

How to implement a Challenge Based-Learning Entrepreneurship (CBL/e) course?

A 10-step mini-manual

This mini-manual provides a brief description of the methodology for CBL that is being used at [TU/e innovation Space](#). It also functions as a recap of the [Entrepreneurial Education Network \(EEN\)](#) meet-up about CBL that was held on Tuesday March 8th, 2022. Suggestions made during and after the meet-up are included in the manual. Thanks to everyone who participated!

Overall Perspective

A CBL/e course is focused on two flows:

- Learning to learn focusing on how to be capable of moving out of your comfort zone and still be capable of learning how to interact in the new (changing) environment and situations. Students learn together thanks also to a P2P approach implemented through teams' progress pitches and tips/tops provided by the other teams, while each pitch can be concluded with a call to action (help needed from the others).
- Self-discovery of students on entrepreneurial competences i.e. what are my capacities to work within a team and deliver a solution to a real life challenge that is technically feasible, socially desirable and legally doable. A particular attention is paid to the organization's financial sustainability in case of social entrepreneurship.

The above two points stimulate self-regulated learning and lead to customised and personalised learning. During the course the emphasis lays on *Value Creation* (steps 1-7), *Value Delivery* (steps 8-9) and *Value Capturing* (step 10).

Value Creation

1. Challenge owners management expectations

- Intake process with challenge owners to explain the course objective and how to craft their challenges to satisfy the course learning objectives and simultaneously be interesting for the students. The intake process starts couple of months before the kick-off of the course.
- Expectations management: clarifying to the challenge owners that the course is different from cost-less labour of students to address a particular problem, but a learning path for students. At the end of the course, students' teams may become: their partner (in case of cooperating in developing the project idea to the market); their supply company (in case it offers the necessary technology for the students' service/product); their customer (in case the developed product/service addresses the challenge owners problem); their spin-off (in case the challenge owners offer to the students' teams the opportunity to work further on their project and bring it to the market as a product/service of the company).
- Ask for the challenge owners' commitment to support students' teams with data, technical advice and coaching while developing their project.

- Treat students as young professionals and interact with them to address their teams' needs.
- Challenge owners are asked to participate and provide feedback in five distinctive moments: The official kick-off (introducing themselves and their challenge); Mid-mid-term pitch (presenting the problem to be addressed); mid-term pitch (presenting the solution); mid-final-pitch (presenting the business component); final-pitch (presenting the product/service either as a prototype and/or as a pilot).

2. Challenge Selection and Team Building

- Students explore the top three most interesting challenges for them. They discuss all of them into a rotation process with different other students. So they can clearly see which is the challenge they can contribute most based on their interest and competence.
- In the next step, students choose the challenge they would like to participate and are invited to deliver an individual pitch on which is the problem to be addressed in that challenge (in most cases challenge owners don't know which the specific problem is to be resolved to address the overall challenge).
- Students vote the pitches, and the best pitchers become the team-formers (not team leaders!). So, the other students who didn't pitch or whose pitches were not selected as the best, will interact with team-formers to become member of a students' team.
- The team forming process is coordinated with a cohort establishing framework. Hence, a useful interaction is created not only within the team (key for the future team dynamics) but also within the entire cohort (key for the P2P learning and feedback in the progress pitches mentioned above). Interdisciplinarity of team-members remains key as it enhances team's complementarities and ensures a multi-disciplinary overview when addressing the challenge.
- Education Student Affairs (ESA) team delivers a specific workshop on interdisciplinary, intercultural and team-dynamics to prevent any consequence on the future team development and to smoothen the start of teamwork.

3. Problem Exploration

- A considerable time – around four weeks of the six months course – are spent on problem exploration. Identifying the right problem is key to come up with a sound technical and financially wise solution, as it provides the fundamentals of the entire project.
- Particular attention is paid to offer different workshops on problem exploration and keep students, who would like to jump to solution in a typical engineering attitude, focused on this activity.
- In case there is a process-impasse on problem exploration, the "anti-ethics game" is introduced, in which students are encouraged to think on how to further deteriorate the problem rather than addressing it. This helps the process of thinking on different aspects, stakeholders and processes that remained hidden up to that point of problem exploration.

4. Validation

- We ask students to get out of the building to validate their problem and see whether there is someone ready to pay for addressing it (no pain no gain). When discussing with real-life stakeholders the teams can verify their assumptions and re-consider or re-pivot the problem if needed.
- A specific workshop is offered on tools and their engagement in terms of problem validation. The focus is on how to bring students from concept to context (putting the problem in the broader perspective considering the broad picture).

5. Stakeholders

- The process of concept-context is key to identify all the stakeholders involved in this challenge.
- Experts are consulted by the teams and have an advisory role on both technological aspects as well as to see whether any key stakeholder is excluded from the map, since the potential solution needs to satisfy all of them.
- The teams must identify how each affected stakeholder (either financially, politically, or value-added wise) will be better off once the solution is implemented.
- Competitors and substitute solutions are also identified and the USP of the teams' own solutions is specified.

6. Value Network

- Multilateral or multi-stakeholders' business models are important in the current reality as there is a broader interaction than B2B or B2C. It's vital in this process to identify the potential customer, whose project is going to relieve the pain. No pain, no Gain. Teams can also validate the value proposition of their product/service with customers of similar products/services.
- "W.I.I.F.M.?": what's in it for me? The teams have to clearly realise, which is the position of their future organisation in the value network vis-à-vis the other stakeholders. Which is the value they bring to the market and what they get out of the market.
- This concept also holds when you have social entrepreneurship organisations. The fact that you are focused on social impact rather than simply making money, doesn't mean that you are a charity organization. You have still to be financially sustainable.

7. Prototyping

- Prototyping remains a key process not only to validate the solution and presenting it, but it also helps the visualization process and communicates the ideas easily for the entire team. In several occasions, the prototyping helps the team understand that the solution is not feasible, or there are user-feasibility issues.
- Prototyping doesn't need to be a complex device: not every product/service can have a physical prototype, but you can still have something, which helps to explain the service or product offered.(make it self-explanatory). Presenting solutions through the "Comics Exercise" helps students to visualize the solution and forces them to think in a clear and self-explanatory approach.

- A specific workshop from the innoSpace technical staff is organized to offer to students more insights on the stages and key aspects of prototyping. This will help students to understand on how to craft and efficiently employ an MVP to validate their solution, without finalizing a fine product/service.

Value Delivery

8. Market Entry

- The market entry process is introduced to students through the pilot they have to conduct. In the pilot stage, the teams bring their solution into the real market and see whether it works in a real-life situation. It is important here to highlight the importance of defining the business goals and target market at an early stage.
- The pilot – conducted usually with challenge owners or with potential customer/beneficiaries helps them to identify main challenges to enter the market in a small-scale and in a relatively safe-environment so to be able to address prior to making the next steps.
- The pilot offers the opportunity of a serious validation for the students' teams and introduces them to the demands and expectations of the real market including the market/competitors analysis and above all identify the USP of the proper product/service.
- Pilot also offers the opportunity of co-creation, since challenge owners, potential first-coming customers can help to improve further the product/service. They turn in this way to be more testers and early adopters rather than challenge owners and low-hanging fruits customers.

9. Roadmap

- In this stage, the team is focused on the activities beyond the course. How the product/service will be further developed and make it to the market.
- Which is the new relationship with the challenge-owner? The challenge owner can have different position in the relationship with the teams: partner (in case of cooperating in developing the project idea to the market); their supply company (in case it offers the necessary technology for the teams' service/product); customer (in case the developed product/service addresses the challenge owners problem; spin-off (in case the challenge owners offer to the students' teams the opportunity to work further on their project and bring it to the market as a product/service of the company partner.
- Focus on the GSD i.e., get stuff done. Which are the concrete stages in which and when they will need financial support from the potential investors and what are the following steps of further product/service development and market entry/grow?

Value Capturing

10. Value capturing

- Reflection (team and self-reflection) process on how the learning objectives both as individual and as a team have been fulfilled during the course.

- Lessons learned in terms of life-long skills and competences.
- Insights on their project in a teams' perspective: how do they see their future after the course? Are they thinking to develop further as a start-up or take the lessons learned and turn them into life-long skills.
- In case that a product/service is not developed by the team of students, then the concluding result it would be a "Handover Strategy Document" for the challenge owner. In this way, the teams are still capable to offer added value to the challenge owners in the form of conclusions and recommendations, while going through the process in a real-life challenge.

For further info please contact: Ákos Wetters (a.r.wetters@tue.nl) and Gert Guri (g.guri@tue.nl)