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## ENTREPRENEURSHIP EDUCATION AS A PILLAR OF THE SUSTAINABILITY OF CULTURAL AND CREATIVE INDUSTRIES. THE CASE OF THE TRACCE PROJECT

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**Abstract.** *The paper discusses the experience and innovativeness of a European Erasmus + project aimed towards developing entrepreneurial education in creative and cultural industries in the European Union. It is the first quadruple helix co-created program on creative and cultural entrepreneurship (CCE) in a manner focused on the higher education sector that is enabling academics to get acquainted and infuses their curricula with CCE from a multi-stakeholder perspective. Also, it is the first co-created learning framework that blends design-thinking with a learner-centric approach which facilitates a learner-driven educational pathway. CCE Virtual Learning Environment is the first modular CCE educational platform with open dissemination and flexible embedment of the innovative CCE curriculum and train-the-trainer through virtualization of resources. The paper describes in detail the management of the delivery of planned intellectual outputs, drawing valuable lessons about the implementation of cocreation principles from a multiple stakeholders perspective in a multicultural setting.*

**Key words:** *cultural and creative industries, entrepreneurship, education, cocreation, quadruple helix.*

### 1. INTRODUCTION

The Cultural and Creative Industries (CCIs) generate around €509 billion per year, representing 5.3% of the EU's total GDP and employ 12 million full-time jobs, which constitutes 7.5% of the EU's employment and the third largest employer sector in the EU according to the European Commission. According to European Union Culture and Creativity, "cultural and creative sectors are comprised of all sectors whose activities are based on cultural values, or other artistic individual or collective creative expressions" [1]. These sectors include performing arts, music business, software and games, radio and TV, film business, design, advertisement, architecture, cultural heritage and book and publishing.

In the European Parliament report on a new skills agenda for Europe (Report -A8-0276/2017. European Parliament), creative and cultural entrepreneurship (CCE) is explicitly

mentioned as contributing to social well-being, innovation, employment and as stimulating the EU's economic development.

CCE is deemed to innovate the traditional outdated startups with new models, new practices and new governance structures in which the role of society will be enhanced to boost social inclusion by mitigating groups at risk and creating new job opportunities [2, 3]. CCE brings direct added value to promoting culture, cities, places and thus tourism, with an imminent impact on active citizenship and inclusive societies [4]. Nevertheless, there is limited evidence of emphasis being put on CCE in Europe overall [5].

Higher education institutions are playing a key role in shaping the next generation of CCE by providing the necessary training aimed at building the proper skills of potential cultural and creative entrepreneurs to achieve a proper startup and scaleup with their idea, and not limited only to the startup stage. This is of critical importance within the EU as most

startups do not achieve a proper scale-up stage and this is widely due to lack of proper training to access the required resources and networks that would ensure the scaleup.

As entrepreneurship is a very dynamic field, university teachers and trainers are required to always co-create also transnationally with various categories of stakeholders such as: entrepreneurs, mentors, investors, policy makers and society to ensure that their curricula are infused with the proper knowledge that would ensure the success of their graduates [6].

This paper discusses the innovativeness of education on CCE we have used in our project based on the co-creation approach [7] to overcome its very limited use in education [8]. By using this approach of cocreation of the content and the teaching/training methods with major stakeholders, we have addressed the limited offering of CCE courses within European higher education institutions. Another goal of these innovative approaches was to increase the sustainability of the organizations from the creative and cultural industries in Europe in terms of yielding successful creative and cultural entrepreneurs. About the social and educational value of the European cultural heritage, creative and cultural entrepreneurship practice is acknowledged as a development at the crossroads of the social entrepreneurship and social innovation concepts [9].

In its intangible format, CE comprises of easier business/startup models than traditional industries [10]. This implies that fewer financial resources are required to sustain and operate a CCE startup, bringing thus added value in an economically constrained context.

However, CCE is of great significance as an engine of economic growth and as a leverage for social and cultural wellbeing of the country in the postindustrial world [4], and to create very distinct and skilled employment opportunities and facilities [11]. In this context, the project entitled “Community Enabled Open Training on Creative and Cultural Entrepreneurship” was proposed and approved for financing under the Erasmus+ European Union program.

## **2. PRESENTATION OF THE MAIN OF TRACE IMPLEMENTATION**

The first phase of the project was to address the skill gaps and mismatches by identifying them and comparing them to various requirements and suggestions of various documents of the European Union. Consequently, an initial training needs analysis was performed in four European countries: Germany, Austria, Greece and Romania, by the six project partners aimed to identify existing skill gaps in the field of CCE which prohibit CC entrepreneurs to succeed with their startups.

The results indicated the several gaps in CCE skills areas which needed to be addressed by our project. These areas are: first, CCE Opportunities and Idea Identification, including: CCE market opportunities identification, CCE pre-seed development; second, CCE business models for start-ups, developing partnerships / networks among creative and cultural entrepreneurs, sustainability and responsibility of creative and cultural entrepreneurs, third, CCE scale-up and globalization; fourth, next generation trends for creative and cultural entrepreneurs, CCE Case studies, including real life CCE examples, and good and best practices. All these skills should also include advanced digitalization abilities.

The end goal of the TRACCE project was to introduce the whole course or only some of the modules in cultural and creative entrepreneurship (CCE) in already existing higher education programs in order to help their regions’ capacities to foster such ventures, innovatively co-created with academics, market and policy makers that would respond to the regional/real needs of the CCE sectors in the 4 countries in special and to every other EU country as a model to follow and adapt to the country, regional or local situations.

This was aimed at better supporting efforts to foster “Creative and Cultural Entrepreneurship”, to ensure that cultural sector grows in terms of products, services, revenues and boost the attractiveness of the cultural heritage. Ultimately, this initiative substantially impacted on the implementation of Timisoara EU Capital of Culture 2023 (in Romania) by providing high quality educational materials for prospective CCE while also spurring spin-off projects that continued the movement of CCE with digitalization and acceleration services.

Table 1

**Overview of the action (implementation) methodology of TRACE project**  
[\(https://tracce-project.eu/the-program/\)](https://tracce-project.eu/the-program/)





| Symbol   | Action   | Details   |
|--|--|---|
|   | "A Curriculum focusing on the necessary skills and knowledge in the field of Creative and Cultural Entrepreneurship"                             | <ul style="list-style-type: none"> <li>• "Training needs analysis and skill matrix development for CCE needs.</li> <li>• Global research of the CCE education best practices.</li> <li>• Co-creation of the CCE Curriculum areas and topics.</li> <li>• Organization of internal pilots of the curriculum to test it at wider scale".</li> </ul>  |
|   | "An open access training in our virtual learning environment enabling both learners and trainers to enhance their skill set"                     | <ul style="list-style-type: none"> <li>• "Online education tool: Chronological online collection of CCE materials like videos, PDFs to complement teaching and learning.</li> <li>• Enables interactive exchange of the community.</li> <li>• Includes success stories of cultural and creative entrepreneurial trainers and successful cultural and creative entrepreneurs.</li> <li>• To get registered: Please contact the organizer of your event".</li> </ul>  |
|   | "A community of Creative & Cultural Entrepreneurship that continues to grow with our Train the Trainers toolkit offered to educational trainers" | <p>Based on the (EntreComp)</p> <ul style="list-style-type: none"> <li>• "Facilitation Mechanisms (SALTO).</li> <li>• The digital trainer material (DIGCompEdu).</li> <li>• Best practices: CCE Case studies from all the partner countries (Romania, Austria, Germany, and Greece)".</li> </ul>  |
|  | "Learning material and a workshop toolkit to apply in their courses"   | <ul style="list-style-type: none"> <li>• "Co-creation methods with a focus on the design thinking framework combined and prepared for the target group and for workshop use.</li> <li>• The developed frameworks supported the TraCCE-scientific partners in the curriculum development throughout the whole project.</li> <li>• Learning activities methodically designed in the sense of co-creation to initiate the quadruple helix stakeholder exchange.</li> <li>• Two learning activities took place under this framework (1) Thessaloniki, Greece, and 2) Timisoara, Romania)".</li> </ul> |

Figure 1 shows the project results as they appear on the project webpage.

Therefore, our initial needs analysis in CCE course delivery consisted of entrepreneurial behavior; teamwork; decision making; design thinking; business planning; income generation; digital skills; national and international networking; CCE ideation, digitalization, intercultural skills; and social and environmental accountability.

Overcoming such needs with a CCE curriculum helped the partnership to better contribute to their regional priorities such as: Timisoara EU Capital of Culture 2023, offering open access CCE training to local potential entrepreneurs in culture/creativity, and reskilling adults and existing performers in CCE.

The partners of the project were München University of Applied Sciences (MUAS), Social Innovators Graz (SIG), Austria, West University Timisoara (WUT), University Politehnica Timisoara (UPT), Timisoara Municipal Hall (MUNTM) from Romania, and South Eastern European Research Center (SEERC), Salonic, Greece.

The project has delivered four intellectual outputs: first, CCE Curriculum development; second, CCE Workshop Concept and Co-Creation Framework; third, CCE Virtual Learning Environment, and fourth, CCE Train the Trainers Toolkit.

The first result aimed at ensuring the development of the CCE curriculum. At first, a large scale training needs analysis (TNA) confirmation of the existing skill gaps in CCE

was performed among the quadruple helix stakeholders in each country so that the CCE curriculum was tailored around those skill groups by considering the needs of students/graduate, academics, industries, entrepreneurs, and industry as well as of the quadruple helix. This additional gap confirmation was needed in order to ensure that any major changes implemented in the CCE market in between the proposal stage and the project implementation stage was fully captured in the curriculum. WUT, UPT and MUAS contributed to the development of the training needs analysis questionnaire which, later, was validated by all partners. Subsequently, a skill matrix was developed to match the strengths, weaknesses, opportunities, and threats of the partner organizations against those skills, so that the CCE curriculum was fully specialized and targeted.

Basically, the CCE curriculum was developed, as an iterative process, on the TNA and skill groups identified. The main idea was that at the end of the project, the skill matrix is homogeneous while at the same time, the CCE curriculum is universally valid for all partners. First, an initial small scale pilot research during 1<sup>st</sup> quarter of 2020 was done, when each partner held consultations with their quadruple helix stakeholder groups as well as review of national documents and CCE related academic and non-academic programs.

Next, the following areas for the CCE curriculum development were envisioned as the starting point: Module/Area 1: CCE Opportunities and Idea Identification, including: CCE market opportunities identification, CCE pre-seed development, etc. Module/Area 2: CCE Start-up, including: CCE business models for start-ups, developing partnerships / networks among creative and cultural entrepreneurs, funding and finance, risk management, organizational volatility, sustainability and responsibility of creative and cultural entrepreneurs. Module/Area 3: CCE Scale-up and Exit strategies, including: CCE scale-up, patenting, exit and globalization strategies, scaling models and cycles, next-generation trends for creative and cultural entrepreneurs. Module/Area 4: CCE Case studies, including real life CCE examples, good and best practices.

The second intellectual output is about developing an innovative CCE Workshop Concept and Co-Creation Framework. Co-creation among quadruple helix stakeholders in TraCCE was capitalized through transnational workshops (C1, C2). Based on the basic principles of co-creation and open innovation, the participants developed and piloted content as well as formats for a practice oriented CCE training framework. In the workshops different methods and approaches were applied.

As planned, in IO2, two main products were developed: first, a methodological framework for the co-creative work during the project, and the second, the methodology and design of the two Learning Activities including evaluation and adaptation after the first Learning Activity.

First, the methodological developed framework followed a design thinking approach in combination with intensive co-creation approaches especially with the Quadruple Helix Stakeholders. To this end, the framework for the development of the IOs was first developed, presented to the other project partners, and refined in an iterative process until all partners had a good understanding of it. The developed framework can be used for other curriculum development projects in terms of content.

Second, the methodology and design of the two Learning Activities including evaluation and adaptation after the first Learning Activity. The method for holding the learning activities was a combination of different collaborative methods. In terms of content, the focus here was on the use of swarm intelligence and regular reflective exchange with the trainers to be and the learners. In addition, the methods used in the second learning activity were based on the Business Model Canvas to optimally align the learning activity with the curriculum content and to support it. This second product was also developed in an iterative process with all project partners to create methodological security among the partners. In addition, after the first learning activity, an evaluation and adaptation in the sense of the Plan-Do-Check-Act control loop was carried out, whereby the methodological support of the second learning activity could be improved. Another part was the factual moderation and methodological support of the

Learning Activities on site. This was carried out without any deviations.

The third intellectual output regards the virtual learning environment (VLE) that contains the CCE curriculum and the Train-the-Trainer toolkit. These have been integrated into a concise and didactic structure to enable educators to learn how to teach the material and at the same time hold the material for the students' usage. The result is an online course that provides an innovative and interactive platform for educational purposes. This is available for free access on the SCE Academy, an online academy maintained by MUAS, the Strascheg Center for Entrepreneurship (SCE).

This is an open learning platform hosted by the learning management system provider "Learnworlds" which ensured that VLE could be developed using the latest technology and best practices. The development process of VLE consisted of six iterative stages that started with a requirements analysis, VLE draft, piloting, feedback, improvement, and final release. The VLE was designed to be user-friendly, interactive, and accessible to everybody.

The second stage, VLE Draft, included the development of the VLE first version that was fully integrated in the piloting of the program to test its usability as well as get users feedback on the curriculum. This was conducted during workshops in Thessaloniki (June 2022) and Timisoara (November 2022), when feedback was collected and through the workshop evaluations from participating stakeholders. It was possible to identify the strengths and weaknesses of the VLE and to make improvements before the final release. A last effort to test the VLE and collect additional feedback was also pursued during the multipliers workshops conducted by MUAS.

The final stage was to release the final version of the VLE resources on the SCE Academy platform. Furthermore, UPT used the resources developed to release a parallel version at their own platform (UNICAMPUS), increasing the dissemination and availability.

The principal innovation of the VLE resides in the open dissemination and flexible embedment of the innovative CCE curriculum and train-the-trainer through virtualization of

resources. The entire content developed can be embedded in the partner's organizational frameworks, as well as adopted by other HEIs and educational providers in Europe. Hence, the VLE will positively impact academics and students to better acquaint themselves with market oriented CCE topics by helping them to develop suitable entrepreneurial competences. Similarly, players in the creative and cultural industry, as well as government support agencies in the field will gain a positive impact by having free access to virtual educational resources that foster action learning and can generate startup ideas in the field of CCE. On top of this (besides the academic value), the VLE acts as a social empowerment environment/tool in times of crises and disruptions (i.e., major health epidemics, political unrest, natural disasters, etc.) by enabling the learners to train themselves through a self-paced-learning experience, breaking thus barriers to enterprise, social integration and human/citizen development.

The fourth intellectual output is the CCE Train the Trainers Toolkit for entrepreneurship trainers in the field of cultural and creative industries (CCI) with an aim to provide an in-depth training guide for CCE teachers/trainers. The tool can be used as a teacher's manual for CCE education providers. The Toolkit includes the following: 1. Entrepreneurship Competences ("EntreComp") including the "EntreComp" Model, the Progression Model and learning outcomes. 2. Facilitation Mechanisms with Basic and core facilitation principles 3. The Digital Trainer with a section on the European Framework for the Digital Competence of Educators and Key Digital Training Areas 4. Access to real life best practices – Sprints taken from real life cases. 5. Best Practices – CCI Entrepreneurship Case Studies including examples from interviews from successful cultural and Creativity Entrepreneurs and Trainers from all project partners' countries (Greece, Germany, Austria, Romania).

During the two training events were organized a face-to-face real time 2-day "training of the trainers" workshops. It contained a think-act-tank workshop where the CCE trainers from each project partner were co-

creating innovative methods for the training of the trainees to follow. The training workshops also offered access to case studies, innovative teaching mechanisms and international resources. The blended learning approach was incorporated into the TTT toolkit.

The first workshop took place in Greece and consisted of, first: session on train the trainers (in which IO4 was piloted, validated, extended and peer-evaluated in a transnational context). The trainers in the case were teachers/educators in CCE subjects as well as career guidance officers related to CCE. Second, the CCE curriculum was tested by delivering it to key CCE targets (students, artists, entrepreneurs, local authorities, experts). The aim was to use co-creation and open innovation for receiving hands-on feedback from these target groups on the work performed by TraCCE to allow revisions and upgrades of the CCE Curriculum to become more market oriented. Each workshop piloted the whole content of the curriculum. Third, the virtual learning environment (VLE) was piloted and disseminated to a wide-range audience, receiving thus multi-variate user feedback both in terms of its usability and learning experience. Fourth, the co-creation and open innovation scheme were piloted and tested to improve TraCCE's procedures for multi-stakeholder cooperation around CCE and to develop the planned project outputs.

This first training basically aimed at piloting all the intellectual outputs to enable the consortium to address suggested improvements and changes. In the period following this event the members of the consortium made the suggested improvements. The second workshop took place in Timisoara, Romania and consisted of, first, a session on train the trainers in which CCE Train the Trainers Toolkit for entrepreneurship trainers in the field of cultural and creative industries (CCI) was piloted, co-created, extended and peer-evaluated in a transnational context. The trainers in the case were teachers/educators in CCE subjects as well as career guidance officers related to CCE. Second, the whole CCE curriculum was piloted by delivering it to key CCE stakeholders: students, artists, entrepreneurs, local authorities, experts. The goal was to co-create and use open

innovation to get immediate feedback from these target groups on the work performed by TraCCE team. Third, we piloted, disseminated the revised, and enriched virtual learning environment (VLE) to a wide-range audience, receiving thus multi-variate user feedback both in terms of usability and learning experience. Fourth, piloting and testing the updated framework for co-creation and open innovation to improve the TraCCE's mechanisms for CCE multi-stakeholder cooperation and output development. After this second event, the consortium performed the suggested improvements.

We encountered several challenges that impacted the progress of the project. One of the key challenges was the outbreak of COVID-19, which resulted in the need to reschedule or shorten some of our project milestones and events. This was particularly challenging given the uncertainty and disruption caused by the pandemic, which made planning and scheduling difficult. From the very first beginning onsite It forced us not to start with a TPM in Romania, but in a virtual session. Therefore the “come together” as a consortium and get to know each other was delayed. This also resulted in further changes to the time plan of the project (Gantt). E.g., we had to change the time slot of the learning activities. To address these obstacles, the project's partners invested much time from the very beginning of the project to ensure the quadruple helix co-creation virtually.

Another main issue was the different value system and understanding of the creative industry vs. the cultural sector. Those are separate target groups with totally different needs and expectations. To bring them together was a big challenge. We did a lot of “translation” and tried to address both perspectives throughout the project.

### **3. CONCLUSIONS AND FINAL REMARKS**

The innovativeness of the TRACCE project is reflected in its results content and in the method used to develop these results. It is the first quadruple helix co-created CCE curriculum in a manner focused on the higher education sector that is enabling academics to get acquainted and infuses their curricula with CCE

from a multi-stakeholder perspective (covering both start-ups, scale-ups and existing industry) filling thus the major gaps within this sector and EU overall. Also, it is one of the first curricula that focused on the "scaleup" perspective of CCE startups, rather than on the startup phase itself. As method, it is the first CCE curriculum developed via design thinking sprints.

Second, innovative aspects are reflected in the CCE Workshop Concept and Co-Creation Framework. It is the first proper blend/infusion of the quadruple helix approach throughout all the project's activities (going even beyond the workshops) ensuring thus a uniform impact and mutual learning for the entire CCE quadruple helix stakeholder (including groups at risk to foster social inclusion) block of the EU.

Also, it is the first co-creation framework that blends design-thinking with a learner-centric approach which facilitates a learner-driven educational pathway.

Third, CCE Virtual Learning Environment is the first modular CCE educational platform with open dissemination and flexible embedment of the innovative CCE curriculum and train-the-trainer through virtualization of resources. The entire content developed can be embedded in the partner's organizational frameworks, as well as adopted by other HEIs and educational providers in Europe.

Fourth, the CCE Train the Trainers Toolkit is the first attempt to provide an in-depth training guide for CCE teachers/training by relying on a blended learning mechanism in which the CCE teachers/trainers co-create in an open innovation manner with CCE quadruple helix stakeholders while also pilot on ongoing basis parts of the curriculum in their ongoing CCE-related classes or training sessions. Additionally, by adopting various innovative approaches to the train-the-trainers process (such as "think-act-tank" or SCRUM), an alternative approach to education provision around CCE was performed, and the motivation of the stakeholders involved is boosted to reach more impactful outcomes.

Fifth, TRACCE project is society-oriented as the main theme of the envisioned higher

education-oriented outputs is culture and creativity and basically, the effective translation of academic teaching and learning into citizens capable of upgrading their communities with cultural and creative entrepreneurship concepts. Such endeavor has a direct impact on the participating universities' mission towards achieving civic engagement, not only by having the academic outputs that impact on society, but rather, by fostering a direct involvement of society as one of the co-creation engines of those outputs. In this manner, TraCCE fosters civic engagement by enabling society to co-produce outputs that will benefit local, national, and international communities. Society is involved in various formats in TraCCE's activities fostering thus a direct dialogue on civic engagement in a dual way between academia and society together with the other quadruple helix actors). Furthermore, as TraCCE seeks to align its efforts with the Timisoara2023 events (European Capital of Culture), the real impact of TraCCE's civic engagement becomes maximized by such celebratory event where many civic actors are present and up taking the outputs of the project.

The innovative aspects related to the methods, the TraCCE project adopted a transnational and multi-stakeholder approach to co-create: a higher education CCE Curriculum and a CCE Train the Trainers Toolkit that are offered to higher education staff, students and the CCE community (open access) through a virtual learning environment and through two international workshops/trainings.

All the tasks involved the participation and contribution of each partner and were based on clear innovative principles, such as: a) quadruple helix to have all the relevant stakeholders involved in the project activities; b) co-creation to benefit from each partner's expertise and input into the final results; c) open innovation: d) design thinking.

Finally, the project followed the following methodological steps: first, needs analysis confirmation (large scale survey), second, content development using via co-creation both

for learner and trainers, including peer reviews; third, content piloting and revision via training the CCE trainers and learning sessions for would-be CC entrepreneurs; fourth, engagement and multiplication via four multiplier events; and fifth, making results widely available for educators and trainers, via open access platforms (Moodle).

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#### **Educația antreprenorială ca pilon al sustenabilității industriilor culturale și creative. Cazul proiectului TracCE**

Lucrarea discută experiența și inovația unui proiect european Erasmus + destinat dezvoltării educației antreprenoriale în industriile creative și culturale din Uniunea Europeană. Este primul program de antreprenariat creativ și cultural (CCE) co-creat pe baza abordării elicei cadruple într-o manieră axată pe sectorul învățământului superior, care permite cadrelor universitare să se familiarizeze și să-și infuzeze curriculum cu antreprenariat creativ și cultural dintr-o perspectivă multipartită. De asemenea, este primul cadru de învățare co-creat care îmbină abordarea "design thinking" cu o abordare centrată pe student, care facilitează o cale educațională centrată pe elev. Mediul Virtual de Învățare CCE (Virtual Learning Environment) este prima platformă educațională modulară CCE cu diseminare deschisă și încorporare flexibilă a curriculum-ului inovator CCE și a formării formatorilor prin virtualizarea resurselor. Lucrarea descrie în detaliu managementul furnizării rezultatelor intelectuale planificate, învățând lecții valoroase despre punerea în aplicare a principiilor co-creării din perspectiva mai multor părți interesate într-un cadru multicultural.

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