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Green Entrepreneurship: Facilitating Transdisciplinary and Cross-border Educational Programmes

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Abstract

To address society's urban challenges and the intensifying impacts of climate change, disciplinary bound education must be rethought to develop impactful, holistic solutions through innovative transdisciplinary approaches to learning. Urban Shift (UShift), funded by the Erasmus+ Programme of the European Union, has developed an experimental Living Labs educational programme and Living Curriculum, utilising green entrepreneurship as the vehicle for learning. Rooted in the principles of the EU Green Deal, UShift fosters collaboration among Higher Education Institutions, Vocational Education and Training institutions, business partners, and learners. By bringing together architecture and design, media, and business students, as well as adult learners from four educational institutions across Europe, UShift provides a dynamic ecosystem for transdisciplinary cross-border learning. Through challenge-based learning, the Living Labs programme engaged 80 learners across two iterative batches to co-create start-ups and solutions for pressing urban issues such as urban heat islands, food waste and circularity, extreme weather events, and mobility. The Living Curriculum, a result of setting up and testing the Living Labs programme, is characterised by an iterative, participatory development process, incorporating real-time feedback from learners, trainers, and urban experts. This reflective approach ensures adaptability to stakeholder needs while maintaining systemic and sustainable methodologies. Learners are encouraged to develop entrepreneurial mindsets and practical solutions through experiential learning and design thinking. This curriculum is designed to develop green labour market skills, including digital,

green, business, and transdisciplinary competencies, preparing participants to become EU Green Deal ambassadors and leaders of sustainable urban transformation.

Keywords: challenge-based learning, co-created curriculum, design thinking, higher education, start-up education

1. Introduction

Across the European Union, institutions are working towards the goal of the EU Green Deal (European Commission, 2021), making Europe the first climate neutral continent by 2050. Many industries have been targeted to improve their processes and find new innovative green solutions to some of our most pressing challenges. As a greater number of people make their way into cities, the pressure and demand on our cities increases, and thus, cities are becoming increasingly vulnerable to the effects of climate change (Ritchie et al., 2024). Challenges such as food waste, extreme weather events (EWEs), urban heat islands (UHIs), and mobility are all considered important challenges that need to be addressed to ensure healthy cities for all. To address these challenges, learners must be equipped with skills and competencies that can support them as they transition from the academic field into their professional careers, educational programmes being at the forefront.

While traditionally education has been disciplinary bound, there has been a shift towards multi-, inter- and transdisciplinary education (Klein, 2004; Daneshpour & Kwegyir-Afful, 2021). This is due to the belief that societal issues can only be successfully addressed if different fields come together (Mayke W. C. Vereijken et al., 2022; Pohl & Hirsch Hadorn, 2007). Experimental programmes such as Urban Shift, 2022, (UShift) allow for new educational formats to be tested across disciplines and country borders. The global world facilitates opportunities of cross-border collaborations, as well as working in a remote setting, making programmes such as UShift feasible. The need for innovative ideas drives the need for business education to move beyond a sole focus on business logic, advocating for a transdisciplinary educational format that brings together learners from diverse fields to collaboratively address common goals (Blankesteijn, M. L.,2024). Start-up education opens a door to create an educational format that is not disciplinary bound but creates a format that allows a wide range of learners from different fields to come together and address a common goal (Torres-Sánchez et al., 2024).

UShift brings together a diverse group of learners from four educational institutions across Europe with skills to complement each other. Business students from the Vienna University of Economics and Business (WU) bringing expertise in management, sustainable business practices and financial knowledge. Architecture students from the Institute for Advanced Architecture of Catalonia (IAAC) sharing their knowledge on design, prototyping and digital fabrication. From the Stuttgart Media University (HdM) students brought communication skills, digital skills as well as some business skills. These three higher education institutions engaged learners primarily undertaking their master's as well as some bachelor students. Bringing expertise from working professionals, WIFI International, a vocational education and training institution, involved professionals who were looking to improve their skills through additional certifications. As many of the WIFI learners already had years of experience in industry, these learners were able to bring a fresh and informed perspective that complimented

the skills of the higher education institutions. Supporting the educational institutions are four business partners that bring their own expertise. Multicriteria and Terra Institute brought knowledge of the Urban Challenges as well as insights regarding skills, competencies and ESCO framework (Directorate-General for Employment, Social Affairs and Inclusion, 2024). Green Innovation Group and Pretty Ugly Duckling brought business insights, entrepreneurial skills and start-up experiences. This diverse group of partners ensured the development of a holistic educational programme, giving leaners transdisciplinary skills that they can apply beyond their educational studies.

Based on the transdisciplinary approach adopted, the UShift programme sought to create an educational environment conducive to the development of students' green, digital and entrepreneurial skills. The complexity of the challenges facing European societies means that younger generations require greater resilience and adaptability to tackle and overcome these, necessitating holistic initiatives such as UShift. Start-up education was thus used as a vehicle to confront urban sustainability challenges and support students in their skill development. By moving from theory to practice, students learn by doing and experience the process from initial idea to developed prototype. The paper outlines the methodologies and iterative process utilised in the development of the successful UShift Living Labs programme, using green entrepreneurship as the vehicle for learning and complemented by design thinking (Razzouk & Shute, 2012) and challenge-based learning (Kolb, 1984), resulting in 15 prototypes.

2. Methods

Building on experiences of the UShift consortium in the field of education and entrepreneurship, several methodologies and tools were employed to foster the collaboration between disciplines and facilitate the development of the start-up idea. While green entrepreneurship (Neumann, 2022) served as the overarching methodology, design thinking and challenge-based learning were employed to aid 80 learners in navigating their entrepreneurial journeys. Through entrepreneurial education, learners from three disciplines and adult learners were able to put together their skillsets with the common goal of developing a green innovative solution. The following section outlines how the UShift programme was structured and implemented.

2.1 Green entrepreneurship as a vehicle for learning

Given the aforementioned, intensifying nature of climate change, and that the 'environmental economy' in the EU is experiencing growth rates exceeding those of the economy as a whole (OECD, 2022), the need for learners adaptable to new economic realities and opportunities is increasingly important. Research has further shown that green entrepreneurship is positively related to sustainable development, even more than 'conventional' entrepreneurship (Lofti et al., 2018; Neumann, 2022; Shepherd & Patzelt, 2011; Zahra, 2009).

Considering this, the need for educational institutions to foster entrepreneurial mindsets with a focus on sustainable development is key to overcoming the multifaceted challenges facing modern society. In driving green entrepreneurship, it is important for these institutions to put in place the conditions to enable learners to explore different aspects of entrepreneurship in a

supportive environment. Mia et al. (2022) identify the value of the AMO (Ability, Motivation, and Opportunity) theory in establishing such an environment and thereby providing learners the best possible platform for continued entrepreneurship and positive social change.

UShift was developed as a six-month entrepreneurial programme to further build on the learnings from the successful BUILD Solutions programme (2018), a previous EU funded Erasmus+ project. The UShift programme was developed to facilitate remote working and ensure that the students would meet at key moments throughout their entrepreneurial journey, at the kick-off and the closing. The programme, as seen in Figure 1, began with two online sessions, with the selected learners, to set the foundations. The first session focused on the learners and trainers getting to know each other. This was believed to be important to ensure familiarity when the students arrived at the kick-off. The second online session served as an introduction to the Urban Challenges that the students would address. To foster interaction during these sessions, students were given small tasks such as building their Urban Shift profile and bringing insights on the challenges.

Figure 1: Urban Shift Entrepreneurial Journey

Source: Urban Shift

The programme officially began with an in-person kick-off with the students meeting, forming their groups and ideating their initial start-up idea. This intense one-week workshop made use of design thinking and challenge-based learning to set the foundations of the start-up ideas and throw the learners into the dynamic field of entrepreneurship. This week was crucial to build team dynamics before beginning to work in a remote setting from their respective countries. During the remote period learners were supported by three pillars: coaching, entrepreneurial skills training, and institutional skills training. Each start-up was assigned a coach, one of the UShift trainers, to monitor their progress and help them overcome difficulties. It was a requirement for the start-ups to meet with their coach once a month; however, they could meet more often if they requested. Online classes on entrepreneurial skills were provided to all the learners by Green Innovation Group and Pretty Ugly Duckling to support pitching and setting up a start-up. Each educational institution provided specific skills training in their specific discipline. This was to aid the learners at each institution to further refine their skills within their discipline. For example, WU provided courses on sustainable business practices, IAAC on technology readiness level for prototyping, HdM on branding and WIFI on carbon footprints.

As the development of each start-up happened independantly, a midway pitch was hosted with experts from the industry to provide the learners with insights and feedback. For the trainers, this was also a moment of reflection to see how all the start-ups were progressing. The

final learning event happened in person as a closing of the programme. Learners came together to pitch their solutions in front of academicians, investors and industry experts. This was also a moment of celebration of what had been achieved over the previous months. To promote the results of the start-up, rounds of exhibitions were hosted across Europe. Two editions of the programme took place, the first in 2023 and the second in 2024.

2.2 Design Thinking within UShift

Design thinking has emerged as a valuable approach within entrepreneurship education, offering learners a hands-on, creative, and a human-centred framework for developing innovative solutions (Nielsen et al., 2016; Martin, 2009). It promotes resilience by encouraging iterative experimentation, with learners taught to generate multiple ideas, prototype them quickly, and test them in real or simulated environments. This process of trial and error helps demystify failure, allowing students to see it as a natural and valuable part of innovation (Martin, 2009). In doing so, design thinking mirrors the entrepreneurial journey, which often involves navigating ambiguity, learning from setbacks, and continuously adapting.

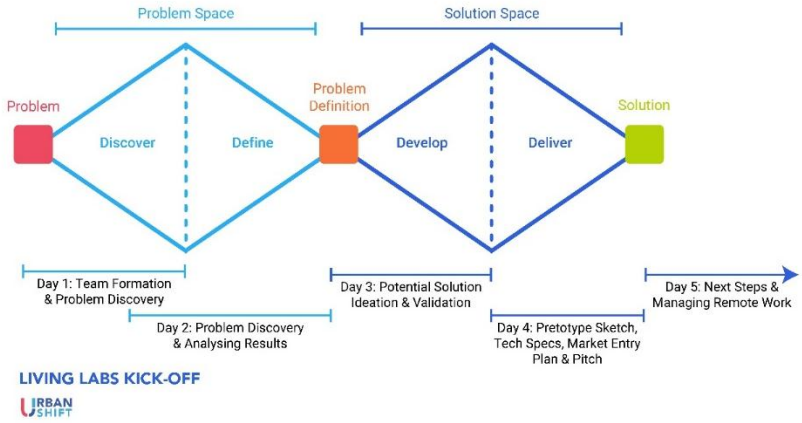
Another core benefit of design thinking, with regards to projects such as UShift, is its effectiveness in encouraging transdisciplinary collaboration. Entrepreneurship education benefits greatly from this, as learners from diverse backgrounds bring different perspectives, fostering more robust and innovative solutions. Working in diverse teams also enhances interpersonal and teamwork skills, which are vital for entrepreneurial success (Schneider et al., 2023). The UShift teams not only consisted of members from several educational institutions, but over 10 nationalities were also represented during each batch of the programme, meaning that the cross-cultural collaboration assisted by the design thinking process was key to each project's success.

In light of the above discussion on green entrepreneurship, much of the educational value of design thinking lies in its ability to cultivate key entrepreneurial competencies such as problem-solving, empathy, adaptability, and collaboration (Schneider et al., 2023). When considering the challenges faced by individuals, communities or societies because of climate change, this user-centred orientation not only helps to develop good business ideas, but furthermore to solve real problems for real people. By focusing on pain points experienced by specific target groups and learning the importance of empathising with them, learners can develop greater emotional intelligence, which can also support improved communication and leadership skills. Design thinking can thus play a valuable role in promoting learner focus on sustainable development and positive social change, as it supports identifying challenges at a systemic level and designing solutions which are more impactful, with purpose playing as central a role as profit.

While not all UShift learners came from a design background, this methodology can help all learners unleash their creative potential. During the one-week kick-off all learners were thrown into the world of design thinking and Figure 2 shows the Double Diamond methodology (Design Council, 2024), a design process model for helping the learners through their journey. The learners began by identifying all the possible problems associated with their chosen Urban Challenge through research and interviews. Then, to help narrow down the problem they wanted to address, they were encouraged to validate their problem through surveys, identifying

relevant personas and writing a clear problem statement. For some this proved challenging, as when learners went to interview and survey their target audience some realised their problem was not as important or relevant as they thought.

Figure 2: UShift Double Diamond



Source: Urban Shift

Following the identification of the problem, learners were again encouraged to think broadly regarding possible solutions to their problem. This was achieved using tools such as collective creative brainstorming and brain writing. During the collective creative brainstorming all students had to write down ideas for each of the start-up group problems. This proved to be a very inspiring activity with many creative ideas emerging. Then, the learners were asked to narrow down their solution to one original but feasible idea. Tools such as 'How, Now, Wow' and dot voting were used to help make the selection (Gray et al., 2010). Again, the learners were encouraged to go out and validate their solution ideas.

2.3 Challenge-based learning within UShift

The challenge-based learning approach at the heart of UShift aligns closely with entrepreneurship education and design thinking approaches by engaging learners in solving real-world problems through collaboration, critical thinking, and active inquiry (Gallagher & Savage, 2022; Kolb, 1984). Furthermore, by situating the learning within meaningful contexts, such as their own start-up teams aiming to resolve complex societal problems, learners are encouraged to take ownership of their learning journey through the process of defining problems, developing solutions, and implementing actions that aim to generate tangible impact (Kasch et al., 2022).

In a transdisciplinary project such as UShift, it was necessary to go beyond traditional, disciplinary, and interdisciplinary educational models, which often fail to allow students to transform problems and solutions to real-world needs. This limits their ability to deconstruct problems and innovate beyond their subject experience, hindering the development of reflective practice in new and unfamiliar situations across all domains (Sung, S et al., 2024). For UShift it was important to draw on knowledge, skills and competencies from diverse fields, for which challenge-based learning is well suited. Using insights from business, technology, social sciences and architecture leads to more holistic solutions, and nurtures systems thinking and adaptability, both of which are crucial for navigating the uncertainties of the modern

economy. The Urban Challenges tackled by the learners (UHIs, food waste, EWEs, mobility) during the UShift project supported the development of more socially conscious entrepreneurs, by having them engage with real societal issues impacting equity, well-being, as well as the environment. Additionally, the challenges brought relevance and helped to position the work the learners would do in a global context, especially aligning with the EU Green Deal. By encouraging learners to think beyond profit and consider the broader impact of their entrepreneurial actions, this approach aligns with emerging models like green entrepreneurship, prioritising long-term societal value.

Another key benefit of challenge-based learning when tackling such complex challenges is the cultivation of skills for the 21st century, such as green, digital, entrepreneurial and resilience skills. Communication, collaboration, and digital literacy are essential for entrepreneurial success, while working in teams to address complex challenges mirrors the collaborative and often cross-functional nature of start-up environments. Through UShift, students practiced leadership, negotiation, and project management skills in a setting that simulates real entrepreneurial dynamics. Such projects encourage student agency, allowing learners to shape the direction of their business ideas and solutions, make decisions, and manage uncertainties, critical capabilities for aspiring (green) entrepreneurs. Finally, challenge-based approaches help learners to learn from both success and setbacks, mirroring the feedback loops of the entrepreneurial process, and thereby emphasising reflection and iteration, as discussed below.

2.4 Implement, evaluate, reflect, adapt, repeat

The UShift project was structured to allow two editions of the Living Labs programme to be implemented. The iterative nature of the programme implementation and curriculum development ensure that issues encountered and suggestions for improvement could be dealt with, resulting in a final curriculum that can be replicated either wholesale or in a more flexible manner, based on local context. The first draft of the curriculum was developed to be able to implement the first Living Lab in the academic year 2022/2023. Throughout the implementation Terra Institute monitored the programme, collecting feedback from both learners and trainers regarding the educational programme as well as specific learning events. This was done through surveys, interactive activities, as well as one-on-one interviews with learners and trainers.

Following the completion of the first edition of the Living Labs programme, Terra Institute evaluated the collected feedback, sharing detailed insights for the overall Living Lab programme and the specific learning events. The insights were shared in the form of a report which allowed trainers to reflect on what worked well, or what elements needed improvement. Terra Institute highlighted key insights and made initial suggestions for improvements. The trainers were asked to review the report before taking part in an online meeting to discuss each point. While this process took time, it was an important step to make changes regarding the way in which the course would be implemented in the second edition.

Adaptation is key; however, choosing what to change and what to maintain can also be a challenge. Some of the suggestions made would be easy to implement if there was only one academic calendar. Compromises had to be made to align the four different academic calendars, with some aspects being beyond the trainers' control. The second edition of the

Living Labs was implemented with a few adaptations based on the experience of the first edition. In particular, making more use of the bridging courses, and integrating trainings and support for conflict resolution. Changes were also made to allow for more time to develop the solution when all the students participated in the kick-off meeting. With the adaptations ready to be implemented, the second edition of the Living Labs programme took place. Even though there was not to be a third edition of the Living Labs programme, the same feedback was collected on the overall programme and specific learning events. This was done to help refine the final Living Curriculum taking into consideration all the learnings from both editions.

3. Results

The implementation of the Urban Shift Living Labs ultimately resulted in 15 separate business ideas, each developed by a unique transdisciplinary start-up team, which at their core intended to overcome particular problems for specific targets groups faced by one of four urban sustainability challenges: urban heat islands (UHIs); food waste; extreme weather events (EWEs); and mobility. This section will examine one business idea developed to tackle each of these challenges, thereby demonstrating the concrete outcomes and outputs resulting from the transdisciplinary and cross-border Urban Shift programme, as well as the value of green entrepreneurship as an educational approach for transformation.

3.1 UHIs - Klimatile

The Klimatile team consisted of 5 members, one each from WU, WIFI and HdM, and two members from IAAC, as well as a team coach from Terra. Having worked through the design thinking process during the project kick-off week, the team chose to approach the challenge of UHIs by focusing on external building cladding systems. The primary pain points identified by the learners were the discomfort experienced by residents and workers in urban areas, with 65% of their survey respondents reporting suffering from physical and psychological problems due to the heat in their homes, and the insufficiency and unsustainability of many short-term solutions, e.g. air conditioning, fans.

The Klimatile solution targeted the cladding industry was ceramic tiles, which possess passive cooling capabilities, and utilised 3D printing to enable aesthetically appealing designs and patterns, as well as local and eco-friendly production. The tiles were to be combined to clad the exterior of urban structures, with internal water channels that enable the passive evaporative cooling effect. The cladding would generate an insulated air gap which creates cooler temperatures on the inside and outside the building of between 3-10°C, according to environmental tests carried out by the team. This cooling function was identified as the most important value proposition in the market survey, with the energy costs saved during hotter months, and the customisable, natural and sustainable aesthetics further highlighted.

Figure 3: Klimatile prototype cladding system ceramic tile

Source: Urban Shift, 2023

3.2 Food waste and circularity– Second Slice

The Second Slice was made up of one member each from WU, WIFI and IAAC, with two HdM members, and a team coach from WIFI. In the problem space of the double diamond, the team identified the issue of bread waste, with Austrian households alone throwing away over 140,000 tons of bread and baked goods each year (Hietler et al. 2021). Through research into possible uses for this bread waste, they identified mycelium, the root structure of fungi, which acts as a natural binding agent and could be used to convert discarded bread into a versatile and sustainable material with properties like leather. Noting the growth in the global vegan leather market, the team's mission therefore became providing an eco-friendly alternative to traditional leather production while simultaneously reducing food waste. Second Slice would develop strategic partnerships with local bakeries and food suppliers to source the bread, thus reducing both waste and costs. The value proposition would thus be for consumers interested in making conscious choices to support sustainable and ethical practices while enjoying products that are stylish, functional, and environmentally responsible.

Figure 4: Second Slice prototype bread-mycelium 'leather'

Source: Urban Shift, 2023

3.3 EWEs – Far-More

The Far-More team consisted of 6 members, one each from WU and WIFI, and two each from HdM and IAAC, as well as a team coach from WU. In response to various extreme weather events affecting certain European cities such as drought and excessive rainfall, the team sought to develop a solution for urban gardening. The outdoor gardening system was designed to promote sustainable gardening practices in urban areas, featuring a modular design with up to seven attachable planters, a silicone-based lining, and an efficient wick-based watering system to ensure optimal soil moisture while conserving water. Furthermore, the system includes a manual shading mechanism to protect plants from excessive heat and over-watering during rain. With the possibility to include additional planters, the adaptable design

fits limited spaces like urban gardens and rooftops. Having focused on the urban gardening market, the team undertook significant problem and solution validation with members of urban gardening communities. Based on their feedback, the value proposition of the system primarily focused on the environmental factors of water conservation and sun and rain protection, however the modular design, efficient use of space and sustainability focus of the Far-More system was also considered attractive.

Figure 5: Far-More prototype urban gardening system

Source: Urban Shift, 2024

3.4 Mobility – EasyRide Bags

EasyRide Bags had just 4 team members, two from HdM, one from IAAC and one from WIFI, with another coach from Terra. The team had a more complicated design thinking journey, homing in on their chosen problem of bicycle safety and target group of elderly cyclists at an early stage, but later returning to the solution space to overcome issues and resolve the needs raised by this target group. Through surveys carried out by the team with elderly people, loss of balance related to aging was cited as one of the primary safety concerns. However, the stabilisation solutions offered by the market tended to face resistance due to questions of dignity. Beyond this, the difficulty of combining grocery shopping with cycling was indicated to be a significant reason to drive instead. For this reason, the team chose to tackle these twin pain points with a single solution. EasyRide Bags focused on simplicity of installation and removal, as well as ensuring the additional weight was as low as possible. The grocery bags were designed to have discrete stabilising wheels, placing attention on the clever transport mechanism, rather than the need for a cycling aid. With a foreseen two-pronged sales approach of B2B and B2C, bicycle retailer Fahrrad XXL (one of the largest in the DACH region) expressed interest in the first prototype.

Figure 6: EasyRide Bags digital prototype

Source: Urban Shift, 2024

3.5 Skill development

The UShift projects aimed at developing start-ups; however, there was never a guarantee that the start-ups would continue beyond the programme. Reasons for setting aside the business ideas included diverging interests, starting out on new professional careers, team dynamics, similarly to many nascent start-ups. Despite this, several of the learners went on to found start-ups related to sustainability, such as EnergyTrack and Minatess, demonstrating the impact of participation in such a programme on later professional trajectories. As an educational programme under the European Commission Erasmus + funding programme, the development of knowledge, skills and competencies, as well as supporting shifts in learner mindsets, were deemed more central objectives than the number of start-ups continuing after the project lifetime.

In developing the programme, the trainers set out to impart green, digital, resilience and entrepreneurial skills and competencies that they could apply beyond their academic careers. The skills initially identified by the trainers as relevant to the learners were matched with the ESCO database to align with European standards. Thus, the different methods employed, the design of learning and teaching settings, as well as the tools used to support learner interactions, were considered for how they might assist skill development. For example, design thinking approaches and pitching were key to adjusting to entrepreneurial thinking, circular product design and development assisted learners in enhancing their green skills; while prototyping and market research were important learnings for enhancing digital competencies. Furthermore, the transdisciplinary and transnational nature of the team set up helped the learners to assess problems and solutions from multiple perspectives, thereby aiding systems and critical thinking, in addition to requiring the teams to work on their communication and conflict management.

Over the course of the two Living Labs editions, 15 start-up solutions were developed by the 80 learners. While not all learners made it through the programme, those that committed learned new skills and competencies that they would be able to apply in their future careers. Often learners are excited by the prospect of being able to develop a start-up, but they often do not fully realise the time and energy commitment required to develop an idea into a fully-fledged company. The practical nature of such a project and the knowledge imparted through

self-driven research, peer learning and intercultural exchange ensures a more transformational impact on learner skills relative to many traditional educational approaches.

4. Discussion

The start-up results demonstrate the importance of building transdisciplinary educational programmes in order to develop more holistic solutions. In research and industry it is becoming increasingly common for teams to be formed by experts from different backgrounds, as holistic solutions require inputs from various fields. Increasingly, educational programmes offer the possibility to work with colleagues from vastly different fields (Gallagher & Savage, 2022). Thus, the success of such programmes illustrates the need to rethink the rigidity of educational programmes. While the UShift learners did not decide to carry on their start-up ideas, it cannot be assumed that this was due to the idea not being successful. Many start-ups were approached by an investor, but the complexities team dynamics and career paths often led to its failure. While the UShift start-ups did not continue, as noted previously, some of the learners went on to found other new start-ups.

UShift also highlights the importance of situating educational programmes within the European or even global context. This helps the learners understand the importance and impact of the work they are doing. By aligning the Urban Challenges with issues that the European Commission is planning to address can also provide future funding possibilities. While the problems the European Commission range in complexity, it was clear that the topic or specificity of the Urban Challenge affected the progression and results developed. In Batch 1 the specificity of the challenges – food waste & Circularity and urban heat islands – made it easier for the learners to grasp the challenge and identify clear problems that they would address. While in Batch 2 the challenges were much broader – urban mobility and extreme weather events – making it harder for learners to narrow down their problems or the aspect of the challenge they wanted to address. Finding the balance between being specific and broad enough to allow for exploration is often a challenge and can impact the design journey, and in turn the development of the solution.

While the paper has focused on the methodologies implemented, the impact on the learners and the start-up ideas, it is also important to note the impact such programmes have on the trainers. Programmes like UShift allow for professionals to collaborate and share their teaching experiences and methodologies. This fosters the transfer of knowledge between disciplines and gives educators the possibility to embed new methodologies in their existing educational programmes or develop new programmes. The combination of different expertise, also those from industry, allows for holistic and relevant programmes to be developed.

5. Conclusion

Programmes like UShift offer the opportunity to experiment with educational formats with the goal of mainstreaming the methodologies and approaches in education. Building strong connections between industry and academia can aid in developing learners that are equipped with relevant skills and competencies that they can apply in their professional careers. The development of green, resilient, digital and entrepreneurial skills and competencies are becoming increasingly important as Europe moves towards its goals and initiatives. While

educational formats traditionally have been discipline bound, all the mentioned skills and competencies are not restricted to one discipline. These skills and competencies are relevant to all disciplines. While some disciplines may be stronger than others with specific skills and competencies, bringing together the different disciplines can help the transfer of knowledge and encourgage growth amongst learners.

The varied start-up ideas demonstrate the possibilities when bringing together leaners from different disciplines – architecture, business and media. Design thinking and challenge-based learning serve as methodologies that can engage not just designers but all disciplines to develop creative solutions to pressing problems. Entrepreneurship served as the vehicle for learning to ensure the learners had a common goal when pulling together their different expertise.

The dynamic format of the programme ensured that the methodologies and learning events were evaluated, reflected upon, and adapted before implementing the programme for the second edition. This resulted in a Living Curriculum that continued to evolve during the project's lifespan taking into consideration feedback from learners, trainers and experts. Urban Shift demonstrated that the implementation of transdisciplinary and cross-border programmes can work with careful planning and motivated trainers and learners, giving learners the skills and competencies needed to start their own business or enter the workforce.

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