

ENTREPRENEURIAL VIRTUAL CLASSROOM HANDBOOK

AN INTERDISCIPLINARY
APPROACH FROM A EUROPEAN
AND LATIN AMERICAN
COLLABORATION



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INTRODUCTION

PURPOSE AND TARGET GROUP

The International Virtual Classroom (IVC) we created within the Erasmus+ project LISTO was about entrepreneurship. This handbook describing our experiences may be useful for anyone interested in developing an IVC on entrepreneurship. However, the relevance of this handbook may be of much wider scope. What we learned is not only about entrepreneurship in particular, but more generic educational aspects of international and intercultural interaction among student groups, project work, processes and group dynamics, and working in complex and uncertain situations. Sustainability, practical problem solving, and soft skill development are a few examples of teaching and learning contexts in which our recommendations can be fruitful.

This handbook is relevant to several groups of people. In addition to being useful for teachers interested in IVCs, it can also be interesting for project managers of larger collaboration projects in the field of education, e.g. other Erasmus+ capacity building or Strategic Partnership projects. It is also relevant on more strategic levels of universities, such as departments working with pedagogical development centrally at universities. As IVC is a way to achieve internationalisation "at home", it is also of interest for departments working with internationalisation on all levels within higher education.

PEDAGOGICAL ISSUES

The rapid growth and development in information and communication technology, day after day, has brought the digital revolution in the economic, social and cultural fields (Güney, 2014). The demands of an increasingly knowledge-based society and dramatic advances in mobile phone technology are combining to spur the growth of mobile learning. Students now see mobile media devices as a first point of reference for accessing information (Wang & Shen, 2012) and teachers communicate with students through telecommunication technologies, regardless of their location (Borisova et al., 2016).

The IVCs require the use of advanced technology and software systems. Zoom, Bluejeans and WhatsApp are a few of the systems we used in our IVC. Teachers must pay special attention, learn how to use creatively, and devote much time and energy when using such technologies. However, we would like to

emphasize the danger to think that technology is the pedagogy. It is not. Technology certainly does not make the pedagogical challenges easier to solve than in more traditional classroom settings. Rather the contrary. In an IVC you depend on technologies, they lock you in, and once you are in the teaching situation you are not free to improvise or adapt and change as you go along according to what happens in the classroom.

We would like to point out that "contemporary digital tools now enable us to enhance and augment experience in physical spaces and create new experiences in virtual spaces, brushing many of the traditional restrictions of the classroom aside" (Parsons, Inkila, & Lynch, 2019, p. 144). Therefore we would like to stress the importance to thoroughly think through what you want to achieve with your IVC, and do it very early in the process.

What is it that you want the students to learn? How can you make that happen? Only after you know this, is it time to think about what technology to use. If you do not do it in this order, you may end up with a nice technological system, but which does not allow you and your students to create the processes you need. Also remember that technology can always fail in the moment of teaching (for example, we experienced power cuts in both Latin America and in Sweden). If your IVC idea is completely built up around technology rather than pedagogy, you end up in a very difficult situation. If you have a very clear pedagogical idea on the other hand, it is always possible to switch to some other means and methods in a way that is still meaningful to the content. In this scenario, "the challenge for educators is to identify the appropriate learning goals and pedagogies that can be integrated into the use of such [technological] tools" (Parsons, Inkila & Lynch, 2019, p. 146).

Another thing we stress is that much of the learning in an IVC comes from the international context itself and how students learn from each other. This is probably the most important learning outcome of all in an IVC. Because of this, it is our experience that it is not necessary to overcomplicate the content; less is more. Also an IVC is a very challenging situation for teachers, and also in that regard it may be wise not to overcomplicate the other dimensions of the teaching situation. You may not need to try out a completely innovative and unknown methodology in this particular setting. We used methodologies that were well known and well tested to have some things in this new setting that were known

and relatively easy to use. There is no need to worry if students have already tried something similar in a traditional classroom setting already. The very fact that it takes place in an IVC will make students learn new things.

By definition, IVC involves international collaboration in addition to the usual pedagogical challenges of educational development. This creates different and new educational traditions, different understandings of concepts and ideas and different assumptions about how things should or must be done. It is therefore equally important to get to know each other very early in the process, to make this kind of collaboration as smooth as possible.

This is the approach we took: first we mapped what the partner universities have already done in the field of entrepreneurship education. Next we identified a few themes around which we could all identify and agree. This then turned into three parts of the IVC, which in terms of content were relevant and logical in relation to the theme of entrepreneurship. Although this was a rather long process, when we came to the last part of planning the details of the IVC, the work was fast and efficient, since we knew each other well and easily could communicate with a common language, and knew very well what it was that we wanted to achieve. The preparation and pedagogical planning is very important, and the technology comes last.

ENTREPRENEURSHIP EDUCATION

Much has been written about how we are facing times of accelerated change. Perhaps as never before in human history, the speed of change in society, culture, consumption and production and the effects of human activity on the planet is becoming apparent. This is driven by a technological vertigo whose scope cannot be overstated.

It is not a vision of the future. The discoveries of scientists and the initiatives of entrepreneurs that resembled science fiction stories are rapidly becoming innovations, whose value is legitimized by societies and markets. The gear of change in human work, production, economy and society is already at full speed.

In this situation the need and urgency to broaden the scope of what the universities offer cannot be avoided. The context forces education to break the molds, to think laterally, to unite disciplines, to connect with society and to

design agile experiences of multicultural learning that are framed in the great global tendencies, opportunities and challenges that constantly emerge. It is necessary to build and operate a dual system, in which the best of the traditions of our universities can live, nurture and be nurtured by innovative teaching, research and outreach models that transcend the boundaries of disciplines, nationalities and cultures.

Universities must acknowledge that the phantom of uncertainty about the future of work flies over society. They need to do so with an optimistic approach, understanding that the aforementioned changes will generate millions of opportunities and jobs for those with relevant capacities and training.

Universities need to perform a significant role in the promotion of entrepreneurial thinking and acting, resulting in initiatives that can contribute to social and economic development, impacting the growth of regions and cities. Entrepreneurship education influences entrepreneurs' success and academic institutions need to be increasingly interested in entrepreneurship education. This is especially important because of the impact that an entrepreneurs' capability will have on innovations for markets, economies, and countries.

The emergence of the hypothesis-driven entrepreneurship paradigm has revolutionized traditional entrepreneurship educational methodologies because of its iterative learning based on the application of design methods for research and for creation, and with the use of fast prototyping techniques to create and validate products and services with potential customers. This revolution has not left education in the universities untouched: new ways of thinking require new ways of education, preparing students for iterative and fast learning in and about the markets, relying on multidisciplinary and flexibility as core values in the development of entrepreneurial competence.

The core idea is that entrepreneurship education can promote the development of adequate skills and competences for a student to become a successful entrepreneur, contradicting the idea that entrepreneurial skills and competences are innate personality traits. Entrepreneurship education stimulates a student's intention to start a new business and results in opportunities for educators to influence aspirations of entrepreneurship. In the end, entrepreneurship education can contribute to economic and social development.

HOW TO NAVIGATE THROUGH THE HANDBOOK

OVERALL STRUCTURE

Section 1 *IVC in the Context of Entrepreneurship* encourages you to explore the world of internationalization and the reasons to engage in International Virtual Classrooms (IVC), the views on and potential benefits of IVCs for different countries/regions. It further provides a deeper exploration of the context of the LISTO project and the program we have designed and implemented.

Section 2 *LISTO IVC on Entrepreneurship* will guide you through the examples of courses that we have run in the past year that form the baseline for our suggestions. This section describes the main learning goals and how they were translated in the setup of the lectures and assignments.

Section 3 *Reflection and Inspiration* provides user-friendly tips on managing the setup process through the preparation, execution and conclusion of the IVC implementation — the type of advice you might turn to for quick reference. These are based on the extended reflections across the three different pilot courses.

Section 4 presents the *Conclusion and plans for the future*.

PAGE STRUCTURE

The bold subheadings usually represent the action points. Working through each one of these in the order in which they appear will help you prepare for your IVC. The paragraphs that follow each subheading give a more detailed explanation. In a few instances, the subheading refers to something you need to understand rather than do.

TIPS, THOUGHTS, QUOTES OF STUDENTS AND TEACHERS, AND STUDENTS ACHIEVEMENTS

Most of the chapters in this guide also feature a “**Tips**” box. These are additional points about specific topics; valuable nuggets of information for you to read and remember.

Voices from the field — here we present quotes from our **students** and **teachers** to illustrate the process and to give a more personal feel to the issues we highlight in this book.

Furthermore, as is often the best way to learn from **our experience**, this book brings more extensive and detailed **students' achievements**. Each anecdote gives an account of how we managed a specific issue in launching our IVC.

SECTION 1

IVC IN THE CONTEXT OF ENTREPRENEURSHIP

1

INTERNATIONALISATION AT/FROM HOME THROUGH ENTREPRENEURSHIP EDUCATION

Globalisation is an ongoing process that has created a world both more connected and more divided in which power and resources are not shared equally. As graduates, today's students will take on roles as citizens and professionals in this interconnected world (Leask & Carroll, 2013), demanding from universities to prepare students for a more global future (Fayolle & Klandt, 2006). More and more universities focus attention on the development of the knowledge, skills and attitudes of their students to thrive in the globalised world of the future, however common international management education tools such as case studies and videos only provide indirect experiences of what it means to be a citizen, professional, or entrepreneur in another country (Taras et al., 2013). Semesters abroad or study tours are either too short to produce meaningful results, or require costly travel and complicated logistics, which is especially challenging for most students from developing countries (Zwerg-Villegas & Martinez-Diaz, 2016).

International Virtual Classrooms (IVC) can circumvent these issues and provide direct international-intercultural interactions, enabling reflection and internalisation, exploration of different realities, overcoming stereotypes and fears, and learning about others while being cost- and time-effective (Taras et al., 2013; Zwerg-Villegas & Martinez-Diaz, 2016). Still, despite the active development in the area of IVC's, pedagogical and organisational challenges remain: "professors must become more competent in the use of academic technology and also expand their

pedagogies to include new and innovative approaches to the teaching of entrepreneurship" (Solomon, Duffy, & Tarabishy, 2002, p.82). Finding an effective way to teach entrepreneurship in a classroom has always been a challenge as "new entry is fundamentally a different activity than managing a business" (Gartner & Vesper, 1994, p.184), and the globalisation challenge is not making it easier.

Questions that the current educators are still seeking are: How do we leverage the ideological nature of entrepreneurship debate across developed and developing countries? How can design thinking methodologies help balance local and international aspects while teaching entrepreneurship? Is an international interdisciplinary team composition an asset or a challenge when teaching global entrepreneurial opportunities recognition? How do we effectively teach entrepreneurial networking and ecosystem skills using a virtual environment?

In this handbook, we discuss our experience of dealing with both pedagogical and organisational challenges and focus on the processes, tools and outcomes of teaching innovation and entrepreneurship through the IVC. Our evidence is based on a project spanning across ten universities in six Latin American and European countries with over thirty staff and more than one hundred students. Participants engaged in three parallel classrooms leveraging design thinking, global opportunity recognition and ecosystem methodologies to develop an international interdisciplinary classroom on entrepreneurship.

2

CONTEXT: THE LISTO PROJECT

For those interested in bringing international and virtual aspects in their entrepreneurship classes, this handbook brings three clear benefits: 1) better understanding of tools and the organisation process; 2) reflection on important aspects and their adaptation to the specific topics, such as design thinking, opportunity recognition and network and ecosystem skills; and 3) avenues to move forward in improving entrepreneurship pedagogies including innovative modules in existing mainstream courses.

QUOTE STUDENT “I personally think it was a good decision to be part of this initiative. The main reason is because I was able to work with people from different countries with different strengths and weaknesses and even different time zones. The challenge of being capable of completing all of our tasks right in time and with quite a good level of quality gave me a very rich experience about working in heterogeneous teams, which in my career (International Business) it is without a doubt a mandatory thing to manage.”

QUOTE TEACHER “Usually, the Latin American students have a kind of complex regarding their academic and cultural level. During this project, they observed that their skills in communication were very important to the development and success of the course, and this contributed to increasing their self-confidence. In addition, they realize that cultural differences exist but not really academic level differences. As it is more difficult for Latin America student to travel and do this kind of observation in loco, an international course presents a very nice alternative opportunity for students to know people of their generation from a foreign country and to build their network.”

This chapter describes the project and its composition, introducing the reader to our aims and work process.

CASE COORDINATOR'S TESTIMONY

In the case of the Erasmus+ project LISTO, Latin American and European Cooperation on Innovation and Entrepreneurship, we were ten universities from six countries – three European and three South American countries with a time difference of up to five hours and a geographical distance of up to 12.500 km. None of our multicultural and multilingual project members spoke English as a native language but we relied on the de facto lingua franca of academia to communicate both in the preparation of the lessons as well as in the classroom.

The group of ten LISTO partner universities could not have been more diverse. Some were founded several centuries, some only a few decades ago. Some were public, some private. Some had a few thousand students, some more than one hundred thousand. The entrepreneurship teachers came from different academic backgrounds, including Engineering, Business, Tourism, Sustainability, Design and Chemistry. They all had one unifying element: the desire to try something new.

Naturally, such a setup requires a good amount of openness, patience, acceptance for setbacks, and willingness to leave the comfort zone of the academic teaching environment in which one is accustomed. In the spirit of the Erasmus+ programme, the premise of our collaboration was the large diversity in our group not as a problem to be solved or an obstacle to overcome. Instead, we looked at our differences as an asset which we wanted to leverage to our advantage and as an opportunity to learn and develop something innovative. We wanted true internationalisation in practice.

Determination and good spirit are essential for such an ambitious endeavour but they are not enough to reach

the goal. It requires systematic planning. The most common tool for Erasmus+ projects is Result Based Management (RBM). Developed in the 1990s by the United Nations, RBM is a standard management approach for non-profit and development projects. “Results-based management is a management strategy by which all actors on the ground, contributing directly or indirectly to achieving a set of development results, ensure that their processes, products and services contribute to the achievement of desired results (outputs, outcomes and goals). RBM rests on clearly defined accountability for results and requires monitoring and self-assessment of progress towards results, including reporting on performance.” (United Nations Development Group, Results-Based Management Handbook, p. 7)

One way of visualizing and organising an RBM plan is the Logic Framework Analysis (LFA). It structures general/specific objectives, expected outcomes and outputs as well as the necessary activities and inputs to achieve these deliverables in qualitative and quantitative terms. Developing one LFA requires training and learning-by-doing. It is the core of many project applications and therefore a prerequisite for receiving funding. Most importantly, it forces one to really think through an idea: if the goal is to create an international classroom, what is actually necessary in terms of staff input, training, development, time and workload to achieve this?

Truth be told, hardly any of the teachers in our group were experts in developing international classrooms. Some had experience with virtual teaching but not to this scale. Therefore we relied on a combination of two elements: a very structured approach (RBM/LFA) on the one hand, and methods to allow for openness, experimentation and creativity on the other. While both angles seem to be exactly the opposite of each other, they are actually two sides of the same coin. Finding the right balance between openness and structure has been the key to our success.

3 THE PROCESS

To develop the LISTO international classroom, we chose a six-step approach with a timeline of about eighteen months.

STEP 1: MAPPING INTERESTS AND SHARING KNOWLEDGE

Taking into account the large diversity in our group, we started with a detailed mapping of entrepreneurship education among the partners of the consortium, asking every university to share their best practices in methods, courses and programs of teaching entrepreneurship. We asked ourselves:

- How did partners teach entrepreneurship?
- In what direction did they want to develop?

This allowed us to get a broad overview of the status quo and future avenues of growth, to analyse similarities and differences and to identify

areas with potential for developing new ways of virtual teaching. These mapped areas formed the basis for the three pilot themes and to organize the partners around the themes according to their interest and knowledge.

During the first meeting of our teacher team, all partners presented posters with examples of what they considered good-practice in entrepreneurship education at their universities. This allowed for a very practical exchange of knowledge and feedback among peers. The format of a poster workshop was also important for the team building. Erasmus+ capacity building projects are often marked by an implicit hierarchy between partner countries (Europe) and programme countries (outside Europe). Giving everybody the opportunity to shine can help level the playing field and prepare a group for working together.



TIP We recommend this combination of a very structured mapping with a more open, interactive methodology of poster presentations to create some common ground and mutual understanding.

STEP 2: TEACHER TRAINING

Most universities have specialised pedagogical units with the mission of training their teachers in innovative teaching methods such as virtual classes. They can help with providing your team with the necessary knowledge and tools. In our case, we could rely on the experience of the University of Groningen's "International Classroom Project". There is also a large body of literature available. We found the following three books insightful: "Learning and teaching across cultures" by Leask and Carroll (2013) — an easy and quick introductory read about the main principles of intercultural education design; a more research-driven collection of works "Cosmopolitan learning" edited by Richardson (2015) which may be especially interesting if your project goes beyond working with students and extends into post-graduate and professional education; and, finally, "Tools for Teaching in an Educationally Mobile World"

by Carroll (2015), concentrating on adjusting and adapting teaching approaches for culturally and linguistically diverse student groups.

STEP 3: CURRICULUM DEVELOPMENT

Based on the knowledge shared and training received, we formed working groups (see Chapter 2) to develop the course content and teaching methods for three pilot programs. We chose a combination of structure and openness to work on the curricula. While all three pilot working groups used the same template to define the learning outcomes, methods, activities and schedule, each group was free to decide which combination of course elements (e.g. synchronous/asynchronous) and solutions they wanted to test to achieve the course goals. We called it "pilot" and "test" to reduce the pressure of having to deliver a polished final product and to allow for some space to see what does and does not work in practice.

TIP Allow your team to fail! Reduce the pressure and keep open to the possibility of failure. This could be a good thing!



TIP Try different options. Having three different pilots allowed us to gather valuable insight into which particular features or aspects may work best in different contexts.

The main method applied in this stage was co-creation. Each of the three pilots had a working team and one or two team leaders. Each team defined which team members were responsible for a specific development and teaching part. From a project management perspective, co-creation does not happen by itself. It requires some explanation and ideally you define the rules and expectations at the beginning of the collaboration. Considering the hierarchies prevalent in many international projects, co-creation is another method which can help to facilitate an inclusive work atmosphere transcending traditional transfer of knowledge approaches. While each group worked independently, our goal was to come together (e.g. during a physical meeting) to share feedback and improve the course content.

TIP It might also be beneficial to engage an external expert to conduct an independent quality assessment.

STEP 4: PLAN FOR EVALUATION

After several months of preparation, you might be eager to finally start the classroom action. However, the RBM approach recommends planning evaluations from the beginning to establish a Quality Assurance Cycle to assess if the desired goals were actually achieved. In

the case of LISTO, we developed a quantitative and qualitative student survey to test for specific indicators of progress and success, such as an intention of students to innovate and become entrepreneurs as well as the quality and uniqueness of the ideas they developed. We additionally collected data in their confidence in and sensitivity to the international environment, ability to work in diverse teams and overcome technological barriers. We set up a teacher diary to track the experience of the instructors/facilitators — developing an IVC is a major journey involving a lot of people and understanding and monitoring experiences of the teachers is important for the delivery of the course. Ideally, you should strive for a feedback loop that allows you to compare the before-and-after.

TIP The positive side effect of this extra work: you will be able to collect interesting data for a scientific publication!

STEP 5: TEST PHASE

In the next steps, we tested the pilots with students. For the first run, we limited the duration to five weeks. In this case, the consensus was that less was more, and that it was worthwhile to focus on a shorter timeframe than to get lost in an overly ambitious agenda.

TIP Try to do a very good job within a limited scope rather than spreading yourself too thin. Make sure to document everything that works well and what turns out to be a challenge. This will be valuable information for the next and final step.

STEP 6: EVALUATION

After the test phase, the group of teachers reunited for a conference to discuss the experience and to evaluate what went well and what improvements were required. This final step completes the feedback loop which you should aim for in the development process.

TIP In our experience, this 6-step process worked out well but we also took note of what needs to be considered for the next round or a similar initiative. These are our top recommendations:

1. Establish a clear management process in the beginning, define who does what, share the tasks and communicate the arrangements to the whole group.
2. Try to be as clear and transparent as you can about hierarchies in the team. Do it from the very beginning in order to avoid conflicts during the execution phase.
3. Make sure everyone in the team is aware of your approach (six-steps in this case). This will help people to stay focused and avoid confusion.
4. Strive for a good balance between processes that provide structure and clarity (RBM/LFA) but also openness and creativity to tap into the full potential of your team (knowledge sharing, co-creation). One cannot work without the other.
5. Plan your steps in a way to allow for feedback and (self-)evaluation on all levels — from individual activities to the project as a whole.
6. Co-creation processes work very well but they require clear explanation and communication from the beginning. If we could start this project again, co-creation would be a topic at the kick-off meeting or would even be a focus of a separate workshop just for establishing the co-creation method.
7. Co-creation requires a management structure which fits the method. Leading and management arrangements need to be seen as dynamic as they may need to be updated (explicitly) during the execution. In our case, leadership by one partner was essential in the beginning; as the pilots started working together, new forms of collaboration developed. This is a natural process and an indicator for progress/success. But this updated structure requires an explicit reflection with the whole team.

SECTION 2

LISTO IVC ON ENTREPRENEURSHIP

4

OVERVIEW OF THE PROGRAM

The survey completed at the start of the projects revealed three common themes: 1) experience of a large number of our partners in teaching the Design Thinking methodologies, 2) interest and understanding of the entrepreneurial opportunity analysis and forecasting, and 3) teaching and researching networks and ecosystems. This analysis enabled forming the groups around the topic, where teachers would build on the experience of each other in teaching the topic, and focus on the development of the international interdisciplinary aspects of teaching and technological aspects of the IVC.

In addition to being convenient, the three parts of our IVC pilots formed a nice sequence that built towards a full-scale course: 1) understanding the macro-aspects of understanding

the technological breakthroughs and changes in the current business landscape; 2) detailing micro-practices of the user and the customer through the Design Thinking techniques; and 3) be aware of meso-aspects of developing a product across varying networks and ecosystems. The three pilots established were:

- **Pilot 1** Design Thinking: Discovering customer problems and preferences across cultures.
- **Pilot 2** Global opportunities: How do we leverage technology to address global challenges and turn them into opportunities?
- **Pilot 3** Ecosystems and Networks: Are there different ways to network across cultures? How do we navigate across international networks?

Pilot 1
Design and characteristics of the offering

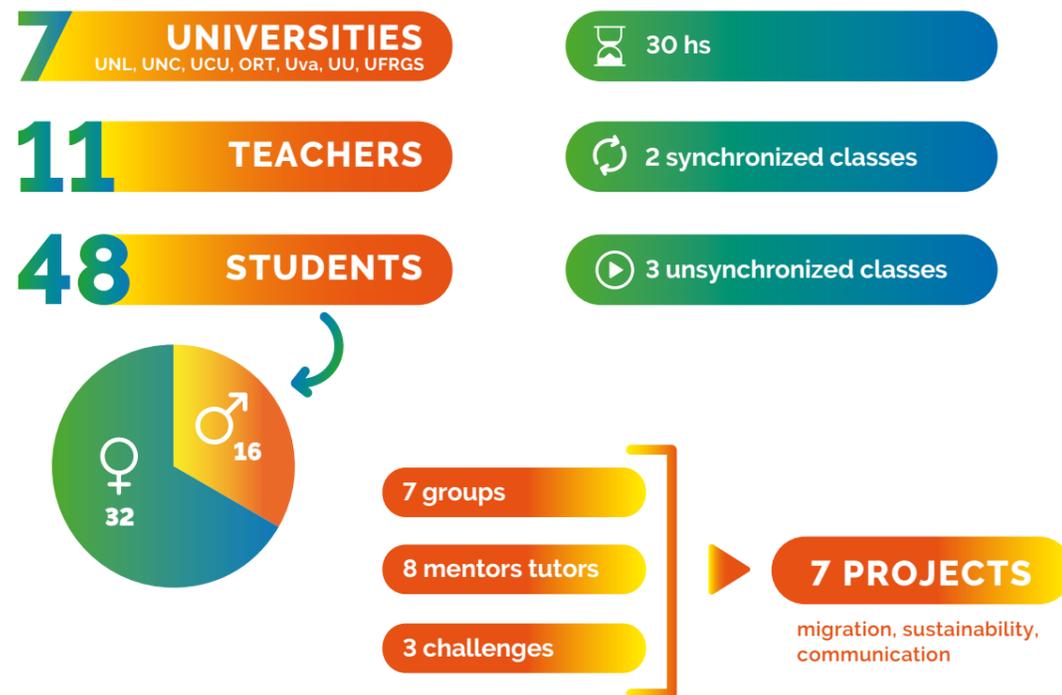


Pilot 2
Technology road-mapping and opportunity potential assessment

Pilot 3
Leveraging networks and creating ecosystems for the innovation

5

PILOT 1 DESIGN THINKING



The principal features of Pilot 1 illustrated by the figure above give size, structure, and an overview of the way the pilot worked.

The international aspect of Pilot 1 was present through several features: teachers from different countries elaborated on all of the documents used during the Pilot in English, and all of the projects were built by groups formed by seven students, one from each of the seven partners Universities. After the students' selection, we discovered more nationalities were represented than expected because students from university internationalisation programs participated (e.g., Greece, Arab states). The chart numbers show that sixty people worked together in a relatively short time. The

following topics of this chapter describe with more details the features of the Pilot, give examples of students' achievements, and testimony of students and teachers.

PILOTS OBJECTIVES

The first objective of the pilot was to cultivate the mindset of students from local to global — glocal for short. This was accomplished in many ways: local students collaborated in international teams, applying design thinking in the content. The three challenges were meant to be local but with a scalable impact globally.

Second of all we wanted to seize the opportunity of the LISTO project to work in multidisciplinary and intercultural teams on a global scale. We wanted to create diversity not only on the disciplinary level, but also on the country level.

Our third goal was to experiment and reflect on barriers and benefits of working in entrepreneurial projects with international teams. That's also the approach from LISTO to provide the entrepreneurial focus and mindset on the challenge.

Fourth, after the completion of the course we expect students to be able to embrace this disciplinary and cultural diversity by interacting and communicating with international students using virtual tools.

Last but not least, we designed this course to let the students master the design thinking methodology as well. It incorporates all of the above and was a good match to approach entrepreneurship through the design thinking lens.

MAIN SETUP

Like all other pilots, we had 5 sessions. The first one was an introduction, and the last was devoted to the final students' presentations. This left only three lectures to give a first feeling about design thinking. The first and last classes were synchronous across 7 universities. The other ones were local classes — so each of the teachers were responsible for conducting the classes within their universities:

CLASS 1 Introduction of teachers, students, and groups. One of the teachers gave a straightforward overview and explanation of design thinking. Another teacher presented challenges, and they ended the first class with an assignment for the second class;

CLASS 2 Empathy and problem redefinition;

CLASS 3 Ideation and prototyping: once the team redefined the given problem, they brainstormed ideas and prototypes;

CLASS 4 Testing of the concept and the prototype;

CLASS 5 Final project presentations.

DEFINITION OF CHALLENGES

In this course we gave 3 challenges. In the first class we revealed more about what comprised each challenge. In the case of sustainability, it was food waste. We formulated the problem as reframing the way we interact with food. In the case of communication we used the hot topic of fake news. We provided them with the question — how do we minimize fake news in today's world? The last challenge was focused on post migration experience: how does the acculturation process begin and go after immigrating in the country? Each team had one challenge. We had 3 teams working on food waste, 2 teams focusing on communication and 2 teams working on immigration. Each team should have redefined the challenge based on empathy. We thus believe



that we came up with challenges that could be applicable to anyone, in every university, in every country. The students were extremely intrigued by the challenge itself.

We used the design thinking methodology with subsequent divergence and convergence phases. The first step, inspiration, involves going out and observing and absorbing all of the information from the end user. There is the ideation phase where you transfer all of this knowledge into actionable input. Lastly is an implementation stage where input is validated.

We encouraged students to go out and to interact with people. The students working on the immigration challenge had to interact with people who had immigration experience. Students were then charged with redefining the challenge so they could go towards the ideation stage and use the tools (such as brainstorming) to create solutions, and then they would prototype those ideas. Finally, they would have to iterate with the end user to validate their idea.

DELIVERABLES

For each of the classes, students had deliverables to submit prior to the start of class.

In the first class, each student had to pick up 3 statistical (or any other) facts relevant to their challenge for their country, and as a group they had to make an infographic of all these

facts they would collect across the 5 countries (Argentina, Brazil, Uruguay, Spain and Sweden) corresponding to the partner Universities. This activity helped them to have a common understanding of what was truly at the core of the identified problem. In Design Thinking, this is called primary research. It also helped the students to understand the differences across the countries. For example, in South America, food waste happens at the beginning of the value chain, and in Europe, food waste occurs at the end of the value chain. So, they had to focus on one of the stages to propose a solution.

In the second class we touch upon empathy and how to put yourself in the shoes of someone else and understand the challenges from their point of view. The deliverables were the following: 1) Creating a stakeholder map. E.g., you have a user who eats and wastes food, but you also have other stakeholders involved in the ecosystem. For immigrants you could also have a government as a stakeholder. 2) Based on the stakeholder map they would have to define their end-user. 3) Finally, the students would have to come up with an empathy map: what do end-users think and feel, what do they hear, see, and what are their pain points? In the original methodology, it takes a couple of months to complete, but we asked students to interview one or two stakeholders for exercise reasons.

In the third class we would try to identify solutions based on the identified pain points. We

would then ask students to cluster these ideas — find patterns among all of the ideas they brainstormed. Once clustered, students can decide which type of ideas to bring further into the next stage. Therefore, this was an assignment for the 4th class. Then they had to validate the idea. Each student practiced in class, and then they had to go and discuss it back and forth with their international teams, which was a bit challenging.

The objective of the fourth class was to introduce the tools allowing the validation of the ideation process done before. The theoretical and practical aspects of these tools were introduced and described. Activities were proposed to help students to use these tools. During the class, the following topics were introduced: minimum viable product (MVP), Features of the solution, identification of the customers and the engaged customers (the early-adopters or enthusiasts), the MVP process. With the MVP process, three types of MVP were described: The Concierge MVP, The Wizard of Oz — MVP, and the Prototype MVP. The objective of this class is for the international teams to build an MVP based on hypotheses that can be evaluated. The last part of the class discussed tips about a Pitch presentation.

The final class was again synchronous and students had to present their ideas. Many of the solutions were digital, although some were not. For example, the student team working on the topic of migration came up with organizing sports events.

STUDENTS ACHIEVEMENTS

Altogether, 7 groups of 7 students practiced the Design Thinking methodology to solve social problems. The challenges proposed were food waste, experience post-migration, and fake news and belonging to sustainability, migration, or communication field, respectively. Below are some redefined problems the groups chose and a brief description of the developed solution.

How might we help families to reduce their food waste regarding the purchase and costs control

The group identifies that the current generation is concerned about environmental issues, such as food waste, is comfortable with new technologies, and saving money, and eating healthier is also one of their goals. The solution proposed is an App that enables a smart grocery purchase by obtaining suggestions of optimal quantities, product durability, and recipes instantly. By tracking the consumption of the family on a weekly basis, the App plans a list of groceries. It shows the money saved, comparing purchases that can be done in different places.

How might the recipient country of new immigrants make them participate actively in society?

The group valued the fact that immigrants represent different cultures that can correspond to new opportunities for the host country. They chose sport as an integration activity that enables them to share different realities and to connect with new people and opportunities.

The proposed solution is the organisation of monthly events/activities categorized by age. Companies sponsor events in exchange for advertising. NGOs participate as sponsors and diffusers of the sport events. The teams are mixed gender and represent multicultural backgrounds. The sponsor companies can also announce and present job opportunities during the events.

How might we provide strategies to help build trust in digital information for people between the ages of 50–60?

The goal of the group was to innovatively combat the fake news that leads to the polarization of the opinions present in social media. They proposed an extension to the navigators that verifies the veracity and credibility of news that hides information that looks fake. For that, a software categorizes information as CHECKED or DANGEROUS based on peer validation-analyses. A watermark shows the source. Requirements are needed to upload the analyses. This extension also works in mobile phones, and is linked to different APIs, such as WhatsApp, Instagram, Facebook, and Twitter.

REFLECTION

Looking back at the course, it became clear that we do not need to be physically together to collaborate in a meaningful teaching-learning experience. Before the course we had concerns about whether the virtual tools and synchronous classes would be an obstacle for the course. It actually was an enabler; the course went well and smoothly when we synchronized in the first and last class. We believe integrating a piece of synchronous meetings for all sessions would have created more engagement between students and improved their international experience. Another option could be to provide a room equipped with a web conference system where the students could organize meetings by themselves at specifically scheduled times.

PILOT 1 IN SHORT

The main objective of the pilot was to cultivate the students' mindset from local to global — that's for "glocal". We approached it from multiple perspectives: not only had local students to work in international teams, but also in the content part there were three challenges that were meant to be local but with a scalable impact globally. Second, we wanted to create diversity and seize the opportunity of the LISTO project to work in multidisciplinary and intercultural teams on a global scale. Our third goal was to experiment and reflect on barriers and benefits of working in entrepreneurial projects with international teams. That's also the approach from LISTO to provide the entrepreneurial focus and mindset on the challenge. Fourth, after the completion of the course we expected students to be able to embrace this disciplinary and cultural diversity by interacting and communicating with international students using virtual tools. Last but not least, we designed this course to let the students master the design thinking methodology as well. It incorporates all of the above and it was a good match to approach entrepreneurship through the Design Thinking lens.

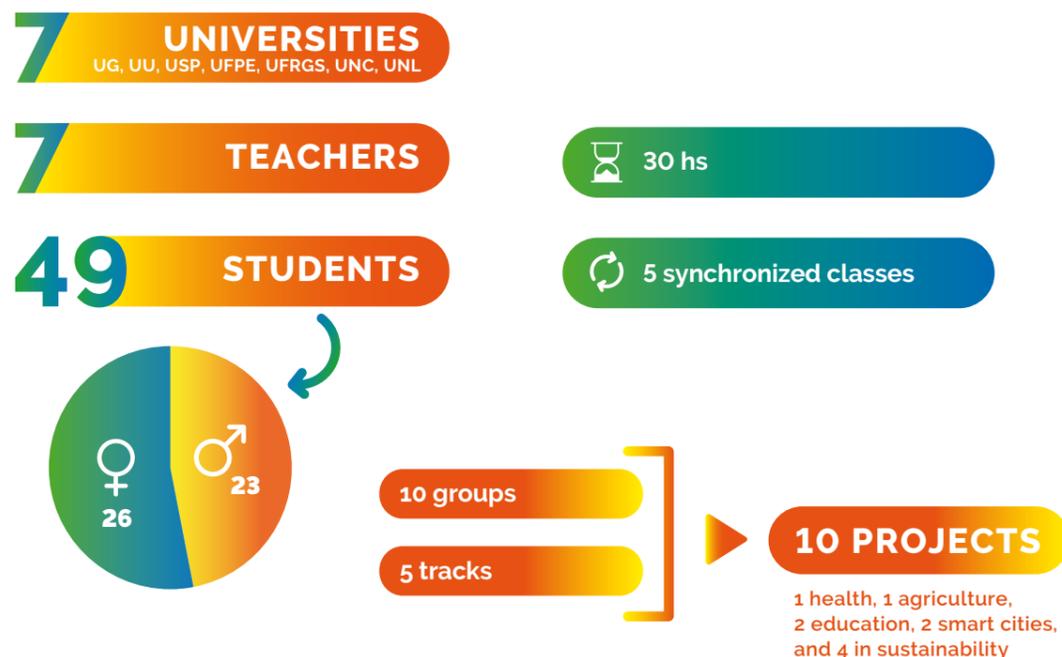
We would also like to highlight that the use of a very well-known method, such as Design Thinking, together with a well-structured format, paved the way forward. Design thinking is a problem-solving methodology. So you need to come up with an improvement or a solution. Furthermore, it is centered on people and focuses on possibilities, instead of limitations,

promoting creative thinking. That's another framework we taught to students. By making valuable input from all of the different team members, it promotes interactions between multi-disciplinary teams and encourages us to envision a future path through experimentation and prototyping. Design thinking is furthermore applicable for students from a broad range of studies. This is very valid, as we had students from biology — and they still could use this methodology. Finally, among the strong sides of the course was the interdisciplinary and intercultural emphasis. Every subject, class or assignment was designed in order to capitalize interdisciplinarity and/or interculturality.

As teachers that look for innovative methodology adapted to current students and for preparing them to communicate, work, and think in a global world, even with more or less synchronous sessions, our perception was that the internationalisation of the course was successful since the students developed their projects through a virtual international network. As educators, we understood that the internationalisation of educational activities should pass by promoting interaction between the students and not only between the teachers of another foreign university.

6

PILOT 2 GLOBAL OPPORTUNITIES



Pilot 2 included 49 students from 7 universities from a broad range of subjects, including law, economics, engineering, and medical sciences, among others. Students were assigned to teams based on their individual interests, and each team worked on the development of a specific challenge, that started with the selection of a broad context: agriculture, education, healthcare, smart cities, or sustainability.

The 7 teachers that participated in Pilot 2 wanted to innovate in the teaching approach, so the applied approach included synchronous classes using Zoom and Bluejeans, local activities using post-its and sketches, and international activities, using whatsapp. Between classes, these groups developed their projects considering the selected theme for the project.

PILOTS OBJECTIVES

With this course we aimed to prepare students to:

1. Work in international multidisciplinary teams. As teachers we created the groups, assigned students to groups based on their initial interests, and worked with students on their self-knowledge and self-motivation. This resulted in a better understanding of the motivation of the team, reflections on the team composition, and identifications of potentialities that could be explored during the project development.
2. Identify new technological global business opportunities. The challenge we proposed

for this pilot was how to identify a global opportunity that would be interesting for Sweden, the Netherlands, Brazil and Argentina. That was the context we proposed for them and to develop the project students applied market forecasting and technology roadmapping techniques.

3. Considering the results obtained with the previous activities, teams proposed a business model to address the identified opportunities.

MAIN SETUP

After the definition of the pilot contexts, objectives, teams, and dynamics, we tackled the challenge of organizing the online classes. Technology setup included Polycom, Zoom, and BlueJeans, and were combined into a "single solution". This technological bundle worked quite well during synchronous classes, however technological issues were frequent and happened at all participating Universities, revealing that synchronous online global classes remain a challenge even today. The pilot included 5 classes:

CLASS 1 This class presented some of the most important concepts concerning the motivations to start a new business and students were encouraged to reflect on their self-knowledge and self-motivation. Proposing a training in entrepreneurship, considering an international class with distance interaction is a challenge. Therefore, it is necessary to



search for tools and a methodology that allows the involvement of all students, regardless of their affinities and profiles. Even a shy student should be prepared to interact with their classmates in a class with this setting.

CLASS 2 considering the identified motivations of the teams, groups worked on the development of a vision of the future considering the identified motivations of the teams, groups worked on the development of a vision of the future including emerging innovations, how to visualize the future, and the most promising opportunities to be tackled in the long term in that future. The idea was to identify signs of disruption, big transitions, and to select development curves. For this class students had to conduct initial research: collect insights and signals from the specific reality of each of their countries, put them in a 5 page document, and reflect on the common and different aspects. From this, students selected a relevant curve, described their vision of the future, and explained why it is a global and feasible opportunity. It was actually helpful to have graphical deliverables from the teams. Students would also have to prepare an individual reflection on the learning and communication process in their groups.

CLASS 3 Using the vision of the future proposed in the previous class, the goal for class 3 was to translate this future scenario into the current reality using the roadmap approach. To create a roadmap, students identified the most relevant technological and market trends and barriers and selected technologies to work with considering the present and the future states. Students prepared 5 pages explaining the roadmap and describing its elements, as well as a video presentation of the two selected business opportunities from the proposed roadmap. We also asked for an individual reflection on learning. A helpful factor were the pictures provided by the students to graphically represent the roadmaps.

CLASS 4 Based on the developed roadmap and midterm vision of the proposed business, students had to choose among business ideas and possibilities using opportunity analysis canvas. This opportunity analysis canvas created a short and midterm business roadmap, that was then translated into a business model canvas. Deliveries included a 2 page document explaining each of the development steps and both canvas.

CLASS 5 This class was fully dedicated to the pitches of the projects. Since all teams could finish their projects, in the end we got 10 presentations, with varying levels of innovativeness and depth. A common template for the pitches was distributed and teams could customize this template based on their project outcomes. All pitches had a fixed duration and usually only one student conducted the presentation.

After the presentations teachers and students from distinct universities provided feedback.

DELIVERABLES

The selection of the initial themes considered their relevance for the country of origin of each of the 7 universities, so these would be familiar and interesting themes for the students. During the pilots the initial theme was refined considering individual and team motivations, the perspectives of each segment in each country, the technologies that could be incorporated to create an innovative business and the possible business models that could be proposed in order to explore the foreseen opportunities.

STUDENTS ACHIEVEMENTS

Altogether, 10 groups worked on diverse projects within this pilot. To mention a few:

The group focusing on challenges in agriculture embarked on a journey of developing a business model for a startup employing a combination of different existing technologies (satellite images, drones and driverless vehicles), and software capable of processing and synthesizing the information from each of them. Together, this would allow early detection of weeds and help avoid the excessive use of pesticides, making the production more efficient and environmentally sustainable. Such software could be sold to farmers and allow

them to take better and timely decisions about the proper weed control method.

The Smart city team has tackled a completely different challenge: they addressed the increasing traffic problems stifling big cities by analyzing the recent trend in developing smart software systems, broader implementation of big data, and cheaper and easier processing technology. They designed a business model implementing smart traffic light system based on IoT to optimize the flow of vehicles in a city. Given the huge capital investment and slow decision making process, they have identified short, middle and long term approaches towards the implementation of their vision.

A third group, V-Real, was focusing on the future changes in education systems. There is more and more of a need to provide constant learning and continuous education, and there is less and less time to build these models in traditional classroom settings. Hence, the need for education software that would address this mobile lifestyle and would adapt to different environments, allowing students to learn wherever they want to, whether in the metro, bus, at home, or at work. This app would also actively employ gamification approaches — something that the modern world is already starting to embrace in different areas of learning.

REFLECTION

One aspect that really worked well is the teacher team — we had different backgrounds and different perspectives, we could create synergy by combining them and making it happen. This resulted in a new and interesting process: from self-motivation to global business model. We enjoyed the journey of students and the online format very much. Another useful tool was the visual project deliverables: videos (group and individual), graphics and visual tools. It appeared to be very nice and useful for the project dynamics.

PILOT 2 IN SHORT

During the classes — which were all synchronous — we combined local and international activities with the goal that the students would be working on their international assignments also during the classes. This, however, led to the creation of “tech monsters” — as we asked students to work on the international assignment within their WhatsApp groups, the telephones were buzzing and exploding: lots of ideas shared, different opinions, everybody was actively typing. After the first class we had more than 600 messages across the 10 groups. This was the biggest challenge for students — to start working with each other and to finish an assignment without meeting each other personally, going for a beer or anything else.

Each of the five teachers was assigned as a mentor to two teams, so it was possible to observe the specific dynamics of each team. Group dynamics were an important component to adjust based on feedback to adjust the flow of the course. Although it was not always easy, students sincerely enjoyed meeting people from all parts of the world, and having to engage quickly, so this experience was very important to them. For the teachers it was also very good, since they faced the proposed challenges, experienced interesting global work dynamics and could successfully obtain all 10 final projects.

7**PILOT 3 NAVIGATING NETWORKS AND ECOSYSTEMS**

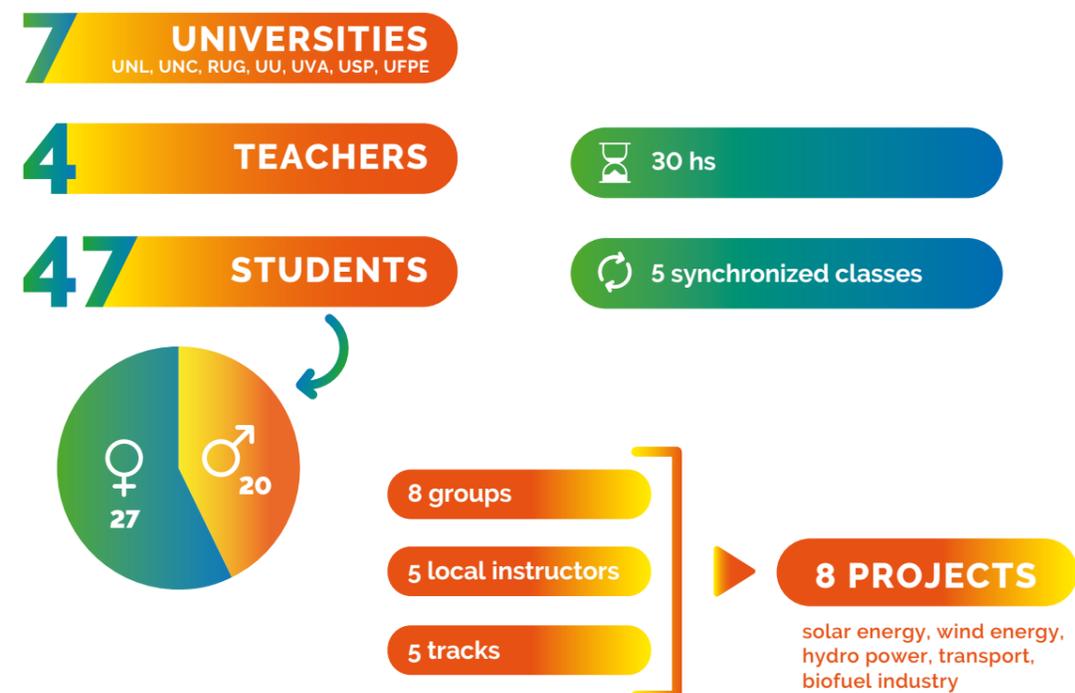
The team of teachers came from multiple backgrounds and areas of expertise and we faced the same characteristic among our teams of students. And they accomplished much more than expected during the 5 weeks.

PILOT OBJECTIVES

The main objective of our pilot was learning to analyze international Networks and Ecosystems (Net & Eco) from an entrepreneurial perspective. To achieve this goal, we focused on three specific objectives, as after the class students should be able to:

1. Identify and discuss basic concepts and theories of Net & Eco in an entrepreneurial international and multicultural context;
2. Describe and analyze a given context in terms of Net & Eco;
3. Apply insights on Net & Eco in contexts related to a specific challenge, and pitch business mechanisms.

Pilot 3 followed a well structured pathway regarding the development of our learning goals: from the discussion of the main definitions of the Ecosystem and Networks to the development of a scaling up and internationalisation

THE NEXT FIGURE PRESENTS THE MAIN FEATURES OF PILOT 3



solution. Different from the previous Pilots, we have not asked our students for creation or development of a startup. Our main tasks consisted of choosing a real startup and developing a network and ecosystem strategy for the companies chosen in an international setting. And it was quite interesting because they developed not only entrepreneurial and innovative competencies, but management skills in order to place the right strategies to solve real problems or to take advantage of real opportunities.

MAIN SETUP

How did we work with them? We organized and distributed the main concepts and frameworks in five classes in order to build collectively the background necessary to meet the final challenge of our pilot, the pitch presentation. You can see below the list of classes and the themes discussed in each one. These goals were deployed in the following lectures:

1. Introduction to the Networks and Ecosystem: main definitions and relevance of Net & Eco in international and multicultural contexts

2. The Entrepreneurial Ecosystem: learning how to map Net & Eco
3. Managing entrepreneurial pathways in national Net & Eco
4. Managing entrepreneurial pathways in international and multicultural Net & Eco
5. Final lecture: student presentations of a solution addressing an international challenge

During each class the students were encouraged to discuss locally and virtually, which created the needed variety in the activities and allowed to practice the material.

After the classes the students worked within the teams/groups using different virtual collaborative tools (for example, Whatsapp, Zoom, Google docs and Slack). They received detailed guidelines on how to work together and to perform the assignments, but also, they were monitored and encouraged by the mentors. For example, as teachers, we started a Zoom meeting with the students, and then we left the Zoom meeting and the students continued working without our presence. Sometimes, all they needed was this kind of encouragement.

In the beginning of the next class, students presented what they achieved during the past week and in doing so they were already building the data selection to create the final challenge: the Pitch!

DEFINITION OF CHALLENGES

As for the content, we focused on a relevant and future oriented challenge, aligned with Sustainable Development Goals: **Energy Transition**. The Pilot topics were structured according to this general challenge. Student groups were organized as multi-backgrounds, countries, and expertise. Teachers were operating as mentors, collaborators and enthusiasts, and we had a learning process around a real life problem.

To help them to get closer to the themes we selected, we discussed in the first class energy of the future from reports by the International Energy Agency (IEA) and the International Renewable Energy Agency (IRENA).

We asked students to evaluate the degree of maturity of existing tech solutions provided by real startups — we consider technology and innovation as a process — and to evaluate potential foreign markets in order to propose international strategies.

DELIVERABLES

In terms of the energy sectors, students chose solar, hydropower, wind, biofuel and transport. And in terms of countries, they worked with startups from Argentina, Brazil, Belgium and Spain. These companies are in the following sectors related to energy transition: Biofuel Industry, Solar Photovoltaic Panels, Wind (each with 2 startups), Transport, and Hydropower (each with 1 startup). They delivered strategies considering potential markets far from home or far from the startup original country. In doing so, we realize they achieved the objective of the pilot to be able to analyse international and multicultural contexts in order to reach opportunities.

STUDENTS ACHIEVEMENTS

Altogether, 8 groups worked on diverse projects within this pilot. To mention a few:

Two groups worked with Argentine companies operating in the areas of industrial biodiesel and solar energy, startups Bionogoyá and Febo Asoma. They indicated the commercial expansion of these companies to Canada and Chile respectively, aiming to expand markets and the potential of consumers in these countries. In addition to this, the students looked at governmental issues about encouraging clean energy companies.

According to two other groups, Spanish companies Vortex and Innowind, would be competitive in Croatia and the United States. They operate with wind energy and the development of small turbines for energy capture in medium and small rivers. In this sense, Croatia and the United States offer favorable climatic and geomorphological conditions for a wide use of the solutions created by the company.

Three groups chose Brazilian startups. The companies chosen were: Bioware, Insolar and Rediduall. Plans for these companies considered the expansion to countries such as India and some South American neighbors for strategic business growth. We emphasize that the choices made by the groups for business expansion have considered the economic potential, the number of potential customers and the innovation ecosystems that can be accessed to support businesses.

REFLECTION

Before the beginning of the course, we had concerns about how the students were going to communicate among themselves. But, at the end, communication channels naturally arose and we believe this flowed very well in spite of our initial concerns. The Pilot was quite an adventure! For some of us, this was the first experience of an IVC with so many diverse characteristics (for example disciplines, backgrounds, languages, countries, cultures). It did not compromise our effort and the students learning, but we are certain that improvements can be made. The importance of enhancing the teacher's coordination not only for the student's mentoring but also for an improved content to be released during each lecture, trying to keep in mind that our lessons were linked to the following classes.

PILOT 3 IN SHORT

Our Pilot 3 followed a well structured pathway regarding the development of our learning goals: from the discussion of the main definitions of the Ecosystem and Networks to the development of a scaling up and internationalisation solution. We have not asked our students for creation or development of a startup. Our main tasks consisted of choosing a real startup and developing a network and ecosystem strategy for them in an international setting. And it was quite interesting because the students developed not only entrepreneurial and innovative competences, but management skills in order to place the right strategies to solve real problems or to take advantage of real opportunities.

Our students were not only invited to discuss both locally and virtually, they also received guidelines after each lesson. They worked in the WhatsApp groups monitored by the teachers. Teachers mentored the students in various ways. In order to encourage them, we used a lot of those running emojis and sentences like "don't give up!", "just a little before we finish" or "it's close to the end!". It was important because the groups faced problems like different: time zones, backgrounds, academic schedules and routines... and the fact that the pilot was an extra-curricular activity: we needed to create a teaching and learning environment to motivate students!

SECTION 3 REFLECTION AND INSPIRATION

8

LOGISTICS & PLANNING

Timing of such a collaborative course can be a great challenge even among universities within one country. In multinational collaborations this challenge can be even higher.

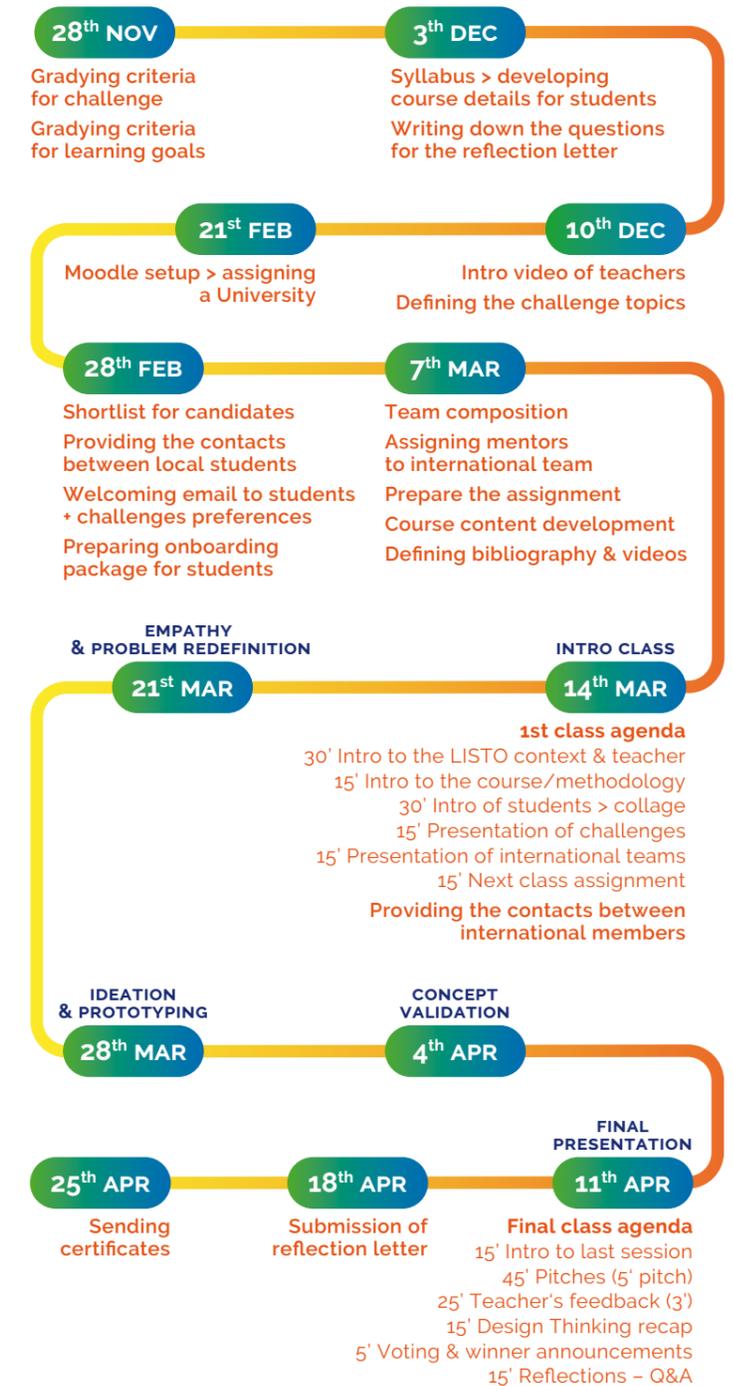
SYNCHRONIZE CALENDARS

When starting an international collaboration, consider the academic calendar differences among partners. Finding the time of the year that works for each university's class, exam, and vacation rosters, that does not fall into the period of summer and winter breaks, or includes national holidays has to be looked into with great attention!

TIP The larger your consortia, the more difficult it will be to find such a period of time. You may consider creating a joint calendar and mark all of the national and regional holidays, time changes, and regular academic calendar for each partner.

However, this is not the only time-related aspect to check beforehand. It is likely that the preparation period also falls into the times of vacations or celebrations, thus leading to the longer times in the project development, than in a single country context.

CASE EXAMPLE OF A ROADMAP



BEWARE OF TIME ZONE DIFFERENCES

Planning and executing synchronous classes among countries with significant time zone differences can be quite a challenge. Discuss about it openly with every partner. Don't forget to consider that some countries don't have summer/winter time zones. Some partners might need to compromise and have classes start/finish at a time that is earlier/later than usual. It is not less important to take time zone differences into consideration when designing activities or tasks to be performed by international groups of students.

QUOTE STUDENT “The time zone differences sometimes presented difficulty for building together strategy to answer the assessments. We take as routine to have a Sunday meeting since it was easier to find common hourly. During the week, we rarely all worked together, but we knew the rhythm of European and Latin-American students, and we worked very well following the sequence of these rhythms. Of course, sometimes, mostly the day before the deadline, European colleagues worked late during the night. The time zone differences help us to be organized and also to make decisions more rapidly.

A barrier for working as a team was the difference in time zones. In the beginning, our team was separated by 4 hours, and in the end, 5 hours. So finding a common hour to do one virtual meeting with everybody was also a big challenge. In the first week of the project, each student sent an email presenting him- or herself to the group, adding their phone number. Then we created a WhatsApp group, and began communicating by this App almost every day.”

QUOTE TEACHERS “Time zone wasn't difficult to schedule meetings since 4- or 5-hours is easily managed (afternoon for Europe and morning for Latin America). But usually university teachers involved in an international program such as the LISTO program have additional obligations that involve routine frequent international travel related to other professional activities. That can lead to further difficulties. It is thus crucial to anticipate the need for meetings.”

PLAN AHEAD OF TIME

Preparation of a multisite virtual collaboration requires planning the classes very precisely and arranging backup (video) in case the technology fails (still, teach live if possible!). Although most things should be planned, there should be room for improvisation — these are the most beautiful and spontaneous moments that bring the group together.

QUOTE TEACHERS “The roadmap was super great! It was a timeline, with all tasks and who is responsible for them. The coordinators' role was to make sure everything was done. It worked extremely well and smoothly in our teacher group. I think that we quickly agreed on learning outcomes, which means we were all very clear about where we were heading. No misunderstandings, no conflicts, just very, very smooth communication, and everybody delivered on time. Much easier than collaborating many times with teachers locally!

From my understanding, the whole preparation of the pilot was really successful but we lacked an alignment call/meeting before the kick-off to rehearse the content and activities of each class all together. In that sense, we would have guaranteed that each class would have had the same content and would have been executed similarly in each university.”

PLAN DIFFERENTLY

Usually, you schedule your classes on the same day and time every week. However, in an IVC project you may want to plan in more time between classes to provide ample opportunity for students to schedule the joint work, exchange opinions and reach agreements.

QUOTE STUDENT “As the pilot was very intensive sometimes it felt like we needed more time to be able to process all the information that was given in class, discuss it in the group and do the weekly assignments.”

QUOTE TEACHER “We created complementary videos, provided papers and toolkits and proposed the reading of complementary papers. However, due to the velocity of the pilot and considering the weekly deliverables, these materials were almost useless. In my perception students relied heavily on the project template and the class slides to develop project deliverables.

To be certain that the complementary documents have been studied, I reserved time during class for sharing the students' comments and discussing the content of the documents.”

TIP Plan for more time during and between the classes!

9

TECHNOLOGY

Whether you plan a full virtual classroom, a partial one combining synchronous meetings with local activities, or focus on student virtual exchange, you need to define the technological tools from the very beginning.

DEFINE YOUR TECHNOLOGIES

If you are working on IVC for the first time, you may be tempted to focus on the most unfamiliar part of the technology: on the virtual classroom delivery itself. But let us ask you: have you decided on how the students are going to receive the materials? Or how they are going to work on assignments during class? And how they will work within their international groups? Choose the platforms used for communication strategically!

TIP Consider technology use before the class, during the class, and after the class. Then, define and test such technology beforehand and provide student and teacher teams with rules and recommendations.

CASE OUR SET-UP

A short list of our choices related to technological tools used during the Pilots.

COMMUNICATION AMONG TEACHERS WhatsApp and Google drive

COMMUNICATION BETWEEN TEACHERS AND STUDENTS Email, Moodle, WhatsApp

VIRTUAL CLASSROOM Polycom, Zoom and BlueJeans

COMMUNICATION AMONG STUDENTS Email, WhatsApp, Skype, Google docs

Remember that the standard system to organize the course material and deliverables implemented in your university will most certainly operate differently in other universities in which you may collaborate.

CASE MOODLE

In our Pilots we decided to use Moodle, which was operated from one of the Universities in Uruguay and was available in Spanish, English, and French to accommodate for different user preferences. It was designed in the same way consistent with the overall look and feel of the project with three different sections for each of the pilot courses — should a student or a teacher takes part in several of the pilots, they would find themselves in a familiar space. However, very few teachers were familiar with the platform and thus approached using the tool in different ways. There was a clear need for a special session to introduce the Moodle platform. Furthermore, as some information was sent late to enroll students and teachers to the system, it created additional overload for the hosting university and their IT system.

Given the innovative nature of the class, deliverables could be defined in a more digital format, such as videos and other technological tools (e.g. Padlet, Drive). While it may require additional learning, it does have the advantage of being a familiar platform implemented differently.

QUOTE TEACHER “WhatsApp worked amazingly well and succeeded to initiate the dynamics of the international groups and to handle ‘text communication’, however this was the only reliable tech tool applied during the process. For future developments it would be relevant to consider the use of other tech tools, such as Zoom for group communication, Slack for project planning, and online tools for creating the deliverables explicitly in the template of the project.”

QUOTE STUDENT “I think that we should have explored new tools to communicate and work instead of just using the standard WhatsApp tool. We tried to make a skype meeting once but it was impractical so we came back to WhatsApp.

In the first week, we made one video-conference by Skype. The best day for everybody was Sunday, and we had planned a one-hour meeting. Everybody was there, but we felt that many of us were not feeling comfortable to speak. We were shy, and just two or three people were talking. So, after about twenty minutes, someone gave the idea of turning off cameras and finishing the discussion by messages. Everybody agreed. And then, we continued to discuss by writing messages. I do think it was a better way to communicate since everything was more clear and efficient.



Through Whatsapp, we were in constant communication, keeping track of the progress in our assignments, sending and discussing ideas, and sharing the links for our shared material. We also managed to work in tools that provided simultaneous editing, like Google Documents and Miro.”

TEST, TEST, TEST

Familiarize yourself with the technology setup before starting the classes. Schedule meetings before the first class to organize the technological tools and agree on the terms of use. Test the system for the limits — show slides, play videos, connect user laptops — any situation that may occur during the class! High quality internet connection is key (and ethernet is better than wireless!).

IMAGINE THE DOWNSIDE

In choosing the communication platforms, be sure to keep it realistic and focus not only on technological possibilities, but also on finding out the potential disadvantages.

QUOTE TEACHER “WhatsApp has been a tremendous help in our classroom providing very fluid and smooth interaction. However, we would sometimes get 600 messages during class — this was overwhelming!”

CASE OUR SET-UP

Our initial plan involved using just the direct Polycom solution to connect the classrooms. However, we soon realized that due to an unstable internet connection, varying schedules of students and national holidays on specific occasions, it would be beneficial to create an opportunity for students to connect to the IVC from their mobile devices — laptops, tablets or phones. We therefore resorted to the use of Zoom and BlueJeans multi-user platforms that provide simultaneous access to both video conferencing equipment and individual users. Also, each classroom required the presence of a person responsible for overseeing and managing the IT system.

10 STUDENT ATTRACTION AND SELECTION

Starting a new course involves some uncertainty and adjustment both in its design and communication. What drives the students to join an experimental elective? Doing some simple research of your “market” can help shift the odds in your favor. The more you learn what motivates your students and include these insights in your communication efforts, the higher your chances are to start things on a good footing for the students to stay committed in the course. These motivations may vary, not only per country, but also per university and even across schools of one university!

UNDERSTAND THE MOTIVATION

A virtual classroom provides a broad range of opportunities for international and interdisciplinary work. Most probably, you will attract students who are interested in both the contents (entrepreneurship) and the international nature of the courses you offer.

Here are some of the voices of our students:

QUOTE STUDENT “The participation of students and professors from foreign universities makes it even more interesting for me since I consider that international cooperation and shared experience is fundamental in a context where the problems and therefore the solutions are global.

I think it is important to participate in these instances offered by the university not only for purely academic knowledge but also for the opportunity it offers us to be in contact with students and professionals from other regions of the world and thus be able to exchange different experiences.

Personally, it would be the first time that I would participate in a program that involves people of different nationalities, cultures and training backgrounds. This represents a great opportunity to exchange ideas and paradigms with people who escape our daily lives and idiosyncrasies.”

Not surprisingly, you can expect that students joining an IVC are interested in the international experience it provides. But in what kind of experience are they interested? Is it about working with international students and teachers or is it more about understanding the international contexts of specific subjects and disciplines? And what does “international” actually mean?

QUOTE TEACHER “Our students were very happy to work internationally, especially with foreign teachers. And I should say that the European flavor of the pilots added to the value. I think we would not have had the same success in recruiting students, if this was a collaboration among Latin American universities only.”



Apart from the international experience, you can expect to have students who may be more interested in a specific topic, such as learning about design thinking or assessing a business opportunity, or even in a specific challenge, such as learning from international professors about developments in sustainability or smart cities.

QUOTE STUDENT “In the first place, because it is entrepreneurial training, as I have already mentioned above it is something that has always motivated me. I would like to strengthen my knowledge and tools, since we’re usually taught about many tools designed for large companies not for start-ups.

What is interesting for me in the Recognizing Global Opportunities course is how you go from an idea to an actual business model, how do you recognize a business opportunity, and how that differs across different countries. As I see more and more people moving to cities, Smart cities are my preferred choice.

This program, especially the Design Thinking for global challenges module, is related to my final degree project, so I think it would be a great opportunity not only to complement my background of knowledge but also to enrich my academic work.

I am interested in this program because I would take the opportunity to train myself in an international context about how to conceive an innovative entrepreneurship project, identify project opportunities in such a way as to have tools to distinguish between alternatives of innovative technological initiatives, or understand and know which experiences of entrepreneurship and networks and ecosystems of entrepreneurs exists in other countries of Latin America and Europe.”

Finally, we found that the students are equally motivated by the interdisciplinary opportunities our course offered.

QUOTE STUDENT “In many Latin American universities the education system is very rigid: if you are studying economics, you are studying economics and there are not many opportunities to meet students from different careers.

I think that being a multidisciplinary program will be very enriching to be able to listen to opinions of people from different careers and cultures. It seems like a good opportunity to work with people with different academic backgrounds from mine; it’s enriching to have different points of view regarding the same subject.”

DON'T BE SHY IN ADVERTISING IT!

To create an intensive extracurricular course with international and interdisciplinary experience, you will need to attract the best and most motivated students. Strive to invite as many students as possible with as many knowledge backgrounds as possible. Mass emails, university wide promotion through social networks and flyers, and gathering institutional support from faculties and schools are your weapons of choice. Consider also contacting fellow professors, incubators, or entrepreneurship centers to recommend students.

TIP Before launching the campaign for attracting students to this pioneering initiative, check whether your students value enough to be a part of something new and in-development, or whether they would rather prefer to join a more established course. Creating a challenge/contest where being selected for the course is considered an important achievement or even a prize seems to work well. To show it is an international classroom, you may want to include such things as the link to the EU project, such as LISTO in our case: <http://listoproject.eu>.

CASE UNC

In our university we made an enormous effort in promotion. Five months prior to the course we started promoting the Pilots using the social network accounts of the university and faculties. We even went to a local TV show. We did! Our university is composed of many schools that have a high degree of autonomy, but we managed to work with all of them to support our communication effort. It was an important source of success in terms of recruiting students with different backgrounds. We could have filled in the quota for our students with just economics students, but we wanted to also attract engineering, biology, design, psychology, and even mathematics students. And we managed to do so. Since the beginning of the communication process, as we knew that we had 29 spots and expected many applications, we communicated that being selected was like a prize for them. We attracted almost 200 applications for the course!

You will also need to think about the content of your communication. One way to inform clearly about the what, how and why the course is proposed is sharing the syllabus.

TIP The question is, at what time should the syllabus be available? At the course announcement, this document could be too detailed. If sent to the selected students, it could be late and some of them may give up and your selection work is lost. Thus, the description

should focus on the main goals of the course. For example: "working with an international group".

INVEST TIME IN SELECTION

Good strong student selection can guarantee commitment. Of course, your options will depend on how effective the advertising and dissemination efforts were, but remember that age, maturity and previous knowledge might be easy to standardize, but motivation is not. A very strict selection process is necessary here, and it is only possible with many good candidates. Don't be afraid of investing time talking to the interested students: it is not always easy to feel how motivated they are from an application form. Just by coming to an interview and waiting for their turn students showed with actions they were motivated.

TIP One important issue is that it took a lot of time to promote the course, to recruit and to select the students. For promotion, all university divulgation channels were applied. Students were initially selected based on their curriculum, interviewed face to face or using video tools, and selected considering their university curriculum, entrepreneurial backgrounds and diversity aspects.

CASE OUR SET-UP

SELECTION WAS DONE IN TWO STAGES

(1) Preselection based on the information provided by the students on registration forms designed by the consortium following some criteria, such as knowledge of English, their grades, percentage of career completion. Some universities made it using a form, while others asked the students to film a 1 minute video where they would explain their motivation to join the pilot.

(2) The second stage in most cases was personal interviews. Interviews in English were very important to choose the right students.

QUOTE TEACHER "It is not easy to evaluate the skill in English speaking. Using the 1 minute video application allowed us to assess overall and quickly the students' level of oral expression in English, their ability to express themselves in front of a camera and to quickly understand how this course will fit into their academic curriculum. Some students have prepared this video seriously while others have a poorly constructed speech. It was easy to select students who were English-dominant and highly motivated.

We selected outstanding students, previously involved with startups, and with very different backgrounds. It was good because students were resilient and knew how to behave in international contexts."

ENCOURAGE DIVERSITY

CASE OUR SET-UP

Each of the pilots followed a similar process: students revealed their preferences regarding a specific challenge or a theme (e.g. immigration or smart cities). Subsequently, teachers formed teams trying to take into account these revealed preferences, and the diversity of the backgrounds of students.

Once students are selected, team formation is another step that needs to be considered carefully, since it directly impacts their experience and the class dynamics. We followed some premises:

- Teams should not have more than 3 students from the same university;
- Teams should not have more than 4 students from the same country;
- Teams should include students from different regions (e.g. Europe and Latin America);
- Teams should be diverse in student background formation;
- Teams should be balanced in gender.

Mixing students from different backgrounds and with different skills prompts an entrepreneurial environment and can help students complete the class assignments and achieve personal goals. It is important to have an equilibrium between the participant's academic backgrounds and also to consider male/female balance.

QUOTE TEACHER "We had an amazing group interaction in our class, and interdisciplinarity was one of the key success factors. While selecting students for this class we made the effort to select students from different fields: biotechnology, design, architecture, computing, etc. This fostered interesting conversations not only inside the classroom but also among students. For example, a computing student helped a biotechnology student in a personal entrepreneurship project."

QUOTE STUDENT "In my case, my group worked really well and the chemistry was quite special, but we saw other groups struggling more than expected, showing that perhaps it might be good to consider a more specific group selection for the next initiative, by using some of the known tools, such as the Belbin test."

MANAGE DIVERSITY

Education systems are different among countries, particularly among Latin America and Europe. Furthermore, universities are quite different in size and internationalization opportunities for students. If, on top of that, every university tries to bring onboard very diverse students through the application and selection processes, the overall course should be attracting a very heterogeneous group of students. It is powerful to emphasize the importance of diversity and help students manage it, since it can be a real asset, but also an initial obstacle for students who are not used to it in their areas.

TIP In our case, the heterogeneity of the students made their local and global connections more difficult, since the combination of different local and international backgrounds resulted in too high complexity for the short period of time of the project. Make sure your students connect on some level.

QUOTE STUDENT “The bad part of my experience was regarding the different types of motivations in my group but from last week’s discussion to this week I decided to not get stressed with the low level of engagement near the task’s deadline. I believe the different backgrounds, cultural factors, busy schedules and motivations made our group so diverse that the way we see that group tasks are supposed to be is really different.”

Looking back, we also note that it was very important to establish the same maturity and knowledge level of students: multilevel shuffling of students (different years of education) does not work very well.

QUOTE TEACHER “In Cordoba our bachelor degree is 5 years, 10 semesters. So we agreed to select students from the 4th and 5th year of the bachelor’s degrees and in the EU European universities they would select students who are beginning their masters in order to have a similar maturity of the students and similar prior knowledge level. This way, at least on the local level we had a very homogeneous group, regardless of their career differences.”

MAINTAIN THE LOCAL COMMUNITY

While the purpose of the class is to develop intercultural skills of students, the local group and community still plays a big role in determining the spirit and helping the interactions.

QUOTE TEACHER “One week there were several local activities using post-it-notes, but some classes did not have them, so in these groups students started using other materials and even wrote on their arms. It was huge — when they shared their videos and answers, sixty people sitting today in our classrooms were

crying from laughing. I believe it was very beneficial, that there were at least five students in each local classroom — you need a ‘critical level of madness’ for such activities.”

Interaction among students and teachers were presented at many levels and it is important to consider and foster each one of them when possible: local students between themselves, local students with local teachers, students with international teachers, international groups with mentors, etc.

QUOTE TEACHER “When we did local activities they were usually done in pairs. With 7 people it would be difficult and one of the teachers would have to act as a student. It would have been more suitable to have bigger groups per university; approximately 12-15 students at each university, to preserve a good interaction.”



11

WORKING IN MULTINATIONAL MULTIDISCIPLINARY TEAMS OF TEACHERS

This chapter is for teachers involved in curriculum development, but also for project leaders and managers in order to reflect on how to work together in order to run several pilot courses. The people involved had to manage and handle an unusual environment in everyday life, collaborate with people from different areas of expertise and work style. This has been a wonderful but also a very demanding experience.

KNOW YOUR TEAM

In modern teaching practice we increasingly face the need for team teaching, combining the expertise, experience and effort of different individuals to create one consistent and coherent course for the students. In international virtual classrooms the distance is not only influencing student learning, but also teachers' collaboration: it is rather difficult to go for a coffee together, if you live on different continents! Put a good effort into learning about each other, what your strong sides are and how you could complement each other.

CASE OUR SET-UP

Before coming together, we ran a survey studying practices of each others' teaching, and the needs that each partner university was putting forward. This survey was a first step. As a next step we organized a poster-based conference, exchanging best practices of teaching at different levels — starting from a method, towards a course or even a program.

To build up a strong innovative curriculum, you need to identify strong points of your teaching team, find time to meet, and discuss with your team how you are going to approach the building process. There are different possible ways to combine your expertise.

CASE OUR SET-UP

In our project we have implemented three different approaches: Pilot 1 team identified a common topic, design thinking, and centered the course on one methodology, where three experts prepared the lecturing material and the rest of the team used their material and slightly adapted it to local contexts. The Pilot 2 team had very diverse backgrounds — from psychology to accounting to technology management and entrepreneurship. Similar to the students' challenge, they had to identify their backgrounds and possibilities, and find a potential synergy between them. On the other hand, in Pilot 3, all teachers have been previously teaching different aspects of networks and ecosystems and could provide different perspectives on it.

BUILD THE SPIRIT

To achieve clarity, you want to define the different roles within your team upfront: do you combine everyone's background into one course, or do you only use the expertise of a few select members of your team? You will need to be sure that within your team everyone knows the strong (and weak) sides of each other! Still, knowing the tasks and expertise areas of the team members may not be enough. A lot of things can happen in such a course!

QUOTE TEACHER **"It is very important that the colleagues you work with in the IVC are always available to help, support and collaborate: you need to love each other. Thus, you need to pay attention to team building and bonding during the project meetings."**



DEFINE ROLES

Goals of the project need to be defined in precise terms to establish the team composition and define the tasks. An effective way is to have a coordinator, who is going to lead the team and define the team roles for a specific classroom. However, leadership in intercultural teams can be challenging — be sure to learn about the cultural differences within the group you are working with.

TIP One good practice that can be recommended here is a rotating leadership, where leadership is not kept within one certain institution or partner, but is transferred depending on the moment and the available time for each of the participants of a specific class or task. A visual tool that can help is a roadmap showing tasks and deliverables, who was responsible, and deadlines.

IF YOU CAN, TAKE ADVANTAGE OF EVERY MEETING TO DISCUSS COORDINATION

Leading and coordinating international and multicultural teams is not easy, particularly if the project involves co-creation. Optimal coordination arrangements may change as the process goes on. If your project is designed to have the occasion to meet in person, these meetings could be an opportunity to adapt coordination mechanisms.

Coordinators and managers need to be open to dialogue from the very start, but every team member should be willing to voice their worries or present their differences openly giving the rest of the group the opportunity to reflect. Take full advantage of meetings to promote open and sincere talk about coordination. Without this, you run the risk of team members feeling disregarded and collaboration could be hindered. Coordinators may also feel some unrest and may not be able to understand what needs to be fixed.

AUTHORSHIP AND EDITORIAL ARRANGEMENTS MATTER

When you expect to produce some publications, be sure everyone in the team is well informed and agree on authorship and editorial arrangements from the beginning. Then you can align every partner's expectations to text contributions.

AGREE ON TERMINOLOGY

In the preparation, thoroughly discuss what you mean by virtual within the international virtual classroom. For example, some of the teachers may define it as virtual exchange, while others will focus on the virtual online class meeting. You may also find yourself disagreeing on an optimal basis between online (synchronous) and local (asynchronous) teaching elements.



QUOTE TEACHER “Also, for students it was not always clear that virtual classrooms required their virtual presence at a specific day and time — they confused the IVC with a MOOC.”

STICK TO THE MAIN GOAL

Misunderstandings regarding the main goal have to be dealt with immediately.

QUOTE TEACHER “What was never questioned is that the international and multicultural perspective was the main value.

We wrote the syllabus of the course dividing the work between all of the teachers. This step was very important for defining with more details our own expectations, the way the course will be constructed and how the students will work and will be evaluated.”

USE COLLABORATIVE INSTRUMENTS

Aligning the styles could be very challenging if you are working with each other from a distance. Consider the quote:

QUOTE TEACHER “Class 1 was an introduction of the course and the tool, class 2 was theoretical and included examples, class 3 learning by doing, class 4 a theoretical case study and practical examples and class 5 a pitch and closure. But it did not seem cohesive. That is because classes were prepared by individual professors and each professor has their own style and methodology.”

This did sound familiar to everyone who worked in teaching teams. Collaborative instruments and approaches can be crucial for the success of your IVC.

TIP Every teacher team should have a member whose mission is to generate the integrity of the content, methods, activities and tasks.

CASE OUR SET-UP

Two collaborative instruments advantaged the correct planning and development of our courses: A roadmap and a collaborative syllabus, and a Q&A for teachers. Before the beginning of the course, video instructions were recorded to explain things better: they seemed to be clearer than written ones to be aligned and to ensure everybody knew the script before the class.

QUOTE TEACHER **“The design thinking pilot opted to have two synchronous lectures and three local lectures. For the local lectures, three experts each prepared a lecture, and then shared the script with all local teachers who had to teach the classes. It was important to have these guidelines so the students would not be hearing different things in different classrooms. But after reading the documents that my colleagues prepared, I could give the class and add my personal recipe — flavoring it with my personal approach.”**

USE YOUR STRONG SIDES

CASE OUR SET-UP

One of the pilots used a method that was well established with many experts in the team, so they did not have to focus on creating that and it was one of their success factors. The other two pilots combined methodologies that each one of the teachers mastered. A combination of several very well established methods was very enriching and allowed teachers to learn from each other.

There are advantages and disadvantages of each approach. If you take an established methodology and let an expert develop all of the content, this takes away the worry about the flow of the lectures and their content and lets the team focus on other aspects of the curriculum. This can be challenging for the team dynamics and puts a lot of pressure on the leading content developer to be aware of the differences across local partners' contexts. Also, if class is given locally — not by the original content developer, there might be risk of misinterpretation of this content by a local teacher.

QUOTE TEACHER **“The approach choice will depend on the topic of the course in which you are involved and the expertise of the teachers. Even though problems may occur, if we look at the benefits of working internationally, these problems turn into part of a rich learning experience. In practice, working with international teachers helps us share different visions of a problem or a situation and even question existing assumptions.”**

On the other hand, if the course is created as a combination of skills and expertise, where each teacher masters her/his class topic only, it also has positive and negative outcomes. Positive sides include that each class is interesting for all of the audience, including the other teachers, and the deliverables of each class are very useful for starting the following class. Negative consequences are that there is a dependency concerning the specific teacher for the specific class, and that the local teachers may have difficulty to help their local students with specific doubts, questions and assignments.

ALIGN TEAM MEMBERS

Have some time to meet up beforehand in the class, so everyone is on time and prepared. It does not work if the teachers are not aligned. A 30 minutes video call could be used to understand the assignment, to go over it again, discuss and remove any existing doubts or misinterpretations, etc.

TIP **Consider recording the content of your classes, so that in case of lack of connection, the lesson would still happen. It is also a way of guaranteeing a standardization and orientation of the content by the teachers who were not responsible for the lesson.**

QUOTE TEACHER **“Sharing the responsibilities with another local teacher was definitely a plus. It not only allowed us to work more closely with our local students, but also to have very fruitful discussions before each class. These discussions led in some opportunities for discussions with the international teachers team that allowed us to make improvements before classes.”**

12 CONTENT AND MATERIAL

Teaching and learning is an interaction between teachers and students, who may have very different expectations of each other. Context-specific information and support makes expectations transparent. Clarity is especially important in virtual formats.

CONSIDER LIMITATIONS

Before starting the course, pay attention to the ways you can connect *what* you want and need to teach and *how* you can do that, optimizing the group efforts, internationally and virtually. As an example, consider how much time you have to deliver your class. In our case we opted for 5 weeks, as it is a short period of time for creating a relevant and consistent project in a complex international environment. However, as IVCs are very intense, committing to a longer duration might be too much for some of the institutions.

QUOTE TEACHER “The class was organized in 5 weeks. In the first and last encounter students received very little theoretical content. If the class had lasted longer, students would have been able to fully grasp the content, and understand the methodology.

We needed more time for the validation of the idea: when you develop a solution or a prototype, often you are in love with your idea. So when you go out and validate it, you face a wall and you need to reiterate and come up with alternatives.

I think it goes well, I like that we have different groups and topics — it allows more diverse discussions, but I think we could use one more week to focus the projects.”

SIMPLIFY

Virtual way of teaching is rather complicated, with many variables and too many things that can go wrong. Therefore we suggest that the process you choose inside the course is simple and tightly focused on the learning outcomes. Simple content allows for fewer things to go wrong, decreases miscommunication, and enables you to focus on the important parts of the process.

QUOTE TEACHER “Very important to mention, the chronological order of each subject, touching from the first stage of the design thinking methodology to the last one, and spending exactly one class per stage, really helped to get the correct understanding of both the task and the theory.”

THEN SIMPLIFY AGAIN

In the IVC situation your students will have to learn a lot: new teachers, new rules, new team participants, new contents, new ways of working across cultures, disciplines and technologies. Consider the total volume of information your students receive, and ask yourself where you could go leaner: e.g. have mandatory material and suggested ones — be good at differentiating between the two. Same with case study material.

QUOTE TEACHER “As text reading we assigned different books. It was impossible for students to read all of the books assigned in the time given, but if we had given them a chapter of a certain book per week to read, or a paper from a certain author, short articles, case studies, YouTube videos, etc., it would have been more realistic to demand students to read them, and the theoretical material would have been a great support to our classes.”

ADJUST TO THE AUDIENCE

Working with multidisciplinary teams on innovation, business development or entrepreneurship, you will most certainly find yourself balancing the business and technology backgrounds of your students.

CASE OUR SET-UP

In one of the pilots we focused on the opportunity identification by analyzing upcoming disruptive technologies. However, for students, who did not have any background in the technology, it was difficult to follow the classes and topics. How to work around it?

One way to deal with it is to complement the lack of technological knowledge through team composition: there should be a complementarity of backgrounds and interest among the students to learn more about the technology.

CASE OUR SET-UP

PILOT 1 Design thinking: Discovering customer problems and preferences across cultures.

PILOT 2 Global opportunities: How do we leverage technology to address global challenges and turn them into opportunities?

PILOT 3 Ecosystems and Networks: Are there different ways to network across cultures? How do we navigate across international networks?

FOCUS ON LEARNING OUTCOMES FIRST

To design an effective course, it is important that you consider the learning outcomes and their hierarchy. How do you combine the international, interdisciplinary and content specific learning goals? The most likely outcome to delivering these learning objectives will require a compromise: if you are focusing on teaching a method or a specific topic, you may sacrifice the international aspect, but if you are focusing on the virtual and intercultural learning, you may need to consider simplifying the content.

TIP In multidisciplinary student teams unevenness in the learning speed about technology-related topics is something to expect. Try working with your “technology” students and coach them on how they could translate their ideas to the perspective of other students.

Furthermore, as a teacher and mentor you may want to help your students learn to identify the big trends staying at a macro level.

TIP Share industry reports, and give inspiration regarding startups to watch and study.

Keep the focus and explain it to your students.

QUOTE TEACHER “If you focus on international and intercultural aspects, you are not teaching technology, but rather, technology management with some elements of technology. Therefore, for each group it would be handy to have students comfortable with using technology to bring scores up on the technology aspect, but they don’t need to be experts to manage it. Like in real life, you may need to manage people who are adept at using technology to not go too specific in the technology, because they tend to talk about product characteristics. Thus, as a teacher, you need to manage group dynamics in the topics in which they talk.”

MAKE PROJECTS RELEVANT

It is important to find an exciting theme or challenge as possible to motivate the students working on them. Global and actual problems are visible and should be selected by the students. It helps to identify the contexts and specific subjects relevant to the countries and cultures. However, you may want to consider choosing a topic where the students can engage themselves. The connection between content and context is instrumental in order to create a more challenging environment of learning.

QUOTE TEACHER “One nontraditional aspect here about the topics — the students really needed to go out and find information about a startup. For me — this is not necessary that they get in touch with the startup, but they did. Especially one startup — I saw that they got magnificent information and contact — but that is extraordinary.”

For example, they can’t do anything about immigration (yet), but they could improve the situation around them at the university.

STRUCTURE FOR COLLABORATION

Develop course content and structure oriented to create a class based in collaborative work among teachers and students. Make sure all students are involved in tasks. If you realize that there is someone who is not involved — motivate them to contribute to the team effort as soon as possible.

We want to highlight that it is not always realistic to expect that teachers will follow up on every group activity and that they will be available to help students with assignments and tasks, since teachers usually manage a great number of academic activities such as other classes, research, final project orientation, academic administrative work, etc. Collaboration as a team function is important to solve simple problems, clarify information, follow up student integration and identify course problems.

QUOTE TEACHER “One important benefit of the format of our course was to meet the local students each week. During these classes, we could have a direct and easy way to evaluate the level of understanding of what we planned.”



13

STIMULATING IN-CLASS INTERACTION AMONG STUDENTS AND STAFF

The virtual context of the IVC implicitly favors the more traditional approach to teaching, where students absorb information by listening carefully, taking notes and reviewing lecture content. However, international and interdisciplinary aspects of learning require discussions and exchanges among students, challenging the 'facts' that are normal in one country and not in another. Thus, you will need to engage your students in argument and debate in a virtual environment.

FACILITATE TEAM BUILDING FOR STUDENTS

Offer tools to the students to help them learn how to communicate/collaborate and take advantage of their different academic or cultural backgrounds when facing the assignments.

QUOTE TEACHER "As teachers, it is our task to tackle the collaboration dynamics. This is a learning experience and we should prepare some tips for the students before the class to promote that the task or assignment is not only a design thinking challenge but also an intercultural experience."

QUOTE STUDENT "The work dynamic of the group was very organic and although we did not set strict parameters, rules or timetables, the workflow was satisfactory. Looking back, and after talking with my classmates of the local course, I think it is convenient at the beginning of the assignment to first make an introduction about our skills and areas of knowledge in order to know what our team members can do best, so as to make an efficient division of labour and benefit from all of the team members' potential and abilities."

BE CLEAR

In virtual environments it is often difficult to see the expressions of the students sitting in another location, and not always possible to elicit feedback and active dialogue across several locations. Thus as a teacher you do not really know what students understand or the topics in which they are having difficulty. Be sure to give small, precise, and practical tasks, either in the local or virtual group.

TIP You may want to first "test" the assignments locally, so the students know what to do when they later meet internationally. Even in international online lectures, you can have assignments done locally.

ILLUSTRATE

It is important to introduce examples and to promote comments, observation, and discussion in the group. Teachers should facilitate the discussion and comments about the examples rather than offering their comments and conclusions. Students should be encouraged to mention other relevant examples and connections they know. An analysis of the discussions may give interesting information about the comprehension of the topic beyond enriching the knowledge of each student and teacher by sharing experiences.

QUOTE STUDENT "I believe that through this course I was able to incorporate not only knowledge and skills but also life lessons and not only from my teachers. My teammates were a great source of knowledge and experience.

I believe that both the interdisciplinary and intercultural differences were essential for opening our minds to other realities by helping us see the problem from different perspectives and knowledge fields, and consequently reach a solution that satisfies more than one cultural pattern."

QUOTE TEACHER "I will relate an interesting result obtained by an international team which was studying the waste food problem. By the fact that they belong to different countries, they discovered that the actors of this world issue were country, cultural and development-level dependent. After doing research about the quantity of waste food registered in their country, they discovered that in Latin American countries the actors are the food producers and the food chain transportation and that in Europe the actors are the consumers."

ENSURE THE GROUP WORK

During the class, teachers proposed topics to be initially discussed by the students locally and after that to be discussed by the international groups "globally". This dynamic resulted in good discussions that influenced the final results of the projects and the development of interpersonal skills and characteristics such as leadership, responsibility, and commitment.

QUOTE STUDENT "I believe the part I enjoyed the most about all the past weeks were the classes, the concepts, and the teacher's presentation and real-time dynamics. All the material was on point and it was extremely insightful for me."

If you are combining local and virtual lecture design, think about integrating the international dynamics in your local classes:

QUOTE TEACHER “There was a clear distinction between the international and local interactions. There were no interactions between the international teams during class. By performing international group activities in class, we would foster international student interaction, changing class dynamics from local-centred to international-centred.”

REWARD DISCIPLINE AND PARTICIPATION

Remember, group sizes are small; punctuality needs to be very strict: although the class itself might be big (we had about 50 students in each classroom), the assignments and discussions happen in either local teams or international work teams that are relatively small, and every member's participation is invaluable.



14 STIMULATING INTERACTION WITHIN STUDENTS GROUPS

Respecting and adjusting for diversity requires judgement and reflective practice on the part of the teacher and reflection on the effectiveness of any attempt to create a more inclusive teaching environment for all students. For making interaction in groups smooth and to increase motivation to interact and promote student's engagement, the course should focus on dynamics for collaboration, team organization and cultural sensibility.

HELP BUILD AND MAINTAIN STUDENT ENGAGEMENT

The international team has to find their identity quickly to have effective work from the beginning of the course. It's important to propose an activity to catalyze the connection. With a local group, you can apply a lot of "icebreaker" games or activities for that but for a virtual group, it's more difficult. Thus, you may want to invest time in developing these relationships!

QUOTE TEACHER “International student interaction worked but could be improved by designing group interactions among students. For example, international groups did not know what their skills were or what their schedules were. We left the group interaction and organization to students but if we designed some activities to 'get to know each other' we believe students would benefit. For example, in class 1 students spent about 20 minutes

filling out a survey in class; that time could have been used to introduce themselves, or complete another group activity.

I think our pre-first class assignments were important. The international groups were assigned to make a flag and a slogan for their group. This simple exercise made students build a community amongst themselves, and also to get to know one another. That is how the first session was such a fall-in-love moment, since they already knew one another a bit, but had not seen one another before.”

QUOTE STUDENT “From the first assignment to the last, we could develop our own working style, as a group, considering the cultural and academic backgrounds of each one. We could make contributions considering our education and the cultural baggage. We could share personal experiences in every approach to the problem, and we were encouraged to take an empathic attitude during the classes and the whole process.

I liked the way our teacher conducted the classes. It was different from my classes at the university. The teachers and the students were always seated around a table. The lessons were much more interactive, increasing and facilitating student participation. Everybody collaborated, and we built knowledge together; we didn't just receive knowledge, we actively participated in producing it.”

INSTRUCT ABOUT CHALLENGES AND POSSIBILITIES

Consider providing tips to the students on how to manage diversity and promote understanding before the course starts. Note that while it is relatively easy to give tips about multidisciplinary (resulting in task distribution on who can do what best), with intercultural experience, you may need to let them experience this difference before they would become ready to learn from tips.

QUOTE STUDENT “I noticed that some teammates were more concerned about the deadline than I was, and were trying to simplify the process to reduce the risk of not delivering the assignment, which I did not see a need for at that moment, but later realized that the others were right in being more practical and making sure we would not be late. However, after noticing my own deficit, which I attribute to my cultural background, I made an effort to actually hurry the process in the other tasks, having the initiative to start them, by organizing the existing ideas, giving my input, finding online tools for the task, or giving other significant contributions to the development of the tasks, which made me feel much more safe about the development of the tasks and deadlines.”

DEVELOP A MENTORING SYSTEM

One of the key tasks is to keep students engaged between lectures: it is too easy to get distracted and get back to the “life as usual” in between the international virtual classes. Try to create a system to better assess each students’ individual participation level.

TIP As at least one of the students per group should be from your university, having a weekly discussion could help to identify how you have to lead as a mentor.

QUOTE TEACHER “In the case of applying Design Thinking, and sure for other topics, a close mentor’s work with the team is important. That is not easy to realize, as you need time and good tools to communicate. This activity could be improved and, in my opinion, has been under-evaluated as activity by our teacher group.”

Mentors may sometimes be perceived as evaluators and thus need to overcome the initial resistance of students to share information about problems with mentors.

QUOTE TEACHER “In my personal experience, the team I mentored could not align on time and everything was left to the last moment. Thus as a mentor I should have had more participation in the team. Although I was invited to the whatsapp group, this group is a thermometer for you to see how everything goes.”



CASE MICHÈLE

I was a mentor in a group. I took the initiative to send each an email explaining that I was at their disposal to help according to their needs, and even if they already had them, I sent our email addresses and phone numbers. To my surprise, in the half-hour after sending, a group of WhatsApp was created and I was included. Throughout the course, there were almost 2000 written messages. So, reading them daily, I was able to follow the discussions and it allowed me on certain occasions to intervene when I identified that there was a misunderstanding for executing the activities or to give practical details (use of the Moodle, for example). Only once or twice was I explicitly asked to provide help. They rarely asked to rate what they were doing. Actually, they worked autonomously. WhatsApp was only a tool for advancing decision making and task assignments. They used many other programs for the execution of their ideas in which I did not participate. As a mentor, I think I was kind of a guarantee they were doing well because they knew I was following their discussions and decisions. I have always sent messages after each class to congratulate

and encourage them. They included my name in their group in the pitch PPT, which I found very touching. As I met each week a member of the group during the classroom, it allowed me to know with a little more detail about the team. In a distance course, we must also consider having face-to-face meetings, even if it is only with a participant of the group, as they are valuable and always richer... The mentor should be ready to intervene, but only when he/she identifies the team is very lost, because “bad moments” also are important in learning.

You may also want to consider developing a standardized script for mentoring international groups, so that every teacher in the team knows how far the borders of mentoring go and that every team receives similar treatment independent of their location and mentor.

QUOTE TEACHER “The roles of mentoring in WhatsApp groups were not very clear. It would be important to have a structured script of the functions and forms of conduct with the questions. Sometimes I got lost and did not know what to say.”

15 ASSESSMENT

ACTIVELY WORK WITH GROUP DYNAMICS

You may consider to include in the class time a longer period for discussing how the works have been conducted during the week with the international team.

QUOTE TEACHER **“‘Working international’ is a new aspect that one usually does not have in traditional classes. If there is a relationship issue to face in a traditional class, you have all the participants together to discuss it. In the case of international classes, it is more difficult to solve team working issues with transparency and impartiality.”**

CONFLICT RESOLUTION

Since the group dynamics in a virtual working group might differ due to the communication differences, we recommend to not only set some rules for communication and collaboration but also some advice for dealing with conflicts. This should be done at an early stage in the course. It is also recommendable to do an evaluation half-way through the course to check for conflicts and miscommunication to address them as soon as possible.

QUOTE TEACHER **“A very interesting fact was the conflict resolution that I followed in one of the groups in which I was a mentor. And at one point, of the five members**

of the group, only two people were interacting. One of them then decided to make an outburst about his short time due to his academic demands, work, health and that even so he was getting involved with the project of the group. He was getting more involvement from the others, after all everyone in the group should fulfill their responsibilities. It was a very quick question that was resolved. The other members soon apologized for the absence and resumed the tuning, which was very positive in the first weeks. It is interesting and stands out from my experiences, considering that the five students never met face to face, and from an uncomfortable situation they ended up resolving their problems, in an amicable and positive way, without the involvement of teachers.”

QUOTE STUDENT **“The cultural aspect of my teammates that was eye-opening to me was how politeness sets a great environment to work in, one which I am not used to in my cultural background. The politeness sets a tone of respect, which was a complete eye-opening experience for me, because I felt the benefits not only psychologically, but also in the results of our tasks, so I realized how powerful respect is and how much it helps in cooperation.”**

ASSIGNMENT COORDINATION AMONG TEACHERS

Assignments were exceptionally well prepared in paper but lacked coordination between professors. Since assignments were not clear before classes, they were not properly communicated or clear enough for students to understand. Every week, the same experience was repeated and had consequences for students in the international groups. Students experienced layers of uncertainty because they were given different directions from every international professor.

QUOTE TEACHER **“A great teaching example for us happened in week 1, where the assignment was for each international team to present their Flags and Slogans in class. Students were only told that they had to produce them, not that they would have to present in class. Then a beautiful learning moment happened. Students started communicating through their WhatsApp groups while the class kept going and decided who would present, without any guidance. Three or four days before that moment they had never heard of each other, and despite that they managed to come up with a solution. However simple the problem was, the fact that without any previous knowledge of their teammates they came up with a solution in just seconds was eye-popping and a good sign of**

the power of international cooperation among students.”

EVALUATION AND GIVING FEEDBACK

It is important to find a good routine and platform for evaluating the required assignments. Remember to do it throughout the course: by providing feedback every class, students get a sense of how they are doing in class, and this is particularly important when learning new concepts from a different field.

Furthermore, think about the time needed to evaluate the students, and the nature of the feedback: as our main focus was on the international aspect, we focused on evaluating the learning experience, but students expected some more feedback on the challenge itself, not just on the reflection. Think about how to provide such feedback either to your international teams or to local teams.

Hence, consider establishing two forms of evaluation: one based on competition (solutions, documents, strategies, pitch), and the other one based on self-assessment (comparison of the student's level of engagement at the beginning of the course and at the end).



TIMING OF THE ASSIGNMENTS

QUOTE TEACHER “Assignments were too complex and too numerous to be prepared weekly by the groups, individually by each student, to be evaluated by local and international teachers and to be sent as feedback for the groups. If the course is to happen in one month (5 sessions) then a suggestion is to work with graphical deliverables, prepared by the groups during the weeks, an ‘extended pitch’ as a final group deliverable and a ‘one page self-evaluation’ for each student.”

GOOD COMBINATION OF METHODS AND CHALLENGES

Even though the activities are developed by the international group it is important to simulate and practice the activity in the local class. Again the format of the IVC mixing local and international activities enabled us to feel the perception of the students.

QUOTE TEACHERS “Design thinking is a problem-solving methodology; it’s centered around people, it focuses on possibilities instead of limitations, it promotes interactions between multi-disciplinary teams, it encourages us to envision a future path through experimentation and prototyping applicable for experienced and inexperienced students, it is open and suitable for any field, and it promotes creative thinking. In short, we managed to put together a pilot structured around an engaging and powerful methodology combined with very compelling and sensitive challenges.”



SECTION 4 CONCLUSION AND PLANS FOR THE FUTURE



CASE

What did you personally learn?

- That we are trailblazers, there are no roadmaps and this is the future.
- To be successful in any entrepreneurship project today you need to have intercultural and interdisciplinary skills.
- The curriculum needs to integrate culture as much as possible.
- Roadmaps are vital to be aligned with. (learning objectives, course material, etc.).
- Virtual teaching needs more precision in how to organize and lead the classes.
- Important exchanges of virtual classrooms happens outside of the class.
- We have to innovate in how to develop the class and combine different pedagogical methods, we used the flipped classroom, videos, and case-based teaching.
- How to use new tools, teaching techniques, and methodologies.
- Virtual discussion is possible if the technology is compatible, otherwise we need more in class discussion.
- Sharing the experience of other teachers improves the practice. I think this is very valuable — I learned from the content my colleagues gave me — so did the rest of the teachers.
- Even in a virtual collaboration, face-to-face meetings of the teachers are strongly recommended.
- It is necessary to follow how the students work among classes. All of us thought they could work without mentor/teacher support but sometimes it is better asking for the task and how to run the relationship among them.
- As it was revealed throughout the course, the main challenge of working in entrepreneurial projects with international teams involves the different time zones which put barriers to scheduling meetings among members.

The legendary Brazilian football player Pelé is credited with saying: Everything is practice! What is true in football applies to higher education, too. This handbook is based on the experience of one round of developing and testing the IVC format. We have learned a lot and this has informed the way the group is planning future editions of the IVCs. As a relatively new teaching method, IVCs require further practice and improvement with regards to a number of aspects:

SUSTAINABILITY The IVC developed by the LISTO consortium is an extra-curricular activity which students can take for credit. This was the pragmatic and flexible compromise within a large group of partners. An integration into curricular study programmes is still a desired goal but it is a challenge yet to be solved. Nevertheless, an integration into regular programmes would lead to an increase of the quality and impact of the course format. This requires additional expertise in curriculum development, institutional and financial support. While it is relatively easy to get funding for the development of new IVCs (e.g. from the Erasmus+ programme), sustainability will likely depend on the availability of institutional support, willingness and resources for teaching.

PARTICIPATION Achieving a balanced enrollment of students from both Europe and Latin America is an ongoing task. While in the case of many European universities, the kind of international exposure offered by the IVCs is one of many international opportunities, our experience shows that the IVCs have a significantly

higher attraction for students in Brazil, Argentina and Uruguay. We had many more students interested in participating than there were spaces available. For the European partners, this means that targeted student recruitment is essential.

TEACHER DEVELOPMENT With technology developing at a rapid pace and a “digital native” student cohort in the classroom, there is a clear need for further training of the teachers in virtual classroom pedagogy. The pedagogy for virtual teaching is a growing field and requires continuous capacity building for teachers and staff involved. This includes the exposure and training of staff in understanding and use of different methods of virtual teaching, such as virtual exchange, collaboration or classroom. Together with the varying pedagogies, teachers also need to navigate an ever more sophisticated world of technological tools — software, platforms and equipment that enable this virtual learning process — a whole new world of competence that requires learning and training for teachers.

LOCAL IMPACT The localisation of an innovative teaching format like IVCs can pose a challenge to traditional institutional structures. In a way, IVCs are a “disruptive innovation” and this is something to consider when planning such an initiative. In the best case, they can trigger new and unforeseen forms of collaboration on a local institutional level, e.g. between teachers from different departments, university academic and international affairs units and it can enrich local teaching practices and education offerings.

REGIONAL AND GLOBAL IMPACT An IVC presents the opportunity to connect global challenges (e.g. Sustainable Development Goals) with local impact. Case studies and challenges proposed by companies and start ups are an established part of entrepreneurship education. Including interactions with the local social and economic environment into the IVC can add a new level of complexity and novelty while increasing its relevance and quality. At the same time, including global exposure through internationalisation at home helps develop the local human capital, and equip graduates for working with international actors both in the region and beyond its borders at lesser cost than international exchange programs and with potentially more scalable impact.

RESEARCH Developing and teaching an IVC requires a larger amount of time investment than a traditional course might take. One of the outcomes that can make a participation more motivational and worthwhile for the teachers is that it provides ample opportunity to collect data for studying the outcomes of new teaching methods. This will also add to the professionalisation of the field, as we currently know little about the effectiveness of the different virtual teaching methods, the conditions required to stimulate them, and the need to accumulate a solid base of knowledge to implement virtual learning across different institutions, disciplines, and students groups.

QUOTE STUDENT “This experience definitely influenced my decision of embarking on a project with people with different cultural and disciplinary backgrounds because before this I believed that it was just a point of view but now I am convinced that this is the path to take and I have some experience to make it viable.”

REFERENCES

1. Borisova, O.V., Vasbieva D.G., Malykh N.I., Vasnev S.A., Bírová J. (2016) Problem of Using Innovative Teaching Methods for Distance Learning Students. *IEJM – Mathematics Education*, 11 (5), 1175–1184.
2. Fayolle, A., and Klandt, H. (2006). *International entrepreneurship education*. Issues and newness: Edward Elgar Publishing.
3. Gartner, W.B., & Vesper, K.H. (1994). Experiments in entrepreneurship education: Success and failures. *Journal of Business Venturing*, 9, 179–187.
4. Güney, A. (2014) Role of Technology in Accounting and E-accounting. *Procedia – Social and Behavioral Sciences*, 152, 852–855.
5. Leask, B., & Carroll, J. (2013). *Learning and teaching across cultures: Good practice principles and quick guides*. Melbourne: International Education Association of Australia (IEAA).
6. Parsons, D., Inkila, M., & Lynch, J. (2019) Navigating learning worlds: Using digital tools to learn in physical and virtual spaces. *Australasian Journal of Educational Technology*, 35(4), 144–159.
7. Solomon, G. T., Duffy, S., and Tarabishy, A. (2002). The state of entrepreneurship education in the United States: A nationwide survey and analysis. *International Journal of Entrepreneurship Education*, 1, 65–86.
8. Taras, V., Caprar, D.V., Rottig, D., Sarala, R.M., Zakaria, N., Zhao, F., et al. (2013). A global classroom? Evaluating the effectiveness of global virtual collaboration as a teaching tool in management education. *Academy of Management Learning & Education*, 12, 414–435.
9. Wang, M. & Shen, R. (2012) Message design for mobile learning: Learning theories, human cognition and design principles: message design for mobile learning. *British Journal of Educational Technology*, 43(4), 561–575.
10. Zweg-Villegas, A.M., and Martínez-Díaz, J.H. (2016). Experiential learning with global virtual teams: Developing intercultural and virtual competencies. *magis, Revista Internacional de Investigación en Educación*, 9, 129–146.

FURTHER READING

Co-creation: see *Guide to co-creation* created by Ghent University and Ministry of Makers as part of the EU Horizon 2020 project ACCOMPLISSH.

Result Based Management: United Nations Development Group. *Results-based Management Handbook*.

ABOUT THE LISTO PROJECT

LISTO (Latin American and European Cooperation on Innovation and Entrepreneurship) was an Erasmus+ capacity building project (Key Action 2) running from 2017 until 2020. The consortium of 3 universities from Europe, 3 from Brazil, 2 from Argentina and 2 from Uruguay brought together experts from innovation offices and entrepreneurship teachers to facilitate an exchange of knowledge and good practice. It focused on three main areas: methods to strengthen for university-industry relations; teaching entrepreneurship through virtual exchange; strategies to promote innovation and entrepreneurship in the university.

For more information, see: www.listoproject.eu

The consortium published two e-books and one toolkit available in English, Spanish and Portuguese:

1. University–Industry Cooperation in Latin America. Lessons Learned from Applying the AIMday Methodology
2. Entrepreneurial Virtual Classroom Handbook. An Interdisciplinary Approach from a European and Latin American Collaboration
3. LISTO Toolkit for Entrepreneurial Universities

The books are available on the project website as well as on the Erasmus+ Results Platform:

https://ec.europa.eu/programmes/erasmus-plus/projects_en

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The Entrepreneurial Virtual Classroom Handbook is a practical guide for developing an International Virtual Classroom. It shares the experience of entrepreneurship teachers from 10 universities in Europe and Latin American who came together to create the International Virtual Classroom "Entrepreneurial Solutions in Innovative Global Networks". The handbook gives an introduction into the background and development process of the International Virtual Classroom, presents the course content and expected learning outcomes, and shares a wealth of advice and recommendations for future development of similar initiatives.



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