of its staff, it was possible to use culture and art as elements of prevention and therapy of mental health crises, as well as to increase the attractiveness of the forms of transmission of knowledge and skills in psychoeducation, psychoprophylaxis and mental hygiene.

The Friendly University project is a major educational undertaking, which, from the point of view of the CT.Uni project, is an interesting case due to the wider use of art as a teaching tool.

TEAM

- Andrzej Kapusta (Prof.) - philosopher, cognitive scientist, researcher of anthropology, physician by training. The author of two books and about 70 scientific publications. He is currently working on a monograph entitled "Philosophy as Therapy".
- Justyna Rynkiewicz (PhD) - philosopher and psychologist. Project coordinator. She conducts workshops (including on creativity and emotional intelligence, self-esteem), development groups and teaching classes.
- Grzegorz Michalik - a doctoral student in philosophy, educator by training, currently working on a dissertation on subjectivity in psychoanalysis. Since 2018, he has been coordinating the project "PsychoKino - gives you something to think about!" As part of the

Friendly University, he conducts film workshops and organizes Psychokina meetings.

» Maciej Wodzinski - PhD student in philosophy. He is most fascinated by today's relevance of the great questions of the ancient Greeks and issues related to autism spectrum disorders and ethics. He is responsible for administrative services and substantive support in supporting people with autism.

APPROACHES

A peculiarity of the project (and probably the reason for its success and longevity) was that the dispersed resources of the university were used and integrated for practical activities: researchers from the project team and their scientific output, university psychologists and psychotherapists, educators, as well as administrative staff, primarily the staff of the Office for Persons with Disabilities and Psychological Support.

What's more, the project's creators assumed from the outset that the activities had to be preceded by research into the needs and state of knowledge of the academic community about mental problems. New knowledge and skills were also to come from invited experts from outside the UMCS - this role was fulfilled by Open Philosophical and Psychological Seminars and workshops co-conducted with guests from other academic units. For these reasons, surveys of the student population and in-depth interviews among teachers and university administration staff, as well as scientific and training conferences, were conducted from the beginning of the project.

Research and scientific activities

An important element of the project is the diagnosis of mental health problems and the level of knowledge about mental disorders of all members of the academic community. For this reason, surveys and individual interviews were conducted throughout the project. The academic part of the project included numerous conferences, seminars and expert panels,

which provided an opportunity for knowledge exchange. Therefore, the Friendly University was an opportunity for the scientific development of those participating in it as well as for interdisciplinary networking.

Education of UMCS employees

Friendly University is a project whose beneficiaries are not only students but also university staff. Lectures, seminars and expert panels were just one channel to reach this group. A number of workshops were designed specifically for them, with two goals: to improve their mental well-being and to make them better equipped to interact with students (not just those experiencing mental crises).

The lectures covered many issues and below are some of the most interesting:

- "Mental Hygiene and Development and Creativity - Facts and Myths" - the problem of mental well-being and its impact on our creative abilities and personal development. The lecturer, who is a philosopher and educator, referred both to historical concepts and concepts of mental health, as well as to Tadeusz Dabrowski's contemporary theory of positive disintegration, according to which a crisis is an opportunity to acquire new skills. Unfamiliar situations that we can't cope with force us to produce innovative ways of doing things. As a result, we become more effective and internally richer.
- "Professional burnout" - a lecture by a psychologist and a therapist on the causes and effects of professional burnout. How it can be prevented and Who is in the risk group, as well as: In which professions is such a problem less likely?
- "Self-assessment and self-esteem"
- The expert panel "The strength you seek - personal resources and mental health".

Workshops and training sessions:

- "Stress and mental health" - how to deal with stress, the most important and effective techniques for reducing anxiety, theoretical knowledge about the causes, course and effects of long-term stress.
- "Knowing yourself - understanding others - a workshop based on the MBTI® model" The MBTI workshop is designed to recognize one's own innate psychological preferences. This will help participants better plan their careers and increase their knowledge of their strengths and weaknesses so that they can identify areas in which to develop. It also increases self-confidence and awareness of interpersonal differences to make it easier to work effectively with others. This is very important in the academic-student relationship, as it allows for a better understanding of students, their limitations and the reasons for their behavior.
- "Difficult interpersonal situations in the work of an academic teacher" - how to work with students who are too withdrawn and passive during classes, as well as with those who hinder the conduct of meetings through their excessive activity.
- "Supporting students experiencing mental health crises" - sensitizing participants to the problems and difficulties of people in mental health crises. Practical communication skills and principles of behavior in relationship with a person experiencing mental difficulties at different stages of development and remission of a disorder or illness.
- "Workshops on interpersonal communication aimed at academics at UMCS" - Training aimed at improving communication with others and getting to know oneself better under the guidance of an experienced trainer: how to effectively communicate what one wants to say; how to speak to be heard, and how to listen to understand the other side of the dialogue.

» "Solution-Focused Approach in the work of a university teacher" - The class will allow teachers to incorporate elements of the method into their research and teaching work with students. Not just a model of therapy, the applications of the Solution-Focused Approach (SFA) can be found, for example, in the fields of mental health care, upbringing, social work practice and education (Solution-Focused Education). Participants will learn: the assumptions of SFA, the central philosophy and the view of the human being in SFA; selected techniques and tools of work in the SFA stream and examples of their application in teaching; ways of building relationships with students that are based on cooperation; strategies for working with unmotivated students; Methods of work: Workshop methods based on discussion and group exercises, combined with elements of theoretical presentation.

» "Workshops on psychoeducation - Do you need to know the student's diagnosis to be able to help effectively?" Participants worked on specific situations: discussing situations related to the university life of students with mental disorders, in which the student is aggressive and demanding; The student is lost and withdrawn; participants in a group developed solutions to the difficulties discussed; discussed the ways developed in the forum; listening to the statement of a person with mental disorders; talking with a person with mental disorders; discussing the learning difficulties that accompany mental disorders.

» "Interpersonal communication" - The workshop was aimed primarily at those serving as supervisors of the year to communicate efficiently and non-threateningly with the student. The problem of different communication styles and their impact on interpersonal relations was addressed. The second part of the workshop focused on listening skills with an emphasis on the ability to distinguish the content of a message from one's own interpretations about it. These skills help create a positive relationship between academics and students, which translates into mutual trust and increases the chance that a student with a mental health problem will want to cooperate with the university as part of his or her recovery process.

» "Supporting students experiencing mental health crises" - The first part helped participants understand the specifics of specific mental disorders and illnesses like depression, schizophrenia, eating disorders, suicidal tendencies or neurosis. The second part involved the presentation and coaching of solutions proposed for specific situations involving a person with a mental health problem.

Training sessions for students

» "Self-Reg: gently and with understanding in stress - workshop" - learning about ways to relieve stress-related tension before the exam session. Students learned how to recognize the state of excessive stress overload, how to remedy it, recognize their stressors, how to reduce stressors, relieve tension, and "recharge batteries". They also developed an individual plan for "regeneration" of forces needed to cope with stress and build mental resilience.

» "Design Thinking Workshop" - the purpose of the classes was to use knowledge and skills from studies in a creative way, develop competence in design thinking, acquire the ability to work on an interdisciplinary team, develop creative thinking and innovative approaches to analyze issues, stimulate creativity, and look at issues from different perspectives

» Workshop "From shyness to self-confidence" - how to take care of self-esteem and dealing with problems such as the value system, the meaning of life, and identity issues. As a result, the workshop also had a preventive dimension.

» "Working with the body" - in practical classes, participants learned how to take care of their own mental health through proper breathing techniques and with the help of stretching exercises.

» Anti-discrimination workshops - two types of anti-discrimination workshops were provided for students. The first was general and touched on prejudice in the broadest sense, while the second dealt specifically with mental disorders. During the first training session, the legal acts regulating the prohibition of discrimination on such grounds as gender, race and ethnicity, age, disability,

sexual orientation or religion were discussed. The most important definitions of discrimination (e.g., sexual harassment) and areas in which unequal treatment is prohibited are also presented. The goal of the workshop was to make participants aware of what discrimination is, where it comes from, what consequences it has, and who it usually affects. The second workshop was divided in two. First, psychological assistance included such issues as communication with a person in need of help; ways to support a person with mental health problems; and forms of support at the UMCS and in Lublin. The second was about health and mental hygiene issues to learn about constructive ways to cope with stress and solve problems; the importance of self-psychotherapy and self-education; and the value of positive thoughts and emotions.

» Workshop for students "V. E. Frankl's logotherapy in the face of human suffering" - introducing logotherapy as a way of approaching human problems and as a therapeutic method, students learned the possibility of its application to various types of mental suffering. The origins and assumptions of logotherapy and selected therapeutic techniques gave students the opportunity to reflect, in the spirit of logotherapy, on their own attitude toward suffering, especially that which flows from confronting the hardships of human existence.

» "Being-in-the-world: a laboratory for mindfulness and connection" An extraordinary, moving, and uplifting workshop for all who want to be more present in their lives. The laboratory is a kind of attempt to combine the experience of humanistic psychotherapy with phenomenological practice. Through exercises on making contact and the experience of mindfulness, the participant will become familiar with the dimensions of being-in-the-world present in the humanistic-phenomenological tradition of psychotherapy. The lab formula is particularly inspired by the work of Carl Rogers and Merleau-Ponty.

» "Autoethnography/psychiatry workshop" - Autoethnography is one of the methods used in qualitative research. It involves using the researcher's experience as material through which to look at

socio-cultural reality. Here we have three elements: systematic analysis (graphia), personal experience (auto) and cultural experience (ethno). The main challenge in autoethnography is to analytically combine the "personal" with the "social," or more precisely, to use the self to show the mechanisms that structure a piece of reality. Unlike memoirs or art forms, autoethnography is a meticulous analysis of one's own experience, in close dialogue with anthropological theory and empirics (analytical autoethnography). Through its use, we can explore the social and material determinants of the experience of illness or disability. Workshop participants will gain knowledge of the method and undertake an exploration of their own experiences in accordance with its assumptions.

» "Knowing yourself - understanding others - a workshop based on the MBTI® model" - A version of the workshop for students. This is very important for those in their college years, as it allows them to take the right career path and develop the ability to work with others and communicate effectively in a team.

» "Cultural and Philosophical Cafes" The first "Life on the edge: how much comfort, how much risk?" established the character of an open meeting and discussion concerning questions about difficult situations and life decisions. Participants wondered whether it is better to live comfortably and safely, or whether such a life is boring and might need constant challenges and risks. The issues raised concerned mundane and everyday matters, as well as those related to careers, health, investments. Is the choice up to us, or are we doomed to blind fate? Is it worth leaning out, taking risks, or is it better to be a conformist? Participants discussed the importance of such decisions in life. They also talked about the solutions that philosophy, psychology, psychiatry and neurocognitive science offer us in this matter. The topic of the meeting itself was proposed by students of the Institute of Philosophy. The second "cafe" was about ideas for studying and interesting ways to live. Participants exchanged views and experiences about the quality of

their own student life, and in general what they consider important and relevant in life. They expressed concerns about their own professional future and asked questions about whether work must be hard, stressful and boring? How to cope with the challenges of modern times? All these issues are closely related to mental well-being. Someone's sense of being wasted at work contributes to a significant decrease in mental well-being. Combined with severe stress, it can cause serious mental problems in the long term.

The use of art in education

"PsychoKino"

An important part of the project was "PsychoKino" (PsychoCinema). This is a series of film screenings combined with a lecture and discussion on mental health issues. Most often, the discussion is preceded by a speech by a specialist who performs a psychological analysis of the film's characters and the relationships that connect them. Later, guest psychologists, psychiatrists, aestheticians, philosophers, people in crisis and employees of institutions supporting people with mental problems speak about the film. Then the audience shares their thoughts and questions. Film was chosen as a form of illustration of the issues raised for several reasons: 1) the abundance of good quality films dealing with mental health issues; 2) the ease of illustrating and conveying the characters' experiences in film; and 3) the popularity of this medium.

The purpose of PsychoKino is to bring the audience closer to the situation of people experiencing mental difficulties with the aim of sensitizing them and inspiring empathy; to spread a positive attitude towards people with mental problems; to point out the role of the environment in the healing process; and to dispel myths about mental illness. The participation of a person in crisis is expected to further enhance this effect, allowing participants to get information at the source and learn how the experience of mental health loss is lived, what helps to cope with it, and what factors hinder the return to original functioning. The films shown touch on mental health in a variety of ways through both feature films and documentaries.

PsychoKino is an integral part of the Friendly University project because it allows members of the academic community to understand the situation of a student with mental problems; to become accustomed to the awareness that mental disorders and illnesses are an increasingly common problem at universities as well; to prepare for possible contact and assistance to a person with mental problems; and to become sensitive to others' experiences and limitations resulting from the functioning of their psyche.

In the films presented, the themes addressed are:

- Presentation of the problem of eating disorders and discussion. "Body/Body" (2015, directed by Malgorzata Szumowska).
- The problem of nervous breakdown "Requiem" (2006, directed by Hans-Christian Schmid).
- Depression ("Melancholia", 2011, directed by Lars von Trier).
- Autism "The Girl from the Closet" (2012, directed by Bodo Kox). On World Autism Day, the material for discussion included social campaign spots and short films related to the topic.
- Family relations, communication between spouses and difficult love for a child with "psychopath" traits ("We need to talk about Kevin", 2011, directed by Lynne Ramsay; "Kamper", 2016, directed by Łukasz Grzegorzek).
- The problems of addiction, violence, and difficult relationships with others. "Under the Strong Angel" (2014, directed by Wojciech Smarzowski).
- The importance of the closest human relationships for human development and well-being. How closeness and love in intimate relationships depends on communication. Reasons for conflicts in families and how the quality of its functioning affects all its members. ("The Last Family", 2016, Jan Matuszynski; "Between Us", 2020, directed by Dorota Proba; "Lars and the Real Girl", 2007, directed by Craig Gillespie).

- Experiencing mental crises by people with disabilities. ("On the other side of the bottom", 2021, directed by Maciej Sikorski).
- Trauma, tragedy, bereavement. (Lack of) strategies for coping with bereavement or other difficult events. The impact of unprocessed mourning on the functioning of a person including their relationships with others ("Babadook", 2014, directed by Jennifer Kent).
- The problem of attitudes to our own bodies and cultural requirements for our appearance, the idea of body-positivity and the impact of the pursuit of the ideal figure on our mental health ("Fat Front", 2019, directed by Louise Unmack Kjeldsen, Louise Detlefsen).
- The films were also material for thinking about the relationship of two values: self-reliance - loneliness ("Fúsi", 2015, directed by Dagur Kári; "The Swedish Theory of Love", 2015, directed by Erik Gandini), what sport psychology is and how one can use its methods to function better in everyday life ("The Best", 2017, directed by Lukasz Palkowski). Topics of social understanding of masculinity and femininity, social expectations, gender identity, and cultural gender ("Petite fille", 2020, directed by Sébastien Lifshitz). The human condition in the modern world, The nature of violence, Differences in perceiving and seeing the world, How to take care of oneself in difficult conditions, Consumerism and quality of life, Ecology and psychology, Human nature. ("Man", 2015, directed by Yann Arthus-Bertrand; "Planet 2.0", 2020, directed by Matt Wolf; "The Act of Killing", 2012, directed by Joshua Oppenheimer).
- Of particular interest to the CT.Uni project is the film "Young Plato" (2022, directed by Declan McGrath and Neasa Ní Chianáin) - The protagonist of the film is the headmaster of a Catholic school for boys in one of the most dangerous neighborhoods in Belfast, Northern Ireland. He teaches his charges how to access their own feelings as they confront a 30-year conflict whose bloody and

traumatic toll has been taken on the streets of their neighborhood, often involving their parents. In this unique portrayal of a community that still can't recover from those experiences, we see an extraordinary teacher healing pessimism, aggression and historically conditioned despair with the wisdom of the ancient Greeks. We see how critical thinking and attention can empower and encourage children to see beyond the limitations of their own community. Philosophy gives the boys a chance to confront the narratives of their community individually and reject the notion that violence remains the only solution to problems. The film was followed by a discussion: How to deal with violence, discrimination and aggression? How important is the role of listening and dialogue? How to live in the shadow of trauma, war and conflict? Do critical thinking and a reflective attitude find an appropriate place in modern education? How to build a friendly community across divisions and limitations? The film shows a protagonist whose way of teaching can be seen as a good practice of using science (in this case philosophy) for social change. https://www.imdb.com/title/tt14683452/

"Theater PsychoKino"

Within the framework of Psychokino, the "Theater PsychoKino" meetings are a series of theatrical meetings organized by the Faculty of Philosophy and Sociology of the Maria Curie-Skłodowska University and the Friendly University project for the academic community and Lublin. Presented performances are accompanied by expert discussions on issues related to mental health, relationships, and self-discovery. In the panels accompanying the performances, participants sought answers to questions such as: Can theater have a "therapeutic" function? What games do we play, what masks do we put on? How to work through our own complexes? How do we socially understand masculinity/femininity? How to become a performer/woman?

"Little Psychokino,"

There were also screenings of films as part of "Little Psychokino," a series of screenings of films watched and discussed in a smaller group to better understand themselves. ("Looking for Eric", 2007, directed by

Ken Loach; "Inside Out", 2015, Pete Docter; "A Street Cat Named Bob", 2016, directed by Roger Spottiswoode; "Intouchables", 2011, directed by Olivier Nakache, Éric Toledano). "Little Psychokino" evolved into a workshop with a psychologist and filmmaker, which involved interpreting film footage and drawing conclusions about mental health and mental hygiene. The workshop topics were: "Interpretation and sensitivity - about the psychological dimension of film art," "Relationships and sexuality in cinema," "Film images of depression and alienation," "Build self-confidence," "About art and about love," "Human relations and mental health."

"Psychoperformatics"

An interesting and probably lesser-known form of using art in therapy and learning about mental health issues is "psychoperformatics", a form between a regular reading and a theatrical performance. It attempts to read emotions quickly - such a simple but at the same time usually very accurate activity. Psychoperformatics is an unusual experience of the meeting of literature, live art, psychology and philosophy, united in a performative reading of fragments of a literary work. An actor is hired to read and the performance is followed by a discussion with the audience and a special guest.

Art Therapy workshops

"Handicraft workshops" - The goal of the workshop series is to show how to communicate with other people and get to know oneself through artistic activities. Through artistic means, you can better understand the nature of your problems, difficulties, relieve emotional tension and learn to control stress. Participants in the workshop do not need to have artistic abilities. The workshop was led by a psychologist who conducts creativity and creativity workshops for youth and adults and an artist who specializes in ethno design - a traditional workshop transferred to contemporary design, artwork and functional forms. She creates unique objects based on a broad knowledge of handicrafts, reaches back to the sources, deeply learns about crafts transposing them into the language of contemporary art, works at the intersection of tradition and modernity). Thanks to the

cooperation of these two specialists, the classes were "not only great fun, but also a step towards better self-discovery and opening up". During the workshop, participants were introduced to the techniques for making art with felt and scrapbooking. Felting workshops use a large range of colorful felt and wool materials to encourage your imagination and create your own artwork. Scrapbooking is primarily about creating albums for photos and various keepsakes, but in a broader sense it also includes creating cards for many occasions and celebrations (cardmaking). The following workshop was about painting cotton bags that can be used to carry groceries, making macramés, and crocheting.

Figure 14.1.
Felting workshops
Source: Violetta Dryło http://warsztaty-kreatywne.blogspot.com/search/label/filcowanie

"Music therapy" - a workshop in two parts: the first was led by a percussionist, an employee of the Academic Cultural Center of the UMCS, who taught the participants how to play the drums and how to express and discharge emotions with it. The second part was led by a music therapist who, with the help of various types of instruments, helped participants get more in touch with their musicality, as well as a deeper understanding of themselves and their emotions.

"Theater therapy" - a workshop with a theater therapist aimed to show how to use drama and similar techniques to help students cope with difficult situations and develop their own ability to not only understand their emotions, but also express and manage them.

"Dance and movement therapy" - a workshop in two parts: the first, by a choreographer who is an employee of ACK Chatka Żaka and the head of the dance group. She showed the participants basic dance routines, with the aim of awakening their passion for dance and teaching them to use dance to express and discharge their emotions. The second part was led by a psychologist and choreotherapist focused largely on emotions and experiencing oneself through movement. Participants learned how they can use movement to take care of their own mental hygiene.

Student activities

- Anti-discrimination poster contest. The poster was to promote integration in the academic environment of students experiencing mental health crises. The work could deal with issues both in the didactic area, social relations, and functioning within the requirements of the university.
- Student workshops as part of the "Mental Hygiene Days" event: Members of student organizations prepared a series of workshops aimed at their peers. This form of peer support is very effective, due to the fact that the presenters and participants share a similar life situation, allowing them to bond and come to an understanding within the meeting. In addition, the workshop was an opportunity for students of Psychology and Social Creativity at UMCS to improve their skills in conducting workshops, which will increase their chances in the job market in the future.

Ads and advertising workshops conducted by students

- "Emotional Intelligence" - Learn more about your inner life - whether you can handle your own emotions and whether you are good at recognizing other people's feelings. Training in emotional intelligence brings great benefits in social life.
- "In a healthy body, a healthy spirit" - What effect does what we eat and how we sleep have on the functioning of our brain? At the workshop we will talk about how best to eat to provide the brain with what is optimal for it, as well as how to take care of sleep hygiene to get the most out of each night.

» "Optimism can be learned" - training in positive thinking. Is your glass always half empty? Do you focus on the negative? Come to the workshop and you will learn what optimism is and understand how it affects daily functioning. You will analyze your way of thinking and learn what techniques to use to shape it.

» "Dealing with stress - the basics" - The main goal of the workshop is to acquaint its participants with the current state of knowledge of psychology regarding the role of stress, how it affects our lives, and to learn about the most important theories of stress. Participants will be able to learn about modern attempts to explain stress, its causes, and how we can deal with stressors in our environment. Also presented will be ways to offset the negative effects of stress.

» "Do you dream? - Do it with your head!" - During the workshop, participants will learn how a big obstacle to success can be the inadequate formulation of dreams. In addition, we will present several ways to help formulate goals and techniques that will make achieving them much easier. The workshop will be theoretical and practical.

» "Creativity" - What is creativity? Can it be exercised, developed? And if it can, then how? Join us for a workshop on creativity, where we will answer the above questions, and in the second part - we will train our creativity! We will try to make it fun and active! Just come with an openness to new knowledge and experience.

» "Stress in reverse!" - Do you want to learn how to deal with situations that cause stress (session, new job, relationship problems)? Come to a workshop from which you will learn: - What is stress and what are its types - What situations can cause it - What are the methods of dealing with it In addition, you will be able to see how you yourself most often react to stressful situations and what is your stress level.

» Positive Sentence Contest - Another element of Mental Hygiene Days was a positive sentence contest. This activity had the dual purpose of promoting hygiene days and promoting positive thinking as an important factor in mental hygiene. The task of the participants was to send a sentence (a maxim, proverb, aphorism, etc.), either invented or borrowed, that helps them in life, along with an explanation of why it has this supporting function. We received about 30 responses, of which the six best proposals were selected. The winners received UMTS gadgets as prizes.

» A comic book contest was held for UMCS students and graduates. The task was to vividly depict a short story about the role of social support in overcoming a mental crisis. Of the submitted works, the best one was selected by a committee, which, in addition to the project organizers, included people who had suffered a mental crisis, aestheticians, and mental health specialists.

The announcement of the competition for the best comic book

Comic book contest - to win a contract for PLN 2,500 you don't need to be a specialist in creating comics. All you need is a good idea and some artistic or graphic design skills.

Task: The contest requires a short comic strip of 4-6 frames, illustrating the following story:

Janek is a student and, due to depression, he is hospitalized. There he receives help: He talks to therapists and gets medication. After some time, he returns to the university. However, he feels insecure and keeps to himself a bit. His colleagues don't know how to behave either and prefer to keep their distance. Fortunately, Karolina, Janek's best friend from the year, springs into action. She first explains to his colleagues to treat Janek simply as before and then encourages him to talk and join the group. After a while, the situation returns to normal. The technique and style of performance are arbitrary.

Objective: The purpose of the contest is to select a person who will create a comic book depicting the stories of people who have overcome a mental crisis. The resulting project is intended to increase sensitivity to the situation of people in mental crises. We want the created illustration of the healing process to help better understand their perspective. We also want the comic to be a source of knowledge about what kind of help is needed for people with this type of problem.

Participants: Participants in the competition can be any UMCS student, doctoral student, employee, or graduate of our university who completed their studies no earlier than in the academic year 2013/2014.

Prize: A contract for PLN 2,500 to create a comic book telling three stories of students who have overcome mental crises.

The winner, a student from the Faculty of Biology and Biotechnology at the University of Maria Curie-Sklodowska, as a reward, received a contract from the University of Maria Curie-Sklodowska to create a comic book illustrating the stories of people experiencing mental health crises. The campaign created three comics with stories of people who struggled with mental health crises. Two of them recounted authentic events in the lives of people suffering from schizophrenia and depression. They were collected in the form of interviews with people working with the project organizers. The third story was based on the combined account of several people experiencing eating disorders. The campaign aimed to bring the subject of mental crises closer to the public. This is because there are many myths and false beliefs associated with experiencing crises, which are sometimes hurtful. This was a complementary activity to the meetings of the "Psychokino" series, in which people after mental crises speak as experts through experience. A comic strip was used to present related issues, as illustrations help convey emotions and depict content that cannot be expressed in words. The visualization of the onset of depression as a result of the overload or confusion that accompanies schizophrenia was intended to draw attention to the most important aspects of these diseases and encourage reflection. By learning about authentic stories, the reader

becomes sensitive to the difficulties experienced by the characters. He or she can identify with them and draw conclusions about his or her own situation - reading therefore also has preventive qualities. The comics also contain commentaries that emphasize the most important moments in the healing process and the role played in it by those around the characters. This also increases knowledge about mental health.

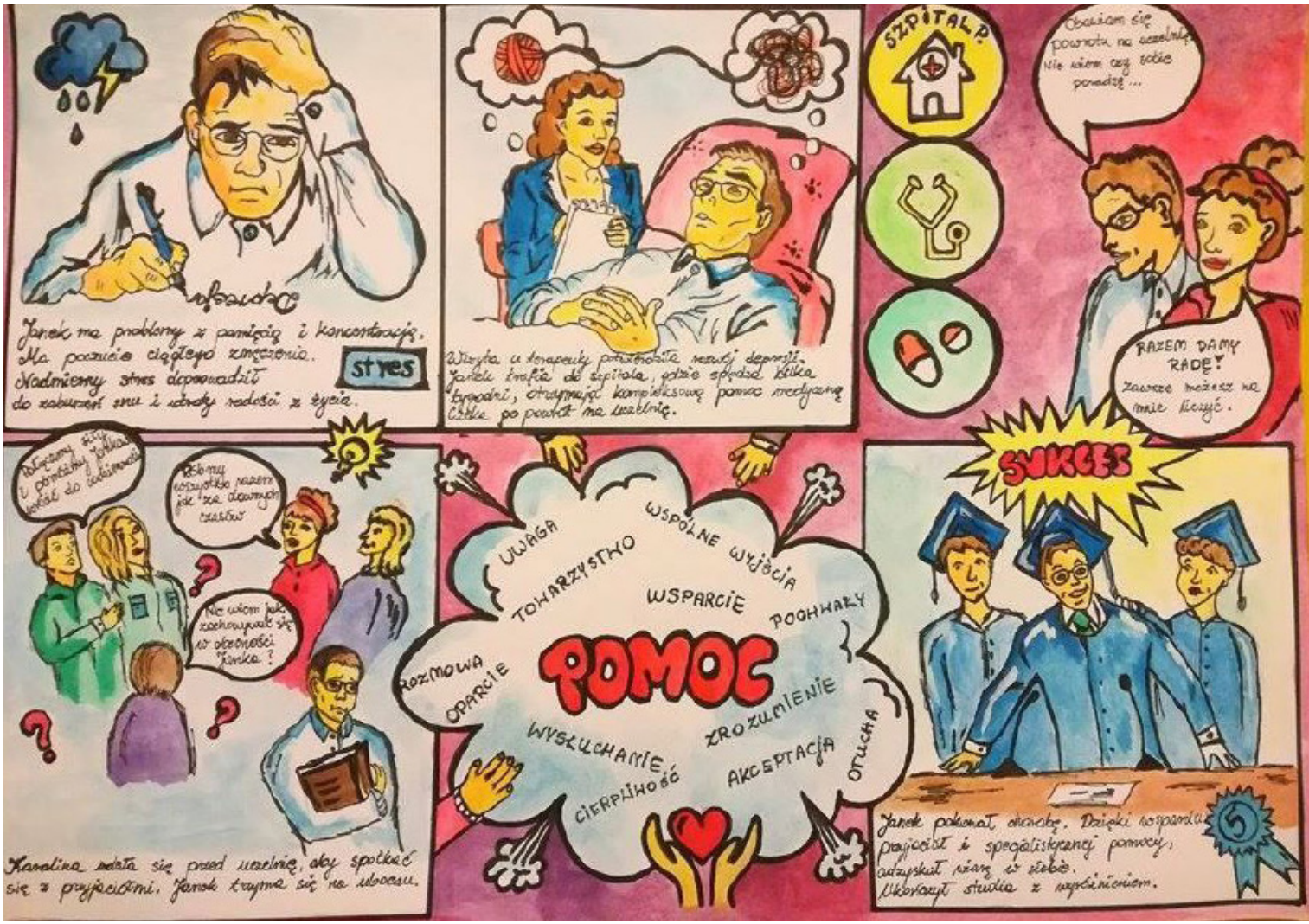


Figure 14.2.
Source: one of the comics prepared by the winner of the contest. https://www.umcs.pl/pl/aktualnosci,8042,wyniki-konkursu-na-komiks,41458.chtm Author: Izabela Borkowska - a student at the Faculty of Biology and Biotechnology, ICU. More comics are here: https://www.facebook.com/PrzyjaznyUniwersytet/photos

» Psychoeducational and sensitization spot - The project was created by director Piotr Brozek with substantive consultation by Dr. Justyna Rynkiewicz. It was attended by students of Maria Curie-Sklodowska University and other universities in Lublin. Due to the epidemic situation, all related activities took place online. Using an instant messenger, a casting was held, parts of which were used to create the actual film. The main purpose of the spot was to draw attention and sensitivity to the needs of people experiencing an emotional crisis, as well as to promote supportive communication.

» Mini Project Contest: "Friendly University - Friendly Student" - Students and doctoral students at ICU had a chance to realize their idea for supporting the academic community of our university in the field of health and mental hygiene. The competition was for ideas for an action that achieves the goals of the project. Participants had the opportunity to send proposals in the following categories: psychoeducational action, organizational solution, psychoeducation and new media, art and psychoeducation, hate speech. The project had to consist of 3 parts: a brief description, including the objectives and the rationale for their implementation, a timetable of activities in the project, a cost estimate for the implementation of the project. The jury selected two winning projects on the basis of anonymous review of submissions. The authors of the winning projects signed a contract with the UMCS for the implementation of the planned activities in the amount of PLN 800. In addition, they had PLN 500 each for expenses related to the implementation of the project.

» The project by a Cognitive Science student at the Department of Philosophy and Sociology consisted of 3 activities: a) Haiku contest, which is a psycho-educational action and promotion of this art form. The purpose of the competition is to actively make the student community aware of the importance of their positive attitude to life, the world and its events, to get them to think about positive things, to familiarize them with the literary form of Haiku, to activate the creativity of students, and much more. b) The creation of a sub-site called, for example. "PersonaliTea" aimed at preventing self-

destructive behavior, providing valuable thoughts and motivation to live despite all problems and obstacles; the opportunity for students to engage in the creation of content and thus deepen their communication and literary skills, gaining experience; c) promotion of Marie Curie-Sklodowska University. Creation of a sub-site called Student Self-Help providing ad hoc assistance in the problems of daily life mainly for students; supporting them remotely especially in this difficult time of Pandemic; being the first step to deal with problems, or encouraging professional help from psychological, psychotherapeutic, etc.; also advertising the University and showing its friendliness. Due to the fact that similar websites are already in operation within the PU, it was agreed that Ms. Olivia's main task would be to conduct the competition and create content to be placed in the tabs of the Friendly University website. The publication of the content of the winning haiku and texts for the PU website is scheduled for the end of September 2021, which will ensure that it will be read and remembered by more students of the University.

» The project by a student of the Doctoral School of Social Sciences. An academic-wide psycho-education campaign "ALONE, NOT ALONE" to encourage the use of psychological support. As part of the campaign activities proposed: Creation of a poster whose title was to read "Academic campaign ALONE, NOT ALONE" and at the bottom a phrase aimed directly at the recipient: "Get help from a psychologist" (plus the phone number/email number of an ICU psychologist). Conduct outreach about the Campaign will be carried out electronically by posting posters with information about psychological support in the form of questions/answers.

CHALLENGES

» At first, the organizers felt the resistance of the community to addressing topics related to mental disorders.

» Unsurprisingly, there was a large audience during the lectures in the second edition.

- In the spring months of May and June, it is more difficult to get an audience, perhaps due to end-of-term exams
- Difficulties in resuming the project after a two-year hiatus imposed by the pandemic
- Cooperation with people not related to mental health - a lot of work is required to convince them to change their stereotypical thinking about mental health (artists, creators)

TOOLS/RESOURCES/MATERIALS

Education and sensitization platform

From the fifth edition of the project in 2019, the Education and Sensitization Platform has been implemented to respond to the demand for mental health knowledge and skills invariably signaled in surveys. Substantive analysis made it possible to highlight the following specific areas:

- "A bit of psychological knowledge" contains the most important information on mental diseases and disorders, psychotherapy, choosing the right psychotherapist, and key news about the most popular psychotherapy currents in Poland.
- "Mental crisis from the inside" features information showing mental difficulties from the perspective of people who experience them and the professionals who help them cope. Through a series of interviews with people who have experienced various mental difficulties and benefited from psychotherapeutic support, comic strips with stories of people who have experienced mental disorders and diseases, and even interviews with specialists, students learned when to get help and what to expect in the process.
- "How to take care of yourself" contains information on how to maintain mental hygiene in biological, emotional and intellectual spheres.

- "Support of other people" - This area includes instructions on how to deal with a person in mental crisis
- "Psychological support at the UMCS" contains up-to-date information on how to contact psychologists and psychotherapists at UMCS.
- "During the epidemic"covers Remote Assistance at UMCS, ideas to combat boredom (social games possible via instant messaging - writing or chatting), rules for taking care of yourself during an epidemic, and educational materials, including a "Dictionary for a Time of Plague"
- "Emotional First Aid" - This page has links to short videos about emotions and a manual on how to deal with them. Each video begins with the riddle "What emotion is this?". You have to guess it, and then listen to the most important information about that emotion. After watching, viewers can look at the workbook to learn more and do exercises to better deal with the feeling.
- "Positive Film Library" lists of movies with hints on how to use them to improve mood and build well-being, especially for those who are affected by the autumn aura and the plight of the pandemic. The videos selected encourage and help build cheerfulness.

Sample film and exercise:

"Talking Heads" is directed by Krzysztof Kieslowski, the outstanding director, artist, and creator of the famous "Decalogue". Kieslowski took a social poll in 1980, asking random people three simple but extremely important questions:

- Who are you?
- What is most important to you?
- What do you desire?

For reflection:

Think about yourself years ago, yourself in the present, and yourself in the future. Then answer the following questions for yourself, from the perspective of different periods of your life.

	as a child	as a teenager	currently	in the future
Who are you?				
What is most important to you?				
What do you desire?				

Take a look at your answers. What emotions do they evoke in you? How do you evaluate the changes that have taken place in you?

Philosophical reflection

A person, despite numerous - and sometimes groundbreaking - changes, remains the same. For no one is their own thoughts, desires or values. No one is their own thoughts, desires or values. We are those who experience all of these phenomena of their psyche - our experience changes, but we as humans maintain our continuity.

Think about what it means for you to be yourself...

Psychological education and sensitization training spot

The project was created by Piotr Brozek in consultation with Justyna Rynkiewicz for UMCS students and other universities in Lublin. All related activities took place online due to the full lockdown during the pandemic in 2020. Using an instant messenger, a casting was held, parts of which were used to create the actual film. The main purpose of the 2-minute psychological education and sensitization training spot was to draw attention to and raise awareness of the needs of people experiencing an emotional crisis as well as to promote supportive communication. The film consists of short statements played by students of people struggling with a mental crisis and people who have to react somehow in this situation. The purpose of the film was to show how to support a person in crisis.

Information and educational leaflets

A very important element that summarized the previous two editions was the editing and publishing of informational-educational pamphlets for employees and students of the ICU under the titles "Support of students experiencing mental health crises" and "Support of colleagues experiencing mental health crises."

These pamphlets offered information and tips on how to act when someone is experiencing mental difficulties as well as news on where to seek help at the UMCS.

Images of the covers of two pamphlets in Polish: "Support of colleagues experiencing mental crises" and "Support of students experiencing mental crises"

The pamphlets were divided into four sections.

- The first was informative and referred to how to deal with personal fears of coming into contact with a person with mental problems and what forms of support the UMCS offers.
- The next section covered the actual contact with a person with the first symptoms of mental problems. The proposed activity consists of drawing attention to the problem, listening to the person in crisis, and pointing out the possibility of getting help. This section identifies the most important rules of conduct with an emphasis on not taking responsibility for other people's actions.

- The third section dealt with very difficult moments, when a person's mental problems are so strong that they disrupt academic life or endanger themselves and others. This involves two types of situations - namely tantrums (along with psychotic states) and suspected suicidal intentions. The pamphlet laid out safety rules for dealing with people who are not in sufficient touch with reality to control their actions. It also stressed the need to call an ambulance in such cases and when there is a threat that someone will attempt suicide.
- The last section dealt with the period when, thanks to the psychiatric and therapeutic help provided, a student can return to academic life. During this time, the support of both colleagues and university staff is extremely important to help overcome difficulties that are consequences of mental problems and add motivation to live.

The pamphlet was distributed to mental health institutions and at Polish universities. The project team received very positive feedback on the transmitted content both from professionals in the field of psychological and psychiatric assistance and from non-specialists in these fields.

BOOKS/ ARTICLES/MULTIMEDIA LINKS

The project's facebook profile: https://www.facebook.com/PrzyjaznyUniwersytet

What Is Art Therapy: https://www.verywellmind.com/what-is-art-therapy-2795755

Cinema and education: https://www.mdpi.com/2227-7102/12/1/38#B4-education-12-00038

Spouses who watch and discuss movies about love and relationships together are less likely to divorce: https://www.rochester.edu/news/divorce-rate-cut-in-half-for-couples-who-discussed-relationship-movies/

The spot, which featured students as actors: https://www.youtube.com/watch?v=EgW0zXu3q1U&t=1s

BENEFITS AND LEARNING

Beneficiaries

University community (students, university employees, and their relatives)

Innovation/Value

The main goals of the project were to develop a model for assisting students with mental health problems (including an informational leaflet about the opportunities for psychological support at UMCS) and to provide students with information about the possibility of volunteering at mental health institutions. The two highlignted educational issues were:

1. Using arts as a method to help embody and enliven the content students are learning.

2. Involving students in an important, useful community project so that they were challenged to use the knowledge they were given to produce something new and innovative.

Both approaches combine education with engagement through a real-world challenge that can culminate in social change in a real-world environment. This is therefore a great example of education in line with the spirit of "service learning." The mental well-being of students is an important topic of interest to the students themselves, so it can be very good as a starting point for student projects. Useful goals, engaging challenges, proximity and accessibility of project beneficiaries - all this increases the appropriate recruitment of students from very different majors.

Future prospects

promoting the idea of the project at other universities

strengthening cooperation with municipal institutions

further editions, with new ideas that we do not yet have :)

What would you do differently next time?

Start working with cultural material sooner

Invite more experts through experience.

Encourage more participation in the life of the city to create a greater openness to the local community and to strengthen cooperation with city institutions.

Tips

Base your teaching activities on values. In the case of this project, the idea of community was promoted through the concept that, by taking care of others, you take care of yourself.

Meeting people in crisis, paired with "experts through experience", is the best way to fight stereotypes.

Pay attention to their diagnosis and verification of students' hidden assumptions.

People need concrete guidance on how to act, what to say, and what not to say.

To give students a sense of empowerment and the belief that they are capable of positively changing reality, ensure that the educational project ends with tangible results. In the Friendly University project, these were leaflets, brochures, and films. Including art is first and foremost a pretext to discuss problems. The art can even be fine art but, for this project, it must not be too abstract.

Networking is very important to promote maximum openness about the project.

"Don't buy a cat in a bag" is a Polish expression meaning that you should carefully check experts and art materials before using them in the project.

Consult specialists and experts in these experiences.

Joint training groups (for students and staff) do not work because of the specificity of the mental crisis problem.

Nowadays, audiovisual media play a central role in access to information and in personal relationships. Cinema, especially due to its heterogeneous nature, can fulfill diverse educational functions.

A study finds that watching and discussing movies about relationships is as effective in lowering divorce rates as other, more intensive early marriage counseling programs.

CONTACTS AND SOURCES

Justyna Rynkiewicz - mail: justyna.rynkiewicz@umcs.pl

https://www.facebook.com/PrzyjaznyUniwersytet/?locale=pl_PL

https://czasopisma.bg.ug.edu.pl/index.php/Progress/article/view/4563/3972

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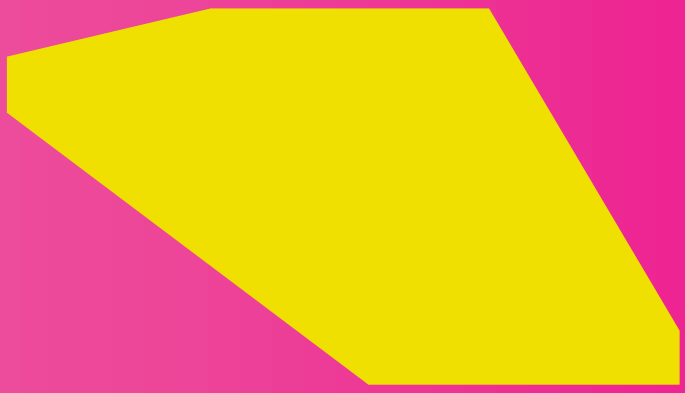


EFFECTIVE INDUSTRY-ACADEMIA COLLABORATION

CASE FIFTEEN

DESIGNING MULTI-ACTOR DECISION SUPPORT SYSTEMS PROJECT

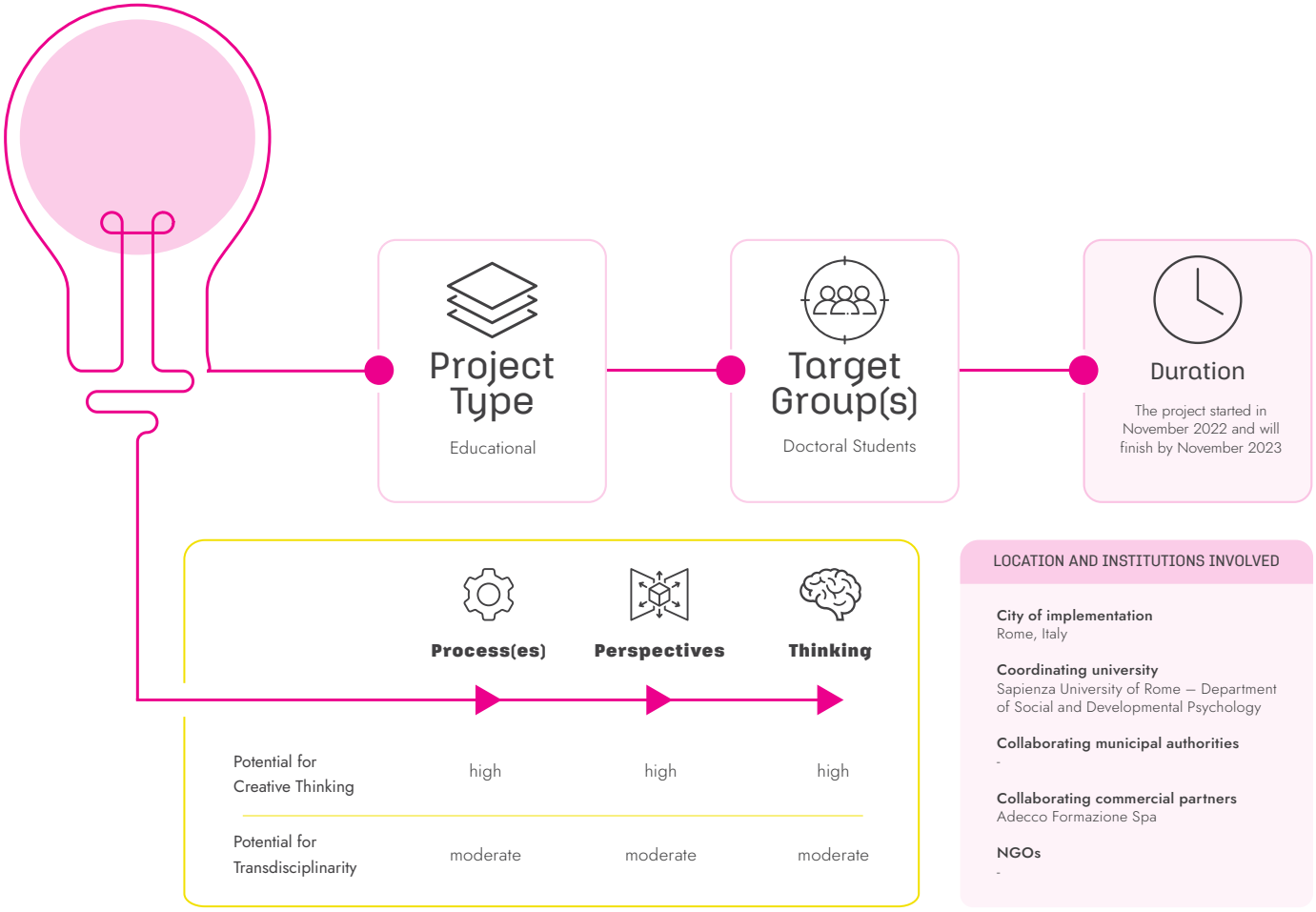
OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

Sapienza University of Rome
Alessandra TALAMO

The overarching objectives of this project are:

1. Modeling Decision-Making Processes: To comprehensively model the Decision-Making (DM) processes involving multi-actors during the pre-design phase. This is aimed at identifying commonalities and divergence points among the various types of users involved.
2. Design Guidelines for DSS: To develop guidelines for the design of a Multi-Actor and User-Centered Decision Support System (DSS). These guidelines should prioritize fostering negotiation practices among multiple actors, each with their distinct goals and perspectives.

In the modern, complex landscape of organizational DM, technology, particularly Artificial Intelligence (AI) and Machine Learning (ML), plays a crucial role. Despite proven advantages, the implementation of AI-based systems in decision-making is still a contentious issue. This resistance is not merely technological but social and psychological. By focusing on these areas, this project aims to bridge the gap between technology and its effective implementation.



CASE DESCRIPTION

The main goal and background of the project

In contemporary society, the complexity of DM has led different disciplines and researchers to take an interest in this issue, with the aim of identifying technological solutions that can support human beings to overcome their challenges. In this regard, AI, in particular ML, is gradually disrupting organizational processes, assuming numerous decision-making responsibilities previously assigned to humans [Vincent, 2021]. In recent decades, researchers have used the nature of the task as a key factor in determining which AI approach to adopt [Brynjolfsson & McAfee, 2014; Daugherty & Wilson, 2018; Davenport & Kirby, 2016]. Specifically, tasks are categorized as follows:

- Routine and well-structured tasks have generally been entrusted to automation, as these do not require much human intervention for decision-making;
- More complex and ambiguous tasks often rely on augmentation, where AI serves a supportive rather than a substitutive role.

In this scenario, DSS has gained considerable relevance, assisting management in a range of activities, from planning to execution of operations [Gupta et al., 2021]. Over time, thanks to integration with AI, they have become able to adapt even in ambiguous and dynamic environments [Keith & Ahner 2019]. However, recent results show that management's acceptance of AI-based solutions in DM is still an open issue, as managers' attitudes towards artificial agents are still sharply skewed towards human intervention.

Therefore, given the proven advantages of numerous scientific studies regarding the use of AI-based solutions in DM, a question arises: Why is there still such strong resistance from human beings?

There are numerous answers that have been given in the literature:

- On the one hand, one explanation is attributed to human managers' fear of being replaced and losing control over their strategic decisions [Dietvorst et al., 2018].
- On the other hand, there is the problem of trust. One of the most debated issues remains the black-box nature of AI and the lack of transparency and explainability of algorithmic processes that have a strong impact on user trust [Shin, 2021].
- In addition, recent studies state that, in order to build AI-based systems that users can legitimately trust, it is also necessary to provide practical guidelines for the development of user-centered systems [Shin, 2021] that take into account the needs of all actors involved.

A further layer of complexity arises in fields where decisions concern investments in human capital. When this is the case, the concern goes beyond individuals or groups belonging to a single social context, instead involving multiple actors that start from objectives that do not necessarily

coincide. Their objectives must be made compatible, coordinated and converged through a negotiation process to reach a rewarding solution for each of the actors involved.

Considering the problems that have emerged from the literature and the specific context of the Multi-Actor DM, the research objectives were developed and an organization designing an AI-based DSS was identified as a real case study.

Therefore, the aim of this project is two-fold:

- to model DM processes of the Multi-Actors in the pre-design phase to identify the points of convergence between the different types of users;
- to provide guidelines for the design of MULTI-ACTOR and USER-CENTERED DSS able to promote negotiation practices between multiple actors with different aims and perspectives.

TEAM

The team belongs to IDEaCT (Interaction Design and Communication Technologies) Social Lab, which is an award-winning interdisciplinary design and research initiative within Sapienza University of Rome in the Social and Developmental Psychology Department. IDEaCT Social Lab uses Design Thinking methods to study new technologies used by real users. It is a member of the European Network Of Living Labs. The Joint Lab offers Interaction Design competence to partner companies. Collaborative projects are finalized through the analysis of the contexts of the use of ICT and the (re-)design of ICT-based devices and services. These analyses aim at improving the efficacy and efficiency of products to respond to the real needs of users. Overall, the team

- works on technological innovation starting from the study of real users and their practices
- connects the design of ICT devices with their implementation in specific contexts of use
- connects academic and applied research in a strategic way

Links:

https://ideact.wordpress.com/about/

https://corsidilaurea.uniroma1.it/it/users/alessandratalamouniroma1it

APPROACHES

IDEaCt Social Lab takes an interdisciplinary approach to its creative process, based on Design Thinking methodology. Design Thinking is the result of a multidisciplinary approach that combines methods from different disciplines to create new services or improve existing ones. As a user-centered, co-creative, and iterative approach, DT uses research, prototyping, and a range of activities and visualization tools to create and orchestrate experiences that meet the needs of businesses, users, and other stakeholders.

Design Thinking builds a bridge between the user's objectives and the objectives of the organizations, which must be compatible with each other. While the service provider must ensure that the service is unique, efficient and effective, the user seeks a service that is characterized as desirable, useful, and usable. It is therefore the duty of the service designer to support the provider in creating an innovative and unexpected service that positions the organization strategically on the market, guaranteeing an advantage in comparison with competitors.

CHALLENGES

To provide guidelines for the design of MULTI-ACTOR and USER-CENTERED DSS that are able to promote negotiation practices between multiple actors with different aims and perspectives.

TOOLS/RESOURCES/MATERIALS

These Design Thinking Tools will be used for collecting and analyzing data:

- Narrative Interviews
- Empathy Map
- Personas
- Mental Model
- Service Ecology Maps
- User journey
- Scenarios

BENEFITS AND LEARNING

Beneficiaries

In the interdisciplinary project, human resource professionals and managers interested in organizational development will gain actionable insights and tools for better decision-making processes. This includes enhanced AI-based DSS that are adaptable to dynamic and multi-actor environments.

Our PhD students will get hands-on experience in designing, implementing, and testing AI-based systems in real-world scenarios. This will aid them in producing research that is both academically rigorous and practically applicable, and also benefits from this activity.

Naturally, our university will enhance its reputation for cutting-edge interdisciplinary research. It will also strengthen its network with industry partners like Adecco Formazione Spa, thereby increasing opportunities for future collaborative projects.

Innovation/Value

This project seamlessly integrates fields like Artificial Intelligence, Organizational Behavior, and Decision Sciences, offering a holistic approach to understanding and optimizing Decision-Making Processes.

Direct bridges between research and organizations will ensure that the results have immediate real-world applicability. This is further strengthened by the feedback loop from external actors, ensuring the system is fine-tuned according to actual needs (e.g., the real-time input provided by professionals and stakeholders who are the end-users of the AI-based DSS).

Future prospects

With the year-long project coming to a close in November, we are optimistic about the impact and contributions it will make to the field of DM and AI-based DSS.

Collaborations and Innovative Proposals: A total of 70 PhD students have collaborated with 20 different partner organizations, resulting in 45 innovative proposals. These collaborations have provided a fertile ground for both academic research and practical organizational development, particularly in how AI can be effectively implemented in real-world decision-making processes.

Feedback from Thesis Advisors: Informal feedback from the 14 thesis advisors involved in the project has been generally positive but also constructive. Advisors have raised concerns about the complexities involved in multi-actor decision-making and the challenges of implementing AI solutions that satisfy all stakeholders. However, they found particular success in integrating design thinking methods and interdisciplinary approaches to problem-solving.

What would you do differently next time?

1. More Focus on User-Centered Design: While the project has a strong user-centered orientation, more could have been done to include the end-users in the initial stages of the design process.

2. Transparency and Trust: We found that the 'black-box' nature of AI was a recurrent concern. Future projects should consider investing more in explainable AI to build trust among users.

3. Timeline Adjustments: Given the scale of the project and the number of parties involved, a more flexible timeline might have been beneficial.

Tips

Establish a modular framework for decision-making processes quickly so that other researchers and organizations can join in and contribute more easily.

Create a structured methodology for collecting and incorporating real-time feedback from external actors, including end-users and organizational stakeholders.

Maintain comprehensive yet user-friendly documentation of design guidelines, methodologies, and findings. This will help in scaling the project and making it accessible to a wider audience.

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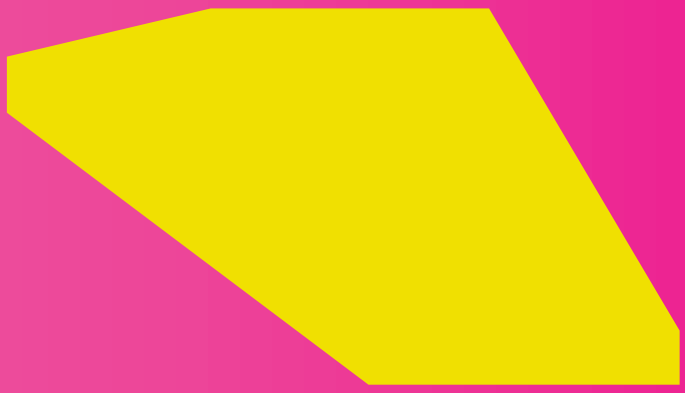


EFFECTIVE INDUSTRY-ACADEMIA COLLABORATION

CASE SIXTEEN

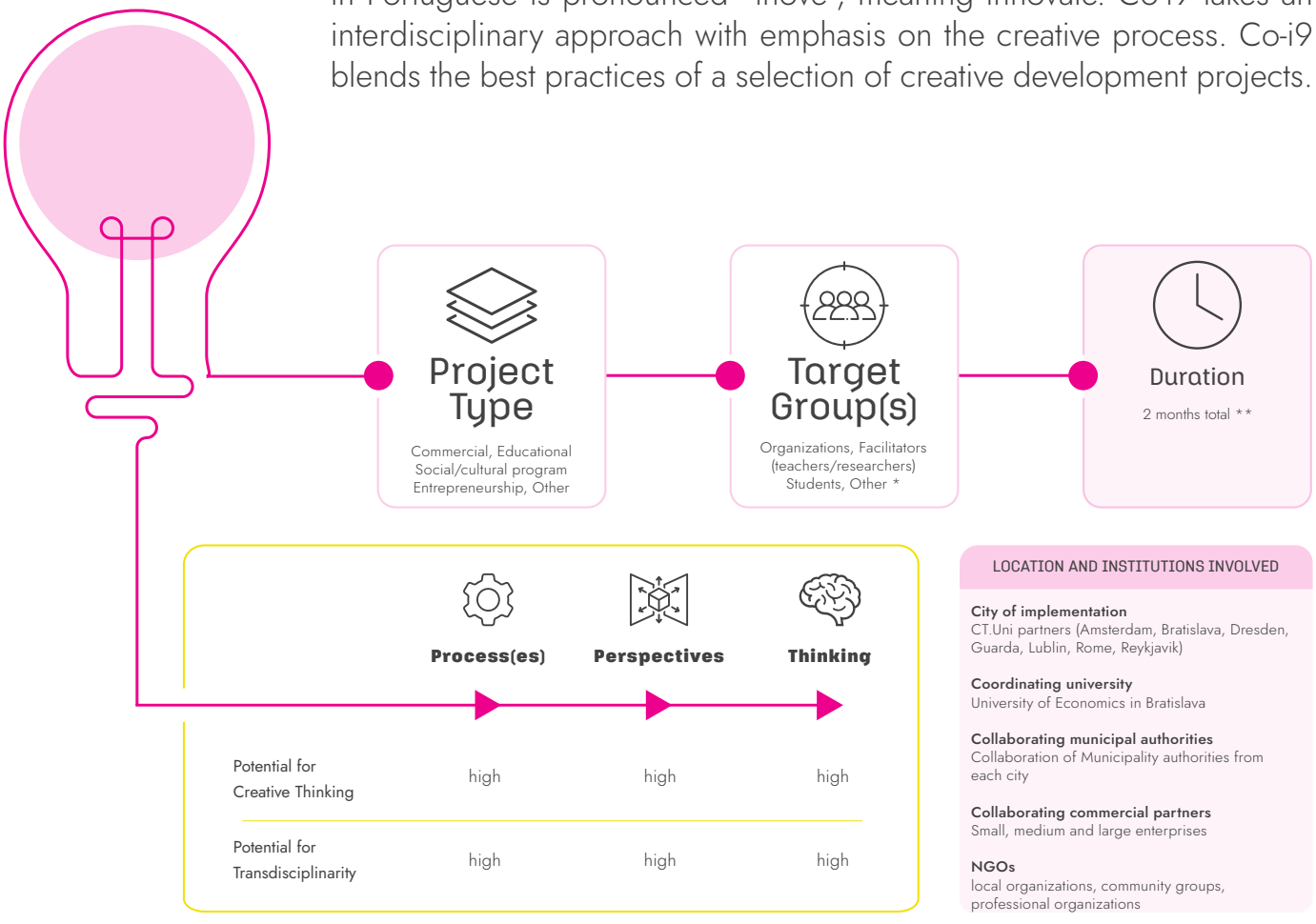
CO-CREATION TO ENGAGE CREATIVITY AND ENHANCE BUSINESS INNOVATION

Guarda Polytechnic University
Clara SILVEIRA
Fernando MARCOS
Filipa GAUDÊNCIO
María del Carmen ARAU RIBEIRO
Natália GOMES
Noel LOPES
Paula COUTINHO
Pedro FONSECA

OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

"Creativity is one of the hardest thinking skills to acquire, and also the most sought-after. Creativity always starts with imagination, and history shows that many things we imagine are later actually created. Gene Roddenberry imagined the Star Trek flip communicators in 1966, and Motorola produced them in 1996. In the mid-1800s, Augusta Ada King envisioned a language for computing machines that didn't even exist; today she is honored as the founder of modern programming languages. When Benjamin Bloom identified what he called the taxonomy of the cognitive domain, he ranked synthesis (creativity) as one of the most difficult skills to master because a person needs to use all the other cognitive skills in the creative process. Since, according to Bloom, creating is the highest order of thinking, it should be in the forefront of all learning environments and an end goal. Moreover, when students create what they imagine, they're in the driver's seat" (https://www.edutopia.org/article/4-ways-develop-creativity-students).

Since, a key element in education is providing relevance and real-life experiences. Increasingly graduates are expected to be able to demonstrate soft skills (e.g. working in teams, decision making, building empathy, prioritizing tasks). In this context, we aim at creating a challenge whereby organizations (e.g. companies, NGOs) will bring real-world challenging problems that potentially require students to think out of the box. Groups of students from different study areas, supported by professors (facilitators), will explore, prototype, and co-create novel solutions. In this sense, an interdisciplinary approach is adopted that promotes creativity and innovation. We have named the project we are proposing Co-i9, which in Portuguese is pronounced "inove", meaning innovate. Co-i9 takes an interdisciplinary approach with emphasis on the creative process. Co-i9 blends the best practices of a selection of creative development projects.



LOCATION AND INSTITUTIONS INVOLVED

City of implementation
CT.Uni partners (Amsterdam, Bratislava, Dresden, Guarda, Lublin, Rome, Reykjavik)

Coordinating university
University of Economics in Bratislava

Collaborating municipal authorities
Collaboration of Municipality authorities from each city

Collaborating commercial partners
Small, medium and large enterprises

NGOs
local organizations, community groups, professional organizations

*
entrepreneurs, industries, and ecosystems

**
Phase 1: Launch a promotional campaign to identify interested organizations (1 week)
Phase 2: Identify organizations (1 week)
Phase 3: Create a co-creation challenge (1 week)
Phase 4: Promote the challenge and recruit students (1 weeks)
Phase 5: Work on the challenge, developing co-creation solutions (3 weeks)
Phase 6: Evaluate co-creation solutions and collect feedback (1 week)

CASE DESCRIPTION

The main goal and background of the project

The initial objective is to engage students in real-world challenges using a co-creation approach that includes ideation, collaboration, exploration, and prototyping solutions. Students work in a multidisciplinary team and collaborate with the facilitator. The idea is to promote creativity and novel experiences outside the academic world to improve students' soft skills through phases where students must apply techniques to ideate, discover, analyze the problem and realize a vision of the solution.

Phase 1: Launch a promotional campaign to identify interested organizations (1 week)

- Launch a promotional campaign to reach potential interested organizations
- Develop and distribute an online form to assert interest in participating

Phase 2: Identify organizations (1 week)

- Analyze survey responses
- Select organizations to participate in the co-creation challenge

Phase 3: Create a co-creation challenge (1 week)

The process starts with the characterization of the challenge (by the partner organization) and the constitution of teams as described.

- The facilitator chooses a challenge and the organization.
- The facilitator will have initial discussions with the organization to define the scope of the challenge.
- The facilitator defines clearly the objectives students must achieve.
- The facilitator creates a detailed plan for the challenge specifying the timeline, objectives, specific tasks and goals, and evaluation criteria.

Phase 4: Promote the challenge and recruit students (1 week)

- Disseminate the challenge, and distribute an online form to gather participating students.
- Create multidisciplinary student teams.

Phase 5: Work on the challenge, developing co-creation solutions (3 weeks)

- Students start exploring the problem and analyzing its causes and effects. Facilitators can help teams to effectively communicate, create and share ideas, and reach consensus. Moreover, they can guide students in brainstorming, researching, exploring ideas.
- Students will ideate and/or prototype solutions. They should be encouraged to come up with creative and innovative solutions.
- Facilitators will monitor the progress of the challenges and provide guidance and coaching as needed.

Phase 6: Evaluate co-creation solutions and collect feedforward (1 week)

- Students present the solution to the organizations.
- Students refine their solutions based on the organization's comments.
- Evaluate the submissions based on the criteria outlined in the challenge.
- Collect feedforward from participants and organizations to improve the challenge in the future.
- Share the results of the challenge.

During phases 5 and 6, the Co-i9 team will interact regularly with the stakeholders to ask questions, observe the organization processes, and at the same time engage the organization.

This selection of key innovation and co-creation projects exemplifies the approach:

- https://www.demola.net/
- https://www.qmarkets.net/use-cases/by-business-challenge/what-is-open-innovation/
- https://www.cityhack2022.aecom.com/
- https://www.mcla.edu/about-mcla/our-campus/center-for-science-and-innovation/mcla-leads.php
- https://www.poliempreende.com/

TEAM

The project involves the teachers/facilitators/coaches, in an ideal situation, one for each team of students as well as a stakeholder representative. The student teams are most interesting when they involve a variety of study areas because the confrontation of ideas and ways of thinking can produce unexpected results.

APPROACHES

After the organizations and challenges are defined (in the first three phases), the facilitators will create multidisciplinary teams with distinct backgrounds (phase 4). By working with diverse groups with different backgrounds, an interdisciplinary practice emerges through discussion of contrasting ideas and iterative phases. Then, in phase 5, students (in collaborative sessions) supported by the facilitator, will tackle (ideate) a solution by iterating through the following activities:

Activity 1: Comprehend the problem

This activity can use techniques such as design research, mind maps, stakeholders' identification, empathy maps, and signals.

Research Design

The idea is to understand the needs of the organizations in the context of the challenge. It is an important step in the co-creation process because it aims to ensure that the final design is tailored to the specific needs and preferences of the target audience. The idea behind understanding the needs of organizations in the context of a challenge is to gain a deep understanding of the problem or opportunity that the organization is facing. This includes understanding the organization's goals, its constraints as well as the broader context in which the organization operates, such as the market, industry, and competitive landscape.

Mind mapping

This technique can be used to organize ideas and concepts in a visual manner. It involves creating a central idea or theme and then branching out to connect related ideas, thoughts, and information. This tool can be used for visualizing complex information, as well as for brainstorming and problem-solving. Mind mapping can also be used to facilitate collaboration and communication among the team and facilitators, as it allows for a shared understanding of the project's goals and objectives. Overall, mind mapping can be a useful tool for fostering creativity, encouraging collaboration and facilitating effective planning in a co-creation process.

Stakeholders' identification

In the process the idea is to identify the organizations, groups, and individuals that might be affected by the challenge. These stakeholders can have a direct or indirect impact on the outcome of the project, and can be classified as internal (e.g. employees, management) or external (e.g. customers, suppliers, community, regulators).

The identification of stakeholders is an important step in the co-creation process, as it allows us to understand the needs, expectations, and potential risks. This information can be used to develop effective communication and engagement strategies.

There are various methods that can be used to identify stakeholders and their roles, such as:

- Direct observation;
- Interviewing;
- Examining records and documents.

Empathy maps

These maps are used to understand the thoughts, feelings, and behaviors of the stakeholders. They are typically created in the form of a visual map, with different sections dedicated to capturing information (e.g. stakeholder goals, pain and obstacles, emotions, and behaviors).

Signals

The idea is to detect early signs that indicate the presence of potential opportunities. Signals can be discovered from several sources, such as market trends, people needs and/or feedback, competitor activity, changes in the technology and environment. They are often used as the starting point for further investigation and analysis to determine if an opportunity is viable and worth pursuing.

Activity 2: Ideate a co-creation solution

This activity can be realized by using a design thinking approach, or a combination of some of its methods with other techniques. Design thinking is a human-centered approach for problem-solving that emphasizes empathy, experimentation, and iteration. It puts the needs and perspectives of stakeholders at the center of the design process, which results in solutions that are tailored to their needs and are more likely to be successfully implemented. Moreover, it also allows for the incorporation of a diverse range of perspectives and expertise, leading to more innovative and effective solutions.

Among the techniques that can be used for ideating and co-creating a solution, we highlight the ideation and prototyping.

Ideation

In this technique, the goal is to generate and develop ideas/insights with emphasis on creativity. It is a collaborative and iterative process that typically begins with a brainstorming session, where participants are encouraged to come up with as many ideas as possible, without worrying about feasibility or practicality. This process can be supported by tools, such as mind mapping. After the brainstorming session, the ideas are then filtered and evaluated. This process involves reviewing the ideas and selecting the most promising ones for further development. The criteria for selecting ideas may include its potential impact, its feasibility, and whether it is aligned with the challenge.

Prototyping

The idea is to quickly create a rough model of a potential solution. This model can then be iterated on and improved through a collaborative process with the parties involved in the creative process. With prototyping, ideas can be quickly tested and feedback can be gathered to ensure the solution is adequate and supported by the organization.

Activity 3: Validate solution and insights

Based on challenge desired outcomes, the quality of the proposed solution is analyzed taking into account if it is comprehensive, clear, achievable, addresses the objectives of the challenge, and meets the desired outcomes. If the solution is valid, present it to the organization and gather its feedback, which might be used to iterate the process again and come up with better solutions.

CHALLENGES

- Securing partners who want to work transparently and who are receptive to new ideas
- Allocating time for students/facilitators and organizations
- Ensuring a successful mentorship process with sufficient time and effort
- Scheduling collaborative sessions/meetings
- Meeting the expectations of all partners

TOOLS/RESOURCES/MATERIALS

The Co-i9 approach uses templates for engaging with organizations, for projects, and for evaluation materials. Among others, the following tools are used during the process:

- Canva
- Miro
- Dall.E
- Figma
- Adobe xD

BENEFITS AND LEARNING

Beneficiaries

Overall, students gain real-world experience and organizations benefit by engaging with innovative project ideas, and universities and professors improve their visibility and value among the community. Participating stakeholders benefit from the creative ideas and their potential.

Innovation/Value

Creativity and innovation are boosted while seeking solutions during the iterative design process.

Future prospects

Implement the co-creation solutions in real-word scenarios, with a joint collaboration between organizations and the academic community (students, professors, and researchers).

Instigate an investment fund that promotes this type of collaboration between organizations and the academic community.

What would you do differently next time?

The Co-i9 imagined case study has taken a series of good projects and tried to show how to implement their best parts.

Tips

Working with the stakeholders is generally the most problematic. One solution if real stakeholders are not available is to establish student teams that can simulate the role of the stakeholders.

CONTACTS AND SOURCES

CT.Uni Erasmus+ Project

https://www.edutopia.org/article/4-ways-develop-creativity-students

https://www.stream-edu.org/about-stream-education/

https://education.ec.europa.eu/education-levels/higher-education/innovation-in-education

https://www2.deloitte.com/us/en/pages/public-sector/solutions/higher-education-innovation-trends-about-center-for-higher-education-excellence.html

http://collab.web.ua.pt/

NETWORKS

Trade associations

University networks

R&D units

FINAL COMMENTS ON THE CONTEXT

The Co-i9 approach focuses on live projects ensuring both relevance and legacy to the organization it works on. This relationship, between university and organizations, enables students to acquire soft-skills and experience new challenges in a professional context. The co-creation processes mean that learners will be effectively facing challenges and problems, focusing on the discovery process while contemplating the needs of stakeholders/user groups and future trends. In fact, working in multidisciplinary teams with external agents (partners) is extremely important for everyone involved in the process. Multidisciplinary teams promote the enrichment of projects through the uses of different knowledge and ways of approaching problems. Thus, the co-creation strategy aims to foster innovation.

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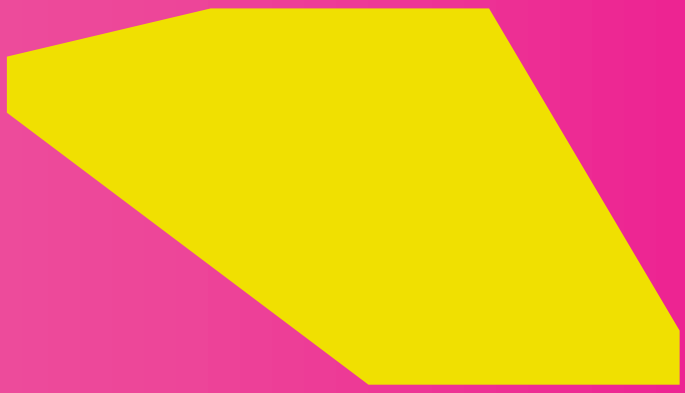


EFFECTIVE INDUSTRY-ACADEMIA COLLABORATION

CASE SEVENTEEN

CREATIVE THINKING THROUGH COLLABORATIVE AUTONOMOUS LEARNING AND DIGITAL STORYTELLING

Budapest Business University
Ágnes Ibolya PÁL

Nova University Lisbon
Rafael Avelãs Stanton Arau RIBEIRO

Haaga-Helia University Of Applied Sciences
Tanja VESALA-VARTTALA

Guarda Polytechnic University
María del Carmen ARAU RIBEIRO

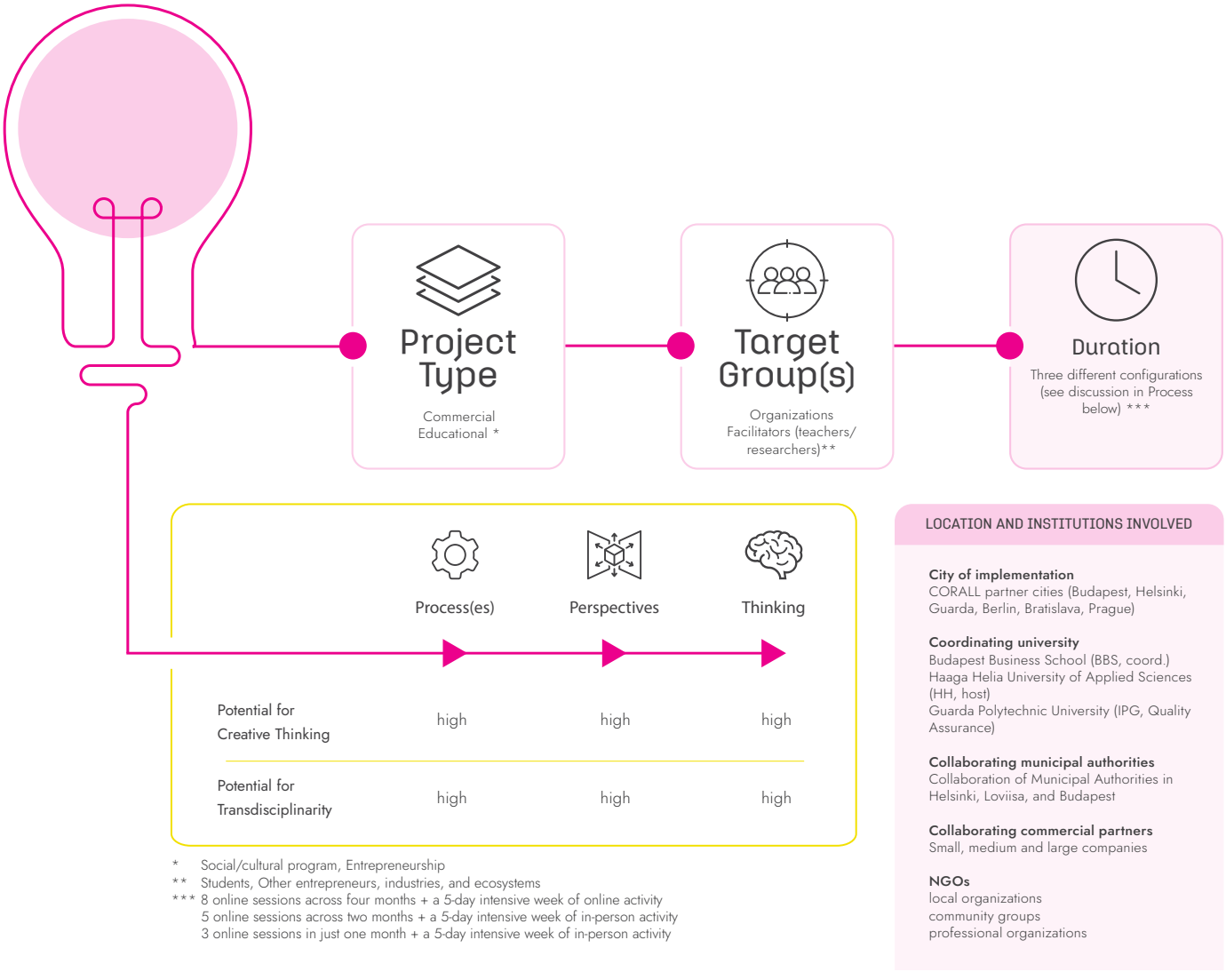
OBJECTIVES AND CONTEXTUALIZATION OF THE PROJECT

Blended Intensive Programs (BIPs, pronounced BEEPs) are offered in the framework of the Erasmus+ program since 2021. In this study, we will present and compare three different BIPs, and highlight the related benefits and challenges. The common denominator of the three BIPs is their objective: all focused on the development of students' collaborative autonomous learning skills and used the method of digital storytelling.

- BIP1 was a learning teaching training component of the Erasmus+ project CORALL (2019-2022, Coaching-Oriented Resources for the Autonomous Learning of Languages for Specific Purposes) in collaboration with KREA Spring School 2021 at Haaga-Helia University of Applied Sciences. It took place in May 2021 when higher education was still under emergency remote teaching during the pandemic.
- BIP2 took place at Haaga-Helia University of Applied Sciences' KREA Spring School in May 2022, joining CORALL with another Erasmus+ project Learn to Change (2020-2023, Collaborative Digital Storytelling for Sustainable Change).
- Finally, BIP3 was carried out at Budapest Business School in October 2022, where we found a new meaning to the BIP acronym, referring to the Budapest Intensive Program.

This cross-referential case study offers important tips on how to simultaneously promote creativity with collaborative autonomy and digital storytelling in the context of blended learning.

A wide range of objectives accompanied the targets of autonomy in collaboration and digital storytelling. These included enabling local creativity and innovation, providing a nurturing context for manipulating knowledge in ways that are artistic, using synthesis, understanding context, and working in teams while being multidisciplinary, multilingual, and multicultural. In these contexts, participants practiced their abilities to find, validate, synthesize, leverage, and communicate information so that they can solve problems thoughtfully and bravely while still being socially considerate.



A wide range of objectives accompanied the targets of autonomy in collaboration and digital storytelling. These included enabling local creativity and innovation, providing a nurturing context for manipulating knowledge in ways that are artistic, using synthesis, understanding context, and working in teams while being multidisciplinary, multilingual, and multicultural. In these contexts, participants practiced their abilities to find, validate, synthesize, leverage, and communicate information so that they can solve problems thoughtfully and bravely while still being socially considerate.

CASE DESCRIPTION

The main goal and background of the project

This case study focuses on the added value of three related intensive programs aimed at promoting collaborative autonomy and digital storytelling among university students from Hungary, Slovakia, Czechia, Germany, Finland, Spain, Belgium, Georgia, Austria, and Portugal.

The primary objective of these programs was two-fold:

- to maximize the added value of an international learning and training event with multiple languages and cultures
- to enhance students' collaborative autonomy and digital storytelling abilities.

To reach this goal, the HEI Erasmus partners aimed to create an immersive learning environment that encouraged self-directed learning, creativity, and effective communication through face-to-face and digital mediums. The project emerged in response to the growing need for innovative approaches to language learning, which was coincidentally scheduled beginning in the context of the pandemic.

These programs were first organized as part of the Erasmus+ project CORALL (Coaching-Oriented Resources for the Autonomous Learning of Language for Specific Purposes) at KREA Spring School in 2021 in an adapted online format for the pandemic with chocolatier stakeholders from

Belgium and Finland to work on the challenge of sustainable chocolate. Tolerance of ambiguity and uncertainty were critical development aspects of the program as was the development of learning journals.

Then in 2022, this time in person at Finland's Haaga Helia University of Applied Sciences at KREA Spring School, with the founder of ResiRest and the program's primary stakeholder Loviisa campground for the challenge of sustainable tourism, the program again involved CORALL and another Erasmus+ project Learn to Change.

Improvements and experience from the two programs were invested in the third and final program in this sequence of collaborations at Budapest Business School, where the BIP was called the Budapest Intensive Program.

TEAM

The project involves the teachers/facilitators/coaches, in an ideal situation, one for each team of students as well as a stakeholder representative. The student teams are most interesting when they involve a variety of study areas and, in the case of international events, a variety of languages and cultures. The confrontation of ideas and ways of thinking, especially as students negotiate meaning in a learning environment that supports their intercultural communicative competences, can produce unexpected results.

APPROACHES

The three editions of the program employed a multifaceted approach that integrated elements of collaborative autonomy, digital storytelling, and language learning. Students engaged in a range of activities including:

Workshops on Collaborative Autonomy

These sessions focused on empowering students to take control of their learning process, fostering independence and self-motivation through tools developed for the CORALL Erasmus+ project. Providing tools so that

students could work together, share ideas, and provide constructive feed forward as frequently as possible fostered a collaborative autonomous approach to storytelling, where autonomy involves interdependence rather than mere independence. Some important notes guided the sessions:

- Providing tools so that students could work together, share ideas, and provide constructive feed forward as frequently as possible fostered a collaborative autonomous approach to storytelling, where autonomy involves interdependence rather than mere independence.
- Feed forward from coaches and students was guided by constructive criticism on their storytelling projects. Engaging both instructors and peers in this iterative design is essential for growth and improvement in storytelling skills and collaborative autonomy.
- The exposure to diverse cultural perspectives and storytelling traditions enriched their own personal narratives by broadening their cultural awareness and understanding of narrative techniques.
- By creating a self-reflective journal and participating in an interview on their storytelling projects and of the pathways to discovery, students created a tangible representation of their skills and a descriptive memory of their learning journey that can be shared as they choose.
- The program's emphasis on collaborative autonomous learning likely encouraged students to take ownership of their learning process. This approach empowers students to explore and develop their storytelling skills independently, while still benefiting from collaborative experiences.

Digital Storytelling Workshops

Students learned how to craft compelling narratives using digital tools and platforms developing skills in visual communication and storytelling. To support the work of the students, some tools carefully gathered by the participating lecturers for the digital productions are listed on the

LEARN&CHANGE project webpage. Students combined text, images, audio, video, and interactive features to convey the narrative they designed using some of these techniques and considerations for creating compelling digital stories:

- Multimodal Integration to combine different forms of media by integrating videos, images, audio, and interactive elements to enhance the storytelling experience.
- 360-degree videos or photos to provide viewers with a panoramic view of a scene
- Incorporating infographics, charts, and interactive data visualizations support the narrative with factual information.
- Animation and motion graphics to add visual interest and life to complex concepts.
- Transmedia storytelling to engage and extend the story across multiple platforms/channels, from social media to blogs, podcasts, and interactive websites.
- Nonlinear storytelling, like in interactive fiction, to navigate the story in a variety of directions gives users choices that lead to different outcomes.
- Incorporating principles of game design into digital storytelling so that users interact with the story and make meaningful choices that influence the narrative.

Transdisciplinary Discussions

Led by expert guest speakers in the stakeholder sessions and training session, these open interviews, inquiry-based learning activities, and data gathering excursions provided a holistic perspective on entrepreneurial issues, creativity, and digital communication. Note that flipping the

classroom, with advance access to visual components, including reading and especially multimedia material, enriches the potential for developing manipulation and multiplicity of perspectives. Coaches who understand the value of a purposeful coaching role can support their teams through the advance viewing by promoting a Q&A on a virtual platform and follow-ups in debriefing sessions.

In the framework of the Budapest Intensive Programme 2022, for example, professionals were invited to participate. An inspirational seminar entitled "Digital storytelling in practice" was held by Attila Lőrincz, founder and creative director of Doupla, and a Digital Storytelling workshop was delivered by Lóránd Ónodi, creative group head at Republic.

Action-oriented Projects

Students collaborated on projects that required both collaborative autonomy and digital storytelling techniques, culminating in the creation of engaging digital narratives. They were encouraged to align their choice of techniques with their established goals, audience(s), and context of the digital story they were creating. Experimentation and creativity in leveraging these techniques resulted in highly engaging and impactful storytelling experiences.

CHALLENGES

While the program proved highly beneficial, the challenges included

- Adapting to online formats in response to the pandemic (see attachment 1)
- Other adjustments according to the lessons learned from related events
- Making adjustments in the delivery of content and engagement strategies
- Coordinating schedules and resources across multiple international universities required meticulous planning

- Learning from planning sessions so that the knowledge transfer was an added value
- Finding, selecting, and inviting stakeholders in the community to work transparently in coordination with higher education
- Drawing on coaching principles as mentors
- Scheduling conflicts for collaborative sessions/meetings
- Learning autonomously as a collaborative endeavor rather than as working alone
- Different preferences for leadership styles, although most students preferred a transformational over an autocratic leadership style

TOOLS/RESOURCES/MATERIALS

The success of the program was greatly facilitated by strong collaborations with various stakeholders. These included active participation from municipal and private stakeholders, contributions from partner universities within the Erasmus+ network, and support from research developed in the context of projects relating co-creation to foreign language learning through interrelated projects on collaborative autonomy (CORALL), collaborative digital storytelling for sustainable change (LEARN&CHANGE), and interdisciplinary design thinking for wicked challenges (DT.Uni) as well as insight on collaborative work, leadership, and online communication from BEST Almada – a Portuguese branch of the Board of European Students of Technology at the FCT Nova School of Science and Technology.

The program leveraged a variety of digital tools and resources to facilitate collaborative autonomy and digital storytelling. This included virtual learning platforms, multimedia creation software, online forums for discussions, and access to a diverse library of digital assets for storytelling.

The templates for engaging with organizations, for projects, and for evaluation materials were also diverse. Among others, the following tools were used during the process:

- Graphic design: Canva, GIMP, Adobe Illustrator
- Online collaboration: Miro, Slack, and Google docs
- Social Media platforms: Instagram, TikTok, YouTube, and WhatsApp
- Collaborative design tools: Storyboarder, Dall.E, Photoshop, Figma

For a diverse selection, the compilation of digital storytelling tools at https://blogit.haaga-helia.fi/learn-to-change/toolbox/, created as a project result of the Learn to Change Erasmus+ project. The associated tabs on digital interaction tools, video making tools, and best practices sum up the latest research.

NETWORKS

The success of the three programs was greatly facilitated by strong collaborations with various stakeholders. These included active participation from private local and multinational companies, contributions from partner universities within the Erasmus+ network, and support from research and development in language learning and digital communication.

Beneficiaries

The real-world experience for students interacting with the needs and interests expressed by the stakeholders is a clear added value for both the students and the organizations involved - in industry and in education.

If they choose, the stakeholders can Implement the co-creation storytelling solutions in real-world scenarios.

Students can set up their own networks and entrepreneurial ventures based on the new contacts and conviviality of the encounter.

All participants benefit by engaging with innovative project ideas in a creative, multicultural setting.

Teacher networks for teacher training are strengthened.

Universities improve their visibility while HEI partners share their research results as useful tools of value for the community.

Participating stakeholders can potentially benefit when and if they choose to implement the creative ideas generated, created, and prototyped.

Innovation/Value

Most of the creations using digital storytelling aimed to promote the stakeholders' commercial interests sustainably.

See the areas for improvement in attachment 1.

The iterative design process challenged work habits and grew the abilities in interaction, compromise, empathy, and intercultural communicative competence.

Future prospects

The models created are likely to be built upon with current and future partnerships.

The positive feed forward from participating international students in a dynamic interactive context has led to further friendships and business ventures.

There are many other possibilities for development of storytelling that could be incorporated:

With more time, teams could incorporate user-generated content, like photos, videos, or testimonials from the target audience to foster a greater sense of community and involvement.

Ensuring that the digital story is accessible to all users would mean providing alternative text for images, captions for videos, and setting up compatibility with screen readers. Augmented Reality (AR) and Virtual Reality (VR) to create immersive storytelling experiences, where users can interact with virtual environments or overlay digital content onto the real world.

Machine learning algorithms could analyze user behavior and preferences, then dynamically adapt the story content to cater to individual interests.

Blockchain technology and non-fungible tokens (NFTs) could be used to create unique, verifiable digital assets or experiences associated with the story.

Implementing spatial audio techniques and 3D sound could intensify the immersive listening experience, allowing users to perceive sound from different directions.

Interactive Story Maps that mobilize Geographic Information System (GIS) technology could help users explore locations relevant to the story.

Implementing Artificial Intelligence (AI) and chatbots as AI-driven enablers could promote interactive conversations or simply dynamic responses based on user input.

What would you do differently next time?

The shortest online component, with just 3 once a week sessions before meeting in person, was the favorite of the three editions of the BIP because working online offers serious challenges for cognitive, physical, and emotional engagement over longer periods of time.

Simple awards were given in recognition of the best logo, best narrative, best soundtrack, etc., based on the coaches' assessment. With more planning and outreach, the process could also involve the students and even the community, particularly the stakeholders, especially when the project results are revealed in a community event.

With more research on teamwork and leadership, we should have more practical tools to help groups work together.

BENEFITS AND LEARNING

Tips

Include all types of students from the shy to the gregarious.

Favor scaffolding for the weaker language learners in international experiences.

Hands-on learning can be the most inspiring.

Make an error culture that empowers expression and creativity and learning from our mistakes.

Based on their readings from articles on ambiguity tolerance in creative work, students pointed to the practical guidance by de Jong and Özcan (2016) to boost their courage and confidence:

Let go of control: Force yourself to abandon control and open yourself to uncertainty.

Act curious: Be open-minded and ask questions to get to the bottom of the design challenge.

Experiment with many options: Play with many ideas and learn by trial and error. Don't get annoyed or overwhelmed even when you have to work without the complete picture.

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PROCESS(ES)

Each of the three editions of the program followed a structured process that encompassed:

- Pre-Program Planning, which focused on detailed planning and coordination among partner universities and stakeholders, including selection of expert speakers and resource preparation.
- Program Implementation, which covered delivery of workshops, discussions, and project work, with a focus on hands-on learning and interactive sessions.
- Post-Program Evaluation, finally, for gathering feedback from participants, assessing learning outcomes, and identifying areas for improvement in future editions.

Comparing and contrasting the three editions, several distinguishing features stand out. First, adapting each edition of the program to new realities:

- fully online, with a ratio of 8:1, 8 weekly sessions before a sequence of three intensive days of online activity, adapted from one week of in-person work due to the pandemic. The transition to working fully online was also part of knowledge transfer from the DT.Uni Erasmus+ project.
- blended learning with a ratio of 5:1, five weekly sessions before a full week of in-person activities at Haaga-Helia University of Applied Sciences, with the program's stakeholders ResiRest, from Gelderland, the Netherlands, and the Loviisa campground in Finland.
- blended learning with a ratio of 3:1, three weekly sessions before a full week of in-person activities at Budapest Business School, with the program's stakeholders from the city's Margit District – (see the full program in Attachment 3).

Another process that had to be adopted across the sessions was the specific content, which varied according to the expertise of the teachers and guest speakers as planned for each edition (1-3 below):

» The teachers in the 1st BIP were from the study areas of marketing, English, Spanish, and German at CORALL partner HEIs – Budapest Business School (Coordinators), Haaga Helia University of Applied Sciences (host), Guarda Polytechnic University (IPG, Quality Assurance), University of Economics in Bratislava (UEBA), University of Chemistry and Technology in Prague (UCT), Berliner Hochschule für Technische (BHT), with the program's stakeholders, two chocolatiers from Belgium and from Finland (see Attachment 2 for the final program).

» With the same CORALL partner teachers as in the first edition, the 2nd BIP also included other LEARN&CHANGE Erasmus+ partners from Castelo Branco Polytechnic University (IPCB, Portugal) and Saxion University of Applied Sciences (Netherlands), as well as Thomas More University of Applied Sciences (Belgium). Guest speakers from the industry were Geert Kroos, founder of the multinational online service of fair tourism ResiRest: Think local Eat global, and Camilla Stenvall, representing the Loviisa Campground and other local municipal authorities in Finland.

» The 3rd BIP at BBS. Encouraged by the success of KREA Spring School 2022, the Faculty of Commerce, Hospitality, and Tourism at the Budapest Business School organized a blended intensive program which took place in October 2022. More than 50 European higher education students and nearly 20 teachers were brought together to co-create digital storytelling content to support an off-the-beaten-track destination in Budapest's Margit District. The main goals of the Budapest BIP 2022 were 1) to discover unknown city spaces away from tourism business districts; 2) to develop participants' skills to transform their perceptions and experiences into digital content; 3) to develop students' autonomous learning skills and 4) to improve their abilities to reach a target audience with a persuasive key message. The 3rd BIP included stakeholders, like Unicum, who were associated partners of the project (see Attachment 3 for the final program).

FINAL COMMENTS ON THE CONTEXT

The three editions of the Erasmus+ Blended Intensive Programs on Collaborative Autonomous Learning and Digital Storytelling provided a dynamic platform for students to develop crucial skills in language learning, creativity, and digital communication. The diverse contexts of each edition enriched the learning experience, offering unique insights and opportunities for cross-cultural exchange. The success described by a student in this initiative underscores the potential for creativity in collaborative autonomy and digital storytelling as innovative approaches to higher education.

Overall, we hope these insights into collaborative autonomy and digital storytelling inspire you to offer your own learning opportunities that simultaneously promote creativity with collaborative autonomy and digital storytelling.

Attachment 1: Feedforward on the Erasmus+ CORALL BBS BIP

Observations	Possible actions
Microsoft Teams does not support chat messages for those that don't have the host's university email.	Change the settings in MS Teams. Find another video call manager. Ask teams to resource the platforms they need to complement the BIP.
The best way to receive feedback is not during the meeting.	Whoever is responsible for the logistics can deal with the problems in the background. Designate a moment for "feedback" but insist that it actually be communicated as actionable "feedforward". Constructive criticism serves the dual purpose for receivers and speakers: Receivers are enabled to reach the collective goal. When speakers engage with their own observations BEFORE sharing, they build on the value of their collaboration and empower their own intercultural communicative competence.
Extraneous noise.	Remind participants to turn off microphones when not speaking.
The instructions in the public forum to "talk about something" created confusion in each of three breakout rooms.	Specify the connection of the discussion topic to the general topic in the public forum. This way the participants can get immediately on task rather than waste precious time online trying to determine exactly what needed to be done. "Off the beaten track" is a good example of an interesting topic which did not meet its potential in a timely manner since most students had never heard of the expression. Time had to be dedicated as the group learned the meaning before launching into discussion of the topic(s) of Going local; Communal solutions; niche market; Educational goals; other… With fewer time restraints, this collective search would be wonderful, just not in a context where constant reference to the lack of time predominates.
Active listening extends time online in the public forum but provides little value to the other participants.	Avoid active listening in a public forum. With no interruptions, the speakers can conclude their contribution more accurately without having to improvise with new input while the entire group is listening. Dedicate the time saved in the public forum to the break-out rooms where participants can engage with the ideas.
Extra time spent looking for the appropriate links so there was not a speedy transition from machine applications.	Make logistical information obvious, not embedded, in the schedule to save time and energy. Repeat the instructions about where to find the information because reminders can anticipate what the participants will need, especially since the chat does not work for everybody.
Sharing results in the public forum was not very interesting.	Use the public forum to inform and direct. Encourage use of the break-out rooms for sharing. If a designated speaker/representative will be required after the break-out room closes, include that in writing on the schedule to better prepare the teams and save valuable time in the hand-off from one team to another.
A lot of talk/comments about the time.	Dedicate less time to this expression. Time constraints can be abused when they are for a good cause. Don't feel bad for using a little bit of time… as long as it is not TOO long.

Attachment 2: Program for KREA Spring School 2021

Krea Spring School – Inspirational Storytelling (5 ects total, 2 online + 3 in-person)

Haaga-Helia University of Applied Sciences, Helsinki, Finland, 3 March-21 May 2021

Haaga-Helia marketing and communication students' Creative Agency Krea welcomes you to take part in Krea Spring School 2021! You will work in a multicultural team to tackle a sustainable marketing challenge together with a network of peers and experts from partner universities and companies across Europe.

The Krea Spring School 2021 course topic is sustainable chocolate. During the course, we will discuss sustainability challenges of chocolate production and consumption, study and analyze customer experiences, and plan creative and inspirational ways to persuade audiences to make more sustainable chocolate purchasing decisions.

Join us if you are interested in

creativity	sustainable marketing and consumption
multicultural teamwork	digital storytelling
sustainable customer experience	collaborative autonomous learning

Course Description

In our Krea Spring School course, you will conduct customer experience research and craft inspirational customer experience stories aimed at fostering sustainable life changes and purchasing decisions. After taking the course you

1. know how to work towards a sustainable marketing goal in collaboration with a multicultural team of peers, university coaches, and company representatives
2. can conduct customer experience research to develop your understanding of customer needs and expectations related to sustainable consumption
3. can raise awareness of sustainable consumption by means of inspirational customer experience storytelling focused on helping customers overcome their pain points
4. can reflect critically on your own thinking and behavior as a change agent of lifelong learning and sustainable consumption
5. can build and engage in an international learning community of peers to share knowledge and develop ideas for sustainable marketing and consumption in the long term

An international team of lecturers will coach you all the way through your hands-on learning process. During the course, you will also get professional support and guidance from a design agency specialized in sustainability marketing.

At Krea Spring School, we offer you a creative space, an encouraging atmosphere and a set of hands-on tools to support your collaborative autonomous learning in multicultural teams. Our pre-course online module offers you tools for team building, goal setting, knowledge sharing, uncertainty tolerance, self- and peer assessment, and reflection. Last but not least, our legendary Krea Spring School Online Party will further foster our multicultural team spirit and creativity! The course consists of two parts:

· Pre-course Online Module on Customer Experience and Collaborative Autonomous Learning (2 ects): 3 March-27 April 2021 (Moodle and Zoom)

· International Week on Sustainable Marketing and Inspirational Storytelling (3 ects): 17-21 May 2021 (Moodle and Zoom)

Pre-course Online Module: Customer Experience and Collaborative Autonomous Learning (2 ects)

Contact sessions	Sustainable Customer Experience	Collaborative Autonomous Learning
Week 1 Wed 3.3. (3-4.30 pm CET)	- Module Project Brief: Sustainable Chocolate	- Team Building - You as a Team Member - Learning Journal Part 1: Personal Needs Analysis and Goal Setting
Week 2 Wed 10.3.(3-4.30 pm CET)	- Creative Process Stage 1: Identify a Goal - "Creating a Better Future"	- Team Goal Setting and Team Rules - Qualitative Assessment Criteria - Learning Journal Part 2: Team Collaboration and Communication
Week 3 Wed 17.3.(3-4.30 pm CET)	- Creative Process Stage 2: Gather Input and Insight -Sustainable Chocolate Customer Experience	-Uncertainty Tolerance - Learning Journal Part 3: Time Management and Knowledge Sharing
Week 4 Tue 23.3. (3-4.30 pm CET)	- Creative Process Stage 2: Gather Input and Insight - Customer Experience Research: Empathy Mapping and Interviews (individual)	- Uncertainty Tolerance - Learning Journal Part 4: Monitoring Progress through Self-Assessment, Self-Motivation
Week 5 Tue 30.3. (3-4.30 pm CET)	- Creative Process Stage 2: Gather Input and Insight - Customer Experience Analysis: Empathy Mapping in Collaboration with Team Members	- Uncertainty Tolerance - Learning Journal Part 5: Monitoring Progress through Peer Assessment, Team Motivation
Week 6 Tue 13.4. (3-4.30 pm CET)	- Creative Process Stage 3: Clarify the Challenges - Customer Experience Story: Character Arc	- Reflection - Learning Journal Part 6: Team Collaboration and Communication
Week 7 Tue 20.4. (3-4.30 pm CET)	- Creative Process Stage 3: Clarify the Challenges - Customer Experience Story: Crystallization of Sustainable Marketing Challenges	-Reflection - Learning Journal Part 7: Assessment of Team Success against the Goals and Qualitative Assessment Criteria
Week 8 Tue 27.4. (3-4.30 pm CET)	- Creative Collaboration for Building a Long-Term Learning Community - Follow-up: Getting Ready for Krea Spring School International Week	- Reflection - Team Retrospectives - Student Learning Community Plan - Learning Journal Part 8: Collaborative Autonomous Learning Benefits

Krea Spring School International Week: Sustainable Marketing and Inspirational Storytelling (3 ects)

Date	Sustainable Marketing and Inspirational Storytelling	Collaborative Autonomous Learning
Mon 17 (12-4 pm CET)	- Sustainable Chocolate Project Brief with the Case Companies & Sustainability Design Agency	Learning Journal Day 1: - Fun Team Building Activities - Goal Setting
Tue 18 (12-4 pm CET) (+ online party 4.15-5.30 pm)	- Sustainable Chocolate Customer Experience Discussion in Teams - Empathy Maps & Character Arcs - Krea Spring School Online Party	Learning Journal Day 2: - Knowledge Sharing
Wed 19 (12-4 pm CET)	- Creative Process Stage 4: Generate Ideas - Inspirational Storytelling for Sustainable Marketing (presentation by the sustainability design agency) - Creative Idea Generation in Teams	Learning Journal Day 3: - Uncertainty Tolerance - Time Management - Keeping up Motivation
Thu 20 (12-4 pm CET)	- Creative Process Stage 5: Prototype - Storyboarding for a Selected Social Media Channel -Planning Contact Points	Learning Journal Day 4: - Uncertainty Tolerance - Time Management - Keeping up Motivation
Fri 21 (12-4 pm CET)	- Customer Experience Story Presentations - Dissemination Workshop on Collaborative Autonomous Learning in Multicultural Teams	Learning Journal Day 5: - Collaborative Autonomous Learning Challenges and Successes

Enrollment Instructions

Course code: LHPAVV / EXCH / CAM8LH106-3004 Krea Spring School — Inspirational Storytelling

1. Official enrollment by 15 Feb 2021
2. We will send you the course instructions and Zoom link by 26 Feb 2021.
3. The course kick-off on Zoom and Moodle: 3 March 2021 at 3 pm-4.30pm CET

· Students from abroad: please enroll by sending email to tanja.vesala-varttala@haaga-helia.fi

What is Creative Agency Krea?

Haaga-Helia students of Marketing and Communication run their own Creative Agency Krea (www.krea.fi). Krea provides students with hands-on experience in marketing and communication through client company projects and extensive networks with players in the field of marketing, media, and communications.

For more information on Krea Spring School 2021, please contact:

Tanja Vesala-Varttala, PhD, Principal Lecturer in Marketing and Communication

Haaga-Helia University of Applied Sciences, +358 50 3100 715, tanja.vesala-varttala@haaga-helia.fi

Attachment 3: Program for BBS BIP

Budapest Intensive Program 2022 – Boosting Your Digital Storytelling Skills

Budapest Business School, Budapest, Hungary, 24 October – 28 October

Face-to-face sessions - Venue: BBS, 1054 Budapest Alkotmány street 9-11

Date	Time (CET)	Activity (room)
Monday 24 Oct 2022	9:00-10.00	Project overview and team building (Lounge)
	10.00-11.00	Getting to know the Margit district - Dániel Ongjerth (5)
	11.00-12:00	"Digital storytelling in practice" inspirational seminar by Attila Lőrincz, founder and creative director of Doupla (5)
	Lunch at BBS	
	13:00-14.30	Preliminary concept design (Lounge)
	15.00-18:00	Guided tour at House of Unicum
Tuesday 25 Oct 2022	9:00-9.30	Warm-up minutes with coaches (Lounge)
	9.45-12:00	Digital storytelling workshop with Lóránd Ónodi, creative group head at Republic (5)
	Lunch at BBS	
	13:00-14:00	Máté Sipos, influencer - TikToker: The power of social media (5)
	14:00-17:00	City walk in Margit-district
	17.00-19.00	Guided tour - Budapest off-the-beaten track
Wednesday 26 Oct 2022	9:00-12:30	Warm-up minutes with coaches (Lounge) Scripting & storyboarding/Fieldwork
	Afternoon	Fieldwork Photographing Video shoots and interviews
	15.30-17.00	Pitch presentation/Autonomous language learning workshop (room 107 and 103/1)
Thursday 27 Oct 2022	9.00-9.30	Warm-up minutes with coaches (Lounge)
	All day	Fieldwork and digital production Photographing Video shoots and interviews
Friday 28 Oct 2022	9:00-12:00	Pitch presentation (5) Closure

Rooms:

1st floor lounge (Lounge) - 1st floor

Auditorium 5 (5) - ground floor opposite the entrance

Rooms 107 and 103/1 - 1st floor

Boardroom - ground floor

Cloakroom - ground floor on the left

Materials:
BIP folder - information about online and offline sessions

VOTE FOR YOUR PERSONAL FAVORITE PRESENTATION HERE

with the code 4140 0401
Feedback questionnaire for students

Feedback questionnaire for teachers

CT.uni
CREATIVE THINKING

CT.UNI: CREATIVE THINKING - TAKING AN INNOVATIVE AND STEAM APPROACH FOR A TRANSDISCIPLINARY UNIVERSITY

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